

DESIGN AND CONSTRUCTION STANDARDS
OF THE
TOWN OF LISBON CONNECTICUT

“An Ordinance Concerning the
Construction and Acceptance of
Roads in the Town of Lisbon
Connecticut.”

Town Meeting: 6/29/95

Adopted: 6/29/95

Effective: 7/19/95

Revised:

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PURPOSE

In order to protect the public health and safety, to promote the general welfare, to preserve property values and to assure the orderly growth and development of the Town, the following standards and procedures for the construction of all roads, drainage structures and appurtenances thereto have been adopted by a Town meeting pursuant to the authority contained in the certain ordinance entitled “An Ordinance Concerning the Construction and Acceptance of Roads in the Town of Lisbon.”

SECTION I

DEFINITIONS

- 1.1 Applicant means any person, firm, corporation, partnership or association who shall apply to the Board of Selectmen for a road construction permit.
- 1.2 Form 814 means a certain document entitled “Department of Transportation: Standard specifications for Roads, Bridges and Incidental Construction, Form 814,” as may be amended from time to time.
- 1.3 Road means and includes streets, highways, avenues, lanes laid out and intended as vehicular access way.

- 1.4 Arterial Street shall mean a major thoroughfare whose main function is to carry large volumes of traffic between major points.
- 1.5 Collector Street shall mean a street whose primary function is to carry moderate traffic volumes between local streets and arterial streets. It may also provide access to abutting properties.
- 1.6 Road and Ordinance means “An Ordinance Concerning the Construction and Acceptance of Roads in the Town of Lisbon for Public Use.”

SECTION 2

GENERAL PROVISIONS

- 2.1 General No road or other improvements appurtenant thereto shall be constructed in the Town of Lisbon until a road construction permit has been issued by the Board of Selectmen. Said permit is required for the construction of:

- (a) new roads to be accepted by the Town.

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- 2.1 General - (cont.)

- (b) the completion of roads in a subdivision approved by the Planning & Zoning Commission prior to and after the effective date of the road ordinance.

- (c) the construction or modification of pavement, drainage or other improvements within or in support of any existing town road or highway.

- 2.2 Standards. In addition to the design and construction standards hereinafter specified, the following shall also be applicable:

- 2.2.1 Approved Subdivision. The design and construction standards applicable to streets in subdivision approved by the Planning & Zoning Commission prior to the effective date of the road ordinance shall be the standards applicable at the time of such approval, provided that such approval is still in effect.

- 2.2.2 Other Streets. In the case of construction within or in support of an existing town road or highway, or the construction of streets shown on a subdivision map filed in the office of the Lisbon Town Clerk prior to adoption of subdivision regulations, the Board of Selectmen may

approve other or lesser design and construction standards as deemed appropriated by the board to be consistent with other improved portions of such streets.

2.2.3 Alternate Standards. The Board of Selectmen may approve alternate design and construction standards when:

(a) such standards are prepared by a licensed professional engineer and

(b) the board determines that such standards will be in accord with the purpose and intent of the road ordinance.

2.3 Inspection. All work subject to a road construction permit shall be subject to inspection and approval by the Board of Selectmen or its authorized agent at the expense of the applicant. Said board or its authorized agent shall have free access to the work at all times and shall be deemed authorized to take material samples, cores and other tests as deemed necessary to determine compliance with these standards. The Board of Selectmen may require the applicant, at his expense, to have such tests made and certified by a Professional Engineer licenced in the State of Connecticut or other parties of its determination.

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2.4 Intent. It is the intent of this document that the policies, rules, procedures, standards and specifications established herein are coordinated with and support the following:

2.4.1 The Subdivision Regulations of the Town of Lisbon as the same may be amended from time to time which are hereby incorporated in this document by reference; and

2.4.2 The Zoning Regulations of the Town of Lisbon as the same may be amended from time to time.

2.5 Form of Conveyances. Conveyances shall describe the land involved and the privileges of the Town in a form acceptable to the Board of Selectmen and shall be duly executed. Such conveyances shall be accompanied by:

(a) a copy of the abstract of title,

(b) a certificate of title

(c) waiver of mechanics' liens in form acceptable to Town Counsel,

(d) a letter signed by the Tax Collector certifying that any taxes due the Town of Lisbon have been paid.

SECTION 3

PROCEDURE

3.1 Permit Application. Application for a road construction permit shall be made to the Board of Selectmen , in writing, and shall be accompanied by the following:

3.1.1 Maps and Plans. Three (3) copies of approved plans showing the right-of-way for streets and drainage easements and plans showing the construction details prepared and showing the information required by the subdivision regulations and any other requirements as stipulated by the Board of Selectmen.

3.1.2 Fees. A fee of One Hundred (\$100.00) Dollars shall accompany the application.

3.2 Road Construction Permit. The road construction permit shall be issued by the Board of Selectmen in writhing, and the Board's approval of the construction plans shall be endorsed thereon. Such approval and issuance are subject to the following:

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3.2 Road Construction Permit - (cont.)

3.2.1 Prior Approval. In the case of roads within a subdivision, the approval of the Planning & Zoning Commission of the record subdivision map.

3.2.2 Inspection Fee. Payment to the Town of Lisbon of an inspection fee equal to seven (7) percent of the cost of construction as estimated by the Board of Selectmen for purposes of the completion bond, or Two Hundred (\$200.00) Dollars whichever is greater.

3.2.3 Time Limit and Validity. The road construction permit shall be valid for a period of two (2) years.

The Board of Selectmen may revoke or suspend a permit when the Board or its authorized agent determines that the work is not being carried out in accordance with the approved plans.

3.3 Notification and Inspection. The holder of a road construction permit shall notify the Board of Selectmen and the Town Engineer of his intention to begin the authorized work at least three (3) days prior to so doing, which notification

shall be in writing and shall include a schedule showing when each stage of work, as hereinafter specified, is to begin. If, due to weather conditions or other cause, it is found necessary to stop work for a period exceeding one (1) week, the permittee shall so notify the board of Selectmen in writing; and he shall notify the Board in writing of his intention to resume work at least three (3) days prior to so doing. In addition, the permittee shall notify the Board of Selectmen and the Town Engineer, in writing at least 48 hours before, each of the following stages of work are begun.

- 3.3.1 Prior to commencing site clearance and after the construction work has been staked out;
- 3.3.2 Prior to commencing excavation and grading of streets and installation of embankments;
- 3.3.3 Prior to commencing installation of drainage and other utilities;
- 3.3.4 Prior to backfilling structures and drainage pipes, facilities and other utilities;
- 3.3.5 Prior to placement of the base course on the subgrade of a street;

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3.2 Road Construction Permit - (cont.)

- 3.2.1 Prior Approval. In the case of roads within a subdivision, the approval of the Planning & Zoning Commission of the record sub division map.
- 3.2.2 Inspection Fee. Payment to the Town of Lisbon of an inspection fee equal to Five (5) percent of the cost of construction as estimated by the Board of Selectmen for purposes of the completion bond, or Two Hundred (\$200.00) dollars whichever is greater.
- 3.2.3 Time Limit and Validity. The road construction permit shall be valid for a period of two (2) years.

The Board of Selectmen may revoke or suspend a permit when the Board or its authorized agent determines that the work is not being carried out in accordance with the approved plans.

3.3 Notification and Inspection. The holder of a road construction permit shall notify the Board of Selectmen of his intention to begin the authorized work at

least three (3) days prior to so doing, which notification shall be in writing and shall include a schedule showing when each stage of work, as hereinafter specified, is to begin. If, due to weather conditions or other cause, it is found necessary to stop work for a period exceeding one (1) week, the permittee shall so notify the Board of Selectmen in writing; and he shall notify the Board in writing of his intention to resume work at least three (3) days prior to so doing. In addition, the permittee shall notify the Board of Selectmen and the Town Engineer, in writing at least 48 hours before, each of the following stages of work are begun.

- 3.3.1 Prior to commencing site clearance and after the construction work has been staked out;
- 3.3.2 Prior to commencing excavation and grading of streets and installation of embankments;
- 3.3.3 Prior to commencing installation of drainage and other utilities;
- 3.3.4 Prior to backfilling structures and drainage pipes, facilities and other utilities;
- 3.3.5 Prior to placement of the base course on the subgrade of a street;

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3.3 Notification and Inspection - (cont.)

- 3.3.6 Prior to commencing construction of the paved surface of a street; and
- 3.3.7 Prior to commencing construction of any sidewalks or other appurtenant items.

The Board of Selectmen shall have three (3) days in which to inspect the work in each of the above described stages. No work shall begin on the succeeding stage of construction until the required inspection has been made and approved by the Board of Selectmen in writing. The Board of Selectmen may issue a stop work order and may suspend or revoke the road construction permit if in its judgment the construction project or any stage thereof is not being carried out in accordance with the road ordinance and the requirements of this document, or if unforeseen field circumstances are encountered for which the approved plans are insufficient; the board shall withdraw such stop work order and reinstate the permit when it determines that there is compliance therewith.

3.4 Petition for Acceptance. The petition for acceptance of the road by the Town of

Lisbon shall be presented to the Board of Selectmen in writing and shall be signed by the owner of record. The petition shall be accompanied by the following;

- 3.4.1 Map. A copy of the map on file in the office of the Town Clerk showing the right-of-way of the road and any easements. For roads within a subdivision, a copy of the record subdivision map, approved by the Planning & Zoning Commission, may be substituted for such submission.
- 3.4.2 As-Built Plans. A copy of the construction plans showing the road drainage, and other improvements AS BUILT. In lieu of such submission, the construction plans, updated and certified as correct by a professional engineer, may be substituted.
- 3.4.3 Maintenance Bond. An executed agreement and bond, approved by the Board of Selectmen, to guarantee remedy of unforeseen deficiencies in the construction of the road and other improvements shall be prepared. Said bond shall remain in force for a period of one (1) year from the date on which the road is accepted by Town Meeting. The amount of face value of the bond shall be estimated by the Board of Selectmen as not less than 5 percent nor more than 50 percent of the current cost of the original improvements. The Board of Selectmen may require the bond to be held for an additional period of one year, when in the opinion of the Town Engineer, this is warranted due to unusual construction circumstances.

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SECTION 4

ROAD DESIGN AND CONSTRUCTION STANDARDS

- 4.1 General. The standards hereinafter set forth are minimum standards as the same are applicable to each road classification as assigned by the Planning & Zoning Commission under the subdivision regulations.
- 4.2 Width of Right-of-Way. Roads shall have the following minimum width of right-of-way according to their classification, and as necessary for anticipated traffic capacity, type of traffic, turning movements and construction requirements.
 - 4.2.1 Local Residential 50 feet
In the event that the applicant does not own the land adjoining the

feet from the line of intersection..

4.6.3 Corner Lots. At a street intersection, property line corners shall be rounded by an arc having a minimum radius of 32 feet or more if required by roadway radii.

4.6.4 Approach Grades. The approach grades at intersections shall be no more than two (2) percent for side roads for 100 feet. Side roads at intersectional sight distances of at least 300 feet for local roads. The driver's eye shall be assumed to be behind the curb line and sight distance shall be in accordance with the "Geometric Design Guide for Local Roads and Streets" published by the American Association of State Highway Officials.

4.7 Horizontal Alignment. Connecting curves between tangents shall be provided for all deflection angles in excess of five (5) degrees. Suitable tangents shall be provided between curves with a minimum tangent distance of 150 feet between reverse curves.

4.7.1 Local Residential 150 feet (Minimum radius as measured along the roadway center line)

4.7.2 Arterial & Collector Streets 350 feet (Minimum radius as measured along the roadway center line.)

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4.8 Construction. Roads shall be constructed in accordance with the following standards:

4.8.1 Survey. A centerline survey of the road shall be run in the field and suitable construction ties established to all control points. Stations shall be established at 50 foot intervals and all points of curvature and points of tangency. A construction stake shall be placed perpendicular, or radial in the case of curves, at each station on both sides of the road, and clear of all construction. The construction stake shall be marked with the station, offset to centerline and cut or fill to profile grade as measured from the top of the stake. A stake sheet showing the stations, profile grade, stake offsets and grades and cuts and fills shall be prepared and presented to the Board of Selectmen before construction begins.

Permanent bench marks shall be established and recorded with the Board of Selectmen throughout the length of the project at 500 foot intervals or as directed by the Board. The datum for bench marks shall be Town, State or U.S. datum; an assumed datum may be used only with the written permission of the Board of Selectmen. Changes in horizontal or vertical alignment of the road from the approved plans shall not be made accept with written permission of the Board of Selectmen. Grade stakes shall be protected and preserved until the construction work is approved by the Board of Selectmen.

4.8.2 Clearing. The entire area of the right-of-way required to be graded in accordance with the standard cross-section shall be cleared of trees, stumps, brush, roots, large rocks, ledge and other unsuitable materials, except that trees suitable for street trees shall be left standing as directed by the Board of Selectmen or the Planning & Zoning Commission in the case of a subdivision.

4.8.3 Subgrade. For the full width of the required pavement, plus 2' where curbs are used, all loam, organic material, soft clay, spongy material, boulders, ledge and other unsuitable material shall be removed and replaced by materials approved by the Board of Selectmen. All fill that is placed to an elevation of less than three (3) feet above the water table at the time of filling shall consist of stone, gravel or other free-draining soil approved by the Board of Selectmen. Where ledge rock is encountered, it shall be removed to a depth of one (1) foot below subgrade and the area backfilled with crushed stone or gravel. Embankments shall be constructed of crushed stone, gravel or the suitable

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4.8.3 Subgrade - continued

material deposited in successive layers, for the full width of the embankment. The subgrade shall be rolled with a minimum 10-ton roller or equivalent before placing the base course. All underground drainage and utilities shall be installed prior to completion of the subgrade for receiving the base course.

4.8.4 Base Course. A base course not less than 16 inches (the bottom 12" to meet Grade A standards and the top 4" to meet Grade C standards of State DOT form 814) in depth and for the full width of pavement plus 2' where the curbs are used shall be constructed of processed stone or

processed gravel in accordance with Form 814. The base course shall be rolled with a minimum 10-ton roller and shaped with a cross slope of 1/4 inch per foot from the centerline. (Standard Proctor tests shall be run on the base course in accordance with accepted engineering practice unless such tests are waived by the Board of Selectmen.) Any areas of the base course which have become impervious due to concentration of fine materials shall be scarified and re-compacted.

4.8.5 Surface Course. The paved surface shall have a cross slope of 1/4 inch per foot from the centerline and shall be constructed of two (2) courses of bituminous concrete, each one and one-half (1-1/2) inches in depth after compaction to the full required width plus 2" where curbs are used. An emulsion tack coat is required when 3 successive days pass between the laying of base course and successive courses. Construction methods shall conform to Form 814; materials shall conform to Form 814, Bituminous Concrete Paving Mixtures Binder Course Grading II. The course shall be Class I Bituminous Concrete.

4.8.6 Curbs. Granite, or concrete curbs shall be provided in areas deemed appropriate by the Board of Selectmen, or, in the case of subdivision, by the Planning & Zoning Commission. Such curbs shall be located on the other edge of the completed pavement. Concrete curbs shall have a cross-section approved by the Board of Selectmen, a base height (8) inches, a total height of 20 inches of which six (6) inches shall be located above the finished surface course of the street and be of materials conforming to Form 814. Concrete joint spacing shall be a maximum of (6) feet center to center for all concrete curbs either poured in place or precast. Concrete or granite curbs shall be used unless otherwise officially waived by the Board of Selectmen or Planning and Zoning Commission in case of subdivisions.

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4.8.7 Slopes. All earth surfaces of slopes and areas that have been disturbed in any way due to grading and construction of the roads shall be covered with a minimum of four (4) inches of top soil and suitable seeded or planted and mulched to prevent soil erosion. The Board of Selectmen may require the removal or lowering of embankments adjacent to street intersections in order to assure adequate sight distance at the intersection. No cut or fill sections beyond the right-of-way shall extend into property outside the subdivision or property not owned by the applicant unless appropriate slope rights are obtained for the Town. In the absence of such slope rights, appropriate retaining walls shall be constructed within the subdivision to prevent encroachment upon adjoining property provided these do not obstruct sight lines.

- 4.8.8 Underdrains. The Board of Selectmen may require the installation of suitable underdrains beneath the street pavement or in the right-of-way where necessary to protect the stability of the pavement.
- 4.8.9 Guide Rails. Suitable guide railing shall be installed along all roads where there will be a “fill” embankment with a depth of four (4) feet or more within 20 feet of the edge of the pavement except that, upon written approval of the Board of Selectmen, guide rails will not be required where embankment slopes are no steeper than 6 to 1.
- 4.8.10 Sidewalk Ramps. Sidewalk ramps shall be constructed on all new streets at crosswalks or on existing streets at crosswalks when either the curb or sidewalk is reconstructed or repaired.
- 4.9 Cross-Section. Local Residential roads shall be designed with a cross-section in accordance with the cross-section details that are a part of these specifications and as stated above.
- 4.10 Soils Report. When deemed necessary by the Board of Selectmen, a soils report shall be prepared for any roadway construction by a competent licensed professional engineer. The content of such report and the qualifications of the preparer shall be subject to the Board of Selectmen or its authorizing agent’s review and approval.

SECTION 5

DRAINAGE DESIGN AND CONSTRUCTION STANDARDS

- 5.1 Storm Drainage Design. Storm drainage for roads shall be planned and designed in accordance with the following standards:
- 5.1.1 Pipe and Ditches. Sufficient pipe shall be installed to carry existing water courses in the street right-of-way and to drain both the proposed street or streets and extensions thereof or other streets which, based on topography, will be served by the same drainage system. No open ditches or channels shall be provided in the street right-of-way except with the

express written permission of the Board of Selectmen; and adequate provision is made to maintain the standard cross-section and for protective guide posts or rails as may be required to ensure the public safety. Road Drainage systems shall be coordinate with general drainage requirements for the use and development of the adjoining land.

- 5.1.2 Design Storm. Flows for roadways and roadway storm drains shall be designed using a minimum 25 years design storm frequency. Flows developed for drainage areas with no established water course shall be based on a 50 year design storm frequency.

Drainage basins with designated water courses shall use a design frequency of 50 years for average annual daily stream flows of less than 5 c.f.s., and 100 years for average annual daily stream flows greater than 5 c.f.s. It shall be the applicant's responsibility to adequately demonstrate whether a stream flow is less than or greater than 5 c.f.s. using stream gauging stations, published government documents and other acceptable statistical rainfall data as determined by the Town Engineer.

- 5.1.3 Design Methods. The Rational Method may be used for drainage areas of 200 acres or less. For areas greater than 200 acres, the SCS method, FHWA method or USGS method shall be used as approved by the Board of Selectmen and/or the Town Engineer.

5.1 Storm Drainage Design - (cont.)

- 5.1.4 Pipe Design. The minimum size of a storm water pipe shall be 15 inches in diameter. Co-efficients used in design for reinforced concrete pipe shall be $N = 0.015$ and for asphalt-coated corrugated metal pipe, $N = 0.021$. The minimum slopes of pipes shall be 0.5 percent. Pipe size and slope shall be such that the head on the invert will not exceed 2.0 diameters at design storm and this head shall be contained without damage to any adjacent property. Pipe, except for underdrains, shall be laid on straight alignments, both horizontally and vertically, with manholes and catch basins providing access at all deflection points or at the junction of two or more lines. The open end of any pipe shall be

provided with an endwell, culvert end or other appropriate device. The minimum cover over the top of the pipe shall be three (3) feet. Culverts under street shall extend to the edge of the right-of-way.

5.1.5 Spacing of Catch Basin. Catch basins shall be connected to a storm water pipe and shall be provided in sufficient number and suitable location to properly drain the surface. Surface water shall not travel on any street a distance of more than 300 feet unless otherwise approved by the Board of Selectmen. No surface water shall travel across any intersections. Spacing and number of basins must be supported by complete gutter flow analysis.

5.1.6 Discharge. The discharge of all storm water shall be into suitable streams or rivers or into Town or State drains or ditches or other Town drainage facilities with adequate capacity to carry the additional water. Where the discharge shall be into private property adjoining the street, proper easements and discharge rights shall be secured by the applicant for the Town before approval of the drainage plan. Discharge shall be done in a manner that protects water courses and wetlands from pollution and shall not increase flood hazard due to increase in runoff. Plunge pools and other devices shall be employed to reduce velocities as directed by the Town Engineer.

5.2 Drainage Construction. Storm drainage shall be constructed in accordance with the following standards:

5.2.1 Pipe. Storm water pipe shall conform to one of the following standards:

(a) In general, asphalt-coated corrugated metal pipe shall be used where culvert gradients are in excess of 10 percent or unsuitable base

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5.2.1 Pipe - continued

is encountered, such as organic soils areas. Said pipe shall conform to Form 814, shall be minimum 16 gauge and have paved invert.

(b) Reinforced concrete pipe shall be Class IV and conform to Form 814.

5.2.2 Methods. Prior to laying pipe, the trench shall be excavated to the required depth, the bottom of which shall be graded to afford a uniformly firm bearing for the pipe throughout its length. Where rock is encountered, it shall be excavated to not less than 12 inches below the

bottom of the trench and this depth shall be refilled with crushed stone and thoroughly tamped and shaped. Where the foundation material is poor, it shall be removed and backfilled with gravel or crushed stone approved by the Board of Selectmen. All pipe shall be carefully laid, true to the lines and grades given, hubs up grade and with the spigot ends fully entered into adjacent hubs. Preferably, joints in concrete pipes shall have rubber gaskets; otherwise joints shall be thoroughly wetted and filled with a Portland cement mortar and caulked. Asphalt-coated corrugated metal pipe shall be carefully joined and firmly clamped together by approved connecting bands which shall be properly bolted in place before any backfill is placed. "Backfill will consist of clean well graded soil free from large stones, frozen lumps, wood or other debris. Backfill shall be placed in layers of not more than 6 inches and adequately compacted. Any suitable material removed in excavating for the trench may be used as backfill. Fill approximately the same elevation at the same time. Rock fill or stones larger than 2 inches shall not be placed closer than 2 feet from the pipe on the sides as well as the top."

- 5.2.3 Appurtenances. Catch basins, manholes, drop inlets, endwalls, and other appurtenances to the storm drainage system shall be constructed in accordance with Form 814 and the "Connecticut State Highway Department Standard Sheets."
- 5.2.4 Cleaning. All pipe and drainage structures shall be thoroughly cleaned prior to acceptance of the road and drainage system by the Town of Lisbon.

SECTION 6

OTHER IMPROVEMENTS

- 6.1 Special Structures. Bridges, box culverts, deep manholes and other special structures shall be designed and constructed, where required, in accordance with good engineering practice and Form 814, and as approved by the Planning & Zoning Commission and the Board of Selectmen.
- 6.2 Sidewalks. Sidewalks where required shall be minimum of four (4) feet in width, and, when provided in connection with a road, shall be located within the

street right-of-way lines as shown on the typical cross-section. The sidewalk shall be constructed in accordance with one of the following standards as approved by the Board of Selectmen.

6.2.1 Concrete. Cement concrete sidewalks shall be laid on a four (4) inch gravel base, tamped and rolled and shall be constructed on four (4) inches thick having expansion joints with pre-molded fillers spaced every 10 feet and suitable weakened plan joints. Sidewalks will be ramped at intersections at a 1" vert. To 12" Horiz. slope to meet State Building Code Requirements for handicapped access.

6.3 Driveway. Sidewalks crossing driveways that are subject to heavy vehicular traffic shall be laid on a gravel base 12 inches thick.

6.3.1 Driveway Pads. Bituminous concrete driveway pads from the edge of R. O. W. line to the street are required. Pads shall be a minimum 12' wide, laid on twelve (12) inch gravel base, tamped and rolled, and shall be constructed of bituminous concrete two (2) inches thick after compaction. The bituminous materials and the construction shall conform to Form 814. Driveway aprons shall be pre-approved by the Selectmen and/or Planning and Zoning Commission as to location.

6.4 Street Signs. Street signs shall be installed at all intersections in locations approved by the Board of Selectmen. Traffic signs shall also be installed as required by the Board. Such signs shall be of a design and material approved by the Board of Selectmen.

6.5 Underground Utilities. Electric, telephone lines and facilities in new streets shall be installed underground unless the Planning & Zoning Commission has determined that such underground installation is un-appropriate or unfeasible. Wherever possible, such lines and facilities shall be installed after the street right-of-way has been graded but prior to installation of the base course for the pavement.

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6.6 Monuments. Monuments shall be provided by the applicant on both sides of the street right-of-way and shall be set at the beginning and termination of each street and at each point of curvature and tangency. Monuments shall be stone or reinforced concrete 6 inches in length and four (4) inches square at the top with a cross or other measuring feature in the top center. Monuments shall be set 34 inches in the ground after all project grading is complete. If ledge is encountered, a brass plug, ½ inch by 3 inches, shall be set in the ledge and secured with a Portland cement mortar. In lieu of a brass plug, a drill hole of ½ inch minimum diameter may be set if the ledge is fully exposed. The cost of such monuments shall be included in the bond.

- 6.7 Fire Wells and Ponds. All required fire wells, underground water storage tanks and ponds with drafting basins shall be constructed in accordance with good engineering practice and designs approved by the Board of Selectmen or its authorized agent. The location and arrangement of all fire fighting facilities shall be coordinated with the local fire departments.

SECTION 7

EXISTING TOWN ROAD ALTERATIONS

- 7.1 Excavations, Cuts, Fills and Changes of Grade. All excavations, cuts, fills, changes of grade and other work performed within existing Town road rights-of-way shall conform to the specifications throughout this road ordinance.
- 7.2 Permit Required. No person shall excavate in, fill, cut or change the grade or cause any excavation, fill, cut or change of grade to be made of any highway or street maintained by the Town without first having obtained a permit from the First Selectman or the director of public works.
- 7.3 Bond, Insurance Required. No permit to excavate, fill or change the grade of any such highway or street shall be granted to any person until he shall have filed with the First Selectman or director of public works, a surety bond in the amount equal to the cost, as estimated by the director of public works, of the restoration of any highway or street to as good a condition as it was before such excavation, fill, cut or change of grade, with the same surface material, and that he will comply with the plan of the work to be done, as filed with and approved by the First Selectman or director of public works, and also such

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- 7.3 Bond, Insurance Required - (cont.)

person shall have given the First Selectman or director of public works satisfactory evidence of insurance protecting both the town and the permittee against personal injuries and property damage in an amount to be determined by the First Selectman or director of public works depending upon the location, amount of traffic, estimated length of time the work will require, type of material to be excavated or cut, and any other conditions which might affect the risk involved.

- 7.4 Areas Included in Street or Highway. As used herein highway or street shall include any portion of the entire width of the right-of-way, including the traveled portion, and the shoulders of any unimproved or undeveloped portion of the highway or street.
- 7.5 Advanced Notice of Construction. Under this permit program, the Town shall be provided three (3) days advanced notice of planned start of construction within Town road right-of-ways.

SECTION 8

SUBMISSION REQUIREMENTS

- 8.1 Road Plan and Profile Map. A 1" to 40 foot, horizontal scale road plan with the corresponding stationed segment of center line profile, at a vertical scale of 1 inch to 4 feet will be submitted. Such plans shall be prepared by a Professional Engineer, licenced to practice in the State of Connecticut, whose seal, name and registration number should be clearly placed thereon.
- 8.1.1 The Horizontal Scale Plan shall have:
- (a) 50 foot stationing
 - (b) Curve information (PT, PC, PI)
 - (c) All drainage structures utilizing a sequenced numbering system, consistent with all submitted designs (Inverts in, Inverts Out, Top of Frame Elevations)
 - (d) Pipes - slopes, size and type.

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- 8.1.1 The Horizontal Scale Plan shall have: - (cont.)

- (e) Utilities - placement (Electric, Telephone, Cable TV, Water and Sewer) where applicable.
- (f) Specific soil erosion control measures.
- (g) Sidewalk placement.
- (h) Accurate existing (not to be represented by less than 2 foot contour

intervals) and a proposed finished grading plan.

- (I) Monumentation.
- (j) All proposed driveway returns and aprons.
- (k) Location of road test pits every 150 feet.

8.1.2 The Vertical Profile shall have:

- (a) All vertical curve information (Pvt, Pvc, Pvi, high points and low points)
- (b) Drainage structures in profile.
- (c) Accurate existing and proposed center line grades and existing grade at edge of pavement both right and left sides.

8.2 Drainage Report. In the construction and layout of new streets in a subdivision, adequate provisions shall be made for the disposal of surface and storm water.

8.2.1 The Report will include:

- (a) Rational method or TR-55 of analysis for areas under 200 acres or TR-20 for areas over 200 acres.
- (b) Total drainage area delineated on U. S. G. S. or equivalent mapping.
- (c) (2) Maps depicting entire drainage area that will attribute specific areas of concentration to the appropriate drainage structure.
- (d) A gutter flow analysis (Storm sewer design analysis shall be submitted on State of Connecticut standard forms or equivalent.)

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8.3 Erosion and Sediment Control Plan

8.3.1 A soil erosion and sediment control plan shall contain proper provisions to adequately control accelerated erosion and sediment and reduce the danger from storm water runoff on the proposed site based on the best available technology. Such principles, methods and practices necessary for certification are found in the "Connecticut Guidelines for Soil Erosion and Sediment Control (1985)", as amended. Alternative principles,

methods and practices may be used with prior approval of the Commission, or the Board of Selectmen.

8.3.2 Said plan shall contain, but not be limited to:

A. A narrative describing:

1. The development; as defined in these Regulations.
2. The schedule for grading and construction activities;
 - a. start and completion dates;
 - b. sequence of grading and construction activities;
 - c. sequence for installation and/or application of soil erosion and sediment control measures, including temporary stabilization;
 - d. sequence and specifications for final stabilization of the project site, including all final landscaping;
 - e. contingency or emergency plans in case of failed erosion and sediment control systems and installations.
3. The design criteria for proposed soil erosion and sediment control measures and storm water management facilities.
4. The construction details for proposed soil erosion and sediment control measures and stormwater management facilities.

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5. The installation and/or application procedures for proposed soil erosion and sediment control measures and stormwater management facilities.
6. The operations and maintenance program for proposed soil erosion and sediment control measures and stormwater management facilities.

7. Identification of a designated - site individual responsible for installation, monitoring and correction of sediment control plan requirements, and authorized to take corrective actions as required to ensure compliance with certified plans.
 8. The character of existing vegetation and effect the development will have on the natural vegetation.
- B. A site plan map at a sufficient scale to show:
1. The location of the proposed development and adjacent properties;
 2. The existing and proposed topography including soil types, wetlands, watercourses and water bodies;
 3. The existing structures on the project site, if any;
 4. The proposed area alterations including cleared, excavated, filled or graded areas and proposed structures, utilities, roads and existing, new or altered property lines;
 5. The location of and design details for all proposed soil erosion and sediment control measures and stormwater management facilities;
 6. The sequence of grading and construction activities;
 7. The sequence for installation and/or application of soil erosion and sediment control measures;
 8. The sequence for final stabilization of the development site:

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9. Existing vegetation patterns, and limits and extent of vegetation clearing beyond grading limits;
10. Certification block entitled "Erosion and Sediment Control Plan Certified by Vote of the Lisbon Planning and Zoning Commission.

- C. Any other information deemed necessary and appropriate by the applicant or requested by the Commission or its designated agent.

8.3.3 MINIMUM ACCEPTABLE STANDARDS

- 8.3.3.1 Plans for soil erosion and sediment control shall be developed in accordance with these Regulations using the principles as outlined in Chapters 3 and 4 of the “Connecticut Guidelines for Soil Erosion and Sediment Control” (1985), as amended.
- 8.3.3.2 The minimum standards for individual measures are those in the “Connecticut Guidelines for Soil Erosion and Sediment Control” (1985), as amended. The Commission may grant exceptions when requested by the applicant if technically sound reasons are presented in writing.
- 8.3.3.3 The appropriate method from Chapter 9 of the “Connecticut Guidelines for Soil Erosion and Sediment Control” (1985), as amended, shall be used in determining peak flow rates and volumes of run-off unless an alternative method is approved by the Commission.

SECTION 9

VALIDITY

- 9.1 Validity. This ordinance shall be governed by the laws of the State of Connecticut. In the event that any provision or clause of this ordinance conflicts with applicable law, such conflict shall not affect other provisions of this ordinance which can be given effect without conflicting provisions, and to this end the provisions of this ordinance are declared to be severable.

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APPLICATION FOR ROAD CONSTRUCTION PERMIT

TOWN OF LISBON, CONNECTICUT

TO: Board of Selectmen
Town of Lisbon, Connecticut

I hereby apply for Permit to construct a road, drainage or other improvements in accordance with the design and

construction specifications of the Town of .

1. Location _____

2. Owner _____

Address _____

Tel. No. _____

3. Developer _____

4. General Contractor _____

Address _____

Tel. No. _____

5. Name of Surety Company _____

6. Amount of Surety Bond _____

7. Approximate Time Required to Complete Work _____

8. Desired Date to Start Work _____

9. Issue Permit To _____

Address _____

Tel. No. _____

Submit two (2) copies of street rights-of-way and any easements for drainage:

Map Title _____

Engineer _____

Before Permit is issued, I agree to furnish required bonds and any required inspection fees as outlined in the design and construction specifications of the Town of _____.

An application fee of \$100.00 is submitted herewith.

Signed _____

Applicant

TOWN OF LISBON
APPLICATION FOR EXCAVATION PERMIT
EXISTING TOWN ROADS

Application is hereby made for a permit to excavate at:

Street/Road _____ (Lot No. _____)

for the purpose of _____

Property is owned by _____

Permit to extend from _____ 19
to _____ 19 _____

A sketch of Excavation must be shown on the back of this Permit or accompanied by plans.

SPECIAL CONDITIONS: Any excavation remaining open overnight must be properly fenced and lighted.

Site Inspected and Approved for Excavation: _____
Highway Foreman

Date

Under the Code of Ordinances for the Town of Lisbon a current Certificate of Insurance and a \$2,000.00 Surety Bond must be on file in the Public Works Department or First Selectman's Office before Excavation Permit will be issued.

The undersigned hereby agrees that in case permission is given to excavate as requested in this application, that he (it) will hold the Town of Lisbon harmless and free from liability whatever for damages caused by reason of such excavation; and further, that if at any time within one year from the date of the permit to excavate, the excavation has not been properly filled and the street restored to as good condition as it was before the excavation, they may repair the same and charge the expenses thereof to the undersigned.

NO WORK MAY BE DONE ON THIS APPLICATION UNTIL THREE DAYS AFTER DATE OF FILING.

Date Applied: _____ Signed: _____

Company: _____

Date Issued: _____ Address: _____

Application Approved Phone No.: _____

_____ Final Inspection: _____

Public Works Director/
Date
First Selectman

Highway Foreman

TOWN OF LISBON DRIVEWAY PERMIT

Date Issued: _____

Name of Owner: _____

Address: _____

Driveway Location: _____

Contractor: _____

Address: _____

SPECIFICATIONS AND DIMENSIONS

BE IT ORDAINED by the electors of the Town of Lisbon at a duly warned meeting, that:

1. No person, firm or corporation shall construct or otherwise make any entrances by way of driveway or similar roadways into a town accepted road without first procuring from the Selectmen of the Town of Lisbon a permit authorizing said entrances.
2. The Board of Selectmen shall issue to such applicant a permit authorizing the entrance into such Town accepted road if they should find the proposed entrance does not impede or interfere with the flow or the projected flow of water on said Town accepted road.
3. Any person found guilty of violating any provisions of this ordinance shall be fined not more than Fifty (\$50.00) dollars, for each offence, and every day such violation exists shall constitute a separate offense and be punishable as provided hereunder.
4. This ordinance shall take effect fifteen (15) days after publication in accordance with the General Statutes.

Design and construction standards of the Town of Lisbon. An ordinance concerning the construction and acceptance of roads in the Town of Lisbon, Connecticut.

- 5.3 Driveways. Sidewalk crossing driveways that are subject to heavy vehicular traffic shall be laid on a gravel base 12 inches thick.

5.3.1 Driveway Pads. Bituminous concrete driveway pads from the edge of R. O. W. line to the street are required. Pads shall be a minimum 12' wide, laid on twelve (12) inch gravel base, tamped and rolled, and shall be constructed of bituminous concrete two (2) inches thick after compaction. The bituminous materials and the construction shall conform to form 814. Driveway aprons shall be pre-approved by the Selectman and/or Planning and Zoning Commission as to location.

The driveway, or access road shall be constructed in such a manner that it does not interfere with existing drainage, movement of traffic or the removal of snow from the road or street.

The owner/contractor shall be responsible for all claims of damage resulting from the construction of the driveway.

The driveway shall be stabilized for a sufficient distance in from town property to prevent erosion onto town property and shall be designed in a manner to confine the surface water in the driveways.

The disturbed areas within the Town's right of way shall be repaired by the owner/contractor.

While existing excavations or fills within the Town's right of way endanger the life of existing trees or other growths, or stones exist as obstacles to the access or egress to property, such obstacles, trees or growths shall be removed at the owner's expense.

The driveway apron shall be installed prior to the owner/contractor beginning any building construction.

A driveway bond in the amount of five hundred (\$500.00) shall be posted by the owner/contractor.

Signature: _____

Date: _____

Title: _____

Bond Received By: _____ Date: _____

Inspected/Approved By: _____ Date: _____

Title: _____

Bond Released By: _____ Date: _____