

**Town Of Lyndeborough**  
**Street and Road Design Standards**

(Revision adopted by the Selectmen October 3, 1988)

These are minimum design standards to be followed in the absence of local subdivision controls. Every effort should be made to exceed these minimums whenever possible. The circumstance of topography and other physical factors may require an occasional exception to these standards; however, the selectmen will exercise reasonable judgment before granting such variations.

For a visual summary of the minimum design standards the reader is referred to the diagram of a typical cross section of road and the chart of minimum geometric and structural guides for local roads and streets.

1. General Street Plan: Approval of the street plan is required before allowing construction of small integral phases of the plan.
2. Street Layout: Streets shall be laid out so as to intersect at right angles as nearly as possible and no street shall intersect another at less than 60 degrees. Streets shall be continuous and in alignment with existing streets as far as possible.
3. Dead-End Streets: Dead-end streets, designed to be so permanently, shall be longer than 1000 feet and shall be provided with a turn around having an outside roadway diameter of at least 110 feet.
4. Street Names: All streets shall be named without duplication with other streets in town.
5. Right-of Way: The minimum width of right-of-way shall be 50 feet. A greater width may be required for arterial and collector streets.
6. Highway Right-of-Way Bounds: Highway bounds, of a type approved by the Board of Selectmen, shall be installed at all intersections of streets, at all points of change in direction and at any other points the Board may deem necessary to designate the street lines.
7. Alignment: No streets shall be constructed with a curvature of less than a 230 foot radius.
8. Grades: Street grades, where feasible, shall not exceed 10 percent, nor shall any be less than 0.50 percent. Special care shall be taken to provide flat grades at all intersections.

9. Construction Supervision: Construction of the roadway drainage facilities must be done under the supervision of and with the approval of the Board of Selectmen.
10. Clearing: The entire area of each street shall be cleared of all stumps, brush, roots, boulders and like material, and all trees not intended for preservation.
11. Subgrade Preparation: All loam and other yielding material shall be removed from the roadway and replaced with suitable fill material. All boulders and ledge shall be removed to a uniform cross sectional depth of not less than 12 inches below the subgrade and replaced with gravel.
12. Drainage: Surface water shall be disposed of by means of culverts of sufficient capacity at water courses as determined by standard hydraulic design methods and by construction of a longitudinal storm drainage system whenever required to relieve water in the ditch sections. Construction to be in accordance with New Hampshire Standard Specifications, 1983, Section 603 and 604.
13. Gravel base: All streets shall be constructed with a minimum of 12 inches of gravel per New Hampshire Standard Specifications, 1983, Section 304.
14. Asphalt Surface: the asphalt surface may be a Bituminous Surface treatment, Specification Section 410, or Hot Bituminous Pavement, Section 403, as required by the Selectmen. The minimum width should be 20 feet for up to 300 vehicles per day, 22 feet for 300 to 600 vehicles per day and 24 feet for over 600 vehicles. A 44-foot wide pavement may be required in areas where on-street parking is expected. Angle parking shall not be allowed.
15. Gravel Surface: In unusual cases of low traffic volumes where the Selectmen feel an asphalt surface is not required, the total usable roadway width shall be a minimum of 28 feet so that the ultimate design may be a 20 foot asphalt surface with 4 foot gravel shoulders.
16. Gravel Shoulders: A four-foot gravel shoulder, equal to the base course depth, shall be constructed adjacent to all 20-, 22- and 24-foot asphalt surfaces.
17. Bridges: On stream crossings with a span of 10 feet or more, the structure shall be designed to HS-20 loading (AASHTO Specifications). The minimum roadway width shall be 24 feet.
18. Sidewalks: Sidewalks of two inch thick asphalt, on a four-inch gravel base, not less than 4 feet in width and no closer than 22 feet to the street center line shall be constructed on one or both sides of the street when in the opinion of the Board such sidewalks are necessary.

19. Erosion Control: Erosion shall be controlled by placing mulch or matting on all surfaces disturbed by construction of the roadway and on all other surfaces where there is danger of eroded material being carried to the roadway area.
20. Utilities: Utility poles should be kept close to the right-of-way line, in no case closer than the ditch line and always well back of a curb. Water and sewer mains should be constructed outside the surface area and preferable outside the ditch line.
21. Safety: Safety is an important factor on all roadway improvements. On development roads it may not be possible or practical to obtain obstacle-free roadsides but every effort should be made to provide clear areas within the maintenance limits. The use of flatter slopes, the use of a guard rail where necessary, and the use of warning signs are other safety factors to be considered.
22. Minimum Standards: The use of more liberal values than these minimum standards is recommended. For additional guidance and design of local development roads and streets with high volumes of traffic, reference should be made to the American Association of State Highway and Transportation Officials, "A Policy on Geometric Design of Highways and Streets," 1984.

MINIMUM GEOMETRIC & STRUCTURAL GUIDES FOR LOCAL ROADS AND STREETS

Avg. Daily Traffic (Veh./Day)	0-50	50-200	200-750	750-1500	1500 &over
Pavement Width (Feet)	18min.	20	20	22	24
Shoulder Width (Feet)	2	2	4	4	8-10
Center of Road to Ditch Line	15	16	18	19-21	Varies
Pavement Type	Gravel	Asph. Sur Treated	Hot Bituminous	Hot Bituminous	Hot Bituminous
Slope of Roadway	½" per foot	3/8" per foot	¼" per foot	¼" per foot	¼" per foot
Base Course Depth (Gravel)	12"	12"	12"	12"	18"
(Cr. Gravel)	-	-	4"	6"	6"

NOTES:

- 1) Gravel Surface should be paved where steep grades occur.
- 2) For AVERAGE DAILY TRAFFIC OVER 1000 Veh./Day Paved Shoulders should be considered

- 3) Base Course Depths may need to be increased in areas of Poor Soils.
- 4) Average Daily Traffic (ADT) is the total two-way traffic past a given point. ADT shall be based on anticipated traffic 20 years after completion. (Assuming 8 one-way trips or 4 round-trips per day per dwelling unit, ADT = # of houses served x 8 trips per hour and thru traffic.)
- 5) All cross-section horizontal distances shall be measured perpendicular to straight-line sections and radial to curved sections.
- 6) Sight distance shall be measured between two points along the center-line of the street on a straight line entirely within the street right-of-way and clear of obstructions, one of the points to be at the surface and the other 3-3/4 feet above the surface.
- 7) Final requirements for these "variable" standards shall be set by the board following their review of individual proposals.
- 8) In no case less than 20' for 1% difference in grade.
- 9) In no case less than 30' for each 1% difference in grade.
- 10) Where conditions warrant and the development will not create the potential for more than 16 ADT, the planning board may waive the sealing requirement of these regulations. Any additional ADT created by future development will require upgrading the road to the minimum sealed surface standard based on ADT.

#### ADDITIONAL SPECIFICATIONS AND REQUIREMENTS:

- A. Materials and methods of construction shall be in accordance with Section 304 of the State of New Hampshire standard specifications for road and bridge construction.
- B. Fill shall meet the requirements for Section 203 of the State of New Hampshire standard specifications for road and bridge construction.
- C. Drainage and sediment and erosion control facilities and practices shall be in accordance with Town subdivision standards and other applicable Town and State standards.
- D. Where not specifically covered, The State of New Hampshire, Department of Public Works and Highways, standard specifications for road and bridge construction 1974 or as amended, shall apply.
- E. The interpretation of these standards shall be the sole province of the Town.
- F. Validity. If any section, subsection, or phrase of these regulations is found (for any reason) to be invalid by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portion of these regulations.