ROAD, BRIDGE, AND CULVERT STANDARDS
OF THE TOWN OF WESTMORELAND, NEW HAMPSHIRE

The Town of Westmoreland hereby adopts the following Road, Bridge and Culvert Standards which shall apply to all future road and bridge construction within the Town (unless state or federal funding regulations govern over this document).

The standards listed here are considered minimum and are presented for purposes of guiding construction and maintenance personnel. The Selectmen reserve the right to modify the standards for a particular project, where, because of unique circumstances or conditions, there is no possibility that the project can be completed in strict conformance with these provisions. Fiscal reasons are not a basis for modification of the standards.

Any new road, whether or not that road is proposed to be conveyed to the town, shall be constructed according to the minimum standards. If any federal and/ or state funding is involved in a project, the NHDOT district office will be notified prior to any field changes taking place that would alter the original scope of work.

CREATION - Any person or land developer seeking approval of a subdivision which will contain a new road(s) shall present to the Westmoreland Planning Board a deed conveying ownership of the right-of-way for such road(s) to the Town of Westmoreland as a part of his application for approval.

ACCEPTANCE - If the subdivision is approved by the Planning Board, such deed shall be transmitted to the Board of Selectmen and shall be held by that Board without action and free of any or all obligations in respect to the land conveyed by it until the road(s) in question has been accepted by vote of the Town at a regularly scheduled Town Meeting.

REQUIREMENTS - Application for acceptance of the road(s) by the Town made only after:

A. All requirements set forth in the Land Use Regulations have been fulfilled.

B. At least one third (1/3) of the building lots located on the subdivision in question, or in any completed segment thereof, are occupied by dwellings that are fully completed and have been, or are ready to be, fully appraised for tax purposes.

APPLICATION - Application in writing for acceptance of the street or road shall be made by the owner to the Selectmen. The Selectmen may accept such street or road upon approval of the Road Agent upon receipt of a bond payable to the Town of Westmoreland posted for one year at an amount set by the Selectmen in order to cover any problems that may arise from the construction of the road. Town vote required for approval

ROADWAYS:

- All roads whether gravel or paved will have a non-woven geotextile fabric placed between the sub-grade and base material
- All gravel roads will have at least a 15-inch-thick processed gravel base, plus 3 inches of crushed surface gravel.

• Material will be graded so that water does not remain on the road surface, and have adequate space for proper ditching.

• All new roads or road upgrades shall have a maximum slope of 10%.

DITCHES: soil exposed during ditch and slope construction or maintenance will be treated immediately following the operation as follows:

• Seed and mulch slopes that are less than 2.5% grade.

• Place biodegradable matting and seed on slopes between 2.5% and 5%.

• Stone-line ditches with angular material on slopes greater than 5%.

CULVERTS AND BRIDGES:

• New driveway culverts will be a minimum diameter of 15 inches or be sized to accommodate the 50-year flow.

• New roadway culverts will be a minimum diameter of 18 inches or be sized to accommodate the 50-year flow.

• End treatment (inlet or outlet will also be evaluated in accordance with this manual.

• Any culvert greater than 24 inches in diameter will be designed according to the latest NHDOT Hydraulics Manual and shall be constructed with concrete prefab header wingwalls on both ends.

• All bridges (structures with spans greater than 10 feet) will have waterway openings designed in accordance to the latest NHDOT Hydraulics Manual.

• Culvert placement on slopes will be as follows:

Slopes 1% - 2% 300 feet apart
Slopes 3% - 10% 150 feet apart
Slopes over 10 % 100 feet apart

Passed and adopted by the Selectmen of the Town of Westmoreland, New Hampshire on September 4, 2008.

New Hampshire Department of Transportation
Suggested Minimum Design Standards for Rural Subdivision Streets December 4, 2003

These are suggested 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 should exercise reasonable judgment before granting such variations.

1. **GENERAL STREET PLAN**: Approval of the general development street plan should be required before allowing the 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 75 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 not be longer than 1,000 feet and shall be provided with a turnaround having an outside roadway diameter of at least 110 ft. A hammer-head type turnaround may be considered if approved by the Road Agent.

4. **STREET NAMES:** All streets shall be named to comply with the provisions of the "Enhanced 911 System" (RSA 106-H:10,I; RSA 106-H:7, VII).

5. **RIGHT-OF-WAY**: The minimum width of right-of-way shall be 50 ft. 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 intersection 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. **CURVES:** No streets shall be constructed with a curvature of less than a 230 ft 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 of at least thirty 30 ft in length at the approach to an intersection.

9. **CONSTRUCTION SUPERVISION:** Construction of the roadway, drainage facilities, sidewalks, curbs and all other elements of the highway 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, humus and unsuitable material such as, but not limited to, stumps, vegetation, demolition debris, and structures 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 in. below the subgrade and replaced with sand or gravel.

12. **DRAINAGE**

Surface water resulting from land development shall not cause increased flooding or deposits of storm water runoff or sediment onto adjacent properties or properties further downstream in the drainage basin unless easements for the same are obtained and granted to the Town. The Select Board has the right to review and approve or disapprove the layout, rights granted or language of any such easements. No significant increase in surface runoff shall be permitted if such increased runoff passes beyond the property lines of the parcel being developed unless it is carried to an existing watercourse. Surface water runoff carried into existing watercourses or drainage ways, whether or not there are intervening storm drainage systems, shall not unreasonably degrade surface water quality.

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 the construction of longitudinal storm drainage systems whenever required to relieve water in the ditch sections. Construction shall be in accordance with New Hampshire Standard Specifications, 2002, Sections 603, 604 and 605.

Installation of drainage ditches must allow for the required shoulder between the 22-foot travel way and the edge of the drainage ditch.

13. **GRAVEL BASE:** All streets shall be constructed with a minimum of 15 inches of gravel topped with 12" of crushed surface gravel, compressed and 3" top.

14. **ASPHALT SURFACE:** The asphalt surface shall be a Bituminous Surface Treatment, Section 410 or Hot Bituminous Pavement, Section 403 of the New Hampshire Standard Specifications, 2002, as required by the Selectmen. The minimum traveled way width should be 22 ft. for up to 1500 vehicles per day and 24 ft. for roads carrying over 1500 vehicles. A 44 ft. wide pavement may be required in areas where on-street parking is expected on both sides of the travel way. Angle parking shall not be allowed.

15. **GRAVEL SURFACE**: In unusual cases of low traffic volumes considering both current and potential future development where the Selectmen feel an asphalt surface is not required, the total usable roadway width shall be a minimum of 22 ft. Provision for 26 feet should be considered so that the ultimate design may be a 22-foot asphalt surface with 2-foot gravel shoulders in future upgrading.

16. **GRAVEL SHOULDERS:** Gravel shoulders, equal to the base course depth, shall be constructed adjacent to all asphalt or gravel traveled way surfaces as follows: 51-1500 vpd. 2.0 ft.; over 1,500 vpd. 8-10 ft.

17. **BRIDGES:** Bridges, as defined by State Law (RSA 234:2), are all structures of 10.0 ft. or greater clear span, and shall be designed to MS-18 (HS-20) loading (AASHTO Specifications). The minimum roadway width shall be 24 ft.

18. **SIDEWALKS:** Sidewalks of 2 in. thick asphalt, on a 4 in. gravel base, not less than 5 ft. in width and no closer than 22 ft. to the street centerline shall be constructed on one or both sides of the street, as directed by the Board of Selectmen, when in the opinion of the Board such sidewalks are necessary.

19. **WETLANDS:** Any work that requires impacts (fill, dredge, excavation, etc.) on wetlands or other jurisdictional areas (stream banks, undisturbed tidal buffer zones, etc.) requires coordination with the Department of Environmental Services Water Division (271-3503) to ensure that all applicable rules and regulations are adhered to.

20. **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.

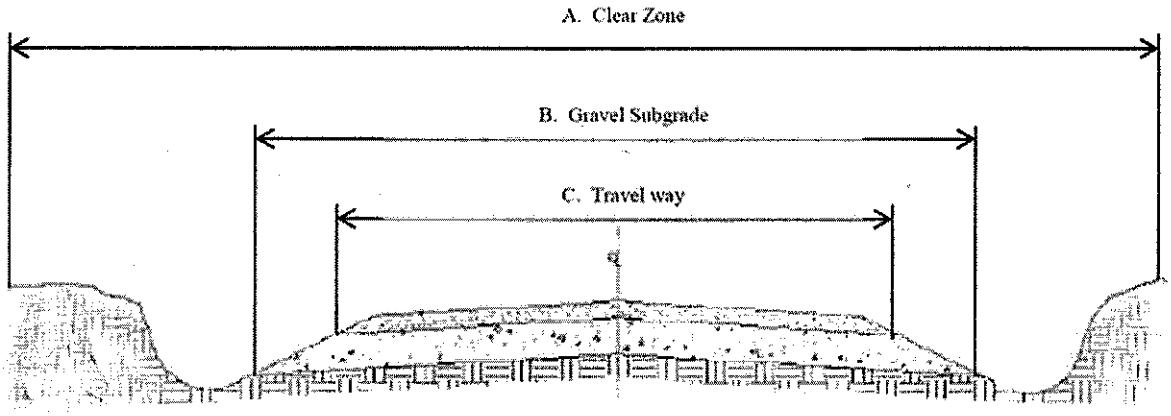
A **Site-Specific permit** is required from NHDES (271-3503) whenever a project proposes to disturb more than 100,000 square feet of terrain (50,000 sq. ft. if within the protected shoreland), and as of March 10, 2003, construction activity that disturbs 1 or more acre of land needs **a Federal Storm Water Permit** (contact EPA at 617-918-1615). Selection and design of erosion control measures may be found in the publication "Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire", prepared by the Rockingham County Conservation District for the New Hampshire Department of Environmental Services, August 1992 (currently being updated).

21. **ENVIRONMENTAL IMPACTS:** Environmental documentation may also be required to address the natural, socio-economic, and cultural resource impacts. Contact N.H. Department of Environmental Services (271-2975) and N.H. Division of Historic Resources (271-3483) for assistance.

22. **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.

23. **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 guardrail where necessary and the use of warnings signs are other safety factors to be considered. These areas are addressed in the publication "Roadside Design Guide" by AASHTO, 2002.

24. **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, reference should be made to the American Association of State Highways and Transportation Officials, "Guidelines for Geometric Design of Very Low-Volume Roads" 2001, and "Policy of Geometric Design of Highways and Streets" 2001.



Typical Roadway Cross Section

Clear zone width	Gravel subgrade width	Travel Way Width		
clearcut, stumps removed	topsoil removed, 12" compact gravel)	6" compacted crushed gravel	2" compacted base course bituminous concrete	1' compacted wearing course bituminous concrete
26'	24'	22'	22'	22'

Revisions of the September 2008 Road Standards passed and adopted by the Selectmen of the Town of Westmoreland, NH on December 1, 2022

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