

TOWN OF NORRIDGEWOCK  
ROAD AND ENTRANCE DESIGN STANDARDS  
ORDINANCE

SECTION 1: TITLE

This Ordinance shall be known as the Road Design Standards Ordinance of the Town of Norridgewock, Maine and will be herein after referred to as “this Ordinance”.

SECTION 2: COVERAGES

Road  
Major Private Road  
Minor Private Road  
Common Driveway  
Driveway  
Temporary Field/Woods Entrance  
Permanent Field/Woods Entrance

SECTION 3: AUTHORITY

This Ordinance is adopted pursuant to the provisions of MRSA Title 30-A, Section 3001.

SECTION 4: PURPOSE

- A. To establish minimum specifications for the design and construction of public and private roads and entrances.
- B. To establish minimum requirements for a road to qualify for Town acceptance.
- C. To ensure that safe and sufficient access is provided to all new development within the Town.

SECTION 5: APPLICABILITY

- A. This Ordinance shall apply to the design and construction of all public and private roads and entrances.
- B. Nothing shall prohibit a person from designing and building an access way to meet a category in excess of the current anticipated use.
- C. The Town of Norridgewock will be exempt from the provisions of this Ordinance when the Town undertakes reconstruction of existing Town roads.

SECTION 6: EFFECTIVE DATE

This Ordinance supercedes the existing Road Ordinance of the Town of Norridgewock (adopted by voters on 03/02/1992) takes effect upon enactment by the Town meeting. March 5, 2007 date of Town Meeting.

SECTION 7: CONFLICTS WITH OTHER ORDINANCES

Whenever this Ordinance conflicts with or is inconsistent with another provision of this Ordinance or any other ordinance, regulation or statute, the more restrictive provision shall control. This Ordinance is designed to complement applicable State laws and Norridgewock Ordinances.

#### SECTION 8: VALIDITY AND SEVERABILITY

Should any section or provision of this Ordinance be declared by the courts to be invalid such decision shall to invalidate any other section or provision of this Ordinance.

#### SECTION 9: AMENDMENTS

An amendment to this Ordinance may only be initiated by a majority of a Town Meeting. The Board of Selectmen shall conduct a public hearing on any proposed amendments prior to the Town Meeting.

#### SECTION 10: AVAILABILITY

A certified copy of this Ordinance shall be filed with the Town Clerk and shall be accessible to any member of the public. Copies shall be made available to the public at reasonable cost to be charged to the person making the request. Notice of availability of this Ordinance shall be posted in the Town Office.

#### SECTION 11: APPLICATION FORMS

The Town of Norridgewock shall develop application forms to be used by all applicants seeking entrance permits.

#### SECTION 12: APPLICATION FEE

All applications for approval of entrance and road permits shall be accompanied by a non-refundable fee, determined annually by the Board of Selectmen and made payable to the Town of Norridgewock.

#### SECTION 13: ADMINISTRATION AND ENFORCEMENT

- A. The standards contained in this Ordinance apply to all public and private roads and entrances within the Town initiated after the effective date of this Ordinance.
- B. The Road Commissioner or his agent is authorized to enforce specific provisions of this Ordinance as they apply to review and permits.
- C. After the complete application has been received, the Road Commissioner or his agent shall be responsible for issuing all Access/Driveway Entrance permits as prescribed in this Ordinance; and for conducting inspections as authorized by this Ordinance.
- D. The Planning Board shall be responsible for monitoring the use of this Ordinance as necessary, for ensuring that this Ordinance is properly enforced and for administering the road acceptance application process.

#### SECTION 14: ROADS AND ACCESS CATEGORIES

All new developments and buildings, located in the Town of Norridgewock, shall have access to a public way provided by one or more road and access categories described below. The type of access shall be selected according to the number of dwelling units, current or proposed. All ways, regardless of whether they are proposed for public acceptance shall conform to the minimum standards established in this Ordinance.

- A. Temporary Field or Woods Entrance: An entrance for temporary access to

- property. A temporary field or woods entrance may not serve a residential dwelling and must be removed within two (2) years.
- B. Permanent Field or Woods Entrance: A permanent entrance for access to property. A Permanent field or woods entrance may not serve a residential dwelling.
  - C. Driveway: May serve no more than one (1) residential dwelling. A common driveway is not eligible for public acceptance.
  - D. Common Driveway: May serve no more than four (4) residential dwellings. A Common driveway is not eligible for public acceptance.
  - E. Minor Private Road: May provide access for up to ten (10) residential dwellings. A minor private road may be eligible for public acceptance if it meets all the standards for a road.
  - F. Major Private Road: May provide access for ten or more residential dwellings. A major private road may be eligible for public acceptance if it meets all the standards for a road.
  - G. Road: May provide access for residential dwellings or commercial properties. A road may be eligible for public acceptance if it meets all the standards set forth herein.
  - H. Public Road: May provide access for residential dwellings or commercial properties. A public road has been accepted by the Town.

Mobile Home Park roads must follow this Ordinance.

Future Upgrades: All new roads and access ways constructed after the effective date of this Ordinance may not serve new development that would exceed the capacity of the road or access category in which they were constructed, unless the road or access way is upgraded as necessary. Nothing in this Ordinance shall be implied to mean that the Town of Norridgewock is required to upgrade a road or access way to meet any new development or traffic demand.

#### SECTION 15: CONSTRUCTION STANDARDS

- A. General Requirements: All Entrances
  1. If culverts are required, they will be purchased and delivered to site at owner's expense. The Road Commissioner, or his agent will determine the size (diameter, length and type) of the culvert. Culverts will meet the State of Maine, Department of Transportation Specifications. Culverts will be installed and maintained by the Town where they are within the right of way of a Public Road. The Town shall size culverts to meet the Maine Department of Transportation and Maine Department of Environmental Protection standards.
  2. All drainage features at the intersection of the existing Town roads shall be in accordance with Maine Best Management Practices and shall be approved by the Road Commissioner or his agent.
  3. The applicant shall obtain all necessary federal and state permits.

Description	Temporary	Permanent	Driveway	Common
	Field	Field		Driveway
	<u>Entrance</u>	<u>Entrance</u>		
Application fee	Yes	Yes	Yes	Yes
Inspections	Yes	Yes	Yes	Yes
Right of Way	N/A	N/A	N/A	N/A
Travel Way	N/A	N/A	16'	18'
Maximum Grade within 75 feet of intersection:				
	3%	3%	3%	3%
Intersection	90 degrees	90 degrees	90 degrees	90 degrees
Maximum Length	N/A	N/A	N/A	N/A
Erosion Control	Yes	Yes	Yes	Yes
Shoulder Width	N/A	N/A	N/A	N/A
Base Gravel	N/A	N/A	N/A	N/A
Surface Gravel	N/A	N/A	N/A	N/A
Roadway Crown	N/A	N/A	N/A	N/A
Maximum Grade	N/A	N/A	N/A	N/A

All Drives and Field Entrances, temporary and permanent, shall be so located that vehicles approaching or using the entrance will be able to obtain adequate sight distance in both directions along the road or to maneuver safely and without interference with traffic. The applicant shall specify the proposed sight distance for all entrances in the application for review by the Town.

**B. General Requirements: Roads**

Roads shall conform to the Maine Department of Transportation's Highway Design Guide and Standard Specifications and the requirements set forth herein.

**1. Design Requirements:**

A. Connection to Existing Roads: When a proposed road for a development is expected to generate average daily traffic of 400 trips per day or more, it will have at least two road connections with existing public roads or with roads on an approved subdivision plan for which performance guarantees have been filed and accepted. Any road with an average daily traffic of 400 trips per day, will have at least two road connections to existing public road or roads on an approved subdivision plan for which performance guarantees have been filed and accepted.

B. Design Standards: The following design standards apply according to street classification.

NOTE: These design standards are the recommended Minimum.

<u>DESCRIPTION</u>	<u>ROAD</u>	<u>MAJOR PRIVATE</u>	<u>MINOR PRIVATE</u>	<u>INDUSTRIAL COMMERCIAL</u>
Right of Way Width	60'	50'	40'	60'
Traveled Way Width	24'	20'	18'	24'
Shoulder Width (each side)	2'	2'	NA	3'
Sidewalk Width	5'	NA	NA	5'
Minimum Grade	.5%	.5%	NA	.5%
Maximum Grade*	6%	8%	NA	5%
Minimum Centerline Radius Without Superlev.	280'	280'	175'	400'
With Superlev.	175'	175'	110'	300'
Roadway Crown*	¼ inch per foot		***	¼ inch per foot
Minimum Ditch Back Slope	2 to 1	2 to 1	NA	2 to 1
Minimum Ditch Fill Slope	3 to 1	3 to 1	NA	3 to 1
Ditch Bottom Elevation Below Centerline	36"	36"	NA	36"
Minimum Angle of road Intersections	90 degrees	75 degrees	75 degrees	90 degrees
Maximum Grade within 75' Of Intersection	3%	3%	NA	3%
Curb Radii at Intersection	25'	20'	NA	30'
Minimum right of way Radii At intersections	10'	10'	10'	20'
Minimum drainage ditch /slope Desirable minimum gradient of 1.0%. Never less than 0.5%.				

NOTES: \*Minimum grade may be exceeded for a length of 100' or less.

\*\* Roadway crown is per foot of lane width for paved road.

\*\*\*Gravel surfaces shall have a minimum crown of ½" per foot of lane width.

\*\*\*\*Road intersection angles shall be as close to 90 degrees as feasible but no less than the listed angle.

\*\*\*\*\*The dimension should be based on the turning radii of expected commercial vehicles, but no less than 30'.

- C. The centerline of the roadway shall be the centerline of the right of way.
- D. Dead-End Streets: Dead end streets shall be no more than 1000' long. In addition to the design standards above, dead-end streets shall be constructed to provide a cul-de-sac turn-around with the following requirements for radii: Property line: 60'; outer edge of pavement; 50'; Inner edge of pavement: 34". Where the cul-de-sac is in a wooded area prior to development, a stand of trees can be maintained with the center of the cul-de-sac. Dead-end roads may also provide a permanent "T" or hammer head turn around in lieu of a cul-de-sac. Such a turn around shall be 35' in length and 20' in width at a minimum. The Board may require the reservation of a twenty-foot easement in line with the street to provide continuation of pedestrian traffic or utilities to the next street. The Board may also require the reservation of a fifty-foot easement in line with the street to provide continuation of the road where future sub division is possible.

If a waiver is requested for dead-end street lengths longer than 1000' the Board may require additional turn-arounds. Waivers for dead-end streets than 1000' for commercial or industrial purposes will be evaluated based on estimated traffic (trips per day).

E. Grades, Intersections and Sight Distances:

- a. Grades of all roads shall conform in general to the terrains, so that cut and fill are minimized while maintaining the grade standards of this Ordinance.
- b. All changes in grade shall be connected by vertical curves in order to provide the following minimum stopping sight distances based on the street design speed.

Design Speed (MPH)	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
	125'	150'	200'	250'

Stopping sight distance shall be calculated with a height of eye at 3-1/2' and the height of object at 1/2' from the pavement surface.

- c. Where new street intersections or driveway curb-cuts are proposed, sight distances, as measured along the road onto which traffic will be turning, shall be based upon the posted speed limit and conform to the table below. Sight distances shall be measured from the driver's seat of a vehicle standing on that portion of the exit with the front of the vehicle a minimum of 10' behind the curb line or edge of shoulder, with the height of the eye 3.5', to the top of an object 4.25' above the pavement.

Posted Speed Limit (mph)	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>	<u>55</u>
Sight Distance	250'	300'	350'	400'	450'	500'	550'

For non-level roadway sections, sight distances should be adjusted according to the following chart to compensate for grade effect:

<u>Increase for Downgrades</u>				<u>Decrease for Upgrades</u>			
<u>Design Speed</u>	<u>Correction in Distance</u>			<u>Design Speed</u>	<u>Correction in Distance</u>		
(mph)	(in feet)			(mph)	(in feet)		
	3%	6%	9%		3%	6%	9%
30	10	20	30	28	10	30	
40	20	40	70	36	10	20	30
50	30	70		44	20	30	

Where necessary, corner lots shall be cleared of all growth and sight obstructions, including ground excavation, to achieve the required visibility.

- 4. Cross (four cornered) street intersections shall be avoided insofar as possible, except as shown on the Comprehensive Plan or at other important traffic intersections. A minimum distance of 125' shall be maintained between centerlines of minor roads and 200' between collectors or a collector and minor street.

- F. Sidewalks: Where sidewalks are to be installed they shall meet the following minimum requirements:
  - a. Sidewalks shall be located a minimum of 5’ from the curb facing or edge of shoulder if the street is not curbed.
  - b. Sidewalks shall be a minimum of 5’ in width.
  - c. Bituminous Sidewalks:
    - i. The “subbase” aggregate course shall be less than 12” thick after compaction.
    - ii. The hot bituminous pavement surface shall be MDOT Plant Mix Grade D constructed in two lifts each no less than 1” compaction.
  - d. Portland Concrete Sidewalks:
    - i. The “subbase” aggregate shall be no less than 12” thick after compaction.
    - ii. The Portland Cement concrete shall be reinforced with 6” square, number 10 wire mesh and shall be no less than 4” thick.
- G. Curbs: Where curbs are to be installed they shall meet the following minimum standards:
  - 1. Granite curbs shall be installed on a thoroughly compacted base of 6” gravel.
  - 2. Bituminous curbs shall be installed on the base course of pavement. The specified traveled way width shall be measured between the curbs.

**SECTION 16: MATERIAL STANDARDS**

A. Minimum material thickness shall meet the specifications in the table below, after compaction.

<u>STREET MATERIALS</u>	<u>MINIMUM REQUIREMENTS</u>			
	<u>ROAD</u>	<u>MAJOR PRIVATE ROAD</u>	<u>MINOR PRIVATE ROAD</u>	<u>INDUSTRIAL COMMERCIAL</u>
Aggregate Sub-base Course (Maximum stone size of 6”)				
With no base	21”	18”	15”	24”
With base course	18”	15”	12”	20”
Crushed Aggregate Base Course (if necessary)				
	3”	3”	3”	4”
Hot Bituminous Pavement Surface Course				
Total Thickness	3.5”	3”		5”
Surface Course	1.5 “	1.25”	NA	1.5”
Base Course	2”	1.75”	NA	3.5”
Gravel Surface Course	4“	4”	3”	6”

The Town may also require sub grade geotextile fabric to be installed under the Sub-Base where sub grade soils are excessively wet or have a high clay content.

B. Preparation:

- 1. Before any clearing has started on the right of way, the center line and Side lines of the new road shall be staked or flagged at 50’ intervals.
- 2. Before grading is started, the area within the right of way necessary for

Construction of the traveled way, shoulders, drainage ways and utilities shall be cleared of all stumps, roots, brush, and other objectionable material. All shallow ledge, large boulders and tree stumps shall be removed from the cleared area.

3. All organic materials or other deleterious material shall be removed to a depth of 2' below the subgrade of the roadway. Rocks and boulders shall also be removed to a depth of 2' below the subgrade of the roadway. On soils which have been identified by the Somerset County Soil Conservation Service as not suitable for roadways, either the subsoil shall be removed from the street site to a depth of 2' below the subgrade and replaced with material meeting the specifications for gravel aggregate subbase, or a MDOT approved stabilization geotextile may be used.
4. Except in a ledge cut, crossing of a stream or wetland, side slopes shall be no steeper than a slope of 3' horizontal to 1' vertical, and shall be graded, loamed, limed, fertilized and seeded according to the specifications of the erosion and sedimentation control plan. Where a cut results in exposed ledge, a side slope of no steeper than 4' vertical to 1' horizontal is permitted.

C. Bases and Pavement

1. The Aggregate of Sub Base Course shall be sand or gravel durable particles free from vegetative matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3" square mesh sieve shall meet the following grading requirements:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieves</u>
.25"	25-70%
#40	0-30%
#200	0-07%

Aggregate for the subbase shall contain no particles of rock exceeding 6" in any dimension.

2. If the Aggregate Subbase Course is found to be not fine-gradable because larger stones, then a minimum of 3" of Aggregate Base course shall be screened or crushed gravel of hard, durable particles free from vegetative matter, lumps or balls of clay or other deleterious substances. The gradation of the part that passed a 3" square mesh sieve shall meet the following requirements:

<u>Seive Designation</u>	<u>% by Weight Passing Square Mesh Sieves</u>
.5"	45-70%
.25"	30-55%
#40	0-20%
#200	0-05%

Aggregate for the base shall contain no particles of rock exceeding 2" in any dimension.

- D. Pavement Joints: Where pavement joins an existing pavement, the existing pavement shall be cut along a smooth line and form a neat, even, vertical joint.



E. Pavements:

1. Minimum standards for the base layer of pavement shall be the MDOT specifications plant mix grade B with an aggregate size no more than 1” maximum and a liquid asphalt content between 4.8% and 6% by weight depending on aggregate characteristics. The pavement may be placed between April 15<sup>th</sup> and October 30<sup>th</sup>, provided the air temperature in the shade at the paving location is 35 degrees Fahrenheit or higher and the surface to be paved is not frozen or unreasonably wet.
2. Minimum standards for the surface binder of pavement shall be the MDOT specifications for plant mix grade C or D with an aggregate size no more than .75” maximum and a liquid asphalt content between 5.8% and 7.0% by weight depending on aggregate characteristics.

The pavement may be placed between April 15<sup>th</sup> and November 30<sup>th</sup>, provided the air temperature in the shade at the paving location is 50 degrees Fahrenheit or higher.

F. Surface Gravel:

Surface gravel shall be placed on top of the aggregate subbase, shall not have stones larger than 2” in size and meet the following gradation:

<u>Sieve Designation</u>	<u>% by Weight Passing Square Mesh Sieves</u>
2”	95-100%
.5”	30-65%
#200	7-12%

**SECTION 17: ADDITIONAL IMPROVEMENT AND REQUIREMENTS:**

- A. Erosion and Sedimentation Control: The procedures outlined in the erosion and sedimentation control plan shall be implemented during the site preparation, construction, and clean-up stages. The erosion and sedimentation control plan shall be prepared in accordance with Best Management Practices of the Maine Erosion and Sedimentation Control Handbook for Construction. (Current version).
- B. Drainage: The applicant shall submit evidence demonstrating that the drainage system has sufficient capacity to handle the storm events specified below.

(Note: minimum diameter of culverts is 15”)

<u>Roadway</u>	<u>Driveway</u>	<u>Closed</u>	<u>Open</u>
<u>Cross-culvert*</u>	<u>Culvert</u>	<u>System</u>	<u>Channel</u>
50 year	10 year	10 year	50 year

\*The designer should check the impacts of a 100 year design flood frequency.

\*\*If the driveway culvert is part of a stream system, design for a 50-year flood frequency. Where necessary, the applicant shall employ use of stormwater detention systems to maintain natural or existing stormwater runoff rates. Calculations and designs shall be performed by professionals experienced in hydrology and storm water management.

1. Drainage ditches shall be provided so as to effectively control water entering and leaving the road area. Such drainage ditches shall be properly stabilized so that the potential for unreasonable erosion does not exist. The lining of drainage ditches will be based on the maximum gradient of the channel or

ditch and flow velocity. Ditch lining will be designed in accordance with Best Management Practices of the Maine Erosion and Sedimentation Control Handbook for Construction, current version.

In order to prevent road surface drainage from directly entering a stream, river, wetland, or water body, roads and their associated drainage ditches shall be located, constructed, and maintained so as to provide an unscarified filter strip, of at least the width indicated below, between the exposed mineral soil or the road and the normal high water mark of a surface water body.

<u>Average Slope of Land Exposed Mineral Soil and Normal High Water (Percent)</u>	<u>Width of Strip Between Exposed Mineral Soil and Normal High Water Mark (ft. along surface of the ground)</u>
0%	25'
10%	45'
20%	65'
30%	85'
40%	105'
50%	125'
60%	145'
70%	165'

**Clean-up:**

Following street construction, the developer or contractor shall conduct a thorough clean-up of stumps and other debris from the entire street right of way. If on-site disposal of the stumps and debris is proposed, the disposal site shall be indicated on the plan and be suitably covered with fill and topsoil, limed, fertilized and seeded.

**SECTION 18: PUBLIC ACCEPTANCE PROCEDURE:**

- A. All roads and private roads proposed for public acceptance shall comply with the procedures and requirements of this Section.
- B. Roads are eligible for public acceptance if they comply with all of the specifications for a road.
- C. Those applying for public road acceptance shall follow the application procedures outlined in the Town's Subdivision Ordinance.
- D. The Board of Selectmen, with the assistance of the Road Commissioner or committee shall review all proposals for road acceptance and shall make a recommendation to the Town Meeting. The Town shall accept roads only by a vote of the Town Meeting.
- E. A road shall not be eligible for public acceptance unless it complies with all of the requirements of this section.
- F. The Board of Selectmen shall determine that a road is eligible for public acceptance only after it conforms to the following:
  - 1. The road complies with all of the requirements of this Ordinance.
  - 2. The road has bituminous surface according to the specifications for a road.
  - 3. The road has been designed and constructed according to the plans developed by a professional engineer.

4. The road has been inspected by a professional engineer and certified to have been constructed according to the requirements of this Ordinance and the road plan.
  5. The road developer has obtained all applicable permits from the Maine Department of Transportation and the Maine Department of Environmental Protection for the construction of the road.
- G. If the Board of Selectmen determine that the road conforms to all applicable standards, they shall hold a public hearing to discuss the road acceptance. The Board of Selectmen may vote to recommend to the Town that the road be considered for public acceptance.
- H. All costs associated with design, construction and inspection of the road shall be at the Applicant's expense.

#### SECTION 19: PLAN REQUIREMENTS-ALL ROADS:

The Plans and other graphical representations submitted as part of the application shall be prepared by a Maine Professional Engineer or a Maine Professional Land Surveyor and shall include the following information:

1. All plans, profiles, and cross-sections shall be drawn at a scale of 1"=40' horizontal and 1"=4' vertical.
2. The direction of magnetic north.
3. A plan and profile, typical cross-section views of all proposed road or street construction. Cross-section views shall be taken at 50' intervals.
4. The starting and ending point with relation to established roads, streets or ways and any planned or anticipated future extensions of street. (All terminal points and the centerline alignment shall be identified by survey stationing.)
5. Existing structures and established landmarks within 100 horizontal feet of the proposed centerline of the street.
6. Dimensions, both lineal and angular, necessary for locating boundaries and necessary for locating subdivisions, lots and easements.
7. Lots, names and addresses of all owners of abutting property.
8. All natural waterways, watercourses and wetlands in or on land contiguous to the said road.
9. The kind, size, location, profile and cross-section of all existing and proposed drainage ways and structures and their relationship to existing natural waterways.
10. A soil sedimentation and erosion control plan showing temporary and permanent control measures.
11. Curve data for all vertical and horizontal curves shall be the centerline radius, arc length, beginning of curve and end of curve points.
12. All centerline gradients shall be shown and expressed as a percent.
13. All curve and property line radii of intersections.
14. The limits and location of any proposed sidewalks and curbing.
15. The location and size of all existing and proposed overhead and underground utilities, to include but not be limited to the following: (NOTE: when a location is approximate, it shall be noted on the plan as such.)
  - a. Water supply lines and valves;
  - b. Sanitary sewer lines and manholes;
  - c. Storm sewer lines, manholes and catch-basins;
  - d. Telephone lines and poles;

- e. Electrical power lines and poles;
  - f. Fire hydrants; and
  - g. Street lights.
16. The name(s) of each proposed new road or street.
  17. The location of each existing or proposed driveway connecting with the street(s).

**SECTION 20: WAIVERS:**

Where the Board of Selectmen finds that extraordinary and unnecessary hardship may result from strict compliance with this Ordinance or where there are special circumstances of a particular site, they may vary these standards provided that such waivers are not contrary to good design, public health, safety and general welfare of the public. In granting a waiver, the Selectmen shall place reasonable conditions on the modified proposal, as they deem necessary, to ensure that the objectives of this Ordinance are met. In no case shall the requirements specified in this Ordinance for gravel and paving thickness be reduced or waived.