

# TOWN OF GREENLAND, NH



## SUBDIVISION REGULATIONS

[Adopted July 10, 1987]

[Amended 02.07.2008, 12.14.2014, 02.23.2015, 03.19.2015, 04.2016, 07.2017, 06.2018, 11.2022]

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## RECORD OF AMENDMENTS

These Subdivision Regulations were adopted on July 10, 1987. Subsequent amendments are as follows:

<b>NOVEMBER 03, 2022</b>	
Section IV	General Principles and Design and Construction Standards for Subdivisions, Subsection 4.4.1 – Lot Configuration, Item A: Amended Lot Arrangement; Subsection 4.4.7 – Performance and Maintenance Security: Amended
<b>JUNE 07, 2018</b>	
Section IV	General Principles and Design and Construction Standards for Subdivisions, Subsection 4.4.2 – Streets, Item M: Delete in its Entirety
Section IV	General Principles and Design and Construction Standards for Subdivisions, Subsection 4.4.16 – House Numbers and Street Names: Amended
Section VI	Waiver Procedure: Amended
<b>JULY 20, 2017</b>	
Section III	Data Required for Submission of a Subdivision, Subsection 3.3.4 – Other Required Exhibits, Item C: Deleted in its Entirety (refer to Section V)
Section IV	General Principles and Design and Construction Standards for Subdivisions, Subsection 4.4.13 – Stormwater Management and Erosion Control: Deleted in its Entirety (refer to Section V)
Section V	Adopted: Erosion and Sedimentation Control Standards; all other sections renumbered
Addendum C	Deleted in its Entirety (refer to Section V)
<b>MARCH 19, 2015</b>	
3.3.2.1	Added to Site Plan Review & Subdivision Regs: Special Flood Hazard Areas
<b>FEBRUARY 19, 2015</b>	
2.3.6 e	Amended
<b>DECEMBER 04, 2014</b>	
3.3.4 c	Amended: Added Rainfall Estimates
3.3.4 n	Amended Graded of Streets
3.3.4 p	Amended Minimum Stopping Distances
4.4.7	Amended Performance and Maintenance Security
4.4.8 c	Amended Installation of Underground Utilities
4.4.10 d	Amended Base Course (Second Base Course)
4.4.10 h	Amended Curbing
Addendum A, I, C	Amended Contour Sheet
Addendum A, II	Amended First Public Hearing
Addendum A, II, M	Amended Pipe Structures
Addendum A, II, Q	Amended Under Drains
Addendum A, III, B	Amended Construction Instruction
Addendum A, IV, A, 5	Amended
Addendum A, IV, 7	Amended
Addendum A, IV, B	Amended
Addendum A, IV, B, 7	Amended
Addendum A, V, A	Amended
Addendum A, VI, H, 1	Amended
Table 1	Amended: Pavement Width, Local Res.
Table 1	Amended: Minimum Profile Grade (Elsewhere)—All

<b>DECEMBER 04, 2014 (continued)</b>	
Table 1	Amended: Maximum Grade Within 75' of Intersection
Table 1	Amended: Minimum Stopping Sight Distance
<b>MARCH 13, 2007; DECEMBER 19, 2006</b>	
1.5.27	Amend "Street"
4.4.1	Amend Lot Configuration
4.4.1.1	Add Backlot Subdivision
4.6	Add Parking Requirements
<b>JUNE 21, 2007</b>	
1.5.12	Amend Frontage Definition
4.4.1 b	Amend Backlot Subdivision
Typical Section B	Amended
Typical Section C	Amended
Inspection Report for Road Construction	Amend Compact Gravel Base Course
<b>OCTOBER 24, 2007</b>	
Comprehensive Application	Added to Subdivision and Site Plan Regulations
<b>MAY 14 &amp; 15, 2006</b>	
1.5.1	Amend Abutter Definition
2.2	Amend Preliminary Consultation
2.3.2	Add Paragraph "D", Exhibits Required at Time of Submission
2.3.24	Amend Paragraphs 2 & 3, Public Hearing and Notice
4.4.2	Amend Paragraphs 2 & 3, Under "a" Streets
End of Section	Add Applications
<b>DECEMBER 19, 2006; MARCH 13, 2007</b>	
1.5.27	Amend "Street"
4.4.1	Amend Lot Configuration
4.4.1.1	Add Backlot Subdivision
4.6	Add Parking Requirements
<b>JANUARY 20, 2005</b>	
1.5.8	Deed Definition
1.5.30	Warranty Deed
1.5.31	Wetlands Definitions
2.2.2	Documents
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2.3.2 b	Exhibits Required at Time of Submission
2.3.6	Fees and Charges
2.3.6 d	Rockingham County Costs
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3.3.1 b	Existing Conditions Plan
3.3.1 d	Existing Conditions Plan
3.3.1 f	Existing Conditions Plan
3.3.4 k	Other Required Exhibits

<b>JANUARY 20, 2005 (continued)</b>	
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Table 1	Road Design Criteria
<b>APRIL 21, 2005</b>	
Figure A	Typical Road Section
Application	Clarify Date of Submission
<b>JANUARY 24, 2002</b>	
Addendum A	Remove Figure 'E' – TYPICAL DETAIL "T" TURN AROUND (HAMMERHEAD CONFIGURATION); renumber remaining sections
<b>MARCH 12, 2002</b>	
4.4.10	On-Site Sewage Disposal Systems – Amend Paragraph "A"
<b>JANUARY 18, 2001</b>	
5.17	Fire Protection Cistern Requirements
<b>OCTOBER 19, 2000</b>	
IV, 4.4.5	Driveways
<b>SEPTEMBER 30, 1999</b>	
IV, A. III	Addendum A
IV, A. V	Addendum A
IV, B. 1	Addendum A
V, B	Addendum A
4.5.3	Add Inspections
<b>AUGUST 21, 1997</b>	
Revision to entire format and contents of Subdivision Regulations	
<b>JULY 19, 1990</b>	
IV.A	B.3, and B.8 (Plan Requirements)
V.E	Start of Road Construction
V.I	Minimum Street Radius
V.K	Utilities
V.R	Contiguous, Non-Wetland Soil
<b>MAY 19, 1989</b>	
VI.12	Flood Plain Delineation
<b>JULY 08, 1988</b>	
III.B.2.c	Application Fee
V.M	Septic System Requirements
V.O	Minimum Area for Non-Wetland Soil

## **SECTION I - GENERAL PROVISIONS**

### **1.1 AUTHORITY**

These regulations are adopted in accordance with the provisions of RSA 672 through 677 inclusive of the Revised Statutes Annotated as originally authorized by the Town Meeting.

### **1.2 TITLE**

The regulations shall be known and may be cited as the "Subdivision Regulations, Town of Greenland, New Hampshire".

### **1.3 JURISDICTION**

The provisions of these Regulations shall apply to all land within the boundaries of the Town of Greenland.

1.3.1 Subdivisions: No land shall be subdivided or lots conveyed or sold within the corporate limits of the municipality until:

- a. The Planning Board has given final approval of the subdivision plan after a public hearing and after the Chairperson of the Board has affixed his/her signature on the approved plan.
- b. The applicant has complied with all of these regulations including the posting of appropriate performance and/or guaranty bonds.
- c. The approved plan is filed with the Rockingham County Registry of Deeds.

1.3.2 Permits: No building or other permit shall be issued for any parcel or plat until an approved subdivision plan is presented to the Building Inspector by the applicant.

### **1.4 PURPOSES**

The Regulations are adopted for the following purposes:

- A. To protect and provide for the public health, safety, and general welfare of the municipality.
- B. To guide the future growth and development of the municipality, in accordance with the Master Plan.
- C. To provide for adequate light, air, and privacy; to secure safety from fire, flood, and other danger; and to prevent overcrowding of the land and undue congestion of the population.
- D. To protect and conserve the value of land throughout the municipality and the value of buildings and improvements upon the land; and to minimize the conflicts among the uses of land and buildings.
- E. To provide adequate and efficient transportation, water, sewerage, schools, parks, playgrounds, recreation, and other public requirements and facilities.
- F. To provide for suitably located streets and/or access ways of sufficient width to accommodate existing and prospective traffic; to afford access for fire fighting equipment to buildings; and to be coordinated to compose a convenient and safe circulation system.
- G. To establish reasonable standards of design and procedures for subdivisions in order to further the orderly layout and use of land; and to ensure proper legal descriptions and monumenting of subdivided land.

- H. To ensure that public facilities are available and will have a sufficient capacity to serve proposed subdivisions.
- I. To prevent the pollution of air, streams, and ponds; to assure the adequacy of drainage facilities; to safeguard the water table; and to encourage the wise use and management of natural resources throughout the municipality in order to preserve the integrity, stability and beauty of the community, and the value of the land.
- J. To provide for open spaces through the most efficient design and layout of the land, while preserving the density of land as established in the Zoning Ordinance of the municipality.

## 1.5 DEFINITIONS

In general, words and terms used in these Regulations shall have their customary dictionary meanings or the same meanings as corresponding words and terms as defined in the Zoning Ordinance of the Town of Greenland. More specifically, certain words and terms are defined as follows:

- 1.5.1 **Abutter:** As defined by RSA 672:3, this term shall mean any person whose property is located in New Hampshire and adjoins or is directly across the street or stream from the land under consideration by the local land use board. For purposes of receiving testimony only, and not for purposes of notification, the term **abutter** shall include any person who is able to demonstrate that his land will be directly affected by the proposal under consideration. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a condominium or other collective form of ownership, the term abutter means the officers of the collective or association, as defined in RSA 356-B:3, XXIII, and the owners of the individual condominium units. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a manufactured housing park form of ownership as defined in RSA 205-A:1, II, the term "abutter" includes the manufactured housing park owner and the tenants who own manufactured housing which adjoins or is directly across the street or stream from the land under consideration by the local land use board. (Amended 2006)
- 1.5.2 **Applicant:** The person seeking approval of the subdivision whose name appears on the application form. Consent shall be required from the legal owner of the premises if the owner is not the applicant.
- 1.5.3 **Board:** The Planning Board of the Town of Greenland.
- 1.5.4 **Bond:** Any form of security including a cash deposit, surety bond, collateral, property, or instrument of credit in an amount and form satisfactory to the Planning Board and the Board of Selectmen.
- 1.5.5 **Community Wastewater System:** A non-municipal wastewater collection, treatment, and disposal system that serves an average of at least 25 daily year-round or that has at least 15 service connections.
- 1.5.6 **Community Water Supply:** A non-municipal water supply system that serves an average of at least 25 individuals daily year-round, or that has at least 15 service connections.
- 1.5.7 **Cul-de-Sac:** A local street with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.



- 1.5.8 **Deed:** Unless otherwise specified by the Planning Board the term “Deed” in these Regulations shall refer to a Warranty Deed (see 1.5.30). (Added 2005)
- 1.5.9 **Dead End Street:** A local street with only one outlet, with or without a "looped" roadway.
- 1.5.10 **Dwelling Unit:** One or more rooms, including cooking facilities and sanitary facilities in a dwelling structure, designed as a unit for occupancy by not more than one family for living and sleeping purposes.
- 1.5.11 **Town Engineer:** The duly designated engineer of the Town of Greenland; if there is no such official, the consultant assigned by the Greenland Planning Board.
- 1.5.12 **Frontage:** The length of the lot bordering on and providing access to a Class V (or better) highway but excluding limited or restricted access highways, or a street, as defined and as used in Title LXIV, Planning and Zoning, of the Revised Statutes Annotated, shown on a plat approved by the Planning Board. The footage requirements specified in Article IV, Dimensional Requirements, of this Ordinance shall be contiguous. In the case of corner lots, frontage and front lot lines shall mean the dimensions and lines on both intersecting streets. (Adopted 1995, Amended 2007)
- 1.5.13 **Lot:** A tract, plot, or portion of a subdivision or other parcel of land intended as a unit for the purpose, whether immediate or future, of transfer of ownership or for building development.
- 1.5.14 **Master Plan:** Any part or element of the overall plan for development of the Town adopted by the Planning Board, according to State law.
- 1.5.15 **Minor Subdivision:** A division of a lot, tract, or parcel of land which would create not more than three lots for building development purposes and which does not require the installation of any new public streets or proposals which do not involve the creation of lots for building development purposes.
- 1.5.16 **Municipal Wastewater System:** A wastewater collection, treatment, and disposal system that serves an average of at least 25 individuals daily year-round or that has at least 15 service connections and that is owned and operated by a municipal or regional government.
- 1.5.17 **Municipal Water Supply:** A water supply system that serves an average of at least 25 individuals daily year-round or that has at least 15 service connections, and that is owned and operated by a municipal or regional government.
- 1.5.18 **Person:** Includes a firm, association, organization, partnership, trust, company, or corporation, as well as an individual.
- 1.5.19 **Plan:** A plat or site plan on which required information is drawn for the purpose of review and approval by the Planning Board.
- 1.5.20 **Plat:** The final map, drawing, or chart on which the subdividers plan of the subdivision is presented to the Greenland Planning Board for approval and which, if approved, shall be submitted to the Registry of Deeds of Rockingham County for recording.

- 1.5.21 **Professional Engineer:** A person qualified and dutifully licensed as a registered professional in the State of New Hampshire.
- 1.5.22 **Qualified Soil Scientist:** A person qualified in soils classification who is recommended or approved by the Rockingham County Conservation District Board of Supervisors and who is licensed as a soil scientist in the State of New Hampshire.
- 1.5.23 **Reserve Strip:** Any area of land which is intended for future public use for street construction or pedestrian ways.
- 1.5.24 **Re-Subdivision:** The division of an existing subdivision or any change of lot size or configuration therein or the relocation of any street or lot in a subdivision.
- 1.5.25 **Slope:** The average steepness of the land surface under consideration. For the purpose of determining lot size categories, slope shall be determined by slope factors used by the U.S. Soil Conservation Service Soil Survey (National Cooperative Soil Survey) soils classification (where A = 0-3%; B = 3-8%; C = 8-15%; D = 15-25%; and E = 25%).
- 1.5.26 **Soil Type:** As defined by the U.S. Soil Conservation Service, United States Department of Agriculture. For the purpose of this Regulation, soil type shall be determined by a soil scientist designated as qualified by the Rockingham County Conservation District.
- 1.5.27 **Street:** Includes the following: (Amended 2007)
- a. Any highway, road or right-of-way which the State of New Hampshire or County of Rockingham has any obligation to maintain.
  - b. Any highway, road or right-of-way dedicated to and accepted by the Town of Greenland.
  - c. Any highway, road, or right-of-way whether or not formally accepted by the Town, which by traveled use or other appropriate circumstances has become a Town road by the Town's recognition of a duty to regularly maintain such highway or right-of-way.

Shall not include: Any existing public highway, road or right-of-way which shall have been discontinued as an open highway, or made subject to gates and bars, or which shall not have been maintained and repaired by the Town in suitable condition for travel thereon for five successive years or more.

- 1.5.28 **Subdivider:** A subdivider is an individual or any legal entity or agent therefore that undertakes the activities governed by these Regulations. The term shall also include the terms "builder" and "developer" even though the persons so designated may be involved in successive stages of the subdivision.
- 1.5.29 **Subdivision:** The division of a lot, tract, or parcel of land into two or more lots, plats, sites, or other divisions of land for the purpose, whether immediate or future, of sale, rent, lease, condominium conveyance, or building development. It includes re-subdivision, and when appropriate to the context, relates to the process of subdividing or to the land or territory subdivided. The division of a parcel of land held in common and subsequently divided into parts among the several owners shall be deemed a subdivision under this chapter.

- 1.5.30 **Warranty Deed:** A deed in substance following the form appended to this section shall, when duly executed and delivered, have the force and effect of a deed in fee simple to the grantee, heirs, successors and assigns, to his and their own use, with covenant on the part of the grantor, for himself, his heirs, executors and administrators, that, at the time of the delivery of such deed, he was lawfully seized in fee simple of the granted premises, that the said premises were free from all encumbrances, except as stated, that he had good right to sell and convey the same to the grantee, his heirs, successors and assigns, and that he will, and his heirs, executors, and administrators shall, warrant and defend the same to the grantee and his heirs, successors and assigns, against the lawful claims and demands of all persons (RSA 477:27). (Added 2005)
- 1.5.31 **Wetlands:** Wetlands means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The location of wetland boundary in any particular case must be determined through onsite inspection by a New Hampshire certified wetland scientist.

Areas considered with the same protections as wetlands shall include poorly and very poorly drained soils, and the borders of tidal marshes of the Winnicut River and Great Bay. Said borders are hereby defined as those areas adjacent to the Winnicut River and Great Bay with elevations of 8 feet or less above mean sea level (National Geodetic Vertical Datum of 1929). (Amended 2005)

## **SECTION II - PROCEDURES FOR SUBDIVISION APPROVAL**

### **2.1 GENERAL REQUIREMENTS**

#### **2.1.1 Subdivision Plats**

Approval by the Planning Board is required before the land may be divided and sold, leased or otherwise conveyed or offered by sale, lease, or conveyance, including condominium conveyance.

#### **2.1.2 Subdivision Permits and Site Plans**

1. In all cases where any amendment of any such subdivision plan is proposed, the applicant must also secure the approval of the amendment from the Planning Board.
2. No building permit may be issued for the construction or alteration of any building or structure within the purview of these Regulations until an approved subdivision plat or amendments thereto have been secured by the applicant and presented to the Building Inspector. The Planning Board shall certify on each subdivision plat or amendments thereto whether or not the plat meets the requirements of these regulations and other regulations and ordinances of the Town of Greenland.
3. In cases where the applicant intends to seek relief from the Zoning Ordinance, the applicant should coordinate with the Planning Board, the Building Inspector/Zoning Officer, the Planning Consultant and/or the Zoning Board of Adjustment on determining the needs of the applicant and in the scheduling of hearings before the necessary Boards. The Planning Board is available to provide guidance and formulate findings as needed, prior to any hearing before the Zoning Board of Adjustment.

### **2.2 PRELIMINARY CONSULTATION** (Amended 2006)

The Board requires the applicant to submit materials for a Preliminary Conceptual Consultation Review or a Preliminary Design Review. In accordance with RSA 676:4, time limits for acting on a submitted application shall not commence until a formal application is submitted and the appropriate preliminary review phase has been completed. An individual who anticipates submitting a formal application for subdivision approval is required to consult with the Planning Board prior to submission of the formal application and supporting documentation.

#### **2.2.1 Purposes of the Consultation**

The purpose of the consultation is to familiarize the Planning Board with the basic concept of the proposed subdivision.

The consultation is further designed to acquaint the potential applicant with the formal application process and particular information that the Board may request, to suggest methods for resolving possible problems in the development, design, and layout, and to make the potential applicant aware of the recommendations in the Master Plan (if applicable) to the property in question.

### **2.2.2 Preliminary Conceptual Consultation**

The Board requires the applicant to submit to a Preliminary Conceptual Consultation when the proposed subdivision will not require a new public or private road. The Board and the applicant will discuss proposals in conceptual form only and in general terms, such as desirability of types of development and proposals under the master plan.

- A. The Board may not discuss road layouts, specific parcels of land, or specific designs.
- B. Such discussion may occur without the necessity of giving formal public notice, but such discussions may occur only at formal meetings of the Board.
- C. It shall be the Board's practice to hear such discussions during the monthly meeting reserved for public hearings, and not during the monthly meeting reserved for work sessions.
- D. Such consultation shall not bind either the applicant or Board. Statements made by Planning Board members shall not be the basis for disqualifying said members or invalidating any action taken.

### **2.2.3 Preliminary Design Review (Notice Required)**

The Board requires the applicant to submit to a Preliminary Design Review when a proposed subdivision will require a new public or private road. The Board and the applicant will engage in non-binding discussions beyond conceptual and general discussions which involve more specific design and engineering details.

- A. The design review phase may proceed only after identification of and notice to abutters, holders of conservation, preservation, or agricultural preservation restrictions, and the general public. Such discussion may occur only at formal meetings of the Board.
- B. The applicant shall be required to cover the costs of notice to such parties and review and processing by the Town's Planning Consultant and Administrative Assistant to the Planning Board through reasonable fees as determined by the Planning Board.
- C. Such consultation shall not bind either the applicant or the Board. Statements made by Planning Board members shall not bind either the applicant or Board and shall not be the basis for disqualifying said members or invalidating any action taken.

#### **2.2.3.1 Documents Required for Preliminary Design Review**

In order to facilitate discussion, the potential applicant is required to prepare a base map of the property to be subdivided. The base map should be drawn to scale and should be drawn in ink. The proposed subdivision should be drawn on the base map. Dimensions may be approximate. The data may be tentative, but all information shall be sufficiently clear to illustrate all conditions and the proposed subdivision and/or development of the property.

The following information or data is requested to be submitted for Preliminary Design Review by the Planning Board:

- A. General description of existing conditions on the site including characteristics of the land, topography, vegetation, and similar features.
- B. General description of available community facilities and utilities.

- C. General description of the lots to be created, including their size and dimensions, and a general use plan for the subdivision.
- D. A topographic map (print, thereof) of the site showing in sketch form the proposed layout of streets, lots, and other features in relation to existing conditions and/or the location of other site development features. Wetlands shall also be delineated on this topographic map.

#### **2.2.4 Limits of the Review**

- A. The Planning Board shall conduct the Preliminary Consultation at a regularly scheduled meeting of the Board.
- B. The applicant will make a presentation defining the general scope and concept of the subdivision and/or development and how the land will be divided and/or used.
- C. Any documents presented to the Board will be made a part of the record for future reference purposes.
- D. Neither the applicant nor the Planning Board shall be bound by the discussions. However, the Planning Board shall be entitled to make recommendations with respect to the material presented to assist the applicant in preparing a formal application that will meet the development standards of the Town as expressed in these regulations and in other ordinances and/or regulations. The Planning Board shall enter into the minutes and shall communicate to the applicant in writing any suggestions, recommendations, or other factors that the Board finds prudent and necessary.

### **2.3 FORMAL APPLICATION REVIEW PROCESS**

Whether or not a Preliminary Consultation has been conducted, an applicant shall prepare and submit an application for subdivision approval in accordance with and to the standards set forth in these regulations.

This formal review process is designed to afford the Planning Board, the applicant, abutters, and parties in interest a clearly delineated method for examining the proposed subdivision plan thus allowing the Planning Board to make a timely and informed decision on the proposal.

#### **2.3.1 Submission Period**

An application for subdivision approval shall be submitted to the Town Office, c/o Chairperson of the Planning Board, at least 21 full days in advance of a regularly scheduled Planning Board meeting (this being the Wednesday three weeks prior to the regularly scheduled Planning Board meeting on the third Thursday of the month). The application form and the supporting exhibits required are set forth in Section 2.3.2 of these regulations. (Amended 2005)

#### **2.3.2 Exhibits Required at Time of Submission**

The applicant shall submit the following information when a formal application is made for subdivision approval. The Planning Board shall not determine whether or not the application is complete until it reviews all of the documents at its next regularly scheduled meeting.

- A. A completed form entitled: "Comprehensive Application - Subdivision of Land." Forms may be obtained from the Town Office or on the Town website ([greenland-nh.com](http://greenland-nh.com)).

- B. A list of the names and addresses of all abutters obtained from the Town records. Three sets of computer generated or typed mailing labels, with the abutter's names and addresses, must be submitted as part of the application. (Amended 2005)
- C. Two complete sets of black line or blue line prints of all subdivision plat plans drawn to scale (except in the case of a very large subdivision, generally a scale of not more than 50 feet to the inch), prepared under the supervision of and stamped by a registered land surveyor licensed to practice in New Hampshire; roadway, drainage and all utility plans prepared and stamped by a professional engineer licensed to practice in New Hampshire. The information to be contained in and standards to be followed for the preparation of these plans are set forth in Section III of these regulations.
- D. Eleven sets of 11" x 17" complete plans suitable for Board Member review. (2006, 2015)
- E. Data on test pits and percolation tests including location of test pits, percolation test date and rate, certification of test witness, and outline of area reserved for leach fields.
- F. Any supporting documentation necessary to explain the proposal to the Planning Board, abutters, and the general public.

### **2.3.3 Planning Board Responsibilities in Initial Processing**

The Planning Board will accept the exhibit materials specified in Section 2.3.2 and determine its completeness at its next regularly scheduled meeting.

- A. At least ten days in advance of the meeting, the Board shall mail notice to the applicant and abutters stating that an application for subdivision approval has been filed. The notice will contain the following:
  - 1. Name and address of the applicant.
  - 2. The location of the proposed subdivision proposal.
  - 3. A general description of the proposed project.
- B. The Planning Board will also post the information contained in Section 2.3.3 (A) in the Town Office.
- C. At the regularly scheduled meeting the Planning Board will:
  - 1. Review the application for completeness and determine its acceptability for further processing.
  - 2. Advise the applicant of additional information that may be needed to process or evaluate the application. At that time, if a waiver from these regulations is desired by the applicant, a written waiver request needs to be submitted to the Board.
  - 3. Advise the applicant of the administrative fees, notice fees, and other reasonable charges that may be required for the application. The applicant shall pay these fees at the meeting unless alternative arrangements are allowed by the Board. If the fees are not paid, the Board may discontinue further consideration of the application.
  - 4. Set the date for a public hearing on the application.
  - 5. Determine the need for special investigative studies and advise the applicant of the time and the need for financial support from the applicant.
  - 6. Notify the applicant verbally at the meeting and confirm in writing if the application is formally accepted for evaluation. The date of the formal acceptance shall be used for calculating the time period for decision by the Board.

- D. The Planning Board will begin formal consideration of the application within 30 days of this regularly scheduled meeting providing that the application is determined to be completed in full compliance with these regulations. If not complete, the Planning Board will advise the applicant of what information is needed to complete the application package and when it will next be considered by the Board.
- E. The Planning Board will arrange with the applicant for an inspection of the site by the Board, a committee or a member of the Board, or a Town employee appointed for said purpose by the Chairperson (if determined by the Board to be necessary or desirable). Abutters shall be notified at the hearing of such inspection and shall be permitted to attend.

#### **2.3.4 Public Hearing and Notice**

The Planning Board, before taking action on a subdivision plan, shall hold at least one public hearing thereon. The Planning Board shall take testimony from the applicant, abutters, and parties in interest to the proposal either in person or in writing.

The applicant and abutters shall be notified of the public hearing and the time and place of such hearing by certified mail, not less than ten days before the date fixed for the hearing. These ten days do not include the day of publication or the day of the public hearing. (Amended 2006)

In addition, notice to the general public of the public hearing shall be posted in the Town Offices and U.S. Postal Office in Greenland at least ten days before the date fixed for the hearing. These ten days do not include the day of publication or the day of the public hearing. (Amended 2006)

The notice to the applicant, abutters, and general public shall contain the information as specified in Section 2.3.3 (A) 1, 2, and 3.

#### **2.3.5 Concurrent and Joint Hearings**

The Planning Board may hold a hearing on a subdivision plan or for a site plan in conjunction with each other if both are required for a project. A hearing for either by the Planning Board may be held at the same time and place that a hearing for a special exception or variance is held for the project by the Board of Adjustment, provided that such a hearing is mutually agreed upon in advance by the Boards.

#### **2.3.6 Fees and Charges**

The applicant shall pay the following fees and charges as are applicable. Administrative Costs (A) and notice costs (B) will be paid with a single check payable to the Town of Greenland. (Amended 2005)

- A. **Administrative Costs:** See Fee Schedule Worksheet following applicable application.
- B. **Notice Costs:** The applicant shall pay abutter notice and per applicant for the costs of all notice requirements including reproduction costs and any publication and/or posting costs. See Fee Schedule Worksheet following applicable application. (Amended 04.15.1999; Amended 2002)
- C. **Special Investigative Costs:** The Planning Board may require the applicant to pay reasonable costs of special investigative studies which may be necessary for the Planning Board to evaluate properly the impact of a proposed subdivision.
- D. **Rockingham County Costs:** The applicant shall prepare two checks payable to the Rockingham County Registry of Deeds for submission to Rockingham County after the subdivision has been



approved. The amounts shall be determined by Rockingham County at the time of submission. Checks and mylar shall be submitted to the Code Enforcement Officer. It will be the responsibility of the Town to record all approved plans. (Amended 2005)

E. **Municipal Review Costs** (Amended 2005, 2015): The Board will require the applicant to pay the cost of having duly appointed agents of the municipality review a submitted plan. The Board shall require the applicant to set up an escrow account for the paying of these costs. The cost of such review shall be determined by the Planning Board or its designated agent. Such costs may be encountered in the following instances:

1. Witnessing of test pits by an agent designated by the Planning Board.
2. Review of roadway design, drainage and storm water management, and erosion and sediment control plans by an agent appointed by the Planning Board.
3. Periodic construction inspections and/or tests, including but not limited to soil compaction tests, sieve tests, and other applicable or required construction related reviews undertaken by the Planning Board's engineer or agent.
4. In accordance with RSA 676:4 I(g), the Board shall also require an applicant to reimburse the Town for expenses incurred by the Circuit Rider/Planner, including but not limited to time spent for technical review of plans, meetings with the applicant subsequent to application, and other reasonable expenses directly accountable to the particular application. The rate shall reflect the current hourly rate charged for this service; however, no fee shall be charged for time spent in meetings during contracted office hours or the first 2 hours of review of an application submitted to the Board. The amount of this fee will vary according to the particular aspects of any application. The Circuit Rider/Planner shall provide a detailed accounting of the time spent reviewing an application to the Town for the purpose of proper billing to the appropriate escrow account. The collection and disbursement of such funds shall adhere to RSA 676:4-b (Third Party Review and Inspection), including the applicant's ability to obtain copies of all documentation relative to charges, documentation of all inspections and the prompt reporting of any defects found during inspections.

### **2.3.7 Time for Approval/Disapproval**

The Board shall act to approve or disapprove a subdivision plan within 65 days of the formal acceptance as determined in Section 2.3.3 (C) (6).

In the event that defects found in the subdivision can be remedied, the disapproval shall be "without prejudice" and a revised application may be submitted at any time. If a revised application is submitted after a vote of disapproval, it shall be treated as a new application and shall follow the same procedures spelled out in these regulations.

The Planning Board may apply to the Board of Selectmen for an extension not to exceed 90 days before acting to approve or disapprove an application. The applicant may waive the requirement for Planning Board action within the time periods specified and consent to such extension as may be mutually agreeable.

Upon failure of the Planning Board to approve or disapprove within 90 days (or within additional days, if granted by the Selectmen), the applicant may obtain from the Selectmen an order directing the Planning Board to act within 15 days.

Failure of the Planning Board to act upon such order shall constitute grounds for action in the Superior Court in accordance with RSA 676:4.

### 2.3.8 Decision of the Board

After the public hearing(s) at which testimony is presented by the applicant, abutters, and parties in interest, the Planning Board shall issue a decision on the application. The decision may be any one of the following:

- A. **Conditional Approval** - The Planning Board may grant conditional approval which shall become final upon certification to the Board that the applicant has satisfied the conditions imposed. Plans receiving conditional approval shall not be signed and recorded until the conditions imposed are met. Unless another timeframe has been approved by the Board, applicants shall comply with such conditions within 90 days from the date of receiving conditional approval from the Board. Unless an extension is granted by the Board, plan approval shall lapse.
- B. **Approval with Conditions** - The Planning Board may attach reasonable conditions to an approval in order to ensure that the public interest is upheld. Such conditions may include, but are not limited to the following:
  - 1. The posting of a performance guarantee in an amount and under conditions satisfactory to the Planning Board.
  - 2. The execution of a written agreement stating the nature, conditions, and time for performance of the approved application.
  - 3. The phasing of the subdivision approval providing that the portions approved and portions to be approved subsequently are clearly delineated on the documents to be filed with the Rockingham County Registry of Deeds.
  - 4. Payment of all outstanding consultant fees and bills.
  - 5. Any other conditions that the Planning Board finds necessary to secure the public interest.
- C. **Disapproval without Prejudice** - If the Planning Board finds that certain administrative/procedural requirements have not been met, but could be met with additional time, the Planning Board may disapprove the application without prejudice.

If such a finding is made, the Planning Board shall advise the applicant in writing what is necessary to correct the administrative/ procedural defect.
- D. **Disapproval** - If the Planning Board finds that the application does not meet the standards of these regulations or fails to comply with other local or State laws or will have an adverse impact on surrounding areas or the community, the Board may disapprove the application. In the event of disapproval, the grounds for disapproval shall be specified in the records of the Board and communicated to the applicant in writing.

### 2.3.9 Phasing

To ensure that the rate of growth of the Town does not unreasonably interfere with the Town's capacity for planned, orderly, and sensible expansion of its services to accommodate such growth, the Planning Board at its sole discretion may require phasing of development projects, as provided in RSA 674:21.

- A. For any development project (single family, multi-family, cluster, or mixed) or more than eight family dwelling units, the Planning Board may require phasing for a period of up to five years. For

a project larger than 50 units, the Planning Board is entitled to negotiate a longer period of phasing time, based on the size of the project and the potential impact on the Town and Town services.

- B. In order to ensure equitable phasing, no developer shall circumvent the purposes of phasing by dividing a parcel of land into separate subdivision or separate forms or names of ownership.
- C. The phasing process will be at the subdivision or beginning part of the construction process. Once a phasing plan is approved by the Planning Board with dates of allowed construction in each phase, the approved plan displaying the phasing plan shall be signed by the Planning Board Chairman and filed with the Rockingham County Registry of Deeds. See Addendum B (Item “D” below). Any subdivision which proposes the use of temporary loop or cul-de-sac roads will be required to eliminate the temporary road construction upon progression to the next phase. If not already conveyed, the area of temporary cul-de-sac or looped road will revert to the abutting lot owner.

**D. ADDENDUM B: Phasing and Cluster Guidelines**

**Phasing:** The following phasing table is a guideline for developers in preparing for Planning Board action in reviewing subdivision proposals. The Planning Board, at its sole discretion, may modify these phasing requirements in either direction, if Town services are not reasonably abreast of the pace of development. The phasing program will be described on the mylar submitted to the Registry of Deeds.

**Single and Two-Family Conventional Subdivision:** Basic phasing program - maximum of ten dwelling units per year (see table below)

QTY (Dwelling Units)	PHASING YEARS					
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>
10	10					
20	10	10				
30	10	10	10			
40	10	10	10	10		
50-75	Divide total number of units by 6					
75-100	Divide total number of units by 7					
Over 100	Divide total number of units by 8					

## 2.4 MINOR SUBDIVISION APPROVAL

Proposals involving minor subdivisions which create not more than three lots for building development purposes and which do not require the installation of any new public streets or proposals which do not involve the creation of lots for building development purposes may be submitted, reviewed, and approved at one or more Board meetings subject to the following conditions.

### **2.4.1 Submission and Notice**

An application for minor subdivision approval shall be submitted in the same manner as prescribed in Section 2.3.1 of these regulations.

Notice of such minor subdivision request will be given in the manner prescribed in Section 2.3.3 (a) and (b) of these regulations.

### **2.4.2 Public Hearing**

A public hearing, with notice as provided in Section 2.3.4, shall be held if requested by the applicant or abutters anytime prior to approval or disapproval, or if the Planning Board determines to hold such public hearing.

### **2.4.3 Decision of the Board**

With the exception of the expedited review procedures described above, the Board shall follow the same decision-making procedures specified for a regular subdivision and the applicant shall supply the same information (if applicable) prescribed therein.

## **2.5 PLATS FOR RECORDING PURPOSES ONLY**

An owner of a lot of record, established before the granting of platting jurisdiction to the Planning Board, may present a surveyed plat of such lot at any regularly scheduled meeting of the Planning Board for signature by the Board.

The owner shall present a deed to the Board showing ownership and a description of the lot. The plat shall have the phrase "No Jurisdiction Taken" affixed thereon, together with a line for the signature of the Planning Board Chairperson immediately thereunder. The Planning Board may, at their discretion, sign the plat at the meeting or at a time certain after any needed investigative studies are completed.

## **SECTION III - DATA REQUIRED FOR SUBMISSION OF A SUBDIVISION**

### **3.1 GENERAL**

An applicant for subdivision approval shall submit the data, plans, exhibits, and/or documents, if applicable, as required by these regulations.

#### **3.1.1 Application**

The applicant shall submit a completed form indicating "Subdivision of Land".

#### **3.1.2 Identifying Information**

All plans shall contain the following information:

- A. Names, addresses, and telephone numbers of the owner, applicant, agent and/or engineer, architect, and/or land surveyor involved in the project
- B. Name of the project
- C. Location of the land/site together with the names and addresses of all owners of record of abutting properties
- D. Title, date, North arrow, and scale
- E. Tax map reference
- F. Zoning District

#### **3.1.3 Sheet Size**

All plans shall be presented only on the following sheet size: 22" x 34". The Planning Board requests that only one sheet size be used for the preparation of all plans.

### **3.2 PROFESSIONAL STANDARDS**

Subdivision Plat Plans shall be stamped by a Licensed Land Surveyor. Plans of roadways, utilities, bridges and culverts, drainage and other construction plans shall be prepared and stamped by a Registered Professional Engineer in the State of New Hampshire. In specific cases, the Board may waive these requirements, at the sole discretion of the Planning Board. Subdivision Plans also require the stamp of a New Hampshire Certified Wetland Scientist, to verify the existence and location of wetlands, or lack of wetlands, unless granted a waiver from the Board. (Amended 2005)

### **3.3 REQUIRED EXHIBITS**

The applicant or his/her agent shall submit the following exhibits.

#### **3.3.1 Existing Conditions Plan (Amended 2005)**

The purpose of this plan is to provide general information on the site, its existing conditions, and to provide the base data from which the subdivision will be designed. It may be prepared in ink and drawn to a convenient scale of not more than forty feet to the inch (except for the vicinity sketch) and shall show the following:

- A. A vicinity sketch, drawn to a scale not to exceed 1 inch = 1,000 feet, showing the location of the land/site in relation to the surrounding public street system and other pertinent locational features.
- B. A sketch of the site showing existing natural features including watercourses and waterbodies, wetlands, poorly and very poorly drained soils, tree lines, and other significant vegetative cover, topographic features, and any other features which are significant to the site design process. (Amended 2005)
- C. Existing contours at intervals not exceeding two feet with spot elevations provided when the grade is less than five percent
- D. Surveyed exterior property lines showing their bearings and distances and showing monument locations. The area in square feet or acres shall also be shown, for each parcel. (Amended 2005)
- E. The lines of existing abutting streets.
- F. The location, elevation, and layout of existing catch basins and other surface drainage features.
- G. The location and size of all utilities serving the land or site.
- H. All other features which would fully explain the existing conditions and future development of the land.

### **3.3.2 Subdivision Plan**

The purpose of this plan is to illustrate the layout of the subdivision lots, rights-of-way, and other uses of land within the subdivision. It shall be prepared in ink on reproducible mylar, be suitable for filing with the Registry of Deeds, be prepared at a scale of not more than 40 feet to the inch, and shall show the following:

- A. The location and dimensions of all boundary lines of the property to be expressed in feet and decimals of a foot.
- B. The location and width of all existing and proposed streets and easements, alleys, and other public ways, and easement and proposed street rights-of-ways and building set-back lines.
- C. The locations, dimensions, and areas of all proposed or existing lots, and the location and setback dimensions of existing structures within 100 feet of the parcel to be subdivided. All septic disposal systems and wells within 200 feet of the site shall be shown.
- D. The location and dimensions of all property proposed to be set aside for park or playground use, or other public or private reservation, with designation of the purpose thereof, and conditions, if any, of the dedication or reservation.
- E. Sufficient data acceptable to the Planning Board to determine readily the location, bearing, and length of all lines; and sufficient data to be able to reproduce such lines upon the ground; and the location of all proposed monuments.
- F. Indication of the use of all lots (single family or two-family) and all uses other than residential proposed by the subdivider. Indication of the location of all parcels of land proposed to be dedicated to public use and the conditions of such dedications and a copy of such private deed restrictions as are intended to cover part or all of the tract. (Amended 2005)
- G. New lots shall be lettered in alphabetical order for presentation to the Planning Board. Final map and lot numbers will be assigned by the Building Department prior to final approval. (Amended 2006)
- H. The following notation shall also be shown:
  - 1. Explanation of drainage easements, if any.

2. Explanation of site easements, if any.
3. Explanation of reservations, if any.

I) Form for approval by Planning Board as follows:

Town of Greenland, Planning Board

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Chairperson

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Date

### **3.3.2.1 Special Flood Hazard Areas**

For subdivisions and site plans that involve land designated as “Special Flood Hazard Areas” (SFHA) by the National Flood Insurance Program (NFIP):

- A. The Planning Board shall review the proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1334.
- B. The Planning Board shall require that all proposals for development greater than 50 lots or 5 acres, whichever is the lesser, include Base Flood Elevation (BFE) data within such proposals (i.e., floodplain boundary and 100-year flood elevation).
- C. The Planning Board shall require the applicant to submit sufficient evidence (construction drawings, grading and land treatment plans) to allow a determination that:
  1. All such proposals are consistent with the need to minimize flood damage.
  2. All public utilities and facilities such as water, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage; and
  3. Adequate drainage is provided to reduce exposure to flood hazards.

### **3.3.3 Construction Plan**

The purpose of this plan is to provide detailed information and layout of the improvements that will be constructed as part of the subdivision. For subdivision, information shall be provided in accordance with paragraphs (A) through (E). Plans shall be drawn in ink at a scale of no more than 40 feet to the inch and shall contain:

- A. Profiles showing existing and proposed elevations along center lines of all roads. Where a proposed road intersects an existing road or roads, the elevation along the center line of the existing road or roads within 30 feet of the intersection shall be shown. Radii of all curves, lengths of tangents, and central angles on all streets.
- B. Plans and profiles showing the locations and typical cross-section of street pavements including proposed grading, curbs and gutters, sidewalks, drainage easements, rights-of-way, manholes, and catch basins; the locations of street trees, street lighting standards, and street signs; the location, size and invert elevations of existing and proposed sanitary sewers, stormwater drains, and fire

hydrants, showing connection to any existing or proposed utility systems; and exact location and size of all water, gas, or other underground utilities or structures.

- C. Location, size, elevation, and other appropriate description of any existing facilities or utilities, including, but not limited to, existing streets, septic disposal facilities, sewers, drains, water mains, wells, easements, waterbodies, streams, and other pertinent features, such as surface drainage areas, swamps, railroads, buildings, at the point of connection to proposed facilities and utilities within the subdivision. The water elevations of adjoining water bodies at the date of the survey, and the approximate high and low water elevations of such water bodies. Tidal areas and buffers required under the Shoreland Protection Act shall also be shown.
- D. Topography at the same scale as the sketch plan with a contour interval of 2 feet, referred to sea-level datum. All datum provided shall be latest applicable U.S. Coast and Geodetic Survey datum and should be so noted on the plat.
- E. All specifications and references required by the local government's construction standards and specifications, including site-grading plan for the entire subdivision.

### 3.3.4 Other Required Exhibits

In order for the Planning Board to evaluate the subdivision proposal, the applicant is expected to supply, or the Planning Board may specifically require, the following information as appropriate.

- A. **Draft of any protective covenants** where the applicant proposes to regulate land use in the development or otherwise protect the proposed development.
- B. **Warranty deeds conveying to the Town:** streets, rights-of-way, and any sites for public use in fee simple, free from all encumbrances.
- C. **Calculations on the type and quantity of sanitary waste** generated and a statement from the engineer or licensed designer certifying that the proposed facilities will adequately handle the projected effluent.
- D. **Itemized estimates on the costs of construction** for the project, as proposed and approved. Said construction estimates shall be prepared, stamped, and signed by a Licensed Professional Engineer licensed to practice by the State of New Hampshire. For security purposes, said estimates shall include a contingency for the project construction of a minimum of 10%. The Planning Board shall have the right to have this construction estimate reviewed and approved by an independent licensed professional engineer at the applicant's expense.
- E. **Proposed Security for the Subdivision Construction:** The applicant shall submit written documentation on the type of security being proposed for the construction of the project. Any legal documents shall be reviewed and approved by Town Counsel at the applicant's expense.
- F. **Traffic Impact Analysis:** All proposed commercial, industrial or residential development shall be reviewed by the Board to ascertain that adequate provisions have been made by the owner or his/her authorized agent for traffic safety. To facilitate this review, the Board may require the developer to provide a traffic impact analysis when deemed necessary by the Board due to the size, location or traffic-generating characteristic of the development. The traffic impact analysis shall address each of the following:
  - 1. Traffic circulation and access, including adequacy of adjacent streets and intersections, entrances and exits, traffic flow, sight distances, accident statistics, curb cuts, turning lanes, and existing or recommended traffic signalization.
  - 2. Pedestrian safety and access.



3. Off-street parking and loading.
4. Emergency vehicle access.
5. Off-site improvements necessitated and to be constructed by the developer.

G. **Any other specific studies, requested by the Planning Board**, reasonably required to evaluate the applicant's proposal.

The Planning Board may retain the services of a qualified consultant(s) to prepare and review any of the above specific studies, including the traffic analysis, and to ensure that adequate provisions are made in the development plan to reduce or eliminate any adverse impacts. The Board may further require, pursuant to RSA 676:4(g), that the developer reimburse the Town for the reasonable costs of this review. No plan shall be approved until such fees, if applicable, are paid in full.

H. All necessary **State and local permits**.

I. **Written comments and/or sign-off from the applicable Town of Greenland departments and/or Commissions**. Comments and/or approvals shall be provided from the Police Chief, Fire Chief, Acting or Actual Town Engineer and any other municipal Board or Commission. The Board shall submit a written request to the Town Administrator for the use of the Town Engineer or, in the event the Town Engineer is unable to complete the requested work, another licensed professional engineer shall be appointed to complete the requested review.

J. After a subdivision plan has been approved by the Board, the applicant is required to submit a **CAD drawing of the roads and parcels, in electronic format**, to the Town of Greenland for the purpose of updating the Town's tax maps. (Added 2005)

## **SECTION IV - GENERAL PRINCIPLES AND DESIGN AND CONSTRUCTION STANDARDS FOR SUBDIVISIONS**

### **4.1 OVERVIEW**

An applicant shall use the following general principles and design and construction standards when designing and laying out a subdivision development within the Town of Greenland. These principles and requirements shall be construed as the minimum requirements. The Planning Board may require higher standards in individual cases or may waive certain requirements for good cause in accordance with the procedure established in Section 5.1 of these Regulations.

### **4.2 GENERAL PRINCIPLES**

An applicant shall observe the following general principles of land subdivision and development:

#### **4.2.1 Conformity to Master Plan and Official Map**

The subdivision plan shall be in harmony and consistent with the Master Plan and/or Official Map of the Town.

#### **4.2.2 Character of Land**

All land to be subdivided shall be, in the judgment of the Board, of such a character that it can be used for building purposes without danger to public health, safety, or the environment. Land subject to periodic flooding, poor drainage or other hazardous conditions, shall not ordinarily be subdivided. Land with inadequate capacity for sanitary sewage disposal shall not be subdivided unless connected to an approved public sewerage disposal system.

#### **4.2.3 Conformity to Other Laws**

Plans for the subdivision of land shall conform with all regulations of the Board, the Zoning Ordinance, and other applicable by-laws, ordinances, regulations, and statutes of the local, State, and federal governments.

#### **4.2.4 Preservation of Natural Features**

Insofar as possible, the subdivision plan shall preserve such natural features as wetlands, watercourses, steep slopes, large or unique trees and/or habitats, and scenic views. The street and lot layout shall bear a logical relationship and be adapted to the topography of the property. Extensive grading and filling should be avoided as far as possible.

#### **4.2.5 Self-Imposed Restrictions**

If the owner places restrictions on any land in the subdivision and/or development greater than those required by these regulations or the Zoning Ordinance, such restrictions or reference thereto may be required to be indicated on the subdivision plat, or the Planning Board may require that restrictive covenants be recorded with the Registry of Deeds in form approved by the Town Counsel.

#### 4.3 DETERMINATION OF SOIL TYPE

- A. Tests for determining soils information for use in this Section shall be performed by a qualified soil scientist using on-site inspections. A report and plan shall be prepared by the qualified soil scientist and filed with the Planning Board.
- B. Soil data using the standards of High Intensity Soil Maps of New Hampshire shall be provided as part of the subdivision plan at the scale and dimensions required. Any cover letters or explanatory data provided by the qualified soil scientist shall also be submitted.
- C. Such tests shall be performed with the advice and under the direction of the Planning Board or its designated agent.
- D. All costs of performing such investigations shall be borne by the subdivider.

##### **4.3.1 Relationship Between Federal, State and Local Regulations**

Where Federal, State, and local regulations are applicable, the most stringent regulation shall apply. If the Federal or State regulations address an issue not included in the local regulation or if the local regulation addresses an issue not included in the Federal or State regulations, that regulation shall automatically apply. (Amended 2005)

#### 4.4 DESIGN STANDARDS

The following design standards shall be observed in the layout of a subdivision and/or development of a site:

##### **4.4.1 Lot Configuration**

- A. **Lot Arrangement.** The arrangement of all platted lots within any subdivision shall conform to all applicable requirements of the Zoning Ordinance and shall, in the judgement of the Planning Board, be appropriate in terms of orientation and location for their intended use. To the extent practical, all lots shall be configured to have ordinary geometric shapes such as rectangles, triangles, and trapezoids, with sidelines generally perpendicular or radial to the street(s) upon which they front. (Amended 2005, 2007, 2022)

##### **B. Backlot Subdivisions in the Residential Zones:**

1. At its option the Planning Board may permit residential subdivisions for single and two-family homes only, of “backlots” in accordance with the Greenland Subdivision Regulation, Section 4.4.1.1.
2. Both lots must conform to the density, soil type, setbacks, and other appropriate subdivision or zoning regulations pertaining to this district, except regarding frontage and access to an approved road,
3. At its option, the Planning Board is empowered to require the dedication to the Town, of a 50-foot strip of land passing from the approved road to the rear of the property in question, to ensure future access to back lands alongside or to the rear of any subdivision proposed under this backlot regulation.

**4.4.1.1 A Conditional Use Permit** may be granted by the Planning Board for the creation of a backlot subdivision of an existing lot of record as of March 13, 2007, provided that all the following conditions are found to exist: (Added 2007)

A. Prior to the subdivision, the existing lot shall:

1. Have a minimum of 5 acres of gross area.
2. Have a minimum of 220 feet of frontage on a Town accepted road or a State highway where a driveway access permit may be granted.

B. The subdivision will create one backlot only.

C. The resulting backlot shall be accessed through a strip of land with a maximum width of 20 feet; owned in fee simple by the backlot, at the point of intersection with the town road or state highway.

D. All lots resulting from the backlot subdivision shall comply with all provisions of the zoning ordinance, and applicable subdivision or site plan review regulations with the exception of road frontage on the backlot.

#### **4.4.2 Streets**

A. **Platting of Streets:** Insofar as the Master Plan or Official Map does not indicate the size, location, direction and extent of a street, and subject to the regulations hereinafter specified regarding definite minimum widths, the arrangements of streets in a subdivision shall provide for the continuation of the principal street existing in the adjoining subdivisions, or of their proper projection when adjoining property is not subdivided, and shall be of a width at least as great as that of such existing streets but no less than a 50 foot right-of-way. Where, in the opinion of the Board, topographical conditions make such continuance or conformity impractical, the Board may permit dead-end streets as described below.

1. **Dead-End Streets:** Unless restricted by soils, topography, or parcel size, all turnarounds for dead-end streets shall contain one or two legal-sized lots.

If significant site restrictions exist, the Planning Board may permit a "bubble" turn-around at the closed end of the street. The roadway area within the turn-around must be paved; however, the remaining land within the turn-around need not be (see Figures B and C). The turnaround shall have a minimum radius for the outside curbs of at least 60 feet, and a street property line radius of 73 feet. (The design specifications for the turnarounds, described in this paragraph, are contained in Figures B and C appended to these Regulations).

2. **Maximum Length:** The maximum length of road leading to a turnaround shall be 1,000 feet measured from the edge of the existing traveled way to the throat of the cul-de-sac. The Planning Board may require the dedication of an easement of 20 feet to 60 feet in width from the turnaround to the next adjoining street to provide for utilities. No water lines serving the street shall be dead ended, where feasible. Slope easements for fill areas may be required. For turnarounds requiring fill, the slope beyond the 6-foot shoulder shall be 5:1. (Amended 2006)
3. **Multiple Turnarounds:** The minimum distance between any two turnarounds shall be 1,000 feet measured from the throat to the throat of the turnarounds. (Amended 2006)

- B. **Future Subdivision:** Where the plat submitted covers only a part of the subdivider's tract, a sketch of the prospective future street system of the unsubmitted part shall be furnished and the street system of the part submitted shall be considered in the light of the adjustments and connections with the street system of the part not submitted.

Where a tract is subdivided into lots of an acre or more, the Board may require an arrangement of lots and streets such as to permit a later re-subdivision in conformity with the street requirements specified in these regulations.

- C. **Street Right-of-Way:** The minimum right-of-way for streets shall be as shown on the street right-of-way cross sections, Section 4.5.4.
- D. **Access:** There shall be no reserve strips controlling access to streets, except where the control of such strips is placed with the Town under conditions approved by the Board. The subdividing of the land shall be such as to provide each lot, by means of either public street or way or permanent easement, with satisfactory access to an existing public street or highway.
- E. **Street Intersection Angles:** A street shall intersect another as nearly to a 90° angle as possible.
- F. **Offset Intersections:** The minimum centerline offset of adjacent intersections shall be as follows:

<i><b>SIDE STREET CASES</b></i>	<i><b>OFFSET</b></i>
Local – Local	125 feet
Local – Collector	150 feet
Collector – Collector	200 feet

- G. **Merging Streets:** New streets which merge into existing streets may be at an angle of less than 60°, provided there is an adequate amount of a nearly parallel approach to the existing street, by the new street.
- H. **Street Deflections and Vertical Alignment:** When connecting street lines deflect from each other at any one point by more than 10°, they shall be connected by a curve with a radius adequate to ensure a sight distance of not less than 200 feet and of such greater radii as the Planning Board shall determine for special cases. Vertical alignment of streets shall be subject to approval by the Town.
- I. **Marginal Access Streets:** Where a subdivision abuts or contains an existing arterial street, the Planning Board may require marginal access streets, reverse frontage with screen planting contained in a non-access reservation along the rear property line, deep lots with rear service alleys, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.
- J. **Rounding Street Corners:** Wherever necessary to permit the construction of curbs having a minimum radius of 25 feet at corners without curtailing the sidewalk to less than normal width, the property line at such corners shall be rounded or otherwise set back sufficiently to permit such construction. Normally, the radius on the property line shall be not less than 25 feet. Larger radii may be required by the Board, when, in its opinion, such a design is advisable.
- K. **Street Name Signs:** At all intersections street signs shall be provided and installed by the developer in conformity with the specifications of the Town.

Until such time as each street is accepted by the Town as a public way, the signposts at the intersections of such street with any other street shall have affixed thereto a sign designating such street as a private way.

- L. **Street Names:** Street names of all proposed streets shall be subject to approval by the Planning Board or Board of Selectmen. No proposed street name shall duplicate the names of existing streets irrespective of the use of the suffix "street", "avenue", "boulevard", "drive", or "court". The continuation of an existing street shall have the same name. (Amended 2005)
- M. **Grade of Streets:** Street grades shall not exceed 8% for all streets nor be less than 2%. (Amended 2014)
- N. **Grass Strips:** All areas between the exterior street lines which are not occupied by approved sidewalks shall be rolled, loamed and seeded in accordance with the specifications of the Town.
- O. **Minimum stopping sight distances** for Town roads shall conform to the following table. (Amended 2014)

Road Travel Speed (mph)	Stopping Sight Distance (ft)
20	125
25	150
30	200
35	250
40	300
45	375
50	450
55	525

Sight distance is measured as the height of the eye at 3.5 feet and the height of object at 0.5 feet.

#### 4.4.3 Curbing

The Planning Board, at its discretion, may require the installation of granite or other curbing (either vertical or sloped) on division streets in order to channel surface water, to control vehicular traffic, to separate vehicular from pedestrian areas and/or to enhance the quality of the subdivision. Curbing shall meet standards set forth by the Town.

#### 4.4.4 Sidewalks

The applicant may be required by the Planning Board to install asphalt sidewalk of a minimum of 5 feet in width on one side of each street/access drive in a subdivision.

#### 4.4.5 Driveways

All permits required for driveways and other accesses onto a State highway shall be obtained from the New Hampshire Department of Transportation prior to final approval of the subdivision. Any permits required for driveways onto local streets or roads approved by the Planning board shall be obtained from the Town. The Planning Board shall attempt to ensure that the location of all driveways and accesses do not endanger safety or impede reasonable traffic flow. (Amended 2000, 2002)

No driveway shall access more than two single-family or duplex units. Dual access "looped" driveways may be required if deemed necessary by the Planning Board. (Amended 2005)

#### **4.4.6 Community Water Service/Hydrants**

Newly proposed community water systems, as defined by RSA 485:1, shall be designed by a professional engineer licensed in New Hampshire. Site selection of community wells shall conform to the applicable New Hampshire Code of Administrative rules entitled, "Site Selection of Wells for Community Water Systems". Each system shall be designed to handle the expected flows for present and future development within the subdivision. The number and location of all fire hydrants associated with fire ponds shall be determined by the Fire Department.

Newly proposed major groundwater users (defined by the State as public water systems using 20,000 gallons per day or more) shall submit a detailed water supply study as part of their application. Said study shall, at a minimum, address the requirements outlined in the above referenced administrative rules for siting community water systems. Said study shall be prepared by a professional engineer, hydrologist, hydro geologist, or other groundwater professional.

Newly proposed major groundwater users which plan on utilizing a Greenland aquifer (see boundaries of the Town's Aquifer Protection District) as a supply source shall address the following additional items as part of their detailed water supply study:

- A. The water system's overall impact on the aquifer's production capability in respect to other potential users of the aquifer as a public water supply.
- B. The potential for de-watering adjacent wetlands.
- C. Potential effects on the surrounding water table.
- D. Potential changes to the base flows of adjacent watercourses; and,
- E. Potential effects on wells located on abutting properties.

#### **4.4.7 Performance and Maintenance Security (Amended 2022)**

- A. Prior to the recording of a plat by the Planning Board, the applicant or owner shall obtain from their engineer an estimate of the cost of construction of all improvements, but not limited to, roads, site stabilization and erosion control, which shall be required by the Board as a condition of final approval up to the standards set forth in the Subdivision Regulations. The applicants engineer shall calculate the performance guaranty estimate which will then be reviewed by the Town's Consulting Engineer/Inspector. Said costs shall include a 10% contingency for cost escalation.
- B. A road construction security and inspection agreement must be reviewed by the Planning Board Engineer and approved by the Board of Selectmen before the mylar is signed. If more than six months should lapse between the time the applicant's engineer develops the bonding estimate and the time of mylar recording, the applicant shall update said estimate to reflect current market conditions.
- C. The amount of the performance surety must be paid to the Town of Greenland in the form of a bank check, bond, cash, or Letter of Credit prior to the plan being recorded.
- D. **Posting of Performance Guaranty:** The construction of a new proposed road may proceed under one of two scenarios:
  - 1. After posting an adequate performance surety to cover the cost of site stabilization and erosion control, road construction may proceed but no building permits shall be issued. Building permits will be issued once all remaining improvements have been secured by a performance

- guaranty. In no case shall a Certificate of Occupancy be issued until such time the binder course of pavement has been satisfactorily installed.
2. The complete performance surety covering all required improvements is posted and in full effect prior to any construction of any improvements. Building permits shall not be issued until an acceptable performance guaranty has been submitted; a Certificate of Occupancy shall not be issued until such time the binder course of pavement has been satisfactorily installed. Failure to maintain proper completion assurances shall result in denial of a Certificate of Occupancy and the revocation of all outstanding building permits outstanding for the subdivision.
- E. **Security Reductions:** During the duration of construction, an applicant may request up to three bond reductions to reflect the progress of work. The applicant shall submit an updated bond estimate that will be reviewed by the Planning Board Engineer. Once the new amount has been agreed upon, the security may be reduced.
  - F. **Default:** If the required improvements and repairs to public improvements have not been installed and completed in accordance with the requirements of the Subdivision Regulations, or if any latent defects in such improvements or repair appearing have not been corrected as required, the Town shall be entitled to exercise its rights under the appropriate documents to require the surety or issuer of the Letter of Credit to provide the Town with sufficient funds to complete such work.
  - G. **Road Maintenance:** The applicant/owner of the subdivision project shall be fully responsible for all costs associated with maintaining the proposed Town road until such time all work has been satisfactorily performed to Town standards and accepted as a Town road. This should include but is not limited to plowing and maintaining the roadway in a safe manner for residents living on the site prior to the acceptance of the road and its infrastructure.
  - H. Prior to Town acceptance of a road, an "as-built" plan, showing road drainage and any changes or additions subsequent to Planning Board approval, shall be submitted to the Selectmen and/or their agent. The "as-built" plan shall be stamped by a licensed land surveyor and a registered professional engineer. In addition, prior to Town acceptance of a road a deed for the road right-of-way shall be conveyed to the Town. The road shall become Town property upon the Town filing said deed at the Register of Deeds. (Amended 2005)
  - I. Upon completion and acceptance of said street(s) and improvements, all but 10% of the security shall be released to the developer. Said 10% balance shall be retained for one (1) year after the date of such completion and acceptance to insure the continued and proper operation and integrity of the streets, drainage, and all other facilities and improvements.

#### **4.4.8 Installation of Utilities**

- A. The applicant in all subdivision developments shall install all electric, telephone, and other utility distribution lines per specifications of the public utility companies involved, and there shall be provided by the developer such easements as are required for transformer units. Both the landscaping and the location of such transformer areas shall be as approved by the Planning Board and detailed plans for all transmission or utility lines within the subdivision shall be supplied to the Planning Board prior to installation.
- B. Indicator tape shall be installed in all residential, commercial, and industrial areas over all underground utility mains and services when such undergrounding is provided. Metallic tape shall be utilized over non-metallic materials.



- C. The Planning Board shall require the installation of underground utilities unless waived by the Planning Board for good cause. (Amended 2014)

#### **4.4.9 On-Site Water Supply**

The provision of on-site water supply shall conform to Water Supply and Pollution Control Division criteria and be subject to approval by the Board. It shall be the responsibility of the subdivider to provide adequate information to prove the area of each lot is adequate to permit the installation and operation of both individual on-site water supply and sewage disposal systems.

#### **4.4.10 On-Site Sewage Disposal Systems**

- A. **Design:** No subdivision will be approved where it creates a lot that will not meet the minimum standards imposed by the Water Supply and Pollution Control Division of the NH Department of Environmental Services.

Septic systems must be constructed and installed according to the most recent edition of the Subdivision and Individual Sewage Disposal System Design Rules (as published by the Water Supply and Pollution Control Division) in effect at the time of State septic design approval.

Septic systems designed for 2,500 gallons per day (gpd) or more shall be designed by a septic system designer licensed in New Hampshire and a professional engineer licensed in New Hampshire. For septic systems under 2,500 gpd, the system shall be designed by a septic system designer licensed in New Hampshire.

The Board may require a "groundwater mounding analysis" for septic systems designed for 2,500 gpd or more. The Board may require the applicant to pay for a design review of the proposed system by a licensed system designer or a professional engineer designated by the Board.

The Town of Greenland, in an effort to improve water quality, makes the following more stringent requirements: (Amended 2002)

1. The Town requires 18 inches of natural permeable soil above the seasonal high-water table (SHWT).
2. 5 feet of natural soil above bedrock or any impermeable substratum.
3. Fill material when needed to raise the bottom of the leaching area above the SHWT or impermeable substratum shall be medium to coarse textured sand (0.5 to 0.1 mm) with a Uniformity Co-efficient (as determined by a sieve analysis) greater than four.

- B. **Test Pits and Septic Reserve Areas:** Each proposed lot shall have at least two test pits, separated by at least 50 feet. The septic reserve area must be able to accommodate a replacement leach field equal in area to the original. All proposed septic reserve areas and test pits shall be shown on the plan. The Planning Board requires that a Board-appointed agent verify any test pit(s). Approval for each lot's test pits shall be obtained from the NH Water Supply and Pollution Control Division and Town of Greenland Ordinances, prior to the Board's final approval of the subdivision plan. Each newly created lot shall accommodate its own sewage.

- C. **Hydrogeologic Study:** A hydrogeologic study may be required for all projects that have one or more septic systems designed for a total on-site septic loading of 2,500 gpd or more and are located within the Town's Aquifer Protection District.

A hydrogeologic study shall be performed by a professional engineer, hydrologist, hydro geologist, or other groundwater professional. All water testing is to be performed at an EPA approved laboratory. Using an accepted rainwater dilution model, a hydro geologic study will address:

1. A hydrogeologic mapping of groundwater flow within the site.
2. Existing background water quality.
3. The location of abutting water supply wells and septic systems.
4. The location and capacity of the proposed septic system(s); and
5. Estimates of the transport of contaminants from the septic system(s) and of the constituent concentrations (i.e., nitrates) at the property boundary and at abutting water supplies.

The proposed septic system(s) shall not create groundwater degradation beyond the limits of the property line in excess of EPA water quality criteria for domestic supplies, as amended. Systems which violate these tenets shall be rejected. No well shall be drilled within 100 feet of the subsurface plume on the site, and septic systems shall be located outside of the protective radii of any well(s).

#### 4.4.11 Open Space

- A. **Natural Features:** The subdivision and development shall, whenever possible, preserve in their natural condition important natural features. The Planning Board may request an advisory opinion from the Conservation Commission in the determination of the value of natural features and the boundaries of such natural systems. Such areas include watercourses, wetland areas, steep slopes, large or unique trees, groves, or special habitats. Natural features that provide buffers between lots, or sections, of a subdivision should be preserved to enhance privacy and aesthetic value.
- B. **Buffer Strips:** The Planning Board may require the designation of buffer strips of at least 50 feet width around surface water, wetlands, or other natural features which may be adversely affected by erosion or stormwater runoff. The Board may require a vegetative buffer to provide screening where non-residential developments abut a residential zone.
- C. **Parks:** The Planning Board may require the dedication or reservation of such open space within the subdivision for park, playground or other recreational or open space purposes, for the residents of the subdivision.

The Board shall also require the developer to supply and plant such trees and shrubbery as are deemed compatible to the environmental design of the neighborhood. It shall also be stipulated by covenant upon the plan that such open spaces shall not contain signs other than street directional or placename signs. Upon approval of the final plans and plantings, if the park is dedicated for public use, the maintenance of said landscaped areas shall be the responsibility of the community. If the park is solely for subdivision use, the maintenance of said landscaped areas shall be the responsibility of the residents of the subdivision.

- D. **Tree Planting:** The planting of shade trees within all subdivision layouts where residential, commercial, or industrial development is to take place may be required of the developer who shall supply planting plans to the Board. The planting plans of shade trees within proposed or accepted rights-of-way must be submitted to the Conservation Commission and receive its approval before planting.

#### 4.4.12 Flood Hazard Areas

Subdivisions involving land designated as flood hazard areas shall be reviewed to determine whether such proposals will be reasonably safe from flooding and shall meet the following requirements.

- A. **Permits:** The Planning Board shall review the proposed development to assure that all necessary permits have been received from those government agencies from which approval is required by federal or State law including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C 1334.
- B. **Minimization of Flood Damage:** Sufficient evidence (construction drawings, grading and land treatment plans) shall be submitted to allow the Planning Board to determine that:
1. All such proposals are consistent with the need to minimize flood damage.
  2. All public utilities and facilities, such as sewer, gas, electrical and water systems are located, and constructed to minimize or eliminate flood damage.
  3. Adequate drainage is provided to reduce exposure to flood hazards and
  4. New and replacement water and sewer systems (including on-site systems) are located, designed, and constructed to minimize infiltration and avoid impairment.
- C. **Elevation and Flood-Proofing Records:** The applicant shall obtain and maintain records of elevations and flood-proofing levels for all new or substantially improved structures, whether or not such structures contain a basement.
- D. **Alteration of Watercourses:** The State Wetlands Board shall be notified prior to any alteration or relocation of a watercourse and copies of such notifications shall be submitted to the National Flood Insurance Program. The flood carrying capacity shall be maintained within the altered or relocated portion of any watercourse.
- E. **Floodplain Delineation:** The base flood elevation (100-year flood) shall be delineated on all plats.

#### 4.4.13 Easements

- A. **Utilities:** Except where alleys of not less than 20 feet are provided for the purpose, the Board may require easements not exceeding 25 feet on each side of all rear lot lines, and on side lot lines where necessary or, in the Board's opinion, advisable, for poles, wires, conduits, storm and sanitary sewers, gas, water and heat mains or other utilities. Easements of the same or greater width may be required along the lines of or across lots where necessary for the extension of existing or planned utilities, or for passage of Town equipment.

If in the opinion of the Board, the most suitable and reasonable locations for any of the utilities (such as sewers, storm drains, water and gas pipes and electric pole lines and conduits, which are likely to be required within a subdivision, either for the service thereof or for service for areas in the surrounding territory) do not lie wholly in the streets, including alleys if any, shown on the

plan, the Board may require, insofar as reasonable, provision to be made for the location of such utilities on routes elsewhere than within said streets, either by the dedication of public easements for the same as part of the plat or by the filing of supplementary instruments which will adequately protect the public interest in the proper location of said utilities.

- B. Drainage:** Where a subdivision is traversed by a watercourse, drainage way, channel or stream, the Planning Board may require a stormwater easement or drainage right-of-way of at least 25 feet in width.

#### **4.4.14 Monuments**

Granite monuments shall be placed at all street intersections, points of radius of curvature, and every 1,000 feet in a straight line right-of-way. Granite monuments shall be used at property corners and shall be installed prior to the issuance of any building permits. One-half inch diameter iron rods/pipes, with licensed land surveyor license on the monument, may be installed at non-frontage property corners.

#### **4.4.15 Benchmarks**

As part of the subdivision plan a permanent reinforced concrete marker may be required by the Planning Board, and if so required, it shall be placed at the edge of each road boundary at their terminus of the subdivision as reference for all locations and elevations and every 2,500 feet within the subdivision or at other locations specified by the Town.

#### **4.4.16 House Numbers and Street Names**

All new uses requiring a street address shall submit a street number request to the Police Chief. The Chief will review the request with the NH Bureau of Emergency Communications and determine the appropriate street number(s). Such assigned numbers must be posted on the lot and be visible from the road. (Amended 2018)

### **4.5 CONSTRUCTION STANDARDS**

#### **4.5.1 Streets**

The laying out and construction of all streets within subdivisions shall be in conformity with those ordinances of the Town pertaining to such development and in addition shall meet the following construction and material specifications. Where not specified below, street construction shall follow the practices outlined in the latest edition of the State of New Hampshire Standard Specifications for Road and Bridge Construction. Streets shall conform to the cross-sections attached to this section.

- A. Clearing:** The entire area of each roadway shall be cleared and cleaned of all stumps, brush, roots, boulders, like material and all trees not intended for preservation and will not be used for fill. Ledge occurring anywhere in the full cross-section of the roadway must be cleared to a minimum depth of 24 inches below the finished surface. Ledge occurring in pipe trenches must be cleared so as to have a gravel cushion of at least 1 foot below and on both sides of the pipe.
- B. Excavation:** All loam, soft clay, and other yielding material shall be removed or stripped from the roadway area to a depth of no less than 24 feet below the finished grade, and/or to a depth that may be required by the Town. If the underlying base materials are found to be unacceptable, as

determined by the Town-appointed engineer/inspector, additional construction materials may need to be removed and/or geotextile material may be required to be installed.

- C. **Rough Grade and Preparation of Sub-Grade:** The excavated area shall be backfilled to the sub-grade and shoulder elevation with suitable backfill, rough graded and compacted to sub-grade and shoulder elevations. The sub-grade shall be shaped to a true surface conforming to the proposed cross-section of the road and thoroughly compacted before applying the gravel.
- D. **Base Course:** The base course shall include the travel way and 2 feet beyond the shoulder areas. The base course shall consist of 12 inches of bank run gravel meeting the requirements of Item 304.2 of the NHDOT Standard Specification for Road & Bridge Construction, latest addition.

The second base course shall be 6 inches of crushed gravel, as per NHDOT Item 304.3. The Town may determine that the ground conditions warrant greater depth for either course; the Town may also require 6 inches under drain if the site conditions warrant. (Amended 2005, 2014)

The base course shall not be constructed during freezing weather or on a wet or frozen sub-grade. Blading and rolling shall be required to provide a smooth, even, and uniformly compacted course true to cross-section and grade. A minimum slope of the finished base course shall be 1/4 inch per foot or as may be required on curves or on super elevations. At all times during construction, the sub-grade and all ditches shall be constructed and maintained so that the roadbed will be effectively drained to prevent erosion. All compactions shall be at 95% density in accordance with A.A.S.H.O. T99, Method C.

- E. **Street Paving:** Street paving shall be accomplished by placing a minimum of two courses of hot asphalt concrete which shall be placed with a self-propelled spreader and in accordance with the specifications and conditions stated in the State of New Hampshire Department of Transportation Standard Specifications for Road and Bridge Construction, adopted, and approved, latest edition. The pavement base course shall be 2.5 inches of Type B pavement. The final wearing course shall be applied one year after the base course has been installed or as approved by the Town's Road Inspector. The wearing course shall be 1.5 inches of Type F pavement. (Amended 2005)

If a significant time interval occurs between the successive passes of the paving machine, the contractor must use a joint heater to insure a better bond. No paving shall be done between November 1 and April 15 unless provided with a letter of approval by the Town Road Inspector. In all cases, the temperature of the day must be 40° and rising before asphaltic concrete mixture (Type 1) can be applied. (Amended 2005)

- F. **Side Slopes:** Side slopes shall not exceed the following ratio of vertical rise to horizontal length, without retaining walls or other special considerations. Erosion control measures will be required until permanent growth is established.

4 feet high slope ..... Use 4:1  
4 feet to 10 feet..... Use 3:1 (guard rail is required)  
Over 10 feet ..... Use 2:1 (steam beam and wood post guard rail is required)

- G. **Approval and Specifications:** All material shall be secured from sources approved by the Town. Samples of all materials to be used in the project shall be submitted to the Town upon request.

All materials shall conform to the latest edition of the State of New Hampshire Department of Transportation Standard Specifications for Road and Bridge Construction or to Town requirements if more stringent.

- H. **Curbing:** Vertical granite curbs, where required by the Planning Board, shall conform to the Construction and Installation Standards of the State of New Hampshire Department of Transportation standard specifications. The curb shall be bedded on and surrounded by a minimum 6-inch layer of flowable fill (concrete). Complete compaction shall occur in all areas and under the entire length of curb. (Amended 2014)
- I. **Sidewalks:** The sub-base for a sidewalk, when required by the Planning Board, shall be at least 12 inches of bank-run gravel, thoroughly compacted. All stones larger than 3 inches in diameter shall be removed. Bituminous concrete shall be laid in two courses: namely base course and top course. Base course shall consist of 1 inch binder after rolling. In no case shall the surface be laid until the sub-base has been inspected and approved. Concrete sidewalks shall not be less than 4 inches in thickness reinforced by 6 x 6 - 6° of wire mesh, placed on the same base.
- J. **Inspection and Methods:** The Town shall regularly be notified to inspect all road and utility construction and materials used.
- K. **Guard Rails:** Steel, or another material approved by the Town, shall be used for the rail portion of guard rail construction.

#### **4.5.2 Street Cross Sections**

The required standards for the construction of streets are shown on the charts in Addendum A. For developments which would require arterial streets (ROW of 80 feet x 100 feet), the Town shall prescribe standards consistent with the State of New Hampshire Department of Transportation design standards.

#### **4.5.3 Fire Protection Cistern Requirements** (Added 01.18.2001, Amended 2002 and 2006)

##### **A. Applicability**

1. In the interest of public safety, all new subdivisions that will contain six or more single family homes or four or more duplexes shall be required to provide fire protection. Fire protection shall be either an underground water cistern or residential sprinklers in each dwelling **unit**. Fire protection will not be required if pressurized water mains with hydrants are available and each dwelling unit in the new subdivision will be located within 500 feet of hose-run, measured along the road, from a pressurized hydrant. The hydrant water pressure must meet NFPA standards.
2. If an approved subdivision with fewer than six single family homes or four duplexes is re-subdivided under a separate application that results in an aggregate subdivision that contains six or more single family homes or four or more duplexes within a ten-year period shall subject the additional lots or units to the fire protection requirements in 4.5.3 A 1.
3. Commercial development of any size in a non-hydrant zone may be required to have a cistern, **AS REQUIRED BY THE FIRE CHIEF**.

##### **B. General Provisions**

1. The Fire Chief must approve the design of the cistern. The entire cistern is to be rated for highway H-20 loading, unless specifically exempted by the Fire Chief. All cistern construction plans must be prepared by a Structural Professional Engineer, licensed in NH, and submitted in

advance to the Fire Chief. The plans must show the Professional Engineer's stamp, signature, and date signed.

2. Any changes in the approved plans of the cistern must be submitted, in writing, to the Fire Chief with the reasons for the changes. If need be, the Fire Chief may send the changes to the Town's Professional Engineer for approval. The cost shall be borne by the applicant.
3. Each site will have unique conditions that will require investigation and analysis by a registered professional engineer to finalize the design. The Planning Board reserves the right to have an independent engineering review of the design and construction observation at the expense of the applicant.
4. The cistern is to be located no more than 500-foot hose run from the access driveway of the furthest residential dwelling.
5. The cistern must be located directly adjacent to a Town maintained road.

### **C. Tank Specifications**

1. The Town of Greenland expects the design of a cistern to be trouble-free and last a minimum of 50 years.
2. The capacity of the cistern and the number of cistern units will be determined by the Fire Chief.
3. The cistern base must be designed so that the cistern will not float when empty.
4. The cistern is to be an underground, reinforced fiberglass tank. Alternative materials to construct the cistern may be permitted or required and must be approved by the fire chief and Town Engineer. Applicants will provide certification after installation of hydrostatic testing or any cisterns. As built plans showing the cistern location(s) will be provided to the Fire Chief and Building Department. (Amended 2006)
5. Bedding for the cistern shall be 12 inches minimum of  $\frac{3}{4}$  inch to  $\frac{1}{2}$  inch crushed, washed stone and compacted. No fill shall be used under the stone.
6. Cast-in-place concrete shall achieve 28-day strength of 3,000 psi. It should be placed with a maximum 4-inch slump and vibrated in a workman-like manner.
7. Concrete to be mixed, placed, and cured without the use of calcium chloride. Winter placement and curing must follow the accepted ACI codes.
8. Perimeter of cistern at floor/wall joint to be sealed with 8-inch PVC water stop for reinforced concrete tanks.
9. Wall-tie holes and the joint at the floor/wall shall be water plugged. The outside walls shall be waterproofed with an acceptable material.
10. Backfill for the cistern shall be screened gravel with no stones larger than 3 inch and shall be compacted to 95% ASTM #1557. Backfill over cistern shall be either:
  - a. 4 feet of fill or
  - b. The top and highest 2-foot sides of the cistern, insulated with vermin-resistant foam insulation, and 2 feet of fill.
11. The cistern shall be provided with an acceptable standard sized manhole with an approved locking mechanism. The lock and keys will be furnished to the Fire Department by the developer.

#### **D. Pipe Specifications**

1. The final discharge from the dry hydrant shall be 6-inch National Standard type thread and shall be capped.
2. The suction pipe riser shall be 8-inch steel, Schedule 40. Any suction pipe, which is underground, can be Schedule 40 PVC. The suction pipe is to be attached to a 4 feet x 4 feet x ½ inch anti-vortex plate, 6 inches off the bottom of the cistern. Any underground pipe shall be supported at the elbow of the suction riser with concrete; concrete shall be at least at the level of the frost line. This suction piping system should be capable of delivering 1,000 gpm for three-quarters of the cistern capacity.
3. Vent pipe shall be 8-inch Schedule 40 steel or PVC with bug screen. The end of the pipe shall be a minimum 36 inches above ground.
4. Fill pipe riser shall be 8-inch steel, Schedule 40, with a 4 ½ inch Storz connection with chained cap and shall be a minimum 36 inches above ground.
5. All piping shall be ASTM Schedule 40: PVC pipe must have glued joints.

#### **E. Siting Requirements**

1. The cistern system shall include a dry hydrant connection located so that a Fire Department pumper truck may be able to connect to the dry hydrant with one 10-foot length of suction hose at any time of the year without blocking any street, road, driveway, or other access way to a building.
2. The actual location of the pipes shall be perpendicular to the roadway and shown on the plans submitted for approval.
3. The suction pipe connection shall be 24 inches above the finish line.
4. The vertical distance between bottom of suction pipe (in the cistern) and pumper connection (dry hydrant) must not exceed 14 vertical feet of tanks lower than the roadway.
5. The suction connection must be protected by 2 posts: 4-inch minimum diameter and 8 feet long embedded in the ground 4 feet. Location of post specified by the Fire Chief.
6. The ground area around cistern that has been disturbed by the construction work must be loamed and seeded so that the area will not wash out during periods of rain.

#### **F. Testing and Acceptance**

1. The entire cistern shall be completed and inspected prior to any backfilling. Inspections by the Fire Chief or his designee shall be required.
2. All construction, backfill, and grading material to be in accordance with proper construction practices and acceptable to the Planning Board and the fire chief or their designated agent.
3. The installer is responsible for completely filling the cistern for testing by the fire chief.

#### **4.5.4 Inspections (Added 09.1999, Amended 2002)**

- A. The subdivider shall notify the Town Engineer, the Planning Board Chair, and the Road Agent prior to the commencement of any road construction activity and at each stage of its construction. Approval or disapproval of any segment by the Town Engineer and the Highway Agent shall be in



writing, with a copy to the Selectmen, and shall constitute a recommendation relative to whether or not the Town shall accept the street concerned.

B. The following inspection schedule shall be abided by during construction of roads. The inspections shall be performed and documented for each item by a registered Professional Engineer retained by the Town at the expense of the developer.

1. Review of design engineer's layout and wetlands marking.
2. Inspection of clearing, grubbing and erosion control measures.
3. Inspection of fill placement. In-place compaction testing of fill is required every 200 linear feet or as directed by the Town Engineer.
4. Inspection of drainage piping and buried utilities. Full-time inspection is required, including the trench backfilling.
5. Inspection of sub-grade and slope work.
6. Inspection of gravel grade. Compaction testing of the gravel course is required every 200 linear feet of roadway.
7. Inspection of crushed gravel grade. Compaction testing of the crushed gravel course is required every 200 linear feet of roadway.
8. Inspection of final ditch work, slope work, landscaping and erosion control measurers.
9. Inspection of headwall construction.
10. Inspection of binder coarse paving. A full-time inspection will be performed during the paving. After the binder coarse pavement and all work required prior to that point has been completed, the Developer can request, in writing, a reduction of the roadway bond to the Selectmen. The exact amount of the bond reduction is to be determined by the Selectmen.
11. Inspection of the wearing coarse pavement. Full-time inspection is required.
12. Remaining work inspection by developer and Town Engineer.
13. Final walk-through inspection by the Town Engineer, Board of Selectmen, and Road Agent.
14. Follow-up inspection.

#### 4.6 PARKING REQUIREMENTS (Added 2007)

##### **4.6.1 Off Street Parking**

On and after the effective date of these regulations, all new structures and developments as well as additions to or changes in use or intensification of use in existing structures shall be provided with off-street parking spaces in accordance with the following specifications in Section 6.2.

## 4.6.2 Required Spaces

Type of Use	Minimum Number of Required Spaces
a. Residential Units	Two spaces per dwelling unit (Amended 1999*)
b. Residence/Home Occupation	Two spaces per dwelling unit and one per employee (Amended 1999*)
c. Overnight and Day Camps	One space per unit plus one space per employee on the largest shift
d. Bed and Breakfast, Established Inns, Motels, Hotels	One space per unit plus one space per employee on the largest shift
e. Municipal Buildings	One space per 300 sq ft of gross floor area
f. Non-Profit, Charitable Organizations	One space per 500 sq ft of gross floor area
g. Churches, Places of Assembly	One space per four seats, per maximum seating capacity
h. Public or Private Schools	One space per 500 sq ft of gross floor area other than classrooms plus one for each teaching station
i. Hospitals, Clinics	One space per 500 sq ft of gross floor area
j. Retail Sales/Service	One space per 200 sq ft of gross floor area (Amended 1999*)
k. Business and Professional Offices	One parking space for each 300 sq ft of gross floor area
l. Restaurants, Theaters, Auditorium, and Places of Assembly with Fixed Seats	One parking space for each four seats based on a maximum seating capacity, plus one additional space for each two employees on shift of largest employment
m. Bowling Alleys, Skating Rinks and Other Places of Public Assembly Where Capacity Cannot be Measured by Seats	One space per 500 sq ft gross floor area
n. Nursery Schools and Daycare Centers	One space for every five children at maximum capacity
o. Automobile Service Stations	One space for each gas pump island, plus two spaces for each working bay, plus one parking space for each employee at the largest shift
p. Industrial Establishments, Including Manufacturing, Research and Testing Laboratories	One space per two employees in the largest shift
q. Wholesale Establishments, Warehouses and Storage Buildings	One space per 3,000 sq ft of gross floor area
r. Golf Courses Including Clubhouses and Other Customary Accessory Structures and Uses	Two parking spaces per hole, plus one parking space for every four seats of seating capacity, plus one space for every two employees on the shift with largest employment (Adopted 1998*)

## 4.6.3 Parking Specifications

4.6.3.1 **Size:** Each required parking space shall be not less than 10 feet wide and shall have a minimum area of 200 square feet, exclusive of drives or aisles.

- 4.6.3.2 **Travel Lanes:** Travel lanes shall not be less than: 22 feet wide for 90° angle parking; 18 feet wide for 60° angle parking; and 12 feet wide for 45° (and less) angle parking. (Revised 1991)
- 4.6.3.3 **Surface:** All parking areas and access drives and aisles shall be surfaced with bituminous binder, concrete, asphalt, compacted, or crushed stone placed in order to prevent erosion and raising of dust. If paved, the lots shall be striped to delineate parking spaces. All striping must be maintained. (Amended 2004)
- 4.6.3.4 **Landscaping:** All parking lots shall have at least 10% of the lot area landscaped with trees, shrubs, and similar plant materials.
- 4.6.3.5 **Islands:** The use of landscaped islands to control traffic flow shall be encouraged.

## **SECTION V – EROSION AND SEDIMENTATION CONTROL STANDARDS**

(Adopted 07.20.2017)

### **5.1 OVERVIEW**

The purpose of these standards is to safeguard persons, protect property, prevent damage to the environment and promote public welfare by controlling the design, construction, use, and maintenance of land during construction. These standards apply to projects approved by the Planning Board under Site Plan Review and Subdivision Regulations including any development, redevelopment, or other activity which disturbs or breaks the topsoil or results in the disturbance of earth, excluding agriculture and forestry.

Protecting the water quality in the Town of Greenland is a priority of the Planning Board; however, the Board is aware that site constraints, existing soil conditions and limitations, and budgetary concerns need to be considered in implementing the provisions of this Regulation.

### **5.2 APPLICABILITY**

- 5.2.1 A Stormwater Management Report and Plans shall be submitted with the Site Plan Review or Subdivision Application and shall be prepared and certified by a licensed NH Professional Engineer.
- 5.2.2 For Site Plan Review developments, the post-construction stormwater management standards apply to any development or redevelopment project which disturbs more than 5,000 sq. ft. or disturbs more than 2,500 sq. ft. within 100 feet of a surface water body. These standards shall not apply to minor subdivisions.
- 5.2.3 For sites that disturb less than 5,000 sq. ft. or are Minor Subdivisions, the Planning Board may grant an exemption if the amount of the new site impervious cover created does not exceed 1,000 sq. ft. When an exemption is granted by the Planning Board, the following standards will be applied to these projects as Conditions of Approval.
  - a. All runoff from new impervious surfaces and structures shall be directed to a subsurface infiltration device or properly discharged to a naturally occurring or fully replanted and vegetated area with slopes of 15% or less and with adequate controls to prevent soil erosion and concentrated flow.
  - b. Impervious surfaces for parking areas and roads shall be minimized to the extent possible (including minimum parking requirements for proposed uses).
  - c. Determination of compliance with standards (a) and (b) above will be made by the Planning Board on a case-by-case basis as site conditions and constraints will differ greatly between various development proposals.
- 5.2.4 The following activities are considered exempt from preparing and submitting a stormwater management plan:
  - a. Agricultural and forestry practices located outside wetlands and surface water setbacks and/or buffers.
  - b. Resurfacing and routine maintenance of roads and parking lots.

- c. Exterior and interior alterations and maintenance to existing buildings and structures.

### 5.3 GENERAL REQUIREMENTS

An Erosion and Sediment Control Report and plans shall be submitted with the appropriate application and shall be prepared and certified by a licensed NH Professional Engineer. All erosion and sediment control plans shall comply with the following standards.

- 5.3.1 Apply Best Management Practices that accommodate the increased runoff caused by changed soil and surface conditions during construction, including strong perimeter controls and soil stabilization methods. Sediment in stormwater runoff shall be contained using sediment basins or other acceptable methods until the disturbed area is stabilized. Techniques that divert upland runoff away from disturbed slopes shall be used.
- 5.3.2 Identify, locate, and show elevation, grades and/or contours at intervals of not more than 2 feet for the existing and proposed drainage ways, drainage easements, drainage structures, and any surface water bodies. Spot grades may also be necessary in those sites that are extremely flat.
- 5.3.3 Identify and relatively locate, and include drawings and specifications, for each erosion and sediment control measure and structure proposed during construction, noting those measures that will become permanent structures retained after construction. Erosion and sediment control measures and structures shall be designed in accordance with the *New Hampshire Stormwater Manual Volume 3: Erosion and Sediment Controls During Construction* (NH Department of Environmental Services, December 2008, as amended) or new standards and guidance as released or adopted by the NH Department of Environmental Services.
- 5.3.4 Include drawings, details and specifications for proposed flood hazard prevention measures and structures and for proposed temporary stormwater management facilities.
- 5.3.5 Ensure that disturbance to or removal of vegetation, grading or other construction will be done in such a way that will minimize soil erosion. Whenever practical, natural vegetation shall be retained, protected, and supplemented to function as buffers.
- 5.3.6 Perimeter controls shall be in place within *five days* of clearing or inactivity in construction. Temporary application of seed and/or mulch may be required by the Planning Board to protect exposed critical areas during development. Techniques shall be employed to prevent the blowing of dust or sediment from the site.
- 5.3.7 The agent designated by the Planning Board shall make inspections as described below and shall either approve that portion of the work completed or shall notify the applicant/property owner and the Planning Board when and how the construction activity(ies) fails to comply with the approved erosion and sediment control plan. All plans bearing the stamp of approval of the designated agent shall be maintained at the site during construction. In order to obtain inspections, the applicant/property owner shall notify the designated agent at least three business days **before** the following required site inspections:

- a. Temporary erosion and sediment control measures are in place.
- b. Site clearing and preparation has been completed.
- c. Rough grading has been completed.
- d. Final grading has been completed.
- e. Observations for the installation of the filter practices (if applicable) including subgrade preparation, media installation and then stabilization.
- f. Periodically during construction to observe contractor's means and methods.
- g. Prior to periods of site work inactivity.
- h. Final landscaping has been completed.

#### 5.4 SUBMISSION REQUIREMENTS: REPORTS AND PLANS

- 5.4.1 Stormwater management plans shall include an Existing Conditions Site Plan showing all pre-development impervious surfaces, buildings, and structures; surface water bodies and wetlands; drainage patterns, sub-catchment, and Watershed boundaries; building setbacks and buffers, and topographic contours with minimum 2-foot intervals. Sites that are extremely flat may require 1-foot intervals and spot grades.
- 5.4.2 Stormwater management plans shall include a Proposed Conditions Site Plan showing all post-development proposed impervious surfaces, buildings and structures; temporary and permanent stormwater management elements, and Best Management Practices; important hydrologic features created or preserved on the site; drainage patterns, sub-catchment and Watershed boundaries; building setbacks and buffers; and topographic contours with minimum 2-foot intervals or if necessary because of conditions 1-foot contours and spot grades, if site is flat. The plans shall provide calculations and identification of the total area of disturbance proposed on the site (and off-site, if applicable) and the total area of the new impervious surface created. A summary of the drainage analysis showing a comparison of the estimated peak flow and volumes for various design storms (see Stormwater System Design Performance Standards, Section 5.9) at each of the outlet locations shall be included with the report or plans.
- 5.4.3 The report or plans shall include a brief narrative description of the general approach and strategies implemented, and the facts relied upon, to meet the goals in Section 5.4.2.

#### 5.5 GENERAL PERFORMANCE CRITERIA: STORMWATER MANAGEMENT PLANS

- 5.5.1 All applications shall apply site design practices to reduce the generation of stormwater in the post-developed condition and minimize overall impervious surface coverage. If on site soil conditions are in place to adequately recharge stormwater, then consideration should be made to disconnect the site's stormwater flows from the Town's stormwater management system.
- 5.5.2 **Water Quality Protection:** All stormwater runoff generated from new development or redevelopment shall not be discharged directly into a jurisdictional wetland or surface water body without adequate treatment.
- 5.5.3 All developments shall provide adequate management of stormwater runoff and prevent discharge of stormwater runoff from creating or contributing to water quality impairment. On site groundwater recharge rates shall be maintained by promoting infiltration using structural

and non-structural methods. The annual recharge from the post development site shall maintain or exceed the annual recharge from pre-development site conditions. All stormwater management practices shall be designed to convey stormwater to allow for maximum groundwater recharge. This shall include but not be limited to:

- a. Maximizing flow paths from collection points to outflow points.
- b. Use of multiple Best Management Practices.
- c. Retention of and discharge to fully vegetated areas.
- d. Maximizing use of infiltration practices.

## 5.6 STORMWATER MANAGEMENT: NEW DEVELOPMENT

5.6.1 All proposed stormwater management practices and treatment systems shall meet the following performance standards.

- a. Stormwater and erosion and sediment control practices shall be located outside any specified buffer zones unless otherwise approved by the Planning Board. Alternatives to stream and wetland crossings that eliminate or minimize environmental impacts shall be considered whenever possible.
- b. Low Impact Development (LID) site planning and design strategies must be used to the Maximum Extent Practicable (MEP) in order to reduce stormwater runoff volume, protect water quality, and maintain pre-development site hydrology. An applicant must document in writing why LID strategies are not appropriate when not used to manage stormwater.
- c. All stormwater treatment areas shall be planted with native plantings appropriate for the site conditions: trees, grasses, shrubs and/or other native plants in sufficient number and density to prevent soil erosion and to achieve the water quality treatment requirements of this section.
- d. All stormwater installations and areas that receive rainfall runoff must be designed to drain within a maximum of 72 hours.
- e. Salt storage areas shall be covered, and loading/off-loading areas shall be designed and maintained in accordance with NHDES published guidance such that no untreated discharge to receiving waters results. Runoff from snow and salt storage areas shall enter treatment areas as specified above (NHDES published guidance fact sheets on road salt and water quality, and snow disposal can be found at: <http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/index.htm>.)
- f. Where appropriate, efforts should be made to direct surface runoff into recessed vegetated and landscaped areas designed for treatment and/or filtration to the MEP to reduce the need for irrigation systems.
- g. If on-site soil conditions are in place, newly generated stormwater, whether from new development or expansion of existing development (redevelopment), should be treated on the development site. Runoff shall not be discharged to surface water bodies or wetlands in excess of volumes discharged under existing conditions (developed condition or undeveloped condition). A development plan should include provisions to retain stormwater on the site by using the natural flow patterns of the site.

- h. Runoff from impervious surfaces shall be treated to achieve 80% removal of total suspended solids and at least 50% removal of both total nitrogen and total phosphorus using appropriate treatment measures as specified in the NH Stormwater Manual, Volumes 1 and 2, December 2008, as amended (refer to Volume 2, page 6, Table 2.1 Summary of Design Criteria, Water Quality Volume for treatment criteria) or other equivalent means. Where practical, the use of natural, vegetated filtration and/or infiltration practices or subsurface gravel wetlands for water quality treatment is preferred given its relatively high nitrogen removal efficiency.
- i. Measures shall be taken to control the post-development peak rate runoff so that it does not exceed pre-development runoff for the 2-year, 10-year, 25-year, and 50-year 24-hour storm events. Similar measures shall be taken to control the post-development runoff volume to infiltrate the groundwater recharge volume (GR<sub>v</sub>) according to the following ratios of Hydrologic Soil Group (HSG) type versus infiltration rate multiplier: HSG-A: 1.0; HSG-B: 0.75; HSG-C: 0.4; HSG-D: 0.15. For sites where infiltration is limited or not practicable, the applicant must demonstrate that the project will not create or contribute to water quality impairment.
- j. The design of the stormwater drainage systems shall provide for the disposal of stormwater without flooding or functional impairment to streets, adjacent properties, downstream properties, soils, or vegetation.
- k. The design of the stormwater management systems shall take into account upstream and up-gradient runoff that flows onto, over, or through the site to be developed or re-developed and provide for this contribution of runoff.
- l. Whenever practicable, native site vegetation shall be retained, protected, or supplemented. Any stripping of vegetation shall be done in a manner that minimizes soil erosion.

## **5.7 STORMWATER MANAGEMENT: REDEVELOPMENT CRITERIA**

### **5.7.1 Redevelopment as applicable to this regulation shall be defined as:**

- a. Any construction, alteration, or improvement that disturbs existing impervious area (including demolition) or expands existing impervious cover by any amount, where the existing land use is commercial, industrial, institutional, governmental, recreational, or multi-family residential, including building demolition and removal of roadway materials down to the erodible soils;
- b. Any construction, alteration or improvements that result in no increase in impervious area with a capital cost of improvement greater than 30% of the appraised property value; and
- c. Any new impervious area over portions of the site that are currently pervious.

### **5.7.2 The following activities are not considered redevelopment:**

- a. Interior and exterior building renovation.
- b. Resurfacing of an existing paved surface (e.g., parking lot, walkway, or roadway).
- c. Pavement excavation and patching that is incidental to the primary project purpose, such as replacement of a collapsed storm drain or culvert.



**5.7.3 In order to determine the stormwater requirements for redevelopment projects,** the percentage of the site covered by existing impervious areas must be calculated. Stormwater requirements for redevelopment will vary based upon the amount of site surface area that is covered by existing impervious surfaces.

**5.7.4 For sites meeting the definition of a redevelopment project and having less than 40% existing impervious surface coverage,** the stormwater management requirements will be the same as other new development projects with the important distinction that the applicant can meet those requirements either on site or at an approved off-site location. The applicant must satisfactorily demonstrate that Low Impact Development (LID) strategies and practices have been implemented on-site to the Maximum Extent Practicable (MEP).

**5.7.5 For sites meeting the definition of a redevelopment project and having more than 40% existing impervious surface coverage,** the applicant's engineer should develop an approach to manage water quality in accordance with one or more of the following techniques, listed in order of preference:

- a. Implement measures on site that result in disconnection or treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of filtration media.

OR

- b. Implement other LID techniques on site to the MEP to provide treatment for at least 50% of the entire site area.

**5.7.6 LID site planning and design** strategies must be used by the MEP in order to reduce stormwater runoff volume, protect water quality, and maintain pre-development site hydrology. An applicant must document in writing why LID strategies are not appropriate when not used to manage stormwater.

## 5.8 POST CONSTRUCTION STORMWATER MANAGEMENT STANDARDS

**5.8.1 Purpose and Goals:** The purpose of post construction stormwater management standards is to provide reasonable guidance for the regulation of stormwater runoff to protect local natural resources from degradation and prevent adverse impacts to adjacent and downstream land, property, facilities, and infrastructure. These standards regulate discharges from stormwater and runoff from land development projects and other construction activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and non-point source pollution associated with stormwater runoff.

The goal of these standards is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public in the Town of Greenland. This Regulation seeks to meet that goal through the following objectives:

- a. Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation, and streambank erosion, and maintain the integrity of stream channels.

- b. Minimize increases in non-point source pollution caused by stormwater runoff from development which would otherwise degrade local water quality.
- c. Minimize the total volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic condition to the MEP as allowed by on site soil conditions.
- d. Reduce stormwater runoff rates and minimize increases to runoff volume, soil erosion and non-point source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety or cause excessive municipal expenditures. The rate of runoff should reflect the location of the site within the overall Watershed; projects close to the Bay may have a different expectation of runoff rate and volume than those sites further away.
- e. Protect the quality of the Town's groundwater resources, surface water bodies and wetlands.

## **5.9 SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN**

**5.9.1 Any existing or otherwise permitted use or activity having regulated substances** in amounts greater than five gallons shall submit to the local official (such as Fire Chief or Emergency Response Official) a SPCC plan for review and approval. The Plan will include the following elements:

- a. Disclosure statements describing the types, quantities, and storage locations of all regulated substances that will be part of the proposed use or activity.
- b. Owner and spill response manager's contact information.
- c. Location of all surface waters and drainage patterns.
- d. A narrative describing the spill prevention practices being employed when normally using regulated substances.
- e. Containment controls, both structural and non-structural.
- f. Spill reporting procedures, including a list of municipal personnel or agencies that will be contacted to assist in containing the spill, and the amount of a spill requiring outside assistance and response.
- g. Name of a contractor available to assist in spill response, contaminant, and cleanup.
- h. The list of obtainable clean-up equipment with instructions available for use on site and the names of employees with adequate training to implement containment and clean up response.

**5.9.2 The applicant shall provide that all stormwater management and treatment practices** have an enforceable operations and maintenance plan and agreement to ensure the system functions as designed. This agreement will include any and all maintenance easements required to access and inspect the stormwater treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the stormwater system. The operations and maintenance plan shall specify the parties responsible for the proper maintenance of all stormwater treatment practices. The operations and maintenance plan shall be provided to the Planning Board as part of the application prior to issuance of any local permits for land disturbance and construction activities.

**5.9.3 The applicant shall provide legally binding documents for filing with the Registry of Deeds** which demonstrate that the obligation for maintenance of stormwater Best Management Practices and infrastructure runs with the land, and that the Town has legal access to inspect the property to ensure their proper function or maintain on site stormwater infrastructure when necessary to address emergency situations or conditions.

**5.9.4 The property owner shall bear responsibility** for the installation, construction, inspection, and maintenance of all stormwater management and erosion control measures required by the provisions of these regulations and as approved by the Planning Board.

**5.9.5 The recording plan** shall include a note stating, "all drainage and site improvements shown on the Site Plans shall be constructed and maintained in perpetuity in accordance with the plan by the property owner and all future property owners".

#### **5.10 STORMWATER SYSTEM DESIGN PERFORMANCE STANDARDS**

**5.10.1 Stormwater system design, performance standards and protection criteria** shall be provided as prescribed in Table 1 on the next page. Calculations shall include sizing of all structures and Best Management Practices, including sizing of emergency overflow structures based on assessment of the 100-year, 24-hour frequency storm discharge rate. It is understood that the parameters outlined in Table 1 may change as directed by NHDES permit authorities.

**5.10.2 The sizing and design of stormwater management practices** shall utilize new precipitation data from the Northeast Region Climate Center (NRCC) or the most recent precipitation atlas published by the National Oceanic and Atmospheric Administration (NOAA) for the sizing and design of all stormwater management practices. See the NRCC website at <http://precip.eas.cornell.edu/>.

**5.10.3 All stormwater management practices involving bio-retention and vegetative cover** as a key functional component must have a landscaping plan detailing both the vegetation to be in the practice, and how and who will manage and maintain this vegetation. The use of native plantings appropriate for site conditions is strongly encouraged for these types of stormwater treatment areas. The landscaping plan must be prepared by a registered landscape architect, soil conservation district office, or other qualified professional. All proposed plantings shall be appropriate for the location.

**\*\*Table 1 – Summary of Stormwater Infrastructure Design Criteria\*\*** follows on next page.

**TABLE 1**  
**SUMMARY OF STORMWATER INFRASTRUCTURE DESIGN CRITERIA**

Design Criteria	Description										
<b>Water Quality Volume (WQV)</b>	$WQV = (P)(R_v)(A)$ $P = 1$ inch of rainfall $R_v =$ unitless runoff co-efficient, $R_v = 0.05 + 0.9(I)$ $I =$ percent Impervious Cover draining to the structure converted to decimal form $A =$ total site area draining to the structure										
<b>Water Quality Flow (WQF)</b>	$WQF = (q_u)(WQV)$ $WQV =$ water quality volume calculated as noted above $q_u =$ unit peak discharge from TR-55 exhibits 4-II and 4-III  Variables needed for exhibits 4-II and 4-III: $I_a =$ the initial abstraction = 0.2S $S =$ potential maximum Retention in inches = $(1000/CN) - 10$ $CN =$ water quality depth curve number $= 1000 / (10 + 5P + 10Q - 10[Q^2 + 1.25(Q)(P)]^{0.5})$ $P = 1$ inch of rainfall $Q =$ the water quality depth in inches = $WQV/A$ $A =$ total area draining to the design structure										
<b>Groundwater Recharge Volume (GRV)</b>	$GRV = (A_i)(R_d)$ $A_i =$ the total area of Effective Impervious surfaces that will exist on the site after development $R_d =$ the Groundwater Recharge depth based on the USDA/NRCS hydrologic soil group, as follows: <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><u>Hydrologic Group</u></th><th style="text-align: center;"><u><math>R_d</math> (inches)</u></th></tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td><td style="text-align: center;">0.40</td></tr> <tr> <td style="text-align: center;">B</td><td style="text-align: center;">0.25</td></tr> <tr> <td style="text-align: center;">C</td><td style="text-align: center;">0.10</td></tr> <tr> <td style="text-align: center;">D</td><td style="text-align: center;">0.00</td></tr> </tbody> </table>	<u>Hydrologic Group</u>	<u><math>R_d</math> (inches)</u>	A	0.40	B	0.25	C	0.10	D	0.00
<u>Hydrologic Group</u>	<u><math>R_d</math> (inches)</u>										
A	0.40										
B	0.25										
C	0.10										
D	0.00										
<b>Channel Protection Volume (CPV)</b>	-If the 2-year, 24-hour post-development storm volume <u>does not increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to the 2-year, 24-hour predevelopment level. -If the 2-year, 24-hour post-development storm volume <u>does increase</u> due to development then: control the 2-year, 24-hour post-development peak flow rate to ½ of the 2-year, 24-hour pre-development level or to the 1-year, 24-hour pre-development level.										
<b>Peak Control</b>	Post-development peak discharge rates shall not exceed pre-development peak discharge rates for the 10-year and 50-year, 24-hour storms										
<b>Volume Control</b>	Based on site soil conditions, the goal of post-development total discharge volume from a site should be not exceed pre-development total discharge volume from a site for the 2-year, 10-year, 25-year and 50-year, 24-hour storms										
<b>EIC and UDC</b>	$\%EIC = \text{area of Effective Impervious Cover} / \text{total drainage areas within a project area} \times 100$ $\%UDC = \text{area of undisturbed cover} / \text{total drainage area within a project area} \times 100$										

## Erosion and Sedimentation Control Glossary

**Adaptive Management:** Management of resources that is a structured, iterative process of robust decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously meets one or more resource management objectives and, either passively or actively, accrues information needed to improve future management.

**Best Management Practices (BMP):** A structural or non-structural device designed to temporarily store or treat urban stormwater runoff in order to mitigate flooding, reduce pollution and provide other amenities. Also, the BMP detailed by NHDES Alteration of Terrain Bureau or other appropriate technology.

**Bio-Retention:** A water quality practice that utilizes vegetation and soils to treat urban stormwater runoff by collecting it in shallow depressions, before filtering through an engineered bio-retention planting soil media.

**Disturbed Area:** An area in which the natural vegetative soil cover has been removed or altered and, therefore, is susceptible to erosion.

**Eco-System Services:** The benefits of natural systems to individuals, communities, and economies. These benefits include provisioning services such as food and water; regulating services such as flood and disease control; cultural services such as spiritual, recreational, and cultural benefits; and supporting services such as nutrient cycling that maintains the conditions for life on Earth.

**Effective Impervious Cover (EIC):** The total impervious surface areas less the area of disconnected impervious cover (areas where runoff is captured and infiltrated or otherwise treated).

**Environmental (Natural Resource) Protection:** Policies and procedures aimed at conserving natural resources, preserving the current state of natural environments and, where possible, reversing degradation. Any activity to maintain or restore environmental quality through preventing the emission of pollutants or reducing the presence of polluting substances in environmental media and preventing physical removal or degradation of natural resources.

**Filtration:** The process of physically or chemically removing pollutants from runoff; practices that capture and store stormwater runoff and pass it through a filtering media such as sand, organic material, or the native soil for pollutant removal. Stormwater filters are primarily water quality control devices designed to remove particulate pollutants and, to a lesser degree, bacteria, and nutrients.

**Groundwater Recharge:** The process by which water seeps into the ground, eventually replenishing groundwater aquifers and surface waters such as lakes, streams, and the oceans. This process helps maintain water flow in streams and wetlands and preserves water table levels that support drinking water supplies.

**Groundwater Recharge Volume:** The post-development design recharge volume (i.e., on a storm event basis) required to minimize the loss of annual pre-development groundwater recharge. The Rev is determined as a function of annual pre-development recharge for site-specific soils or surficial materials, average annual rainfall volume, and amount of impervious cover on a site.

**Impaired Waters:** Refers to those waterbodies not meeting water quality standards. Pursuant to Section 303(d) of the federal Clean Water Act, each state prepares a list of impaired waters (known as the 303(d) list) which is presented in the State's Integrated Water Report as Category 5 waters. Those impaired waters for which a TMDL has been approved by US EPA and is not otherwise impaired, are listed in Category 4A.

**Impervious Cover:** Those surfaces that cannot effectively infiltrate rainfall consisting of surfaces such as building rooftops, pavement, sidewalks, driveways, compacted gravel (e.g., driveways and parking lots).

**Infiltration:** The process of runoff percolating into the ground (subsurface materials). Stormwater treatment practices designed to capture stormwater runoff and infiltrate it into the ground over a period of days.

**Low Impact Development (LID):** Low impact development is a site planning and design strategy intended to maintain or replicate pre-development hydrology through the use of site planning, source control, and small-scale practices integrated throughout the site to prevent, infiltrate and manage runoff as close to its source as possible. Examples of LID strategies are pervious pavement, rain gardens, green roofs, bio-retention basins and swales, filtration trenches, and other functionally similar BMPs located near the runoff source.

**Maximum Extent Practicable (MEP):** To show that a proposed development has met a standard to the maximum extent practicable, the applicant must demonstrate the following: (1) all reasonable efforts have been made to meet the standard, (2) a complete evaluation of all possible management measures has been performed, and (3) if full compliance cannot be achieved, the highest practicable level of management is being implemented.

**Mitigation:** Activities, strategies, policies, programs, actions that, over time, will serve to avoid, minimize, or compensate for (by treating or removing pollution sources) the impacts to or disruption of water quality and water resources.

**MS-4:** Refers to the *Small Municipal Separate Storm Sewer System General Permit*, the MS-4 General Permit, issued by the EPA under the Clean Water Act. MS-4 applies to municipalities that contain any portion of an urbanized area as defined by the Census. It applies to stormwater conveyances owned by a State, city, town, or other public entity that discharge to 'Waters of the United States'. The MS-4 Permit requires that operators of small MS-4's develop a Stormwater Management Program that uses appropriate Best Management Practices (BMPs) for each of the six minimum control measures required in the MS-4 permit.

**Native Vegetation and Plantings:** Plants that are indigenous to the region, adapted to the local soil and rainfall conditions, and require minimal supplemental watering, fertilizer, and pesticide application.

**Pollutant Load:** The amount of pollutants that are introduced into a receiving waterbody measured in units of concentration or mass per time, i.e. concentration (mg/l) or mass (lbs/day).

**Retention:** The amount of precipitation on a drainage area that does not escape as runoff. It can be expressed as the difference between total precipitation and total runoff from an area.

**Total Suspended Solids (TSS):** The total amount of soils particulate matter which is suspended in the water column.

**Water Quality Volume:** The storage needed to capture and treat 90% of the average annual stormwater runoff volume. In Rhode Island, this equates to 1-inch of runoff from impervious surfaces.

**Watershed:** All land and water areas from which runoff may run to a common (design) discharge point.

## **SECTION VI - WAIVER PROCEDURE**

### **6.1 WAIVER PROCEDURE**

Consistent with NH RSA 674:36, II (n), when a proposed subdivision plan is submitted for approval, the applicant may request a waiver to specific requirements of the Regulations. The applicant shall submit said request in writing (waiver form found with application), noting the basis for the waiver request. The Planning Board may only grant a waiver if the Board finds, by majority vote, that:

- a. Strict conformity would pose an unnecessary hardship to the applicant and waiver would not be contrary to the spirit and intent of the regulations; or
- b. Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations.

The basis of any waiver granted by the Planning Board shall be recorded in the minutes of the Planning Board. (Amended 06.2018)

## **SECTION VII - AMENDMENTS**

### **7.1 AMENDMENTS**

The Planning Board may, from time to time, amend these regulations. Such amendments shall only take effect after a public hearing on the proposed changes(s) has been held. The Chairperson or Clerk of the Planning Board shall transmit copies of any regulations, revisions, or amendments thereto, certified by a majority of the Planning Board members, to the Registry of Deeds of Rockingham County, the Town Clerk, and the Board of Selectmen.

## **SECTION VIII - INTERPRETATION, CONFLICT, SEPARABILITY**

### **8.1 INTERPRETATION**

In their interpretation and application, the provisions of these regulations shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

### **8.2 CONFLICT**

These Regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provisions of law. Where any provision of these regulations imposes restriction different from those imposed by any other provision of these regulations or any other ordinance, rule or regulations, or other provision of law, whichever, provisions are more restrictive or impose higher standards shall control.

### **8.3 SEPARABILITY**

If any part or provision of these regulations or application thereof to any person or circumstances is adjudged invalid by any court of competent jurisdiction, such judgment shall be confined in its operation to the part, provision, or application directly involved in all controversy in which such



judgment shall have been rendered and shall not affect or impair the validity of the remainder of these regulations or the application thereof to other persons or circumstances.

## **SECTION IX - EFFECTIVE DATE**

### **9.1 EFFECTIVE DATE**

These regulations are effective as of February 3, 1987, on which day they were filed with the Greenland Town Clerk and the Board of Selectmen. Subsequent amendments shall become effective upon the date of filing with the Greenland Town Clerk.

**ADDENDUM A TO SUBDIVISION REGULATIONS**  
**ROAD DESIGN AND CONSTRUCTION SPECIFICATIONS**  
**CHECKLIST FOR PRELIMINARY HEARING**

**I. Design Criteria Necessary**

- A. Preliminary design of subdivision
- B. Plot plan, scale, and designer
- C. Contour Sheet (2-foot intervals) (Amended 2014)
- D. Soils data, name of soil scientist, test pit location(s) and acres (square feet)
- E. Preliminary road location and grades
- F. Preliminary drainage
- G. Benchmark, T.P.'s, elevation, and descriptions (NGVD-Datum)
- H. 50' Front Setback

**II. First Public Hearing: (Design checked by the designated Town agent before hearing) Final Design of Project/Subdivision** (Amended 2014)

- A. Final design of roadway, "profile" (Scale: 1 inch = 4 feet vertical; 1 inch = 40 feet horizontal)
- B. Contour sheet (2-foot intervals)
- C. Cross sections of road at 50-foot intervals and at all drainage structures, intersections, and dead-end turnarounds
- D. Final centerline staked on the ground, with finish grades shown on the grade stakes
- E. Profile of road drainage ditches left and right plotted separately on profile paper (Scale: 1 inch = 4 feet vertical, 1 inch = 40 feet horizontal.)
- F. Complete runoff calculations using the SCS TR 55 method or equivalent (See Section 4.5.2 for storm frequencies)
- G. Finish grades of road profile
- H. Easements plotted on plan: 25-foot width
- I. Typical section of roadway shown on plan, including utilities, sewer and water
- J. Sight distance at intersection along road (See Table #1)
- K. Maximum back slopes 3:1 cut, 4:1 fills, 5:1 cul-de-sac turn-around fills
- L. Benchmark and T.P.'s (shown on plan described with elevation)
- M. All pipe structures under the roadway will be R.C.P. class III with mortar joints or rubber ring gaskets or smooth wall HDPE pipe, frame and grate catch base covers. (Amended 2014)
- N. Sewer pipe (S.D.R.) 35 P.V.C. laid in a stone envelope 6-inch all around pipe. Pipe locations shown on design with elevations (see typical section with utilities).
- O. Road surface to be asphalt 2.5 inches rolled of base binder, 1.5 inches rolled of finish coat. (Amended 2006)
- P. Hand auger soil borings along centerline (100-foot stations) of roadway to denote depth to solid ground. This aids in setting finish grade of road also rough estimate of gravel necessary.
- Q. Under drains may be required by a designated Town agent. The use of fabric may be necessary; also, more gravel may be necessary through wet areas. With ledge or any other field problems, the designated Town agent may require field design changes. (Amended 2014)
- R. All utilities shown on design. See typical section for water and sewer utilities.

### **III. Private Road**

- A. Use the same design and specifications as for Town roads (see typical section).
- B. Construction inspection to be done by a designated Town agent same as for Town roads. See Section 6.1 of Site Plan Review Regulations. (Amended 2014)
- C. Must be bonded.

The Town has adopted New Hampshire State Highway and Bridges specifications. For any specifications not covered in these regulations, refer to New Hampshire specifications of roads.

### **IV. Construction Specifications**

#### **A. Subgrade**

- 1. Subgrade shaped and compacted full width, ditch cut and shaped.
- 2. Grade stakes in place every 50 feet.
- 3. Subgrade and finish grade centerline elevations should be marked in the field for review and approval by the construction inspector. (Amended 1999)
- 4. Subgrade properly graded and crowned with grader.
- 5. The Developers Geotechnical testing company shall provide the designated Town agent with a written certification that all organic material has been removed from the roadway. This shall be completed by inspection of the subgrade prior to placement of any fill, by proof rolling with a minimum of a ten-ton vibratory roller making five passes over the subgrade. Any areas which demonstrate weaving shall be considered unsuitable. (Amended 1999, 2002, 2014)
- 6. No gravel (until subgrade inspected and approved).
- 7. Use of construction fabric may be required at unstable/wet locations. This determination shall be made by the designated Town agent. (Amended 2014)

#### **B. Gravel to be approved by the designated Town agent (Amended 2014)**

- 1. Bank run gravel put in 8-inch lifts. (Amended 1999)
- 2. Grade stakes in place every 50 feet.
- 3. Compaction test, sieve analysis, and as built cross sections for each lift.
- 4. No processed gravel until bank run inspected and approved.
- 5. Processed gravel same procedure as bank run gravel.
- 6. Compactor on project for sub-grade bank run and finished processed gravel.
- 7. R.C.P. pipe: All bells to be laid upstream. (Amended 2014)
- 8. Driveway culverts will be (A.C.C.M.P. or R.C.P.) 18-inch RCP diameter min., length 30 feet; permits must be acquired from the Building Inspector. (Amended 2014)
- 9. Erosion control measures during construction.
- 10. Loam and seeding: 4 inches of loam conservation mix for slopes is the recommended seeding.

### **V. Paving Asphalt Finish**

- A. Before any paving of the roadway a letter of approval by the designated Town agent stating that the sub surface is ready, and the weather is acceptable. This letter will be given to the prime contractor and to the subdivider of the project. (Amended 2014)

- B. 2.5 inches of binder (rolled). (Amended 1999, 2005)
- C. 1.5 inches of finish coat (rolled). (Amended 2005)
- D. Paving: As built, cross sections on binder and on final coat surface.
- E. Maintenance bond will be held for one year after completion and Town acceptance.

## **VI. As-Built Construction Plans**

- A. Must be delivered to Town before bonds are released.
- B. Must show all drainage structures (stations), inverts and outlet elevations, utility lines and structures.
- C. Must show road ditches profile.
- D. Must show drainage easements.
- E. Must show any changes from the original design.
- F. Must show lot line corner monuments installed: 4 inches x 5 inches x 36 inches stone or concrete
- G. Must indicate 'Sign Installation'
  - 1. Stop signs
  - 2. Road name signs
  - 3. Power and telephone
  - 4. Road delineators
- H. Bond Release
  - 1. By Board of Selectmen (Amended 2014)
  - 2. Deed road right-of-way to Town, including all 50-foot laterals and paper streets for future utilization.

**TABLE I - ROADWAY DESIGN CRITERIA**

(Amended 2005, 2006, 2014)

Description	Local Res.	Res. Feeder	Indust. Primary	Indust. Secondary
Right-of-Way Width	50 ft	60 ft	75 ft	60 ft
Wooded Clear	Up to 50 ft	Up to 60 ft	80 ft	80 ft
Pavement Width	22 ft	24 ft	28 ft	28 ft
Sidewalk Width	5 ft	5 ft	5 ft *	5 ft *
Minimum Centerline Radius	150 ft	150 ft	300 ft	300 ft
Minimum Curb Radius (Intersections)	30 ft	40 ft	50 ft	50 ft
Minimum Profile Grade (Elsewhere)	2%	2%	2%	2%
Maximum Grade within 75' of Intersection	3%	3%	3%	3%
Minimum Grade (Intersections)	2%	2%	2%	2%
Maximum Profile Grade	8%	6%	5%	8%
Maximum Profile Grade (Cul-de-Sac Turn-Around)	3%	2%	2%	2%
Minimum Stopping Sight Distance	Refer to Section 4.4.2(p) - Chart			
Distance Between Intersections	Refer to Section 4.4.2(e)			
Base Run Gravel Depth	12 inches	12 inches	16 inches	16 inches
Crushed Gravel Depth	6 inches	6 inches	6 inches	6 inches
Base Course Depth	2.5 inches	2.5 inches	3.5 inches	3.5 inches
Wearing Course Depth	1.5 inches	1.5 inches	1.5 inches	1.5 inches

\*One Side Only

[illegible]

**TYPICAL ROADWAY CROSS SECTION**  
NOT TO SCALE

Figure B - TYPICAL DETAIL PAVED “BUBBLE” TURN AROUND

TYPICAL SECTION

(Not to Scale)

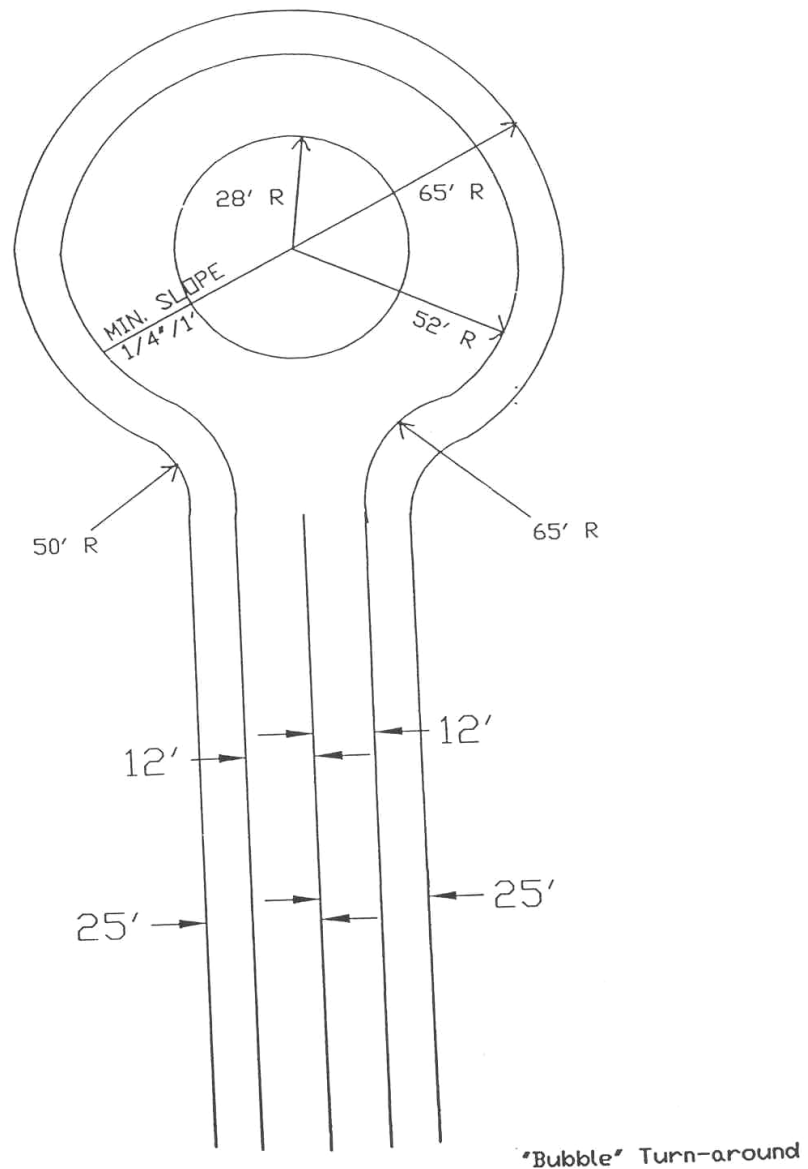
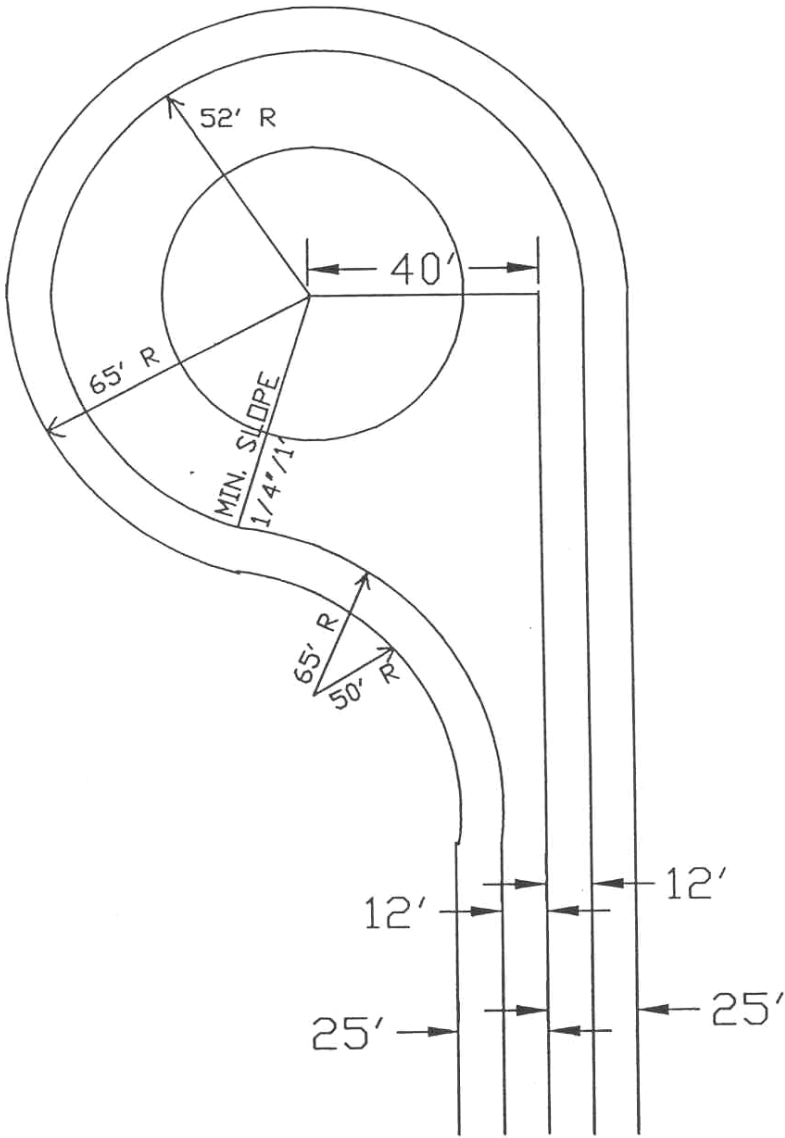


Figure C - TYPICAL DETAIL REVERSE “P” TURN AROUND

TYPICAL SECTION

(Not to Scale)



Reverse "P" Turn-around



**ADDENDUM C TO SUBDIVISION REGULATIONS**  
**STORMWATER MANAGEMENT AND EROSION CONTROL**  
(Revised 11.1993, Deleted in its Entirety 07.20.2017)

**\*Refer to Section V – Erosion and Sedimentation Control Standards\***



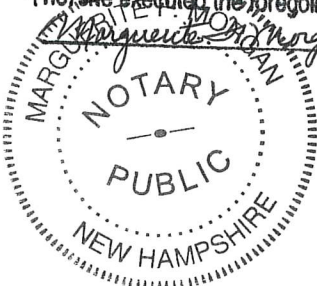
**PLANNING BOARD**  
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Website: greenland-nh.com

CERTIFIED COPY – SUBDIVISION REGULATIONS  
Thursday, November 03, 2022

The Planning Board certifies that the Subdivision Regulations, amended September 15, 2022, were approved at the public hearing held Thursday, November 03, 2022.

NAME	POSITION	SIGNATURE
David Moore	Chairman – Planning Board	
John McDevitt	Vice Chairman – Planning Board	
Bob Dion	Planning Board	
Stu Gerome	Planning Board	
Steve Gerrato	Planning Board	
Catie Medeiros	Planning Board	
Richard Winsor	Board of Selectmen's Rep	
Frank Catapano	Alternate – Planning Board	
Phil Dion	Alternate – Planning Board	

County of Rockingham, ss.  
State of New Hampshire  
On this 3rd day of November, 2022  
all of the above are  
known to me or proven to be the instrument subscribers,  
personally appeared before me and acknowledged that  
they executed the foregoing instrument.  
Marguerite Morgan, Notary Public





# PLANNING BOARD

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### COMPREHENSIVE APPLICATION

#### Guidelines for Processing Applications & Fee Schedule Worksheet

While the Zoning Ordinance and Planning Board Regulations are lengthy, they are designed to deal with different situations from single issue waivers and permits to large scale residential developments and commercial site plans. The Zoning Ordinance, Subdivision Regulations and Site Plan Review Regulations are available online at: [www.greenland-nh.com](http://www.greenland-nh.com) (click on: 'Boards/Committees/Commissions', 'Planning Board', select button on left side of page).

Not all requirements may be applicable to your application. Although not required, it is recommended applications be discussed informally with the Greenland Planning Board or their representative. The key to receiving a prompt decision is to have all the necessary information to the Planning Board before their public hearing date (the third Thursday of every month). All applications **must** be submitted to the Planning Board at least **21 days** prior to the public hearing at which it will be formally reviewed. In order to be scheduled, your application must be complete. Submission deadlines can be found online at [www.greenland-nh.com](http://www.greenland-nh.com) (click on: 'Boards/Committees/Commissions', 'Planning Board', select button on left side of page). Revised plans of any type must be in the Town Office **ten (10) days** prior to the public hearing date.

#### SUBMISSION OF APPLICATION MATERIALS

In accordance with RSA 676:4,I(b): *All materials required to constitute a complete application must be submitted to the Town at least **21 days** prior to the public hearing at which it will be considered for application acceptance.* Revised plans of any type must be in the Town Office **ten (10) days** prior to the hearing date.

1. Applications will not be considered complete unless they are:
  - a. Signed by all property owners of record.
  - b. Accompanied by a list of abutters.
  - c. Accompanied by the appropriate fee(s).
2. Applications for subdivision must adhere to all applicable sections of the Town of Greenland Subdivision Regulations.
3. Applications for site plan review must adhere to all applicable sections of the Town of Greenland Site Plan Review Regulations.
4. Applications will not be considered complete without the following:
  - a. Complete application for the file, including waiver requests on required form (one form per waiver).
  - b. Eleven (11) complete packets; **each must contain**
    1. Project Type and Description and any waiver requests (one waiver per form); all other pages **do not need to be copied.**
    2. Complete plan sets (11" x 17").
  - c. Two (2) plats prepared by a licensed New Hampshire surveyor (any appropriate engineering drawings must be presented with the application at the public hearing).
  - d. Plans in PDF format must be submitted to the Planning Board Secretary.
  - e. Three (3) sets of **computer generated or typed** mailing labels of the applicant, representative and abutter's addresses **must** be submitted as part of the application. **Label size: 1" (height) x 2.63" (width).**

**Do not print/copy forms front-to-back: single-sided only**



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## PROJECT TYPE AND DESCRIPTION

*\*\*See Application Definitions Below\*\**

*Please include eleven (11) copies of this page only.*

<b>APPLICATION DATE</b>	
<b>PROPERTY ADDRESS</b>	
<b>Application Type</b>	
<input type="checkbox"/> Preliminary Conceptual Consultation	<input type="checkbox"/> Design Review
<input type="checkbox"/> Site Plan Review	<input type="checkbox"/> Subdivision of Land
<input type="checkbox"/> Boundary Line Adjustment	<input type="checkbox"/> Conditional Use Permit
<input type="checkbox"/> Voluntary Merger (RSA 674:39-a)	
<b>Description of Project or Application</b>	
<b>APPLICATION DEFINITIONS</b>	
1.	<i>Preliminary Conceptual Consultation Phase [RSA 676:4(II)(a)]</i> Review of the basic concept of the proposal and suggestions which might be of assistance in resolving problems. Consultation will be non-binding. The Planning Board and applicant may discuss proposals in conceptual form only and in general terms such as desirability of types of development and proposals under the master plan. Discussions may occur without the necessity of giving formal public notice but may occur only at public hearings of the Planning Board.
2.	<i>Design Review Phase [RSA 676:4(II)(b)]</i> Non-binding discussions beyond conceptual; general discussions involving more specific design and engineering details. Formal public notice must be made; abutters and the general public must be notified.
3.	<i>Site Plan Review [RSA 674:43]</i> Review of site plans for specific types of development to ensure compliance with all appropriate land development regulations and consistency with the Comprehensive Plan. Formal public notice must be made; abutters and the general public must be notified.
4.	<i>Abutters (RSA 672:3)</i> Any person whose property adjoins or is directly across the street or stream. (See the RSA for the complete definition.)



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**WAIVER REQUEST – SUBDIVISION REGULATIONS**

Name – Subdivision:	
Street Address:	Map/Lot:
<p>I (name) _____ hereby request that the Planning Board waive the requirements of Section _____ Subsection _____ of the Subdivision Regulations, to the plan presented by (name of surveyor or engineer) _____, dated _____, job or project number _____, in the Town of Greenland.</p>	
<p>Strict conformity would cause an unnecessary hardship to the applicant and waiver would not be contrary to the spirit and intent of the regulations:</p>	
<p><b>OR:</b> Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations:</p>	
<p>I acknowledge, as the applicant, that this waiver is requested in accordance with the provisions set forth in RSA 674:36 II (n) [Subdivision Regulations].</p>	
Signature – Applicant or Authorized Agent:	Date:
<p><u>Planning Board Action – Subdivision Regulations Waiver</u></p> <p>Granted _____ Not Granted _____</p>	
Signature - Planning Board Chairman:	Date:



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This form and all the required information must be completed and filed a minimum of **21 days** prior to the public hearing at which it is to be heard. Revised plans of any type must be in the Town Office **10 days** prior to the hearing date. Submission deadlines can be found online at [www.greenland-nh.com](http://www.greenland-nh.com) (click on Boards/Committees/Commissions, select Planning Board or Zoning Board of Adjustment, select Public Hearing Dates/Application Deadlines).

<b>Applicant Information</b>		
<i>Entity of authority to represent an agent and/or landowner before the Planning Board; will be responsible for dissemination of all information to the landowner and/or agent. An applicant is often, but not necessarily, a surveyor, engineer, attorney or real estate professional.</i>		
Name		
Company		
Address		
City/State/Zip		
Phone		
Email		
Property Address		
Map & Lot	Zoning District	
<b>Overlay Districts or Other Regulations Affecting Subject Property</b>		
<input type="checkbox"/> State Highway Permit	<input type="checkbox"/> Shoreland Protection	<input type="checkbox"/> Aquifer Protection
<input type="checkbox"/> Scenic Roadway	<input type="checkbox"/> State Subdivision	<input type="checkbox"/> Conditional Use Permit
<input type="checkbox"/> Current Use Tax	<input type="checkbox"/> Conservation Easement	<input type="checkbox"/> Wetlands Conservation Area
Other (Specify):		
<b>Contact Information</b>		
Owner of Record	Lessee Information (if applicable)	Agent Information
Name	Name	Name
Company	Company	Company
Address	Address	Address
City/State/Zip	City/State/Zip	City/State/Zip
Phone	Phone	Phone
Email	Email	Email

Additional Professionals Authorized to Submit Materials	
<i>Professionals who are authorized to submit additional materials on behalf of the application may include, but are not limited to: NH Certified Soil Scientist, Wetlands Scientist, Surveyor, Engineer, Attorney, Real Estate Professional, etc.</i>	
Name	Name
Company	Company
Address	Address
City/State/Zip	City/State/Zip
Phone	Phone
Email	Email
Name	Name
Company	Company
Address	Address
City/State/Zip	City/State/Zip
Phone	Phone
Email	Email
Name	Name
Company	Company
Address	Address
City/State/Zip	City/State/Zip
Phone	Phone
Email	Email
Name	Name
Company	Company
Address	Address
City/State/Zip	City/State/Zip
Phone	Phone
Email	Email



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## VERIFICATION AND SIGNATURES

The applicant, owner and/or agent certify that this application is correctly completed with all required attachments and documents. Any additional reasonable costs for engineering or professional services incurred by the Planning Board or the Town of Greenland in the final subdivision/site plan review process of this property shall be borne by the following party:

☐ Applicant ☐ Owner ☐ Agent

*Failure to indicate a responsible party for fees and associated costs will result in the denial of the application without a public hearing in accordance with RSA 676:4.*

The owner/agent hereby authorizes the Greenland Planning Board and its agents to access the subject land for the purpose of reviewing the subdivision plan or site plan, performing road inspections and any other inspections deemed necessary by the Board or its agents, and to insure conformance of the on-site improvements with the approved plan and all Town of Greenland ordinances and regulations.

The undersigned owner/agent hereby submits to the Greenland Planning Board a completed application package for its approval of said plat. In consideration for approval and the privileges occurring thereto, the owner hereby agrees as applicable:

- To carry out the improvements agreed upon and as shown and intended by said plat, including any work made necessary by unforeseen conditions which become apparent during construction.
- To provide and install standard street signs as approved by the Town for all street intersections.
- To give the Town, on demand, proper deeds for land or right of ways reserved on the plat for streets, drainage or other purposes as agreed upon.
- To save the Town harmless from any obligation it may incur or repairs it may make due to my failure to carry out any of the foregoing provisions.
- To make no changes whatsoever in the Final Plat as approved by the Board unless a revised plan, plat or new application is submitted and approved by the Board.
- To construct improvements or post the Planning Board's Performance Guarantee to ensure completion of the improvements shown on the plan and related drawings.
- There are no known violations of the Town of Greenland Zoning Ordinance or Greenland Planning Board Regulations present on the property that have not been disclosed as part of this application.
- To insure proper boundary monumentation at the project's completion in accordance with the Town of Greenland Subdivision Regulations.

### Signatures

(Name) \_\_\_\_\_ of (Company) \_\_\_\_\_ is hereby designated as the person authorized to act as my agent in securing any and all permits necessary from the Greenland Planning Board for the development of my property. All communications to the owner may be addressed to the agent or applicant on the agent's behalf.

Applicant Signature

Date

Owner Signature

Date





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## NAMES AND ADDRESSES OF APPLICANT & ABUTTERS

*Include map and lot numbers of all abutters adjacent to the property. The legal definition for an abutter can be found at NH RSA 672:3, as amended; for purposes of notification, all parties in RSA 676:4(I)(d). Please use additional paper if necessary. Mailing labels may also be copied and attached.*

<b>Applicant</b>	<b>Representative, if applicable</b>
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>
<b>ABUTTERS</b>	
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>
<i>Map</i> <span style="float: right;"><i>Lot</i></span>	<i>Map</i> <span style="float: right;"><i>Lot</i></span>
<i>Name</i>	<i>Name</i>
<i>Address</i>	<i>Address</i>



# PLANNING BOARD

**Town of Greenland • Greenland, NH 03840**  
 11 Town Square • PO Box 100  
 Phone: 603.380.7372 • Fax: 603.430.3761  
 Website: greenland-nh.com

## APPLICATION FEES

*In accordance with RSA 676:4, I(g): the applicant shall pay the following fees to compensate the Town for its expenses in processing, noticing and reviewing each application; one (1) or more may apply, however, only one (1) notice fee is required.*

<input type="checkbox"/> Preliminary Conceptual Consultation			
DESCRIPTION	QTY	COST	TOTAL
Administration	1	\$35	\$35
<b>TOTAL FEES: PRELIMINARY CONCEPTUAL CONSULTATION</b>			\$
<input type="checkbox"/> Design Review			
DESCRIPTION	QTY	COST	TOTAL
Administration	1	\$35	\$35
Public Notice: per notice		\$85	\$
Abutters: per abutter or other party notified		\$10	\$
<b>TOTAL FEES: DESIGN REVIEW</b>			\$
*Escrow Account: Plan Review ( <i>SEPARATE CHECK</i> )	1	\$400	\$400
<input type="checkbox"/> Site Plan Review			
DESCRIPTION	QTY	COST	TOTAL
Review/Filing Fee: first \$100,000 of construction costs	1	\$150	\$150
Review/Filing Fee: per additional \$1,000; maximum fee: \$2,000		\$5	\$
Public Notice: per notice		\$85	\$
Abutters: per abutter or other party notified		\$10	\$
<b>TOTAL FEES: SITE PLAN REVIEW</b>			\$
*Escrow Account: Plan Review ( <i>SEPARATE CHECK</i> )	1	\$1,000	\$1,000
<input type="checkbox"/> Subdivision of Land			
DESCRIPTION	QTY	COST	TOTAL
Lot Line Adjustment		\$100	\$
Subdivision: first two (2) lots, including existing	1	\$150	\$150
Subdivision: each additional lot		\$75	\$
Public Notice: per notice		\$85	\$
Abutters: per abutter or other party notified		\$10	\$
<b>TOTAL FEES: SUBDIVISION OF LAND</b>			\$
*Escrow Account: Plan Review ( <i>SEPARATE CHECK</i> )	1	\$1,000	\$1000
<input type="checkbox"/> Boundary Line Adjustment			
DESCRIPTION	QTY	COST	TOTAL
Lot Line Adjustment		\$100	\$
Public Notice: per notice		\$85	\$
Abutters: per abutter or other party notified		\$10	\$
<b>TOTAL FEES: BOUNDARY LINE ADJUSTMENT</b>			\$

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<input type="checkbox"/> <i>Conditional Use Permit</i>			
<b>DESCRIPTION</b>	<b>QTY</b>	<b>COST</b>	<b>TOTAL</b>
Administration	<b>1</b>	\$100	\$100
Public Notice: per notice		\$85	\$
Abutters: per abutter or other party notified		\$10	\$
<b>TOTAL FEES: CONDITIONAL USE PERMIT</b>	\$		
<input type="checkbox"/> <i>Voluntary Merger</i>			
<b>DESCRIPTION</b>	<b>QTY</b>	<b>COST</b>	<b>TOTAL</b>
Administration		\$75	\$
<b>TOTAL FEES: VOLUNTARY MERGER</b>	\$		
<b>ADDITIONAL NOTE</b>			
Other costs incurred by the Board in reviewing the application (engineering, legal, planner review, etc.), as limited in RSA 676:4 and the Town Regulations, will be passed through to the applicant by the Board unless specifically waived. *Exact cost to be determined after review of plans by Town Engineer and Circuit Rider/Planner as provided for in RSA 676:4-b (Third Party Review and Inspection).			
<b>RECORDING FEES</b>			
Per sheet; the applicant shall pay the cost(s) of recording at the Rockingham County Registry of Deeds, with specific amounts as set by the County Registry of Deeds. <i>DUE UPON PRESENTATION OF THE MYLAR FOR SIGNATURE; CHECKS MUST BE MADE PAYABLE TO: ROCKINGHAM COUNTY REGISTRY OF DEEDS **SEE FILING FEES: ROCKINGHAM COUNTRY REGISTRY OF DEEDS**</i>			

OFFICE USE ONLY				
Application Type	Amount Paid	Check Number	Date	Received By
Preliminary Conceptual Consultation	\$			
Design Review	\$			
Site Plan Review	\$			
Subdivision of Land	\$			
Boundary Line Adjustment	\$			
Conditional Use Permit	\$			
Voluntary Merger	\$			
Escrow Account	\$			

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