

ARTICLE 15 – MAJOR DEVELOPMENT STANDARDS**15.1 CLUSTER RESIDENTIAL DEVELOPMENT STANDARDS**

It is the intent of this Ordinance to promote development that provides the Town with a more compact 'built-up' area near roads, utilities and public services; and to encourage preservation of the Town's open spaces and natural areas and the natural resources that have provided its citizens with economic value, recreational opportunities and aesthetic enjoyment for all its history.

To that end, the following provisions are made part of this Ordinance to provide landowners and developers options that will support the Town's growth management objectives.

15.1.1. Cluster Development

15.1.1.1. Purpose. The purpose of these provisions is to allow for innovative concepts of housing development where maximum variations of design may be allowed, provided that the net residential density shall be no greater than is permitted by this Ordinance.

In addition, the purpose of allowing Cluster Development shall be to encourage housing development which will result in:

15.1.1.1.1. Additional open space and recreation areas;

15.1.1.1.2. A pattern of development which preserves trees, outstanding natural topography and geologic features and reduces soil erosion;

15.1.1.1.3. An efficient use of land resulting in small networks of utilities and streets; and

15.1.1.1.4. More liveable neighborhoods.

15.1.2. Allowable Reduction in Requirements. To accomplish the purposes above, the layout and dimensional requirements of this Ordinance may be reduced as follows:

15.1.2.1. The Planning Board may reduce the minimum lot size by not more than twenty-five percent (25%); the road frontage requirement by not more than fifty percent (50%) and the front setback by not more than ten percent (10%); but only if a net area at least equal in area to the cumulative lot size reduction is maintained as common or public land.

15.1.2.2. The Planning Board shall not increase building height limitations.

15.1.2.3. The Planning Board shall not modify any dimensional requirements in the Shoreland Management Area.

15.1.2.4. The modification of requirements under this section shall not allow a greater net residential density on the tract of land than would have been allowed for a conventional subdivision layout.

15.1.2.5. The modification of requirements under this section shall not require a variance from the Board of Appeals and no finding of undue hardship shall be required.

15.1.3. Basic Standards for Cluster Development. All cluster developments approved by the Planning Board must meet the following requirements:

15.1.3.1. All the requirements and standards of this Ordinance, except those dealing with lot layout and dimensions, shall be met.

15.1.3.2. Each building shall be an element of an overall plan for site development. Only developments having a total site plan for structures will be considered. The application shall illustrate the placement of buildings and the treatment of spaces, paths, roads, service and parking and in so doing shall take into consideration all requirements of this section and of other relevant sections of this Ordinance.

15.1.3.3. The minimum area of land in a cluster residential development shall be ten (10) acres.

15.1.3.4. No building shall be constructed on soil types that are poorly drained.

15.1.3.5. Where a cluster development is proposed on a parcel which abuts a water body, a portion of the shoreline, as well as reasonable access to it, shall be part of the common land.

15.1.3.6. Unless a community sewage collection and treatment system is provided, no lot shall be smaller in area than one and one half acres.

15.1.3.7. The total area of reserved open space within the development shall equal or exceed the sum of the areas by which any building lots are reduced below the minimum lot area normally required by this ordinance.

However, at least twenty-five percent (25%) of the area of the entire parcel or tract shall be included as common open space in GMA 1 and GMA 2, and at least fifty per cent (50%) in GMA 3. Common open space in the GMA 1 and the GMA 2 shall not include road rights of way, streets, drives, or parking. No more than ten per cent (10%) in the GMA 3 of the common open space shall include rights of way, streets, drives or parking. No more than twenty percent (20%) of the common open space in the GMA 1 shall consist of wetlands of any size.

15.1.3.8. Every building lot that is reduced in area below the amount normally required shall be within 500 feet of the common land in the GMA 1, within 1000 feet in the GMA 2, and within 2500 feet in the GMA 3.

15.1.3.9. No individual lot or dwelling unit shall have direct vehicular access onto a public road existing at the time of development unless that lot area and dwelling unit existed prior to development.

15.1.3.10. The common open space shall be owned and managed according to the standards of **Article 15.3.**

15.2. CLUSTER CONSERVATION DEVELOPMENT STANDARDS**15.2.1. Cluster Conservation Development**

15.2.1.1. Purpose: The purpose of Cluster Conservation Development shall be to allow housing development in all areas of Town while preserving biodiversity, wildlife habitat, scenic character and preventing fragmentation of the Town's forested areas; while minimizing the cost of delivering municipal services to scattered rural development.

In addition, to adhering to all the applicable standards for cluster developments above; a cluster conservation development will:

15.2.1.1.1. Convey ownership of the open space to the Town or to a land trust as a permanent conservation easement; and

15.2.1.1.2. Have a minimum area of fifty (50) acres within the development, and a minimum area of twenty-five (25) acres within the conservation easement.

15.2.2. Allowable Reduction in Requirements

To accomplish the purposes above, the layout and dimensional requirements of this Ordinance may be reduced as follows:

15.2.2.1. The Planning Board may reduce the minimum lot size in the GMA 3 by fifty per cent (50%); the minimum road frontage by fifty per cent (50%) and minimum front and side setbacks by fifty percent (50%). In the GMA 1 and GMA 2, the allowable reductions shall be as in **Article 15.1**, above for Cluster Development.

15.2.2.2. The Planning Board shall not increase building height limitations.

15.2.2.3. The Planning Board shall not modify any dimensional requirements in the Shoreland Management Area.

15.2.2.4. The modification of requirements under this section shall not allow a greater net residential density on the tract of land than would have been allowed for a conventional subdivision layout.

15.2.2.5. The modification of requirements under this section shall not require a variance from the Board of Appeals and no finding of undue hardship shall be required.

15.2.3. Basic Standards for Cluster Conservation Development

15.2.3.1. All cluster conservation developments approved by the Planning Board must meet the following requirements:

15.2.3.2. All the requirements and standards of this Ordinance, except those dealing with lot layout and dimensions, shall be met.

15.2.3.3. Each building shall be an element of an overall plan for site development. Only developments having a total site plan for structures will be considered. The

application shall illustrate the placement of buildings and the treatment of spaces, paths, roads, service and parking and in so doing shall take into consideration all requirements of this section and of other relevant sections of this Ordinance.

15.2.3.4. The minimum area of land in a cluster conservation development shall be fifty (50) acres.

15.2.3.5. No building shall be constructed on soil types that are poorly drained.

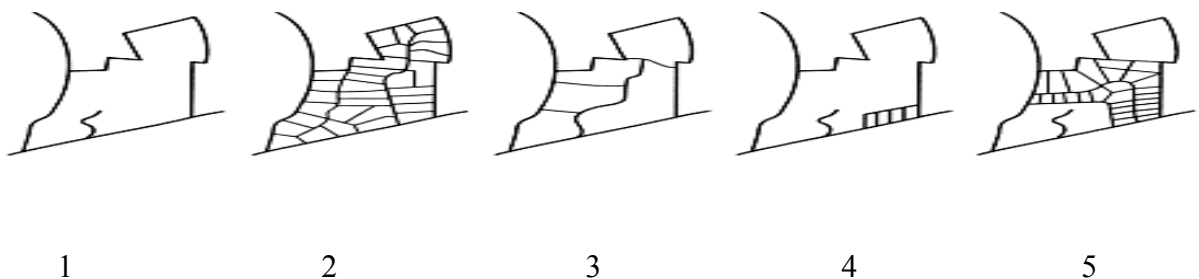
15.2.3.6. Where a cluster conservation development is proposed on a parcel which abuts or wholly contains a water body, a portion of the shoreline, as well as reasonable access to it, shall be part of the conservation land, unless the Planning Board finds that due to the terrain this is impractical.

15.2.3.7. The total area of reserved open space within the development shall equal or exceed the sum of the areas by which any building lots are reduced below the minimum lot area normally required by this ordinance.

However, at least twenty-five percent (25%) of the area of the entire parcel or tract shall be included as conservation land in GMA 1 and GMA 2, and at least fifty per cent (50%) in GMA 3. Conservation land in the GMA 1 and GMA 2 shall not include road rights of way, streets, drives, or parking. No more than ten per cent (10%) in GMA 3 of the conservation land shall include rights of way, streets, drives or parking. No more than fifty percent (50%) of the conservation land in the GMA 1 shall consist of wetlands of any size.

15.2.3.8. The conservation land shall be owned and managed according to the standards of **Article 15.3.**

15.2.4. Cluster and Conservation Diagrams



The first figure (1) shows an undeveloped 100 acre parcel of land bordered by streets on the bottom and left.

The second figure (2) shows the parcel developed with 25 lots, 2-acre minimum lot size, many lots fronting on the existing two roads or on an intersection of subdivision streets.

The third figure (3) shows the parcel developed with 5 lots, 25-acre minimum lot size.

The fourth figure (4) shows the parcel developed with 5 lots, with four 2-acre lots along existing road frontage.

The fifth figure (5) shows the parcel developed as a cluster with reduced lot sizes and dedicated open space all lots fronting on one street within the development. (except maybe four on a shared driveway)

15.3. CLUSTER NON-RESIDENTIAL DEVELOPMENT STANDARDS

15.3.1. Cluster Non-Residential Development

15.3.1.1. Purpose. The purpose of these provisions is to allow for compact, clustered non-residential development within those growth management areas where such non-residential uses are allowed. Maximum variations of design may be allowed, provided that the net non-residential density shall be no greater than would be otherwise permitted by this Ordinance.

In addition, the purpose of allowing Cluster Non-Residential Development shall be to encourage commercial development which will result in:

15.3.1.1.1. Commercial complexes with built in common or open space;

15.3.1.1.2. A pattern of development which preserves trees, outstanding natural topography and geologic features and reduces soil erosion;

15.3.1.1.3. An efficient use of land resulting in small networks of utilities and access roads; and

15.3.1.1.4. A pattern of development that encourages more convenient shopping centers, clustering of industrial uses, and a harmonious integration of non-residential uses into the community.

15.3.2. Allowable Reduction in Requirements. To accomplish the purposes above, the layout and dimensional requirements of this Ordinance may be reduced as follows:

15.3.2.1. Within a Non-Residential Development with multiple principal structures, the Planning Board may reduce dimensions for each principle structure as follows: the minimum lot area for each principal structure by not more than twenty-five percent (25%); the road frontage requirement for each principal structure by not more than fifty percent (50%) and the side and rear setback for each principal structure, by not more than ten percent (10%); but only if a net area at least equal in area to the cumulative lot size reduction is maintained as common or open space.

To accomplish the goals of this cluster option, the Planning Board may reduce lot area, side and rear setbacks, and road frontage requirement by a maximum of 25% for a cluster of 3 or more principal Tier 2 non-residential structures. The reduction for lot area, side and rear setbacks and road frontage requirements for a cluster of 3 or more principal Tier 3 Class C non-residential structures shall be a maximum of 30%. When 3 or more Tier 2 uses are planned within one structure, the total square footage of each Tier 2 use shall not exceed and the total square footage of the principal structure shall not exceed

In addition, the use requirements of this Ordinance may be modified to allow residential use within the Cluster Non-residential Development where such use is an integral part of the development design and meets all State codes and statutes.

15.3.2.2. Within a Non-Residential Development with multiple principal uses within one structure, the Planning Board may reduce dimensions for each principal use as follows: the minimum lot area by not more than fifty percent (50%), but only if a net area at least equal to the cumulative lot size reduction is maintained as common or open space.

15.3.2.3. The Planning Board shall not increase building height limitations.

15.3.2.4. The modification of requirements under this section shall not allow a greater net non-residential density on the tract of land than would have been allowed for a conventional layout.

15.3.2.5. The modification of requirements under this section shall not require a variance from the Board of Appeals and no finding of undue hardship shall be required.

15.3.3. Basic Standards for Cluster Non-Residential Development. All cluster non-residential developments approved by the Planning Board must meet the following requirements:

15.3.3.1. All the requirements and standards of this Ordinance, except those dealing with lot layout and dimensions, shall be met.

15.3.3.2. Each building shall be an element of an overall plan for site development. Only developments having a total site plan for structures will be considered. The application shall illustrate the placement of buildings and the treatment of spaces, paths, roads, service and parking and in so doing shall take into consideration all requirements of this section and of other relevant sections of this Ordinance.

15.3.3.3. The minimum area of land in a cluster non-residential development shall be ten (10) acres.

15.3.3.4. No building shall be constructed on soil types that are poorly drained.

15.3.3.5. Unless a community sewage collection and treatment system is provided, no lot shall be smaller in area than one and one half acres.

15.3.3.6. The total area of reserved open space within the development shall equal or exceed the sum of the areas by which any building lots are reduced below the minimum lot area normally required by this ordinance.

However, at least ten percent (10%) of the area of the entire parcel or tract shall be included as common open space. Common open space shall not include road rights of way, streets, drives, or parking. No more than twenty percent (20%) of the common open space shall consist of wetlands of any size.

15.3.3.7. No individual lot shall have direct vehicular access onto a public road existing at the time of development.

15.3.3.8. Where a cluster non-residential development is proposed on a parcel which abuts a water body, a portion of the shoreline, as well as reasonable access to it, shall be part of the common land.

15.3.3.9. The common open space shall be owned and managed according to the standards of **Article 15.3.**

15.4. COMMON OR OPEN SPACE STANDARDS**15.4.1. Retention of Common or Open Space.**

15.4.1.1. Within Cluster Developments, Cluster Conservation Developments and Cluster Commercial Developments. The developer will be required to provide for recreational areas, common or open space according to the provisions of **Article 7**.

15.4.1.2. Land Suitability. Land reserved for recreational areas, common or open space shall be of a character, configuration and location suitable for the particular use intended. A site to be used for active recreational purposes should be relatively level and dry, have a total frontage on one or more roads of at least two hundred (200) feet and have no major dimensions less than two hundred (200) feet. Sites selected primarily for scenic or passive recreation purposes shall have no less than twenty-five (25) feet of road frontage. The configuration of such sites shall be deemed adequate by the Board with regard to scenic attributes to be preserved, together with sufficient areas for trails, lookouts, etc. where necessary and appropriate. Sites should also be located, whenever possible, to improve direct access to sunlight for solar energy, by providing a buffer from shadows.

15.4.1.3. Shorefront Access. Where the proposed development is located on a lake, pond, or stream, a portion of the shorefront area, when feasible, shall be included in the reserved land. The land so reserved shall be at least one hundred (100) feet wide, horizontal measurement from the normal high-water mark, except in Resource Protected Areas where it shall be two hundred (200) feet wide.

15.4.1.4. Landscape Plan. The Board may require that the development plans include a landscape plan that will show the preservation of any existing trees larger than seventy-five (75) inches circumference breast height, the replacement of trees and vegetation, graded contours, streams and the preservation of scenic, historic or environmentally significant areas. Cutting of trees on the northerly borders of lots should be avoided, as far as possible, to retain a natural wind buffer.

15.4.2. Dedication of Common or Open Space.

15.4.2.1. Ownership of Common or Open Space. When land is reserved as common or open space, the land shall be owned jointly or in common by the owners of the development lots by means of a landowners' association, by means of an association that has as its principal purpose the conservation or preservation of land in essentially its natural conditions, or by dedication to the Town.

15.4.2.2. Further Development Prohibited. Further development or subdivision of the common land or its use for other than non-commercial recreation or conservation purposes, except for easements for utilities, shall be prohibited. Structures and buildings accessory to non-commercial recreational or conservation uses may be erected on the common or open space land, providing such development conforms with the provisions of this Ordinance.

15.4.2.3. Final plat and notations. The common or open space shall be shown on the final plan with appropriate notation on the plan to indicate that the reserved land shall not be used for future building lots.

15.4.3. Maintenance of Common or Open Space.

15.4.3.1. Association Responsibilities. If any, or all, of the common or open space is to be reserved for use by the owners of the development lots, the by-laws of the proposed landowners' association shall specify maintenance responsibilities and shall be submitted to the Board prior to final plan approval.

15.4.3.2. Covenants. Covenants for mandatory membership in the landowners' association setting forth the owners' rights, interests and privileges in the association and the common or open space land, shall be reviewed by the Board and shall be included in the deed for each lot or dwelling.

15.4.3.3. Maintenance Responsibility. The landowners' association shall have the responsibility of maintaining the common or open space unless or until the Town or other organization acceptable to the Board accepts dedication.

15.4.3.4. Levy of Charges. The association shall levy annual charges against all owners of development lots to defray the expenses connected with the maintenance of common or open space and tax assessments.

15.4.3.5. Retention of Control and Responsibility. The developer (or subdivider) shall maintain control of the common or open space and be responsible for its maintenance until development sufficient to support the association has taken place.

15.5. ROAD DESIGN AND CONSTRUCTION STANDARDS

15.5.1. General Requirements.

In approving applications submitted pursuant to this Ordinance, the following requirements shall apply:

15.5.1.1. Safe Access. The proposed development shall provide for safe access to and from public and private roads. Safe access shall be assured by providing an adequate number and location of access points with respect to sight distances, intersections, schools and other traffic generators.

15.5.1.2. Curb Cuts. Curb cuts shall be limited to the absolute minimum number and widths necessary for safe entering and exiting. The proposed development shall not have an unreasonable adverse impact on the town road system and shall assure safe interior circulation within its site by separating pedestrian and vehicular traffic and providing adequate parking and loading areas.

15.5.1.3. Emergency Vehicle Access. Provisions shall be made for providing and maintaining convenient and safe emergency vehicle access to all buildings and structures at all times.

15.5.1.4. Compliance and Waivers. The Board shall not approve any development plan unless proposed roads are designed in accordance with the specifications contained in this Ordinance. Pavement, but not base standards, may be waived in the Rural Area and the Rural Preservation Area, provided that the developer enters into a legally binding arrangement preventing such gravel road from becoming the responsibility of the Town without prior paving to Town standards and an affirmative vote of acceptance by the Town's legislative body. Approval of a Final Plan by the Board, shall not be deemed to constitute or be evidence of acceptance by the Town of any road or easement.

15.5.2. Road Standards.

15.5.2.1. Drawings. Applicants shall submit to the Planning Board, as part of their final plan, detailed construction drawings showing the profile and typical cross-section of the proposed roads. The detailed construction drawings shall include the following information:

15.5.2.1.1. Reference. Date, scale and magnetic or true north point.

15.5.2.1.2. Intersections. Intersection points of the proposed road with existing roads.

15.5.2.1.3. Road Width. Roadway and right-of-way limits including edge of pavement, edge of shoulder, sidewalks, and curbs.

15.5.2.1.4. Curve Data. Complete curve data shall be indicated for all horizontal and vertical curves.

15.5.2.1.5. Radii. Turning radii at all intersections.

15.5.2.1.6. Gradients. Center line gradients.

15.5.2.1.7. Utilities. Locations of all existing and proposed utilities.

15.5.2.1.8. Designation of Ownership and Maintenance. Where the development road is to remain a private road, the following shall appear on the recorded plan: "All roads in the development shall remain private roads to be maintained by the developer or the lot owners and shall not be accepted or maintained by the Town."

15.5.2.2. Design Standards. These design standards shall be met by all roads within subdivisions reviewed under this Ordinance, and shall control the roadway, shoulders, curbs, sidewalks, drainage systems, culverts, and other appurtenances.

15.5.2.2.1. Through traffic. : Roads shall be designed to discourage through traffic within residential developments. The Planning Board may consider allowing single-lane, one-way roads provided that such one-lane roads meet emergency vehicle access requirements.

15.5.2.2.2. Abutting Narrow Road. Where a development borders an existing narrow road (not meeting the width requirements of the standards for roads in this Ordinance), the Planning Board may require that the development plan indicate reserved areas for widening or realigning the existing narrow road. Land reserved for such purposes may not be included in computing lot area or setback requirements of this Ordinance. When such widening or realignment is indicated, the reserve area shall not be included in any lot, but shall be reserved to be deeded to the Town or State.

15.5.2.2.3. Access to Existing Town Way. Where a development of five or more dwelling units abuts or contains an existing or a proposed Town Way, no residential lot may have vehicular access directly on to the existing Town Way. This requirement shall be noted on the Plan and in the deeds of any lot with frontage on the Town Way.

15.5.2.2.4. Two Road Connections. Any development containing ten (10) or more dwelling units or lots shall have at least two (2) road connections with existing public roads, or roads on an approved development plan for which performance guarantees have been filed and accepted.

(Table on next page.)

15.5.2.2.5. Required Standards. The following design standards apply to development roads:

DESCRIPTION	DIMENSION
Minimum Right Of Way Width	50'
Minimum Pavement Width	20'
Shoulder Width	3'
Maximum Grade	8%
Minimum Centerline Radius on Curves	200'
Minimum Tangent Between Curves of Reverse Alignment	200'
Roadway Crown	1/4" /ft.
Angle of all Road Intersections	approximately 90 degrees
Maximum Grade within 75' of Intersections	3%
Minimum Curb Radii at Intersections	25'
Minimum r/o/w Radii at Intersections	10'

15.5.2.2.6. Centerline. The centerline of the roadway shall be the centerline of the right-of-way.

15.5.2.2.7. Dead End Roads. In addition to the design standards above, dead-end roads shall be constructed to provide a cul-de-sac turn-around with the following requirements for radii: Sixty five (65) foot property line radii and fifty (50) foot outer edge of travel way radii. The Board may require the reservation of a twenty (20) foot easement in line with the dead end road to provide continuation of pedestrian traffic or utilities to the next road. The Board may also require the reservation of a fifty (50) foot or greater, easement in line with the dead end road to provide continuation of the road where future subdivision or development is possible.

15.5.2.2.8. Grades, intersections and Sight Distances.

(i) Grades of all roads shall conform in general to the terrain, so that cut and fill are minimized while maintaining the grade standards above.

(ii) All changes in grade shall be connected by vertical curves to provide for the minimum sight distances below.

POSTED SPEED (MPH)	15	25	30	40	50
SIGHT DISTANCE (FT)	150	250	300	400	500

(iii) Where new road intersections or driveway curb-cuts are proposed, sight distances, as measured along the road onto which traffic will be turning, shall be based upon the posted speed limit and conform to the table above: Where necessary, corner lots shall be cleared of all growth and sight obstructions, including ground excavation, to achieve the required visibility.

(iv) Cross (four-cornered) road intersections shall be avoided insofar as possible, except at important traffic intersections. A minimum distance of two hundred (200) feet shall be maintained between center lines of side roads.

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15.5.2.2.9. Curbing Standards. Where installed, curbing shall be granite or bituminous concrete and shall be installed on a thoroughly compacted gravel base of six (6) inches minimum thickness, except bituminous curbing shall be installed on the base course of the pavement. The specified pavement's width above shall be measured between the curbs.

15.5.2.3. Road Construction Standards.

15.5.2.3.1. Minimum Thickness of material after compaction.

ROAD MATERIALS	
AGGREGATE SUB-BASE COURSE Maximum sized stone = 4"	18"
CRUSHED AGGREGATE BASE COURSE	4"
HOT BITUMINOUS PAVEMENT	
Total Thickness	3"
Surface Course	1"
Base Course	2"

15.5.2.3.2. Preparation.

(i) Before any clearing has started on the right of way, the centerline and sidelines of the new road shall be staked or flagged at fifty (50) foot intervals.

(ii) Before grading is started, the entire right-of-way shall be cleared of all stumps, roots, brush, and other objectionable material. All ledge, large boulders, and tree stumps shall be removed from the right-of-way and all the stumps shall be disposed of in an approved stump dump area.

(iv) All organic materials shall be removed to a depth of two (2) feet below the subgrade of the roadway. Rocks and boulders shall also be removed to a depth of two (2) feet below the subgrade of the roadway. On soils which have been identified by the Town's Consulting Engineer as not suitable for roadways, the subsoil shall be removed from the street site to a depth of two feet below the subgrade and replaced with material meeting the specifications for aggregate sub-base below.

(v) Side slopes less than or equal to a slope of three (3) feet horizontal to one (1) foot vertical, and shall be graded, limed, fertilized, and seeded according to the specifications of the erosion and sedimentation control plan. Side Slopes greater than 3 to 1 shall be engineered using best management practices, that are acceptable to the Planning Board.

(vi) All underground utilities shall be installed prior to paving to avoid cuts in the pavement. Building sewers and water service connections shall be installed to the edge of the right-of-way prior to paving.

15.5.2.3.3. Bases and Pavement.

(i) Road bases shall be constructed as follows:

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

SIEVE DESIGNATION	PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVE
1/4 inch	25-70%
No. 40	0-30%
No. 200	0-7%

Aggregate for the sub-base shall contain no particles of rock which will not pass the six (6) inch square mesh sieve. If Geotextile Fabric is proposed, or required it shall be installed under the Sub-base Course.

The Aggregate Base Course shall be screened or crushed gravel of hard durable particles free from vegetative matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a three (3) inch square mesh sieve shall meet the following grading requirements:

SIEVE DESIGNATION	PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVE
1/2 inch	45-70%
1/4 inch	30-55%
No. 40	0-20%
No. 200	0-5%

Aggregate for the base shall contain no particles of rock which will not pass the two (2) inch square mesh sieve.

(ii) Pavement Joints. Where pavement joins an existing pavement, the existing pavement shall be cut along a smooth line and form a neat, even vertical joint.

(iii) Curbs and Gutters. Road curbs and gutters shall be installed as required by the Board. Curbs shall be vertical except when sloped curbs are specifically allowed by the Board.

(iv) Pavements. Minimum standards for the base layer of pavement shall be the M.D.O.T. specifications for plant mix grade B with an aggregate size no more than three quarter (3/4) inch maximum, applied in a two inch (2") minimum compacted thickness.

(v) Minimum standards for the surface layer of pavement shall meet the M.D.O.T. specifications for plant mix grade C with an aggregate size no more than one half (1/2) inch maximum, applied in a one inch (1") minimum compacted thickness.

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

15.5.2.5. Certification of Construction. Upon completion of road construction a written certification signed by a professional engineer registered in the State of Maine, approved by the Planning Board, shall be submitted to the Planning Board at the expense of the applicant, certifying that the proposed way meets or exceeds the design and construction requirements of this Ordinance. "As built" plans may be required by the Planning Board.

15.5.3. Road Names, Signs and Lighting. Roads which join and are in alignment with roads of abutting or neighboring properties shall bear the same name. Names of new roads shall not duplicate, nor bear phonetic resemblance to the names of existing roads within the Town, and shall be subject to the approval of the Board. The developer shall reimburse the Municipality for

the costs of installing road name, traffic safety and control signs. Road lighting shall be installed as approved by the Board.

15.5.4. Driveway Culverts. The minimum size of any driveway culvert shall be fifteen (15) inches in diameter. The minimum and maximum lengths, respectively shall be twenty four (24) and thirty six (36) feet in length.

15.6. STORM DRAINAGE DESIGN AND CONSTRUCTION STANDARDS

Adequate provisions must be made for the collection and disposal of all storm water that runs off proposed streets, parking areas, roofs, and other surfaces, through a storm water drainage system and maintenance plan, which must not have adverse impacts on abutting or downstream properties. The applicant must demonstrate that on- and off-site downstream channel or system capacity is sufficient to carry the flow without adverse effects, including but not limited to flooding and erosion of shoreland areas, or that he/she will be responsible for whatever improvements are needed to provide the required increase in capacity and/or mitigation.

15.6.1. General Provisions. In approving applications submitted pursuant to this Ordinance, the Board shall require the applicant to meet the following storm drainage design and construction standards:

15.6.1.1. The storm drainage system will not adversely affect neighboring properties, downstream water quality, or cause soil erosion. Whenever possible, on-site absorption and/or evaporation of run-off waters shall be utilized to minimize discharges from the site. The design of the stormwater drainage system must provide for the disposal of stormwater without damage or degradation to streets, adjacent properties, downstream properties, soils, vegetation, or water quality. The design of the storm drainage systems must be fully cognizant of upstream runoff which must pass over or through the site to be developed and provide for this movement.

15.6.1.2. Surface water runoff shall be minimized and detained on-site if possible or practicable, stormwater runoff systems must detain or retain water such that the rate of flow from the site after development does not exceed the predevelopment rate. If it is not practicable to detain water on site, downstream improvements to the channel may be required of the developer to prevent flooding caused by his project. The natural state of watercourses, swales, floodway or rights-of-way shall be maintained as nearly as possible. The design basis is a twenty-five (25) year storm. All natural drainage ways must be preserved at their natural gradients and must not be filled or converted to a closed system unless approved as part of the site plan review.

15.6.1.3. The biological and chemical properties of the receiving waters must not be degraded by the stormwater runoff from the development site. The use of oil and grease traps in manholes, the use of on-site vegetated waterways, and vegetated buffer strips along waterways and drainage swales, and the reduction in use of deicing salts and fertilizers may be required, especially where the development stormwater discharges into a gravel aquifer area or other water supply source, or a great pond.

15.6.2. Design Standards.

15.6.2.1. Adequate provision shall be made for disposal of all storm water generated within the development and any drained ground water through a management system of swales, culverts, under drain, and water courses. The storm water management system shall be designed to conduct storm water flows to existing watercourses.

15.6.2.2. All components of the storm water management system shall be designed to meet the criteria of a twenty-five (25) year storm based on rainfall data for the closest reporting station to Clifton, Maine.

15.6.2.3. The minimum pipe size for any storm drainage pipe shall be fifteen (15) inches in diameter. The minimum and maximum lengths, shall be based upon common engineering practices that take into account frost protection and future maintenance. Maximum trench width at the pipe crown shall be the outside diameter of the pipe plus two (2) feet. Pipe shall be bedded in a fine granular material, containing no stones larger than three (3) inches, lumps of clay, or organic matter, reaching a minimum of six (6) inches below the bottom of the pipe extending to six (6) inches above the top of the pipe.

15.6.2.4. Catch basins shall be installed where necessary and located at the curb line.

15.6.2.5. Inlets and outlets shall be stabilized against soil erosion by stone rip-rap or other suitable materials to reduce storm water velocity.

15.6.2.6. The storm water management system shall be designed to accommodate complete watershed drainage, taking into account existing conditions and approved or planned developments not yet built and shall include a surplus design capacity factor of twenty-five (25) percent for potential increases in upstream runoff.

15.6.2.7. Downstream drainage requirements shall be studied to determine the effect of the proposed development. The storm drainage shall not overload existing or future planned storm drainage systems downstream from the development. The developer shall be responsible for financing any improvements to existing drainage systems required to handle the increased storm flows.

15.6.2.8. Where soils require a subsurface drainage system, the drains shall be installed and maintained separately from the storm water drainage system.

15.6.3. Construction Standards.

15.6.3.1. Reinforced Concrete Pipe. Reinforced Concrete Pipe shall meet the requirements of ASTM Designation C-76 (AASHTO M 170). Pipe classes shall be required to meet the soil and traffic loads with a safety factor of 1.2 on the .01 inch crack strength with a Class B bedding. Joints shall be of the rubber gasket type meeting ASTM Designation C 443-70, or of an approved preformed plastic jointing material such as "Ramnek". Perforated Concrete Pipe shall conform to the requirements of AASHTO M 175 for the appropriate diameters.

15.6.3.2. Corrugated Metal Pipe. Corrugated Metal Pipe shall be bituminous coated meeting the requirements of AASHTO Designation M 190 Type C for iron or steel pipe or AASHTO Designation M 196 for aluminum alloy pipe for sectional dimensions and type of bituminous coating. Pipe gauge shall be as required to meet the soil and traffic loads with a deflection of not more than five (5) percent.

15.6.3.3. ABS Pipe. ABS (Acrylonitrile-butadiene-styrene) composite pipe and fittings shall conform to the requirements of AASHTO M 264 and AASHTO M 265. Perforated pipe shall conform to the requirements of AASHTO M 36, Type III.

15.6.3.4. Corrugated Plastic Pipe. Corrugated Plastic Pipe shall conform to the requirements of AASHTO M-252.

15.6.3.5. Manholes. Manholes shall be of precast concrete truncated cone section construction meeting the requirements of ASTM Designation C 478 or precast concrete manhole block construction meeting the requirements of ASTM Designation C 139, radial type. Bases may be cast in place 3000 psi 28 day strength concrete or may be of precast concrete, placed on a compacted foundation of uniform density. Metal frames and traps shall be set in a full mortar bed and tops shall conform to the requirements of AASHTO M 103 for carbon steel castings, AASHTO M 105, Class 30 for gray iron castings or AASHTO M 183 (ASTM A 283, Grade B or better) for structural steel.

15.6.3.6. Catch Basins. Catch Basins shall be of precast concrete truncated cone section construction meeting the requirements of ASTM Designation C 478 or precast concrete manhole block construction meeting the requirements of ASTM Designation C 139, radial type. Castings shall be sized for the particular inlet condition with the gratings perpendicular to the curb line. Bases may be cast in place 3000 psi 28 day strength concrete or may be of precast concrete, placed on a compacted foundation of uniform density. Metal frames and traps shall be set in a full mortar bed with tops which shall conform to the requirements of AASHTO M 183 (ASTM A 283, Grade B or better) for structural steel.

15.6.3.7. Drain Inlet Alignment. Drain inlet alignment shall be straight in both horizontal and vertical alignment unless specific approval of a curvilinear drain is obtained in writing from the Board, after consultation with the Town's consulting Engineer. 61

15.6.3.8. Manhole Placement. Manholes shall be provided at all changes in vertical or horizontal alignment and at all junctions. On straight runs, manholes shall be placed at a maximum of four hundred (400) foot intervals.

15.6.3.9. Catch Basin and Manhole Placement. Upon completion each catch basin or manhole shall be cleaned of all accumulation of silt, debris or foreign matter and shall be kept clean until final acceptance of the road by the Town.

15.7. UTILITIES/SEWAGE DISPOSAL/WASTE DISPOSAL/WATER SUPPLY

15.7.1. UTILITIES

15.7.1.1. Any utility installations remaining above ground shall be located so as to have a harmonious relation to neighboring properties and the site;

15.7.1.2. Underground utilities shall be installed prior to the installation of the final gravel base of the road; and

15.7.1.3. The size, type, and location of street lights and utilities shall be shown on the plan and approved by the Planning Board.

15.7.2. SEWAGE DISPOSAL

Subsurface Sewage Disposal: No permit shall be issued for a project with subsurface sewage disposal unless:

15.7.2.1. There is an area of sufficient size of suitable soils, under the Maine State Plumbing Code, to accommodate the proposed system;

15.7.2.2. An acceptable plan to construct the absorption area is prepared in accordance with the Maine State Plumbing Code; and

15.7.2.3. In lieu of 1) and/or 2) above, the applicant demonstrates that any deficiencies of the soil for purposes of sewage disposal can and will be overcome by a suitable engineering solution.

15.7.3. WASTE DISPOSAL

The proposed development shall provide for adequate disposal of solid wastes and hazardous wastes.

15.7.3.1. All solid waste shall be disposed of at a licensed disposal facility having adequate capacity to accept the project's wastes.

15.7.3.2. All hazardous wastes shall be disposed of at a licensed hazardous waste disposal facility and evidence of a contractual arrangement with the facility shall be submitted.

15.7.3.3. All uses and activities in the Town shall conform to the provisions of the **Clifton Waste and Littering Ordinance**.

15.7.4. WATER SUPPLY

15.7.4.1. The development shall be provided with a system of water supply that provides each use with an adequate supply of water meeting the standards of the State of Maine for drinking water.

15.7.4.2. For major developments, the applicant shall construct ponds and dry hydrants to provide for adequate water storage for fire fighting purposes. An easement shall be granted to the Town granting access to the dry hydrants where necessary. The Board may waive the requirement for fire ponds only upon a finding by the Board that adequate, alternate firefighting provisions exist or will be built as part of the approved plan. When calculating the minimum water supplies needed for firefighting, generally accepted standards, including but not limited to the **1993 edition of National Fire Protection Association 1231 Water Supplies for Suburban and Rural firefighting**, shall be used.