

4. DIMENSIONAL REGULATIONS

4.1 Basic Requirements

4.1.1 Applicability

No building or structure in any district shall be located, constructed, changed, enlarged or permitted and no use of premises in any district shall be permitted which does not conform to the density and dimensional regulations as set forth herein.

4.1.2 Exemptions for Recorded Lots

Nothing contained in Section 4.2 shall prevent the construction or placing of buildings or structures permissible as accessory uses under the provisions of this By-Law, nor shall it prevent the construction or placing of a building or structure upon a lot having less area or frontage, or both, than required in Section 4.2 if, at such time as the minimum area and frontage requirements for the Zone in which such lot is located were established or increased, such lot had less area or frontage, or both than provided by such new or increased requirements; and if such less area or frontage, or both did not result from an attempt to circumvent the intent of the By-Law, and if at the effective date of such new or increased requirements or January 10, 1963, whichever date is later, the owner did not have adjoining land available to increase the area or frontage, or both, of said lot to meet said new or increased requirement, or to make said lot less non-conforming as to frontage or area or both. The minimum area and frontage of any such lot shall be at least 5,000 square feet and 50 feet, respectively.

4.1.3 Reduction of Area, Frontage, and Setback Requirements

No lot shall be reduced in area or frontage if it already has or will be caused to have less area or frontage than required by this section, except by a taking by eminent domain or a conveyance for a public purpose. Such lots reduced in area or frontage by a taking by eminent domain or a conveyance for a public purpose shall be entitled to the protections afforded by statute and in this By-Law to pre-existing nonconforming lots. Further, if an existing structure is rendered nonconforming as to setback (or more non-conforming as to setback) by a taking by eminent domain or conveyance for a public way or access way or by the approval of a subdivision way for a third party, said structure shall be entitled to the protections afforded by statute and in this By-Law to pre-existing nonconforming structures. Notwithstanding the foregoing, the protections afforded by this section shall not apply to vacant lots existing prior to the effective date of this section which are less than 5,000 sq. ft. and/or with less than 50 feet of frontage.

4.1.4 Change of Subdivision Plans

Where the plan of a subdivision has been approved by the Planning Board or by a Board of Survey, or where a plan of the subdivision of land has been recorded in the Registry of Deeds by a

former owner of said land prior to March 26, 1925, and where either a minimum area or frontage for building lots has since been established for the district in which said land lies, or the minimum area or frontage for building lots applicable to said district has since been increased, the Planning Board may, upon the application of the present owner of said land, approve a change in said subdivision plan whereby the area and frontage of the building lots shown thereon may be increased although the area and frontage of said building lots as changed shall not then be as large as the required minimum area of frontage for building lots currently applicable to the zoning district in which said land lies. The approval of such change shall not, however, affect the location or grade of streets as shown on said plan or profile; nor shall it impose additional obligations upon the owner of said land with respect to the development thereof.

4.1.5 Minimum Required Lot Width

Building lots in all zoning districts recorded or endorsed after January 9, 1986 shall be required to have a minimum lot width for a distance that extends from the front line throughout the primary building or structure not less than the applicable minimum frontage for the district in which said lot is located, as specified in Sections 4.2.1, 4.3.1, 4.4.1, and 4.6.1; except, however, in the Single Residence A District such minimum required lot width shall be at least 120 feet. To measure lot width, start at a front corner (where a sideline meets the lot's line of frontage) and, at a right angle to that sideline, measure straight across the lot to the other sideline. This measurement need not be at a right angle from more than one sideline but it must cross the lot to meet the opposite sideline. Then take a series of measurements parallel to that first measured line, through the full depth of the primary building or structure on the lot. If any lot line on the side chosen for the starting point is a convex line, draw a straight line connecting the two far points of the convex line, and measure across the lot from that straight line; and if any lot line on the side chosen for the starting point is a concave line, draw a straight line connecting the two far points of that line and begin there, but measure across the lot from the point where the perpendicular line crosses the concave side lot line. For corner lots, the measurement shall be taken from front corners along both frontage lines.

4.1.6 Height and Setback Limitation Exception

4.1.6.1 Special Permit Uses

In all Districts, the Board of Appeals may by special permit approve an application for an increase in the height limits of this By-Law for light poles that illuminate outdoor recreation facilities, such as, but not limited to, playing fields and tennis courts, that are located on land owned by the Town of Needham and which are operated as a recreational or municipal use. In determining whether to grant a special permit, and in determining what conditions should be attached to the grant of a special permit, the Board of Appeals shall take into account the application's compliance with the lighting standards, and other decision standards, set forth in this Section 4.1.6, and its compliance with the provisions of Section 7.5.2 of this by-law.

4.1.6.2 Definitions

Certified Lighting Professional – A lighting professional that is certified by the National Council on Qualifications for Lighting Professionals (NCQLP) or a State licensed professional engineer, architect or landscape architect having at least 3 years of sports lighting-related experience.

Direct Light – Light emitted directly from the lamp, from the reflector or reflector diffuser, or through the refractor or diffuser lens of a luminaire.

Foot Candle (fc) – Unit of illuminance; One lumen per square foot.

Full Cutoff (FCO) – A luminaire light distribution, specified by the IESNA, where zero candela intensity occurs at an angle of 90 degrees above nadir, and at all greater angles from nadir. Additionally, the candela per 1000 lamp lumens does not numerically exceed 100 (10 percent) at a vertical angle of 80 degrees above nadir. Nadir is the point directly vertically below the luminaire. A FCO luminaire is fully shielded.

Fully Shielded – Constructed in such a manner that no light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected above a horizontal plane passing through the lowest direct-light-emitting part of the luminaire.

Glare – The sensation of visual discomfort or loss in visual performance and visibility produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted.

Indirect Light – Direct Light that has been reflected off the surface of any permanently constructed object other than the source luminaire.

IESNA or IES – Illuminating Engineering Society of North America. A professional association of lighting engineers and lighting manufacturers generally recognized as the definitive source for illumination recommendations in the United States. An IES photometric file is defined by IESNA standards.

Illuminance – The luminous flux incident per unit area, expressed in foot-candle (one lumen per square foot). Horizontal or vertical illuminance is that measured with a photometer cell mounted horizontally or vertically.

Lamp – The light source component of a luminaire that produces the actual light.

Light Trespass – Direct or Indirect Light produced by an artificial light source and which shines outside the boundaries of the lot containing the luminaire.

Luminaire – A complete outdoor lighting unit or fixture including a lamp or lamps, together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply, but not including a pole on which the luminaire may be mounted.

Outdoor Lighting – The night-time illumination of an outside area or object by a luminaire located outdoors.

Shielded – A luminaire employing a protective device to prevent glare. The luminaire shall have a generally downward distribution of light and must have a top shield to minimize upward light.

4.1.6.3 Exterior Lighting Plan

A Lighting Plan shall be submitted with all applications for a special permit. This Lighting Plan shall be certified to be valid and correct by a certified lighting professional and shall include the following information:

- a) The location, height, shielding type of all existing and proposed outdoor luminaries, and the wattage rating and type of all lamps in each luminaire. Any existing off-site luminaries used to illuminate the lot shall be included in the Lighting Plan.
- b) The manufacturer's specification data and technical drawings, including the luminaire lamp wattage; photometric data showing that the luminaire is fully shielded, including an electronic copy of the IES photometric file, or a reference to the file location on the manufacturer's web site. Manufacturer's photometric specification that the luminaire is rated IESNA Full Cutoff (FCO) is sufficient to show that it is fully shielded.
- c) The data of previous sections a) and b) shall be organized into a table, with one line per luminaire.
- d) A light illumination test, conducted by a certified lighting professional, to demonstrate the pre-development condition. The lighting levels shall be calculated with a photometer positioned at the boundaries of the lot on which the light poles are proposed, at such locations as are needed to adequately determine the level of existing light trespass onto adjacent streets and abutting lots.
- e) A photometric plan of the proposed outdoor luminaries, showing the intensity of illumination expressed in foot-candles at ground level within the interior of the property and at the boundaries of the lot on which the light poles are proposed, at such locations as are needed to adequately determine the level of light trespass onto adjacent streets and abutting lots. The plan shall also include the following illumination information in a table format: Minimum; Maximum; Average; Average to Minimum and Maximum to Minimum.

f) Calculations quantifying the light trespass of the proposed outdoor luminaries, at the property boundaries of each abutting lot and street.

4.1.6.4 Lighting and Light Pole Standards

The following lighting and light pole standards shall apply to illuminated outdoor recreation facilities:

a) The illumination of outdoor recreation facilities shall be by either shielded or fully-shielded luminaries, aimed toward the playing field or court, and shielded in directions away from the playing surface so as to minimize glare, lighting and light trespass onto adjacent areas. Light poles for recreational facilities may be as high as necessary to adequately illuminate the facility but shall be limited to a maximum height of 90 feet and a minimum front, rear or side yard setback of five (5) feet.

b) Additional shields that are installed to control light trespass and glare as required herein shall be designed so that the parts of the shields that are exposed to the direct light of the luminaire and visible from streets, or abutting lots that are in residential or conservation use, shall have a flat-back, low reflectivity finish.

c) Luminaries installed on one lot to illuminate another lot, or installed in a street, railroad, utility, or other right-of-way to illuminate an adjacent lot, are prohibited.

d) Strobe and flashing lights and laser illumination are prohibited.

e) Placement of pennants, streamers, banners, signs, advertising flags or similar items on light poles is prohibited.

f) Placement of speakers, sound systems or similar devices on light poles is prohibited.

g) Hours and method of operation shall be set by the Board of Appeals, as it deems necessary.

h) The luminaries shall be located and shielded so as to prevent undue light trespass onto adjacent streets or abutting lots. In determining undue light trespass the Board of Appeals shall consider the following factors:

- (1) the land use of adjacent properties, and the location of residences and businesses thereon;
- (2) the character of the abutting neighborhood (urban, suburban, rural);
- (3) other existing light sources in the immediate vicinity of the lot;
- (4) distance from the proposed light sources to abutting properties;
- (5) the topography of the site and of adjacent property;
- (6) existing and proposed landscaping, vegetation, and natural and artificial screening; and

(7) existing and proposed direct and indirect light levels on the site and in the immediate vicinity of the site.

i) After the installation of the lights, a post-development light illumination test shall be conducted at the property lines and shall demonstrate that there has been no undue light trespass at the property lines, before the lights can be operated.

j) Submission and subsequent approval of a plan does not relieve the applicant of responsibility to demonstrate conformity to all sections of the bylaw, both in the individual luminaries as built, and for the entire lot as built. The certified lighting professional shall submit an as-built plan that correctly reflects the as-built installation, and shall certify that the as-built installation conforms to the requirements of this By-Law.

4.1.6.5 Special Permit Approval Criteria

In reviewing a special permit application under this section 4.1.6, the Board of Appeals shall make findings regarding the following factors:

a) the effects of extended operational hours, such as noise, traffic, light trespass and celebratory behavior;

b) the benefits that the additional hours of operation will provide;

c) the degree to which the proposal minimizes adverse visual impacts;

d) the extent to which the applicant has mitigated potential adverse effects;

e) compliance with the lighting and light pole standards of sections 4.1.6.4, including a determination as to whether the proposal would result in undue light trespass; and

f) compliance with the provisions of section 7.5.2.

After making findings on the factors set forth above, the Board shall determine whether the benefits, if any, of the proposed project outweigh its adverse impacts, if any. If the Board determines that the proposal would provide a net benefit to the Town, the Board may grant a special permit with or without specific conditions.

4.2 Dimensional Regulations for Rural Residence-Conservation, Single Residence A, Single Residence B, General Residence, and Institutional Districts.

4.2.1 Table of Regulations

No building or structure shall be constructed, altered, or relocated on any lot except in conformance with these regulations:

District	Min. Lot Area (sf)	Min. Frontage (ft)	Front Setback (ft)	Side Setback (ft)	Rear Setback (ft)	Max. Floor Area Ratio (F.A.R.)	Max. % Lot Coverage	Max. Stories	Max. Height (ft)
Rural Residence Conservation	43,560	150	50	25	25	NR (e)	15%	2-1/2 (l)	35
Single Residence A	43,560	150	30 (a)	25 (g)	15 (d)(g)	NR (e)	NR (f)	2-1/2 (l)	35
Single Residence B	10,000	80	20 (b)	12.5 (c)(g)(i)	10 (d)(g)(j)	NR (e)	NR (f)(k)	2-1/2 (l)	35
General Residence	10,000	80	20 (b)	12.5 (c)(g)(i)	10 (d)(g)(j)	NR (e)	NR (f)(k)	2-1/2 (l)	35
Institutional	43,560	150	30	25 (g)	15 (g)	NR	NR	2-1/2 (h)	35 (h)

As used in the Table of Regulations, the symbol “NR” means no requirements.

(a) Buildings and structures on any lot in a Single Residence A District devoted to a public, semi-public or institutional use, as listed in Section 3.2 Schedule of Use Regulations, shall have a minimum front yard setback of thirty-five (35) feet. The setback area shall be kept open and landscaped with grass or other plant materials; such area shall be unpaved except for walks and driveways. The Board of Appeals may grant a special permit reducing the minimum front yard setback required by this footnote to no less than thirty (30) feet. (See Section 4.2.7)

(b) Buildings and structures on any lot in a Single Residence B or General Residence District devoted to a public, semi-public or institutional use, as listed in Section 3.2 Schedule of Use Regulations, shall have a minimum front yard setback of twenty-five (25) feet. The setback

area shall be kept open and landscaped with grass or other plant materials; such area shall be unpaved except for walks and driveways. The Board of Appeals may grant a special permit reducing the minimum front yard setback required by this footnote to no less than twenty (20) feet. (See Section 4.2.7)

- (c) Buildings and structures on any lot in a Single Residence B or General Residence District devoted to a public, semi-public or institutional use, as listed in Section 3.2. Schedule of Use Regulations, shall have a minimum side yard setback of twenty-five (25) feet. The Board of Appeals may grant a special permit reducing the minimum side yard setback required by this footnote to no less than twenty (20) feet. (See Section 4.2.7)*
- (d) Buildings and structures on any lot in a Single Residence A, Single Residence B or General Residence District devoted to a public, semi-public or institutional use, as listed in Section 3.2. Schedule of Use Regulations, shall have a minimum rear yard setback of twenty-five (25) feet. The Board of Appeals may grant a special permit reducing the minimum rear yard setback required by this footnote in a Single Residence A District to no less than fifteen (15) feet and the minimum rear yard setback required by this footnote in Single Residence B and General Residence Districts to no less than ten (10) feet. (See Section 4.2.7)*
- (e) Buildings and structures on any lot in a Rural Residence-Conservation, Single Residence A, Single Residence B or General Residence District devoted to a public, semi-public or institutional use, as listed in Section 3.2. Schedule of Use Regulations, shall have a maximum Floor Area Ratio of 0.30.*
- (f) Buildings and structures on any lot in a Single Residence A, Single Residence B or General Residence District devoted to a public, semi-public or institutional use, as listed in Section 3.2. Schedule of Use Regulations, shall not cover more than fifteen (15) percent of the lot area.*
- (g) Excepting buildings and structures on any lot in a Single Residence A, Single Residence B or General Residence District devoted to a public, semi-public or institutional use as listed in Section 3.2. Schedule of Use Regulations, and buildings and structures on any lot in a Single Residence B or General Residence District created through "New Construction", buildings or structures on lots created by deed or plan, endorsed or recorded before January 9, 1986, shall have a minimum side or rear line setback of 15 feet in the Single Residence A and Institutional Districts and 10 feet in the Single Residence B and General Residence Districts, respectively. Notwithstanding the foregoing, in the Single Residence A District, a change in the area, frontage or configuration of an existing improved lot created by deed or plan, endorsed or recorded before January 9, 1986, which includes a conforming structure or building shall not change the minimum side or rear line setback requirement of 15 feet provided that (i) no other dimensional violations of the By-Law are created as a result of such change in the area, frontage or configuration of such existing improved lot, (ii) such lot otherwise continues to be a conforming lot in terms of minimum lot area, frontage and build factor following such change in the area, frontage or configuration of such existing improved lot, and (iii) such change in the area, frontage or configuration of such existing improved lot does not result in the creation of any additional building lot. The deed conveying land by reference to a plan showing such change in the area, frontage or*

configuration of such existing improved lot shall contain a restriction affecting the land of both the grantor and the grantee prohibiting the creation of an additional building lot as a result of such conveyance. In a Single Residence B or a General Residence District, any building or structure that meets current zoning requirements but is prevented from commencing "New Construction" because the "New Construction" will be within the 12.5-foot sideline setback, but not within the 10-foot sideline setback, may commence the "New Construction" upon receipt of a special permit from the Board of Appeals under Section 7.5.2 of the Zoning By-Law, provided: (1) the "New Construction" meets all other requirements of the Zoning By-Law; (2) the Board determines that such change, extension, alteration, or enlargement would not be substantially more detrimental to the neighborhood than the existing structure; and (3) no more than 50% of the exterior frame or exterior envelope of the existing structure is demolished as a function of the proposed construction activity.*

- (h) Buildings and structures located in an Institutional District devoted to educational uses and uses accessory thereto and located at least 800 feet from any public way in the Town of Needham in existence as of September 1, 1998, shall have a maximum height in accordance with the following limitation:

<u>Roof Type</u> <u>(feet)</u>	<u>Average Height (feet)</u>	<u>Maximum Height at any single point</u>
Flat Roof	63*	68*
Sloping Roof Top of Roof	85	90
Wall, cornice or eave line	63*	68*
Gabled endwalls	63*	68*

There shall be no limit on the number of stories of such buildings. The foregoing limitations are not intended to supercede any of the requirements of the Massachusetts State Building Code.

*The Board of Appeals may grant a Special Permit to allow the average height of a structure to increase as much as an additional seven (7) feet above the average height listed.

- (i) Buildings and structures created on any lot through "New Construction" and buildings and structures on lots created by deed or plan, endorsed or recorded after January 9, 1986, shall have a minimum sideline setback requirement of 12.5 feet in the Single Residence B and General Residence Districts. A maximum of 28 linear feet of structure, as measured parallel to the side lot line at the first-floor plane, may be constructed to the minimum side setback line. For the remaining length of structure, as measured parallel to the side lot line

*at the first-floor plane, the minimum sideline setback distance shall be increased to 14.5 feet. This requirement shall not apply to buildings and structures on any lot in a Single Residence B or General Residence District devoted to a public, semi-public or institutional use as listed in Section 3.2 Schedule of Use Regulations which uses are governed by footnote (c) herein. Notwithstanding anything to the contrary contained herein, the minimum sideline setback requirement for all buildings and structures on any lot in a Single Residence B District or General Residence District which contains less than 10,000 square feet or has less than 80 feet of frontage shall be 10.0 feet.**

- (j) Buildings and structures created on any lot through “New Construction” shall have a minimum rear line setback requirement of 20 feet in the Single Residence B and General Residence Districts. This requirement shall not apply to buildings and structures on any lot in a Single Residence B or General Residence District devoted to a public, semi-public or institutional use as listed in Section 3.2 Schedule of Use Regulations which uses are governed by footnote (d) herein.**

- (k) Except where lesser lot coverage is required in another provision of the By-Law, in the Single Residence B District, building and structures created on any lot through “New Construction” shall not result in lot coverage exceeding the following specified maximum percentages of the area of such lot: For lots containing less than 5,500 square feet – 30%; For lots containing at least 5,500 square feet but less than 6,000 square feet – 29%; For lots containing at least 6,000 square feet but less than 6,500 square feet – 28%; For lots containing at least 6,500 square feet but less than 7,000 square feet – 27%; For lots containing at least 7,000 square feet but less than 7,500 square feet – 26%; and For lots containing at least 7,500 square feet – 25%. In the General Residence District, building and structures created on any lot through “New Construction” shall not result in lot coverage exceeding the following specified maximum percentages of the area of such lot: For lots containing less than 7,000 square feet – 35%; For lots containing at least 7,000 square feet but less than 7,500 square feet – 34%; For lots containing at least 7,500 square feet but less than 8,000 square feet – 33%; For lots containing at least 8,000 square feet but less than 8,500 square feet – 32%; For lots containing at least 8,500 square feet but less than 9,000 square feet – 31%; For lots containing at least 9,000 square feet – 30%. For purposes of this section lot coverage shall be defined as that portion of a lot that is covered or occupied by buildings or structures, but excluding unenclosed porches and decks, and pools. This requirement shall not apply to buildings and structures on any lot in a Single Residence B or General Residence District devoted to a public, semi-public or institutional use as listed in Section 3.2 Schedule of Use Regulations which uses are governed by footnote (f) herein.**

**As used in footnotes (g), (i), (j), and (k) of the Table of Regulations the terms “New Construction” shall be defined as any one or any combination of the following: (a) Any construction of a structure on a vacant lot; (b) Any construction which involves demolition of more than 50% (fifty percent) of the exterior frame or exterior envelope of an existing structure; (c) Any addition to an existing one-story structure which results in a gross floor area greater than 240% (two hundred forty percent) of the gross floor area of the existing structure; (d) Any addition to an existing one and one-half story structure which results in a gross floor area greater than 220% (two hundred twenty percent) of the gross floor area of the existing structure; and (e) Any addition to an existing two-story or two and*

one-half story structure which results in a gross floor area greater than 175% (one hundred seventy five percent) of the gross floor area of the existing structure. Gross floor area for purposes of this definition is as defined in Section 1.3 of the Zoning By-Law under the heading “Floor Area, Gross”.

For purposes of calculating the percentages of any construction, addition or demolition under this definition, all construction shall be taken into account which commenced, or could have commenced, pursuant to an issued permit within two (2) years prior to the date of any request for any permit to construct, re-construct, alter, add, extend or otherwise structurally change any structure.

(1) See the definition of Half-story, under Story in the Definitions section.

In order to limit the degree to which a lot may have an irregular shape, the following **build factor formula** shall be used:

$$\frac{\text{Lot Perimeter Squared}}{\text{Actual Lot Area}} \text{ Divided By } \frac{\text{Actual Lot Area}}{\text{Required Lot Area}}$$

Lots recorded or endorsed after August 22, 1985 shall be subject to a maximum Build Factor of 20 in Single Residence B and General Residence Districts and 30 in Single Residence A and Institutional Districts. Lots recorded or endorsed prior to August 22, 1985 may not be modified such that the Build Factor of the modified lot exceeds 20 in SRB and General Residence Districts or 30 in SRA and Institutional Districts. Lots recorded or endorsed after February 16, 1995 shall be subject to a maximum Build Factor of 30 in a Rural Residence Conservation District. Lots recorded or endorsed prior to February 16, 1995 may not be modified such that the Build Factor of the modified lot exceeds 30 in a Rural Residence Conservation District.

- (a) No portion of a lot which is covered by a water body shall be counted in calculating the area of a lot for purposes of determining the respective minimum lot areas as listed in the table above. Not more than a combined total of thirty (30) percent of: (a) land located in a Flood Plain District; (b) land area subject to the Wetlands Protection Act and the Inlands Wetlands Act, M.G.L., Ch. 131, S. 40 and 40A (but not including any area defined as a buffer area under said statutes); and (c) land subject to federal flood storage restrictions included within the Charles River Valley Storage Project shall be counted in calculating the area of a lot for purposes of determining the respective minimum lot areas in Single Residence A, Single Residence B, General Residence and Institutional Districts. The provisions of the second sentence of this paragraph (a) shall apply in Single Residence A, Single Residence B and General Residence Districts to any lot created after May 8, 1989.

Not more than a combined total of ten (10) percent of: (a) land located in a Flood Plain District; (b) land areas subject to the Wetlands Protection Act and the Inland Wetlands Act, M.G.L., Ch. 131, S. 40 and 40A (but not including any area defined as a buffer area under said statutes); and (c) land subject to federal flood storage restrictions included within the

Charles River Valley Storage Project shall be counted in calculating the area of a lot for purposes of determining the minimum lot area in a Rural Residence-Conservation District.

- (b) No building or structure, or addition to any building or structure, but not including accessory buildings or structures, shall be erected or placed on a lot which will result in the covering by buildings or structures of more than fifteen percent (15%) of the lot area in a Rural Residence-Conservation District.
- (c) In a Rural Residence-Conservation District, the first thirty-five (35) feet of the required minimum front setback of fifty (50) feet, as measured from Chestnut Street and from the designated Scenic Roads of South Street and Charles River Street, shall remain as a natural vegetative buffer not to be cut or cleared except for normal maintenance and vehicular access, including private driveways and subdivision roadways.

4.2.2 Height Limitation Exceptions

The maximum height regulation in Section 4.2.1 shall not apply to schools and municipal buildings which may contain three (3) stories or may be as high as forty (40) feet. Notwithstanding the foregoing sentence, a municipal building or structure located on a lot in excess of twenty (20) acres created by deed or plan, endorsed or recorded before September 1, 2012, may be as high as fifty (50) feet, provided the building or structure contains no more than one story, is used primarily for storage purposes and is located at least two hundred (200) feet from all property lines. Any municipal building which ceases to be a municipal building, because of a change of use or ownership, may continue to be used, maintained and reconstructed so as to contain up to the number of stories and the height which existed at the time of the change to non-municipal use or ownership. Notwithstanding the above, nothing contained herein shall in anyway limit the rights conferred under footnote (h) of Section 4.2.1 Table of Regulations.

In the case of schools or other buildings devoted to educational purposes and located in an Institutional District, including dormitories and accessory buildings, projections above a roof for housing elevator machinery, chimneys, ventilators, and mechanical flues or exhausts will not be subject to the heights limitations in Section 4.2.1, footnote (h) or this Section 4.2.2. Such projections shall not occupy an aggregate area of the roof exceeding thirty-three percent (33%) of the total ground coverage of the building and no housing for elevator machinery or mechanical equipment (other than chimneys, ventilators and mechanical flues or exhausts), or the equipment itself, shall extend more than fifteen (15) feet above the main roof elevation. At no point shall any such projection exceed 90 feet above grade. The Board of Appeals shall have the authority to grant a Special Permit to permit a height of twenty-five (25) feet above the main elevation over an area of the roof not exceeding twenty percent (20%) of the total ground coverage of the building, to a maximum height at any point of ninety (90) feet above grade. The remaining thirteen percent (13%) of the area of the roof where such projections are allowed shall extend no more than fifteen feet above the main roof elevation.

The Board of Appeals may grant a special permit authorizing the construction of radio and television antennae and antennae towers provided they are accessory to the principal permitted use and do not exceed fifty-five (55) feet in height. Neither the provisions of the previous sentence nor

the maximum height regulations contained in Section 4.2.1 shall apply to radio and television antennae and antennae towers that are accessory to a lawful residential use and fifty-five (55) feet or less in height; the Board of Appeals may grant a special permit authorizing construction of radio and television antennae and antennae towers higher than fifty-five (55) feet, provided they are accessory to a lawful residential use.

Towers, steeples, spires or domes of religious or government buildings or educational buildings located in an Institutional District are not limited by the maximum height regulations contained in this Section or in Section 4.2.1.

4.2.3 Minimum Side and Rear Line Setbacks: Accessory Structures

No accessory building or structure, excepting fences, shall be constructed, altered or relocated so that any part thereof shall be less than ten (10) feet from any other building or structure or less than five (5) feet from the side or rear lines of the lot on which such building or structure is located. Notwithstanding the foregoing, an accessory pergola need not comply with the requirements of the preceding sentence but said pergola must comply with all dimensional setback requirements from abutting properties and from streets and ways, and said pergola shall not be constructed or placed in a position where it would prevent the use of a designated fire lane or reduce access to any building. For purposes of this paragraph, “pergola” means an open frame structure consisting of colonnades or posts with a latticework roof designed to support climbing plants, either standing alone or attached to another building or structure. Notwithstanding the foregoing, an accessory building or structure associated with a pool use which is less than eleven (11) feet in height and has less than one-hundred (100) square feet of ground coverage need not comply with the foregoing ten (10) foot distance from any other building or structure requirement as said requirement pertains to the placement of the accessory building or structure from the edge of the pool, provided that such accessory building or structure is placed no less than eight (8) feet from the edge of the pool.

4.2.4 Flexible Development Consistent with the Subdivision Control Law

- (a) **General** -- The intent of Section 4.2.4 is to facilitate sensitive use of Town resources through allowing flexibility in meeting the basic objectives of the intensity of use requirements of Sections 4.2.1, 4.2.2, and 4.2.3. These provisions shall apply in all Single Residence, General Residence, Rural Residence Conservation, and Institutional Districts.
- (b) **Dimensional Requirements** -- Notwithstanding the provisions of Section 4.2.1, the Planning Board may by special permit and in accordance with the Subdivision Control Law authorize the division of a parcel into lots to be governed by the following alternative frontage and lot area regulations rather than those otherwise applicable, provided that the parcel being divided has an area of at least four (4) times the minimum lot area requirement in that district.

(1) Number of Lots. The number of building lots allowed on any parcel shall be the number of lots into which the parcel could be divided and built upon under the normally applicable dimensional and waste disposal regulations. That number may, at the owner's option, be determined prior to application by the Building Inspector following consultation with the Planning Board, or by an alternative "conventional" plan certified to comply with normal applicable regulations by both a Registered Land Surveyor and a Professional Engineer. In addition, any number of non-building lots reserved for open space or recreation may be created.

(2) Lot Frontage. Except on existing streets, the minimum frontage for any building lot shall be 2/3 the normally applicable minimum lot frontage. If the building lot width at the building line exceeds 2/3 of the normally applicable minimum lot frontage, the frontage may be further reduced to 40 feet. The frontage for any building lots having frontage only on an existing street shall be not less than the normal frontage requirement.

(3) Lot Area. The area of any individual building lot created shall be at least 70% of the normally applicable minimum lot area requirement.

(4) Setback. A setback shall be provided along all boundaries of the development except along streets where the front setback requirements of Section 4.2.1 shall apply. Within the setback, no structure shall be erected and vision obscuring vegetation shall be preserved or planted. The depth of the setback when 4.2.1 does not apply shall be 20 feet.

(c) **Special Permit Consideration.** A special permit for flexible development shall be granted only if the Planning Board determines the following:

(1) Such alternative development better serves By-Law purposes than would development under otherwise applicable requirements.

(2) Traffic circulation and safety would be improved through a reduction in length of streets or creation of fewer or better located or designed driveways and street egresses from the development onto existing streets.

(3) Visual intrusion would be reduced by preserving some visual buffering between proposed dwellings and previously existing streets.

(4) At least one of the following three amenities will be provided:

-- protecting natural features by reducing the volume of cut and fill for roads and construction sites or the area of vegetation displaced or disturbed, or the area of environmentally sensitive lands disturbed by construction, or

-- maintaining water quality within Aquifer Protection Districts by reducing the number of on-site disposal systems or the amount of impermeable surfaces within the development, or

-- serving recreation and conservation needs by reserving common land in a condition appropriate to meet those needs.

- (d) **Documentation.** All lots created under the provisions of Section 4.2.4 Flexible Development shall be shown on a recorded plan, indicating that Section 4.2.4 applies, and that no additional building lots are to be created through future land division of such lots. A restriction enforceable by the Town shall be recorded at the Registry of Deeds ensuring both the Town and the developer that no additional building lots shall be created and that areas designated for open space or recreational use are to be retained in that use.
- (e) **Design Review.** At the time of filing an application for Flexible Development, the applicant shall also file an application and materials for design review in accordance with the procedures described in Subsection 7.7.3 of Section 7.7 Design Review.

4.2.5 Planned Residential Development (PRD)

4.2.5.1 Purpose

To provide an alternative at density levels established by this By-Law to conventional development patterns which foster innovative site planning based on the natural characteristics of the land; to encourage the preservation of significant open space for conservation and recreation; to facilitate the economic and efficient provision of public utilities and services; to promote aesthetic and other amenities; and to insure development which is harmonious and compatible to the surrounding neighborhoods.

4.2.5.2 Standards

- (a) **Minimum Tract Size** – Planned Residential Development (PRD) shall be permitted on a tract of land in the Rural Residence-Conservation, Single Residence A and Single Residence B Districts having an area not less than 10 times the minimum lot area of the zoning district within which it is located and shall have frontage of at least 50 feet on a way.
- (b) **Number of Dwelling Units** – The number of dwelling units shall be determined by one of the two following methods:
 - (1) The Net Usable Land Area within the tract divided by the minimum lot area requirement for the zoning district in which the tract is located. Net Usable Land Area shall equal 85% of the gross tract area minus 100% of all water bodies minus 70% of land located in a Flood Plain District minus 70% of the land subject to M.G.L. Ch. 131, S.40 and 40A and to federal flood storage restrictions included within the Charles River Valley Storage project.
 - (2) Submission of a “conventional” subdivision plan certified to comply with normal applicable regulations by both a Registered Land Surveyor and a Professional Engineer.

In this case the number of dwelling units shall equal the number of legal building lots created.

- (c) **Open Space** – No less than 40% of the PRD tract shall be designated as open space and shall not be covered with buildings, roads, driveways, parking areas or service areas, yards, exclusive use areas, patios, and gardens for the residents. Open space shall be available and reasonably accessible to each dwelling unit. No more than 50% of the open space shall be wetland or other land subject to seasonal or periodic flooding unless a greater percentage is specifically authorized by the Planning Board. Land designated as open space shall have a shape, dimension, character, and location suitable to assure its use for park, recreation, conservation, or agricultural purposes by at least all the residents of the PRD.

Provisions shall be made for the open space to be owned:

- (1) In common by the owners of all units in the PRD; or
- (2) by a trust or association of the owners of all units in the PRD; or
- (3) by the Town; or
- (4) otherwise as may be authorized by the Planning Board.

In all cases a perpetual restriction running to or enforceable by the Town shall be recorded in respect to such open space land. Such restriction shall provide that the open space shall be retained in perpetuity for one or more of the following uses: conservation, agriculture, recreation or park. Such restrictions shall be in a form or substance approved by the Planning Board.

- (d) **Permitted Uses** – Single-family detached and attached structures without regard to form of ownership provided no more than 50% of such structures shall be attached and accessory uses incidental to the principal uses.
- (e) **Structure Location** – the location, size, and shape of any structures to be constructed shall be appropriate to the terrain in which they are located and shall not be detrimental to the neighborhood and shall not adversely affect the character of the neighborhood. Structures with attached dwelling units shall contain no more than four units.
- (f) **Height** – The maximum permitted height of any structure in a PRD shall be 35 feet or 2-1/2 stories.
- (g) **Area, Frontage and Setback Requirements** – There shall be a minimum lot area in the case of a subdivision or exclusive use area (an area located adjacent to a dwelling unit and reserved for its exclusive use) in all other cases of 10,000 square feet in the RRC and SRA Districts and 5,000 square feet in the SRB District. Each lot or exclusive use area shall have frontage of at least 50 feet on a paved way or driveway. No structure shall be within 30 feet of another structure other than in the case of attached dwelling

units. No building shall be erected within 30 feet of a way on which the PRD tract has frontage or 20 feet from the boundary line of the PRD tract.

- (h) **Parking** – There shall be an adequate arrangement and number of parking spaces in relation to the dwelling units constructed. No more than six (6) parking spaces shall be grouped together.
- (i) **Drainage and Sewage Disposal** – The PRD shall have adequate methods of sewage disposal and drainage. Said methods shall be subject to approval by the Public Works Department and/or the Board of Health.
- (j) **Ways, Interior Drives, and Utilities** – The construction of all ways, interior drives and utilities shall be in accordance with the standards specified in the Subdivision Regulations and Procedural Rules of the Planning Board and subject to the recommendations of the Public Works Department. In the event the applicant chooses not to subdivide the tract under the Subdivision Control Act, the Planning Board shall require nevertheless sufficient security to insure compliance with the installation of Ways, Interior Drives, and Utilities. Upon the written request of the applicant, the Planning Board may waive or modify the requirements of the Subdivision Rules and Regulations where it is demonstrated that such waiver or modification is consistent with the purpose of this section.
- (k) **Circulation** – The PRD shall provide for the convenience and safety of vehicular and pedestrian movement on the site and for adequate location of driveways in relation to street traffic. Said circulation shall be reviewed by the Fire Department for access by safety vehicles.
- (l) **Prohibition of Future Development** – No tract, lot, or exclusive use area for which a special permit is granted under this section shall be further subdivided and such notation shall be shown on the plan.

4.2.5.3 Procedure

- (a) **Pre-application Review** – To promote better communication and to avoid misunderstanding, the applicant is encouraged, prior to the preparation of a formal application, to meet with the Planning Board and Planning Director for general discussion relative to the site, proposed PRD plan and other issues relative to the proposed project.
- (b) **Application** – The applicant shall submit a completed application form and 7 copies; and a project narrative which shall describe the development concept including in tabular form the number of units, type, size (number of bedrooms, floor area), ground coverage, parking spaces and area, and total ground coverage. Additionally, accompanying the application shall be a filing fee and a set of original development plans and ten (10) copies consisting of:

- (1) Site plans – meeting, to the extent possible, the requirements set forth for a Definitive Plan in the Subdivision Regulations and Procedural Rules of the Planning Board;
- (2) Elevations;
- (3) Typical floor plan;
- (4) Detailed plans of all entrances to the PRD tract;
- (5) Detailed plans for disposal of sanitary sewage;
- (6) Landscape plan;
- (7) Details of landscape treatment at boundaries of the PRD tract and banks or waterways;
- (8) Proposed deed restrictions; and
- (9) Additional information as required by the Planning Board.

At the same time application materials shall be submitted to the Design Review Board, along with an application for design review, in accordance with the procedures described in Subsection 7.7.3 of Section 7.7, Design Review.

- (c) **Referral** – Upon receipt of an application, the Planning Board shall transmit a set of application materials to the Department of Public Works, Town Engineer, Fire Department, Board of Health (if on-site sewage disposal is proposed) and to any other Town agency as deemed appropriate. Within thirty-five (35) days of receipt of said application materials, each of the Town agencies named above shall review and recommend in writing to the Planning Board regarding the proposed PRD; failure of any such town agency to submit a written report with recommendation within said thirty-five (35) day period shall be deemed lack of opposition thereto.

A preliminary design review report from the Design Review Board, as described in Section 7.7, shall satisfy the above referral requirement, if submitted to the Planning Board within the 35-day period. In addition, the Design Review Board shall also submit a final design review report within seventy-five (75) days of the date of its having received an application for design review related to a Planned Residential Development.

- (d) **Planning Board Review** – a special permit shall be issued by the Planning Board acting as the Special Permit Granting Authority under this Section only if the Planning Board finds that the PRD is in harmony with the purpose of this section and the Planning Board finds the PRD to be sufficiently advantageous to the town and to the residential district in which it is located. In issuing a special permit, the Planning Board may impose such conditions and safeguards as public safety, welfare and convenience may require. Other than the case of a

subdivision, copies of all recorded instruments shall be filed with the Planning Board prior to the issuance of a building permit.

4.2.6 Residential Compound

(a) **Purpose** – To provide limited residential development within large tracts of land in a manner which minimizes Town maintenance, responsibility and cost, and simultaneously preserves the existing character of the Town.

(b) **Standards** – A group of not more than five single-family dwellings sharing common frontage and private access road may be permitted by Special Permit by the Planning Board in all single-family residential districts subject to the following provisions:

(1) **Tract Frontage** – A Residential Compound may be permitted on a single tract of land in one ownership, having a minimum frontage on a way of 150 feet in the RRC and SRA Districts and 80 feet in the SRB District.

(2) **Density** – A Residential Compound shall contain at least two acres per dwelling unit in the RRC and SRA Districts and 20,000 square feet per dwelling unit in the SRB District. Land which, at the time of submission of an application under this section, is subject to a perpetual restriction of the type described in M.G.L. Ch. 184, S.31 or any restriction similar thereto, shall not be included in the minimum tract size.

(3) **Dimensional Requirements** – No structure shall be closer than 30 feet from any other structure or way and 20 feet from any tract boundary line. No building lot within the Residential Compound shall be reduced in size below the minimum lot area required for the district in which it is located.

(4) **Access** – Each building lot in the Residential Compound shall have adequate and legally enforceable rights of access to a way via a private street or driveway.

(5) **Open Space** – Any land within the Residential Compound, not designated as a building lot, private road or driveway shall be designated as permanent open space. Such land shall have a shape, dimension, character and location suitable for conservation, outdoor recreational facilities of a non-commercial nature, agricultural, preservation of scenic or historic structures, and structures accessory to any of the above uses (including swimming pools, tennis courts, stables, greenhouses). Provisions shall be made for the open space to be owned:

- i. in common by owners of all units in the Residential Compound; or
- ii. by a trust or association of the owners of all units in the Residential Compound; or
- iii. by the Town; or

- iv. by the Needham Conservation Commission; or
- v. otherwise as may be authorized by the Planning Board.

In all cases a perpetual restriction running to or enforceable by the Town shall be recorded in respect to such open land. Such restriction shall provide that the Open Space shall be retained in perpetuity for one or more of the following uses: conservation, agriculture, recreation, or park. Such restriction shall be in a form or substance approved by the Planning Board.

- (c) **Limitation on Subdivision** – No Residential Compound for which a special permit has been issued under this Section may be subdivided or further developed and a notation to this effect shall be shown on the plan.
- (d) **Other Restrictions** – The approved plan of the Residential Compound shall contain statements indicating the following: that the land lies within an approved Residential Compound; that development of the land is permitted only in accordance with the land uses indicated thereon; that the town will not be requested to accept or maintain the private access, drainage, open space or any other improvements within the Compound. Further, all deed restrictions with respect to ownership, use and maintenance of permanent open space shall be referenced on, and recorded with, the plan.
- (e) **Procedure for Approval** – The applicant shall submit to the Planning Board a completed application form, a filing fee, and an original and 10 copies of development plans showing the following:
 - (1) Site Plans – meeting to the extent applicable the requirements set forth in a Definitive Plan in the Subdivision Regulations and Procedural Rules of the Planning Board and including proposed locations of all structures.
 - (2) Detailed plans of all entrances from the public street;
 - (3) Detailed plans of disposal of sanitary sewage;
 - (4) Landscape plan;
 - (5) Proposed deed restrictions;
 - (6) Additional information as required by the Planning Board.
- (f) **Referral** – Upon receipt of an application, the Planning Board shall transmit a set of application materials to the Department of Public Works, Town Engineer, Fire Department, Board of Health (if on-site sewage disposal is proposed) and to any other Town agency as deemed appropriate. Within thirty-five (35) days of receipt of said application materials, each of the Town agencies named above shall review and recommend in writing to the Planning Board regarding the proposed Residential Compound; failure of any such agency

to submit a written report with recommendations within said thirty-five (35) day period shall be deemed lack of opposition thereto.

- (g) **Planning Board Review** – A special permit shall be issued by the Planning Board acting as the Special Permit Granting Authority under this section only if the Planning Board shall find that the Residential Compound is in harmony with the general purpose and intent of this section and that it is designed in such a manner to make it sufficiently advantageous to the town and to the residential district(s) in which the Residential Compound is located. If a special permit is granted, the Planning Board shall impose as a condition of approval that copies of all recorded instruments be filed with the Planning Board prior to the issuance of any building permit.
- (h) **Compliance with the Subdivision Control Law** – The Planning Board approval of a special permit hereunder shall not substitute for compliance with the Subdivision Control Law nor oblige the Planning Board to approve a related Definitive Plan for subdivision, nor reduce any time periods for Board consideration under that Law. However, in order to facilitate processing, the Planning Board may, insofar as practical under law, adopt regulations establishing procedures for submission of a combined Special Permit Application/Subdivision Plan which shall satisfy the Board’s regulations under the Subdivision Control Law. Except where the Residential Compound does not constitute a subdivision under the Subdivision Control Law, a Definitive Plan shall be submitted to the Planning Board consistent with their Subdivision Regulations and in substantial conformity with the approved Development Plan.

4.2.7 Reductions in Dimensional Regulations by Special Permit

In Single Residence A, Single Residence B and General Residence Districts, the minimum front setback and the minimum side and rear line setback requirements for a building or structure devoted to a public, semi-public or institutional use, as listed in Section 3.2 Schedule of Use Regulations, may be reduced by special permit granted by the Board of Appeals in accordance with Section 4.2.1. In acting upon such applications for such reductions, the Board shall consider the following, in addition to the criteria for special permits generally (Section 7.5.2):

- (a) Whether, and by how much, building scale will exceed nearby structures,
- (b) whether, and by how much, shadowing on abutting land or streets will be increased, or privacy will be diminished,
- (c) whether any resulting building prominence is appropriate, in light of the functional or symbolic role of the structure,
- (d) whether there are fire protection concerns created by the reduction,
- (e) whether the requested reduction is necessary for the proposal to proceed, and

- (f) what the community benefits are from the proposal, including consideration of taxes, employment, and service.

4.2.8 Screening for Public, Semi-Public and Institutional Uses

4.2.8.1 Transition Areas

Where a building or structure devoted to a public, semi-public or institutional use, as listed in Section 3.2 Schedule of Use Regulations, is to be placed within a Rural Residence-Conservation, Single Residence A, Single Residence B or General Residence District, a landscaped transition and screening area shall be provided along those segments of the lot lines necessary to screen the public, semi-public or institutional use from buildings located on abutting lots. The transition area shall be at least twenty-five (25) feet wide, as measured at its narrowest point, and shall be suitably landscaped as specified at Section 4.2.8.3. The transition area may be provided within the minimum yard required for a building.

4.2.8.2 Use of Transition Areas

Only necessary driveways or interior drives shall be located across a required transition area. No building, structure, parking area, play area or interior street may be located in this transition area. A transition area may be used for passive recreation; it may contain pedestrian, bike or equestrian trails, provided they do not reduce the effectiveness of the transition area as a year-round visual screen. No other uses are permitted in a transition area.

4.2.8.3 Transition Area Standards and Requirements

The following standards shall apply to the installation and maintenance of all landscaping, transition and screening areas required by this section:

- (a) **Composition of Landscaping, Transition and Screening Areas** – A landscaped transition and screening area shall consist of a landscaped strip and may include fences, walls or berms which shall serve to provide an effective year round visual screen at the time of installation.
- (b) **Height of Screening** – Visual screening comprised of a mixed planting of deciduous and coniferous trees and shrubs and walls or fences shall have a minimum overall height of six feet at the time of installation.
- (c) **Type of Plant Materials** – A variety of plant material shall be selected to provide an effective visual screen, to be maintained at a minimum height of six feet. Plantings shall be a mixture of deciduous and coniferous trees and shrubs for the screening to maintain its effectiveness throughout the winter months. Ground cover, grass, mulch or other equivalent landscape treatment, shall be provided in all landscaped transition and screening areas.

Where existing vegetation is used as the required planting, no ground cover, grass, mulch or equivalent treatment shall be required, provided all man-made debris has been removed from within the transition area.

- (d) **Size of Plant Materials** – All trees required by this section shall have a minimum caliper of three inches at the time of planting.
- (e) **Maintenance** – The owner of the lot shall be responsible for the maintenance, repair and replacement of all landscaping materials installed in accordance with this section. All plant material shall be maintained in a healthy growing condition, replaced when necessary and kept free of debris. After the initial planting, all plant materials not surviving after the first winter and through the following growing season shall be replaced in kind.

4.2.8.4 Exceptions, Special Permits

Where, due to the size, shape or topography of a lot, the strict provisions of this section would reduce the usable area of a lot so as to preclude a reasonable use of the lot, the Board of Appeals may grant a special permit to modify the transition area requirements where the side of a building, a barrier and/or the land between the building and lot line has been specifically designed, through a combination of architectural and landscaping techniques, to minimize potential adverse impacts on abutting lots. The application for a special permit must demonstrate, in detail, the problems imposed by these requirements and provide an effective alternative. Any modification of the required transition areas may be made subject to such conditions as are determined by the Board of Appeals to assure adequate screening and buffering between particular uses. In determining what, if any conditions are necessary, the Board of Appeals shall consider:

- (a) the proximity to a residential development;
- (b) the topography of the site and of adjacent property;
- (c) the nature of the use and/or activity on the site;
- (d) the land use of adjacent property;
- (e) the width and use of all abutting public rights-of-way; and
- (f) the potential for impact of any nuisance activities such as noise, light or glare.