

# TOWN OF BOLTON SUBDIVISION RULES AND REGULATIONS



## PLANNING BOARD

Last Amended: November 18, 2015

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## **SECTION 1000: GENERAL**

The following rules and regulations shall be effective on and after November 18, 2015 and so remain until modified or amended by the Bolton Planning Board. No person shall subdivide land in the Town of Bolton after such effective date without first obtaining the Planning Board's approval of the definitive plan for the proposed land subdivisions or an endorsement entitled "Approval under Subdivision Control Law Not Required" upon a plan.

### **1100. PURPOSE**

These subdivision rules and regulations are adopted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the Town of Bolton by regulating the laying out and construction of ways which provide access to several lots within a subdivision but which have not become public ways, and by ensuring sanitary conditions in subdivisions and, in some cases, open space areas. The powers of the Planning Board and of the Board of Appeals under the Subdivision Control Law, Section 81-M of G.L. Chapter 41, shall be exercised with due regard:

- (a) for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel;
- (b) for lessening congestion in such ways and in the adjacent public ways;
- (c) for reducing danger to life and limb in the operation of motor vehicles;
- (d) for securing safety in the case of fire, flood, panic and other emergencies;
- (e) for ensuring compliance with the applicable zoning bylaw;
- (f) for securing adequate provision for water, sewerage, drainage, underground utility services, fire, police and other similar municipal equipment, and street lighting and other requirements where necessary for a subdivision;
- (g) for coordinating the ways and utilities to and in neighboring subdivisions for future street extensions; and
- (h) for providing access and drainage tie-ins to adjoining property which is not yet subdivided.

It is the intent of the Subdivision Control Law, under which these regulations are adopted, that any subdivision plan filed with the Planning Board shall receive the approval of such Board if said plan conforms to the recommendation of the town boards and to the reasonable rules and regulations of the Planning Board pertaining to subdivision of land; provided, however, that such Board may, when appropriate, waive, as provided in Section 81-R of G.L. Chapter 41, such portions of the rules and regulations as are deemed advisable and necessary.

### **1200. AUTHORITY**

These rules and regulations have been adopted under the authority vested in the Bolton Planning Board by Section 81-Q of G.L. Chapter 41, as amended. The Bolton Planning Board shall be the agency responsible for administering these rules and regulations and shall have all the powers assigned to it by Sections 81-K to 81-GG of G.L. Chapter 41.

### **1300. DEFINITIONS**

In construing these rules & regulations, the definitions in Section 81-L of G.L. Chapter 41 shall apply unless a contrary intention clearly appears. For the purposes of these regulations the following words used herein are hereby defined or the meaning thereof explained, extended, or limited as follows:

Abutters: Those land owners directly abutting the land being subdivided, and those land owners across the street from the land being subdivided, and those land owners within 500 feet of any property line of land being subdivided.

Agent: An agent appointed by the Board, serving as the Board's representative to advise the Board on matters relating to these rules and regulations and construction of ways.

Applicant: A person, including an owner or his representative, who applies for the approval of a plan of a land subdivision.

Architectural Access Board: Regulatory agency within the Massachusetts Office of Public Safety. Its legislative mandate states that it shall develop and enforce regulations designed to make public buildings accessible to, functional for, and safe for use by persons with disabilities.

AASHTO Standards: The design standards established by the American Association of State Highway and Transportation Officials.

Board: The Planning Board of the Town of Bolton, meaning a majority of such.

Board of Health: The Board of Health of the Town of Bolton, or its appointees.

Building Inspector: The Board of Selectmen of the Town of Bolton, or its appointees.

CMR: Regulations from Massachusetts state agencies which are compiled in the Code of Massachusetts Regulations (CMR).

Department of Public Works Director: The Department of Public Works Director of Bolton and superintendent of streets.

Existing Streets: That portion of a way which is designed and prepared for safe vehicular travel that is not considered a proposed street of the subdivision.

Frontage: The uninterrupted linear extent of a lot measured along the right-of-way from the intersection of one side lot line to the intersection of the other side lot line. The measurement of lot frontage shall not include jogs in street width, back up strips and other irregularities in street line. The legal right and physical ability to cross this line must exist.

General Laws (abbreviated G.L.): The General Laws of Massachusetts. In case of rearrangement of the General Laws, any citation of particular sections of the General Laws shall be applicable to the corresponding sections of the new codification.

Trip Generation Manual: The latest edition of The Institute of Transportation Engineers' Trip Generation Manual.

Lot: An area of land in one ownership, with definite boundaries, used or set aside and available for use as the site of one or more buildings.

MassDOT Standards: Those standards of design and construction written in the latest editions of the Massachusetts Department of Transportation (MassDOT) Standard Specifications for Highways and Bridges and MassDOT Construction Standard Details.

Owner: As applied to real estate, the person holding the ultimate fee simple title to a parcel, tract or lot of land, as shown by the record in the appropriate Land Registration Office, Registry of Deeds or Registry of Probate.

Parcel: Land that is not buildable and/or land that is not and does not qualify as a building lot.

Registered Civil Engineer/Land Surveyor: An individual holding a valid (unexpired, unrevoked) registration from the Commonwealth of Massachusetts Board of Registration of Professional Engineers and Land Surveyors.



Recorded Plans: Definitive plans and/or "Approval Not Required" plans which require endorsement as specified under Subdivision Control Law Section 81-X. The original plans are then recorded at the Worcester County Registry of Deeds or registered at the Massachusetts Land Court.

Roadway: That portion of a way which is designed and prepared for safe vehicular travel, also referred to as "street".

Site Distance: The measured length of roadway visible to the driver as defined by the latest AASHTO Standards.

Stormwater Handbook: The latest edition of the Massachusetts Department of Environmental Protection Stormwater Handbook.

Subdivision: The division of a tract of land into two or more lots, including re-subdivision and, when appropriate to the context, the process of subdivision or the land or territory subdivided; provided, however, that the division of a tract of land into two or more lots shall not be deemed to constitute a subdivision within the meaning of the Subdivision Control Law if, at the time when it is made, every lot within the tract so divided has frontage on:

- (a) a public way, or a way which the Town Clerk certifies is maintained and used as a public way, or
- (b) a way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law, or
- (c) a way in existence when the Subdivision Control Law became effective in the town in which the land lies, having (in the opinion of the Board), sufficient width, suitable grades and adequate construction to provide for the needs of pedestrian and vehicular traffic in relation to the proposed use of the land abutting thereon-or served thereby, and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon.

Such frontage shall be of at least such distance as is then required by the Town's Zoning Bylaw for erection of a building on such lot.

Conveyances or other instruments adding to, taking away from, or changing the size and shape of lots in such a manner as to leave any lot without the frontage set forth above, or the division of a tract of land on which two or more buildings were standing when the Subdivision Control Law went into effect in the Town of Bolton into separate lots on each of which one of such buildings remains standing, shall not constitute a subdivision (refer to Section 81-L of G.L. Chapter 41).

Subdivider: The applicant and/or owner and/or developer who intends to subdivide and develop the property and construct all improvements included on the approved definitive plan in accordance with the subdivision rules and regulations and the Board's conditions of approval.

Subdivision Control Law: G.L. Chapter 41, Section 81-K to 81-GG inclusive, and any amendments thereof, additions thereto or substitutions thereof.

Town: The Town of Bolton.

Way or Right-of-Way: The full strip of land designated as a way, consisting of the roadway, utilities, planting strips, sidewalks, pathways, and bicycle paths. A way so designated shall be available only for such uses as are customary for ways in the town, and shall not be available for any private uses, such as the construction of buildings, fuel tanks, septic tanks, fences or walls.

## **1400. GENERAL PROCEDURES**

### **1410. Unapproved Subdivision Prohibited**

No person shall make a subdivision within the meaning of the Subdivision Control Law of any land within the

Town, or proceed with the improvement of land for the sale of lots in a subdivision, or the construction of ways, or preparation thereof, or the installation of utility and municipal services therein, unless and until a definitive plan of such subdivision has been submitted, approved and endorsed by the Board as hereinafter provided.

#### 1420. Compliance of Lots with Zoning Bylaw

The Board will not approve any plan of a subdivision of land unless all buildings, structures, lots and other proposals shown on said plan comply with the zoning bylaw in existence at the time of application, unless a variance from the terms thereof has been properly granted.

#### 1430. Building Permits

The official in the Town authorized to issue building permits shall not issue any permit for the erection of a building until first satisfied (a) that the subject lot is not within a subdivision, or (b) that the subject lot is on a way which furnishes access to the subject lot as required by Subdivision Control Law and as shown on a plan or entitled to be recorded under Section 81-X of G.L. Chapter 41, and that any condition endorsed thereon limiting the right to erect or maintain buildings on such lot have been satisfied, or waived by the Board, in the event that the Board has by rule or regulation required that not more than one building for dwelling purposes be erected or placed or converted to use as such on any lot without its consent, until satisfied that such consent has been obtained. No building permit within a subdivision shall be issued without the written permission from the Board releasing the lot for the erection of a building.

#### 1440. Consultants

The Board may assign as its agents appropriate town agencies or officials and may hire professional assistance, at the cost of the applicant, to review any subdivision plans and inspect improvements during and after construction of said improvements. These costs incurred for plan review shall be paid in full by the applicant prior to endorsement of the plan. Costs incurred for construction inspection shall be paid in full by the subdivider prior to release of the performance guarantee.

#### 1450. Fees

The Board may adopt and from time to time amend reasonable fees and fee regulations for the administration of these rules and regulations. The Board may collect fees as established in these regulations and for consultant services.

#### 1460. Amendments

These rules and regulations or any portion thereof may be amended, supplemented or repealed from time to time by the Board after a public hearing, on its own motion or by petition as provided by Section 81-Q of G.L. Chapter 41.

#### 1470. Submission Procedures

Plans intended for review at a regular meeting of the Board shall be filed with the Town Clerk during regular office hours and forwarded to the Board prior to such meeting. The day of filing with the Town Clerk shall be deemed the date of submission for all plans except that the date of mailing shall be deemed the date of submission for definitive plans sent by registered mail to the Board in care of the Town Clerk. Plans shall not be considered "submitted" until all required documentation has been received. If any notice of plan submission is given by delivery to the Town Clerk, the Town Clerk shall give written receipt thereof to the applicant, if requested.

All plans so submitted (except preliminary plans) shall be accurate representations of actual field surveys that conform to Technical Standards for Property Surveys as adopted by the American Congress on Mapping and Surveying and endorsed by the Commonwealth of Massachusetts Board of Registration of Professional Engineers and of Land Surveyors.

#### 1480. Waivers of Rules & Regulations

Strict compliance with the requirements of these subdivision rules and regulations may be waived when, in the judgment of the Board, such action is in the public interest and not consistent with Subdivision Control Law. All plans and all procedures shall in all respects comply with the provisions of these rules and regulations, unless the Board authorizes a variation therefrom in specified instances. In approving waivers, the Board may require such conditions as will, in its judgment, secure substantially the objectives of the standards or requirements waived.

When the applicant is seeking waivers to these rules and regulations, the applicant shall present a separate letter requesting such waivers to the Board at the time of application. The list of waivers shall also be printed on the plan next to the Board's signature block.

#### 1490. Validity

Any part of these rules and regulations subsequently invalidated by a new federal or state law or modification of an existing federal or state law shall automatically be brought into conformity with the new or amended law, and shall be deemed to be effective immediately, without recourse to a public hearing and the customary procedures for amendment or repeal of such regulations.

If any section, paragraph, clause, sentence or provision of these rules and regulations shall be adjudged not valid, the adjudication shall apply only to the material so adjudged and the remainder of these rules and regulations shall be deemed to remain valid and effective.

#### 14100. Reference

For matters not covered by these rules and regulations, reference is made to Sections 81-K to 81-GG, inclusive, of G.L. Chapter 41, as amended; the Wetlands Protection Act, Section 40 of G.L. Chapter 131; and the State Environmental Code, Title 5 (310 CMR 15.00).

#### 14110. Rescissions

Failure to comply with the procedural and other requirements of these rules and regulations may result in the rescission of the approval given hereunder by the Board.

## **SECTION 2000: PLANS BELIEVED NOT TO REQUIRE APPROVAL**

### **2100. SUBMISSION PROCEDURES**

Any person who wishes a plan of land to be recorded and who believes that said plan does not require approval under the Subdivision Control Law shall submit to the Board the following:

- (a) the plan (an original and two (2) full-size paper prints);
- (b) a filing fee (refer to Appendix);
- (c) Form A application, properly executed (refer to Appendix);
- (d) a sketch of the existing and proposed lot lines at a scale of 1 inch equals 200 feet for use by the Assessor's Office; and
- (e) a PDF of all documents including the ANR plan and Form A application as well as a format of the ANR plan compatible with ArcGIS and registered to the Massachusetts State Plane Coordinate System. All electronic files shall be submitted on disc or via another commonly used electronic media storage or transmission device.

The applicant shall give written notice to the Town Clerk (by delivery or by registered mail, postage paid) that said plan has been submitted.

### **2200. PLAN CONTENTS**

The plan shall be prepared and certified by a registered land surveyor and shall be a legible drawing suitable for recording at a scale of 1 inch equals 40 feet, or such other scale as the Board may accept to show details clearly and adequately. The plan sheet shall not be smaller than 10 inches by 14 inches and not larger than 24 inches by 36 inches and shall contain the following:

- (a) the names of the record owner and the applicant, the name and seal of the land surveyor who prepared the plan, and the names of all abutters as shown on the plan (NOTE: abutters here shall mean those directly abutting and across the street from the land being subdivided);
- (b) the statement "Approval under Subdivision Control Law Not Required," and sufficient space for the date and the signatures of all members of the Board;
- (c) existing boundary with reference to at least two permanent boundary monuments on or off the land to which the plan relates;
- (d) the boundary lines of proposed lots, with accurate areas and dimensions; bearings and distances to permanent monuments;
- (e) existing and proposed easement dimensions and purpose;
- (f) the names, locations and identification of ways as public or private;
- (g) existing structures, bounds, and walls;
- (h) north arrow, date of survey and scale;
- (i) deed reference of record owner by book and page number and Land Court certificate number if applicable;
- (j) zoning classification;
- (k) location of any zoning district boundary lines adjacent to the site;

- (l) notice of any decisions or variances issued by the Zoning Board of Appeals, including but not limited to variances and special permits regarding the land and any buildings thereon;
- (m) sufficient dimensional information to prove that each lot conforms to the most recent zoning bylaw; and
- (n) locus map at a scale of 1 inch equals 1,000 feet showing the subject site relative to surrounding area and indicating major roads.

### **2300. PLANNING BOARD ACTION**

#### **2310. Determination that "Approval Not Required"**

If the Board determines that the plan does not require approval, the Board or its agent shall without a public hearing and within 21 days of submission endorse on the plan the words "Approval under Subdivision Control Law Not Required". The original plan shall be returned to the applicant for recording. Such endorsement shall not be deemed to constitute a determination of total compliance with the requirements set forth in the Town's Zoning Bylaws.

#### **2320. Determination that Plan Requires Approval**

If the Board determines that the plan does require approval under the Subdivision Control Law, it will so inform the applicant, return the original plan, and notify the Town Clerk accordingly. The applicant may then submit the plan for approval under the Subdivision Control Law and these rules and regulations, or the applicant may appeal the Board's determination to the Superior Court in accordance with the provisions of Section 81-B of G.L. Chapter 41.

#### **2330. Failure of Board to Act**

If the Board fails to act upon a plan submitted under this section or fails to notify the Town Clerk and the applicant of its action within 21 days after the submission, the plan shall be deemed "Approval under Subdivision Control Law Not Required", and the Board shall make such endorsement on said plan. On the Board's failure to do so, the Town Clerk shall issue a certificate to the same effect.

## **SECTION 3000: PRELIMINARY SUBDIVISION PLANS**

### **3100. SUBMISSION PROCEDURES**

A pre-application meeting is suggested with the town departments before submitting either a preliminary or a definitive subdivision plan. Such meeting will inform the various departments of a pending application and alert the applicant to issues that may arise as a result of the differing rules and regulations of the permitting boards. This pre-application meeting is added for the benefit of the applicant. Its purpose is to prevent multiple, unnecessary revisions as the project is submitted to the individual boards. The Town Planner will arrange a pre-application meeting at a mutually convenient time and place, and town staff will make an effort to attend.

A preliminary plan showing the subdivision of land may be submitted by the applicant to the Board for discussion, approval, modification or disapproval by the Board. The submission of such a preliminary plan, which is not a binding commitment, will enable the applicant, Board, Board of Health, other town boards, and owners of property abutting the subdivision to discuss and clarify the problems of such subdivision before a definitive plan is prepared. Therefore, it is strongly recommended that a preliminary plan be filed in each case.

The applicant seeking approval of a preliminary plan shall submit to the Board the following:

- (a) four (4) full-size paper prints of the plan;
- (b) a filing fee (refer to Appendix);
- (c) Form B application, properly executed (refer to Appendix);
- (d) list of waivers being requested; and
- (e) a PDF of all documents including the preliminary plan, Form B application, and list of waivers submitted on disc or via another commonly used electronic media storage or transmission device.

The applicant shall submit one copy of the plan to the Board of Health and one copy of the plan to the Conservation Commission. The applicant shall give written notice to the Town Clerk by delivery or registered mail, postage paid, that such plan has been submitted.

Additional information or plan modifications submitted after the date of submission will be considered at the discretion of the Board.

During the meeting with the Board on the preliminary plan, the information required for the definitive plans and the financial guarantees for performance will be discussed.

### **3200. PLAN CONTENTS**

The preliminary plan shall be drawn at a suitable scale, preferably 1 inch equals 40 feet, on sheets 24 inches by 36 inches, (larger sheets are acceptable up to 30 inches x 42 inches) and registered to the Massachusetts State Plane Coordinate System. All elevations shall refer to the North American Vertical Datum (NAVD) of 1988. The plan shall contain the following:

- (a) the subdivision name, boundaries, north arrow, date, scale, legend, zoning classification of parcel, location of any zoning district boundary lines and the title "Preliminary Subdivision of Land in Bolton";
- (b) the names of the land owner (for the land being subdivided), applicant, designer, engineer and/or land surveyor (Note that the preliminary plan does not necessarily require preparation and certification by an engineer and/or a land surveyor);
- (c) the names of all abutters, as determined from the most recent local tax list, placed on the plan at the appropriate locations;

- (d) the existing and proposed lines of streets, ways, easements and any public areas within the subdivision, in a general manner. The names, approximate locations and widths of adjacent existing streets must also be provided;
- (e) the existing and proposed drainage system, in a general manner;
- (f) the approximate boundary lines of existing and proposed lots, with approximate areas and dimensions;
- (g) F.E.M.A. 100-year floodplain and any zoning overlay districts (if applicable);
- (h) major site features of the land including existing stone walls, buildings, structures, bounds, large trees (over 18 inches diameter) or wooded areas, rock outcrops, water bodies, wetlands, streams and stream obstructions within 500 feet upstream and downstream from the subdivision property lines, existing trails, cart paths and historic artifacts;
- (i) existing and proposed contours at intervals of 2 feet or smaller for the entire site;
- (j) a preliminary profile of all proposed streets, ways, roads and drains, together with a cross-section of the way and of any open channels;
- (k) title reference, date of deed, the book and page number, and Land Court Certificate Number (when applicable) for the subject parcel being subdivided;
- (l) locus map at a scale of 1 inch equals 1,000 feet showing the subject site relative to surrounding area and indicating major roads. A blowup of the USGS plan is acceptable;
- (m) a description of existing soil conditions, based on a U.S.D.A. Natural Resources Conservation Service study of recent date, describing:
  1. the relationship of soil types and topography to surface runoff;
  2. the relationship of soil and elevation contours to seasonal high-water table;
  3. soil suitability for roads;
  4. soil suitability for home sites, drainage and on-site sewage disposal systems;
- (n) a statement of any easements, covenants or restrictions applying to the parcel being subdivided, and notice of any decision by the Zoning Board of Appeals;
- (o) wetlands, in a general manner; and
- (p) Existing trees with diameter at breast height of 8 inches or greater along existing right-of-ways.

Where the owner and/or applicant also controls un-subdivided land adjacent to that shown on the preliminary plan, the applicant shall submit a separate large-scale sketch plan showing a feasible future street layout for such adjacent land to be used by the Board for long-range planning purposes only.

### **3300. FIELD TRIP WITH THE BOARD**

The Board, accompanied by the applicant and/or the applicant's representative, may take field trips to the site of the proposed subdivision. In order to facilitate field inspection and review of the site of the proposed subdivision, temporary staking of the centerline of all proposed roads in the subdivision may be required prior to such field trips.

### **3400. PLANNING BOARD ACTION**

The Board shall, within 45 days after submission, approve such preliminary plan with or without modifications, or disapprove such plan with its reasons therefore. Approval of a preliminary plan does not constitute approval of a

subdivision, but does facilitate the procedures for preparing and securing final approval of the definitive plan. The Board shall notify the Town Clerk of its decision within said 45 day period.

Any preliminary plan submitted by the applicant to the Board which does not conform to the above requirements shall not be so designated, nor shall such a plan be given approval by the Board.

The Submission of the preliminary plan for examination by the Board shall not be deemed a submission of a definitive plan. Action by the Board on such preliminary plan shall not prejudice its action on the definitive plan.



## **SECTION 4000: DEFINITIVE SUBDIVISION PLANS**

### **4100. SUBMISSION PROCEDURES**

Persons seeking the subdivision of land to be recorded shall submit a definitive plan showing the subdivision of land to the Board and to the Board of Health for final approval, approval with modifications, or disapproval by each board in accordance with the following rules and regulations.

The submission should be based on the preliminary review process and should contain all changes and modifications suggested by the various boards and town consultants under the auspices of the Board.

The applicant seeking approval of the definitive plan shall submit the following:

- (a) four (4) full-size paper prints of the plans and calculations as specified below;
- (b) a filing fee per the fee schedule in the Appendix. The fee shall be made payable to the Town at the time of the filing of the definitive plan for the purposes of partially covering the estimated expenses incurred for consulting engineering for plan review, advertising, notices, etc., in connection with the approval of the plan;
- (c) any other information required and previously requested by the Board and other boards during the preliminary plan review process, if applicable;
- (d) a certified list of all abutters (see definition) per the most recent tax list;
- (e) Form C application properly executed (refer to Appendix);
- (f) performance guarantee as per Section 4340; and
- (g) a PDF of all documents including the definitive plans, any requested information during the preliminary plan review process, certified list of all abutters, Form C application, and performance guarantee as well as the definitive plans in a format compatible with ArcGIS and registered to the Massachusetts State Plane Coordinate System. All electronic files shall be submitted on disc or via another commonly used electronic media storage or transmission device.

The applicant shall also file a notice with the Town Clerk stating the date of submission of the definitive plan. The notice to the Town Clerk shall be accompanied by a copy of the completed Form C application, including the time in which the applicant agrees to complete the ways and utilities.

The applicant shall also submit one set of full-size paper prints to each of the following town boards: Board of Health, Conservation Commission, Police/Fire, Department of Public Works, and Town Counsel.

### **4200. CONTENTS OF PLANS AND CALCULATIONS**

The definitive plan shall consist of a title sheet, lot layout plan(s), street plan and profile sheet(s), topography plan(s), and a soil survey. Required certifications are listed below. All plans shall be drawn with ink at the scale of 1 inch equals 40 feet on sheets not larger than 24 inches by 36 inches on mylar registered to Massachusetts State Plane Coordinate System. All elevations shall refer to NAVD88.

Each sheet shall have a north arrow, graphic bar scale, proposed and existing street names, sheet number (i.e., Sheet 3 of 7), and a title block entitled "Definitive Subdivision of Land in Bolton." The title block shall include the name of the subdivision, name and address of land owner (and applicant, if different), name and address of surveyor, name and address of engineer, and date of preparation. Each sheet shall have a signature block for Board members and the Town Clerk.

#### 4210. Title Sheet

The Title Sheet shall include the following:

- (a) index of drawings, general legend (if applicable) and general notes (if applicable);
- (b) in the event that the lot layout plan requires more than one sheet, a key plan of the subdivision shall be prepared to a scale that will fit on one sheet indicating the area covered by each sheet of the lot layout plan. The key plan shall show all boundary lines and the names of all abutters, as determined from the most recent tax list, in their proper relative locations. The key plan shall show the existing and proposed lines of streets, ways, easements, public or common areas and building lots, zoning classification (with zoning boundaries if two districts exist), zoning overlay districts (if applicable), deed references, and proposed names of new streets;
- (c) locus map at a scale of 1 inch equals 1,000 feet showing subject site relative to surrounding area and indicating major roads. A blowup of a USGS plan is acceptable; and
- (d) certification by a registered civil engineer and/or land surveyor.

#### 4220. Lot Layout Plan

The Lot Layout Plan shall include the following:

- (a) dimension and direction of all boundary lines;
- (b) areas of all proposed lots, with said lots designated numerically and in sequence;
- (c) dimension and direction of existing and proposed easements and their purposes;
- (d) covenants or restrictions applying to the land and their purposes, whether they are in the subdivision, public or common area, or outside the subdivision;
- (e) existing and proposed permanent monuments;
- (f) location of ways, name and present width of existing streets bounding, approaching or within 500 feet of the subdivision;
- (g) a statement that each lot complies with the Town's Zoning Bylaw; and
- (h) certification by a registered land surveyor.

#### 4230. Street Plan and Profile

There shall be a street plan and profile of each street in the subdivision drawn to a horizontal scale of 1 inch equals 40 feet and a vertical scale of 1 inch equals 8 feet. Benchmark elevations are to be based upon NAVD 88. Plan and profile sheets include the following:

- (a) sufficient dimensional information to readily determine the location, direction, length and width of each street, way and easement so that they can be established on the ground;
- (b) all existing and proposed overhead and underground utilities shown on plan. Drainage lines will be shown on both plan and profile. A table shall list structure inverts, rim elevations, station numbers, sizes and slopes of pipes;
- (c) all curbing in plan, identifying type of curbing;
- (d) the existing ground profile along the proposed centerline and both sidelines of the right-of-way (different dashed line symbols will designate one from another);

- (e) the proposed centerline profile showing gradients and vertical curves, including labels indicating length, K value and design safe sight stopping distance;
- (f) existing and proposed centerline grades on 50 foot stations (25 foot stations on vertical curves); centerline grades of low points for sag curves and high points for crest curves;
- (g) road stations shown on both plan and profile;
- (h) lot corners and sideline extensions in plan;
- (i) all buildings, walks, drives and other existing site features within 100 feet (either side) of the street centerline; and
- (j) certification by a registered civil engineer.

#### 4240. Topography and Grading Plan

The grading plan(s) shall show within the road right-of-way the existing and proposed topography at 2 foot or smaller contour interval. Existing topography will be based on recent actual field surveys and/or controlled aerial survey. The same vertical datum as specified above shall be used. This plan shall show (within 150 feet, either side, of the proposed road centerline) the major site features as required in Section 3200(h) and Section 3200(p). This plan will show any proposed or existing roads, ways, or paths traversing the site indicating the condition and status of same. Property line dimensions are not required on this plan. This plan shall show proposed planting of street trees with legend of size and type of planting, unless the applicant chooses to produce a separate landscaping plan. Street lighting and sidewalks shall be shown. The wetland resource areas as determined by the Conservation Commission shall be graphically shown on this plan. This plan shall be certified by a registered civil engineer.

#### 4250. Soil Survey Plan

The soil survey shall include the information as required for the preliminary plan (refer to Section 3200(m)). In addition, the soil survey plan shall show locations of enough deep test holes and percolation tests to prove each lot is suitable for individual on-site sewage disposal systems as proposed. A soils report prepared by a registered civil engineer or soil scientist or sanitarian will be submitted as part of these requirements.

The soil survey plan shall also include boring data collected within the limits of the proposed subdivision roadways prepared by a geotechnical engineer registered in the Commonwealth of Massachusetts. Borings shall be conducted every 200 feet in alternate lanes. Boring depths shall extend to adequate subgrade meeting the requirements referred to in Section 6230(a).

#### 4260. Impact Analysis

The Board may request environmental and/or financial impact studies which demonstrate that available alternatives have been explored and provide evidence that the plans submitted represent the best environmental and/or financial interests of the Town. For projects over 10 house lots and for all non-residential subdivisions, an impact analysis is required. The impact analysis shall be prepared by a bona fide land planner and/or registered civil engineer. Refer to Appendix for the Outline of Impact Analysis.

#### 4270. Stormwater Management

Refer to Section 5233.

#### 4280. Traffic Study

A traffic study of a scope specified by the Board shall be required in all applications where the proposed subdivision will, in the opinion of the Board, be likely to produce an additional 100 ADT (Average Daily Traffic) per weekday, based on the Trip Generation Manual. To avoid lengthy delays in the processing of an application, the applicant shall consult with the Board during the preliminary plan review process to determine whether a traffic

study will be required. A traffic study shall examine the following:

Existing Traffic Conditions including roadway geometries, traffic volumes, safety, delays, and levels of service for existing streets and intersections (whether in Bolton or another town) affected by the proposed subdivision.

Future Traffic Conditions including trip generation, trip distribution, volume to capacity ratios, and levels of service for existing streets and intersections (whether in Bolton or another town) affected by the proposed subdivision at the time of anticipated completion and five (5) years beyond anticipated completion, taking into consideration the impacts of previously approved projects and projects pending approval on the same streets. Approach and departure route assignments shall be based on existing traffic patterns, minimum time paths, or market studies. Trip generation for the proposed uses shall be based on average statistics from the Trip Generation Manual as well as average total daily trips. Sight distance for turning movements to and from the subdivision must be analyzed using AASHTO standards. The adequacy of vehicular queuing storage at the subdivision entrances shall also be demonstrated. The impact of any planned phasing of the project shall be discussed.

When, in the opinion of the Board, a subdivision is deemed to have a detrimental effect on existing or proposed streets and intersections, mitigation measures may be required to reduce the impacts of the proposed subdivision. These measures may include capacity enhancements such as added turn lanes, signalization, and improvements to intersections and medians. The study may also take into account those improvements that are being planned by the Town or the State.

#### 4290. Improving Existing Streets

When, in the opinion of the Board, a subdivision borders an inadequately constructed existing street, or existing street in disrepair, the Board may require appropriate and reasonable improvements to minimize congestion and to ensure safe and adequate vehicular and pedestrian travel.

### **4300. PLANNING BOARD ACTION**

#### 4310. Review of the Board of Health

The Board of Health shall, within 45 days after submission, report to the Board in writing its approval or disapproval of said plan. Approval from the Board of Health of the definitive plan shall not be treated as, nor deemed to be, approval of a permit for the construction and use of any individual sewage disposal system on any lot contained therein.

If the Board of Health disapproves said plan, it shall make specific findings as to which, if any, of the lots shown on such plan cannot be used for building sites without injury to the public health, or are unsuitable because of drainage conditions, and where possible, shall make recommendations for the adjustment thereof.

#### 4320. Review of other Town Officials

The Board will (at its discretion) obtain the appropriate recommendations from the following town officials prior to making its final determination:

- (a) Department of Public Works Director and/or Board's agent for review of the design of the street system and other infrastructure, location of easements and the relationship to existing ways and drainage systems, and sight distances to and from the site at subdivision entrances.
- (b) Fire Department for recommendations as to locations and adequacy of water for fire extinguishing purposes and emergency access.
- (c) Police Department for recommendations as to vehicular and pedestrian traffic, access for emergency vehicles, and street names.
- (d) Conservation Commission for review of the environmental impacts of the subdivision infrastructure on

existing wetlands, streams, wildlife and other natural resources, and open space considerations.

- (e) Town Counsel for review of easements, agreements and performance guarantee.

The Board may require the applicant to obtain written statements from the above town officials prior to approval of the definitive plan.

#### 4330. Public Hearing

Before approval, modification and approval, or disapproval of the definitive plan, a public hearing shall be held by the Board. Notice of such hearing shall be given by the Board (at the expense of the applicant) in a newspaper of general circulation in the town, once in each of two successive weeks, the first publication being not less than 14 days before the day of such hearing and/or by posting such notice in a conspicuous place in Town Hall for a period of not less than 14 days before the day of such hearing in accordance with Section 81-T of G.L. Chapter 41.

A copy of said notice shall be mailed by the Board to the applicant and all abutters (see definition), as listed on the Certified List of Abutters prepared by the applicant for Board of Assessor's certification.

#### 4340. Performance Guarantee

Before endorsement of approval of a definitive plan, the Board will require provisions for the completion of construction of ways and the installation of town services in accordance with the rules and regulations of the Board. The construction of ways and the installation of municipal services (within the time period specified by the Board) shall be secured by one, or in part by one and in part by the other, of the following methods (which may vary from time to time with the approval of the Board).

Failure to complete construction within the specified time, or failure to begin construction within 12 months following the date of approval, will be considered as adequate reason for the Board to rescind, modify, or disapprove any subdivision (for which a bond and/or covenant has been filed) as specified under Section 81-W of G.L. Chapter 41 and/or to authorize enforcement of the bond.

4341. By a Proper Bond or By a Deposit of Money or Negotiable Securities, sufficient in the opinion of the Board to secure performance of the construction of ways and the installation of services (including drainage) required for lots in the subdivision shown on the definitive plan. Such bond or security, if filed or deposited, shall be approved as to form and manner of execution by the Town Counsel.

As part of the performance bond or security, the owner agrees to:

- (a) complete all improvements in accordance with the Board's rules and regulations;
- (b) remove all building materials and rubbish from the subdivision and leave the subdivision free from hazardous and/or unattractive slopes, excavations and piles of material within six (6) months of the date of occupancy of any structure within that area;
- (c) complete all improvements described above within 12 months of the start of construction;
- (d) the owner further agrees that no structure will be occupied until at least the base course of bituminous concrete (as specified in these rules and regulations) has been applied to the streets which serve those structures. No extensions of these limitations shall be granted without approval of the Board; and
- (e) prepare estimates of cost of performing the various items of required work and improvements proposed based on the current Mean's Catalog with 15 percent for contingencies and an additional adjustment factor for two years' inflation incorporated in the bond estimate. The applicant shall submit the same to the Board for review, modification and approval to be used in determining the necessary total sum of the performance bond.

4342. By a Covenant: The owner shall file a covenant acceptable to the Board, executed by the owner of record

and duly recorded, running with the land, whereby conditions specified on the Certificate of Approval are met, and whereby such ways and services (including drainage) shall be provided to serve any lot before such lot may be built upon or conveyed other than by mortgage deed; provided that a mortgagee who acquires title to the mortgaged premises by foreclosure or otherwise and any succeeding owner of such premises or part thereof may sell any such lot, subject to that portion of the covenant which provides that no lot shall be built upon until such ways and services have been provided to serve such lot; and provided, further, that nothing herein shall be deemed to prohibit a conveyance of a single deed, subject to such covenant, of either the entire parcel of land shown on the definitive plan or of all lots not previously released by the Board. A deed of any part of the subdivision in violation hereof shall be voidable by the grantee prior to the release of the covenant but not later than three years from the date of such deed.

4343. By an Agreement Whereby Lender Retains Funds: The applicant shall deliver to the Board an agreement executed after recording of a first mortgage covering the premises shown on the definitive plan or a portion thereof given as security for advances to be made to the applicant by the lender, which agreement shall be executed by the applicant and the lender and shall provide for the retention by the lender of funds sufficient in the opinion of the Board and otherwise due the applicant, to secure the construction of ways and the installation of municipal services (including drainage). Said agreement shall also provide for a schedule of disbursements which may be made to the applicant upon completion of various stages of work, and shall further provide that in the event the work is not completed within the time set forth by the applicant, agreed to by the Board, any funds remaining undisbursed shall be available to the Board for completion of the project according to the definitive plans.
4344. Bond for Existing Street Damage: Any damage to existing streets caused by the construction of the subdivision shall be repaired at the expense of the applicant. The applicant is responsible for documenting before and after conditions of these roads as proof for determining damage caused by the construction of the subdivision. A copy of this documentation at time of recording shall be provided to the Director of Public Works for review and approval. As a surety, the Board shall require a bond from the applicant, in an amount as determined by the Board, calculated as part of the performance guarantee. Final release of any sureties shall not be made until any damage to existing streets caused by the construction of the subdivision are repaired and pass inspection by the Director of Public Works.
4345. Partial Release of Performance Guarantee: Prior to final release of a performance guarantee, the Board may grant up to two partial releases from the required performance guarantee for partial completion of improvements (or three (3) partial releases in the event the original performance guarantee exceeds the sum of \$1,000,000.00 or 50 lots) provided that:
- (a) No lots shall be released from a covenant unless construction of streets and ways, and installation of municipal services and other improvements in accordance with the approved subdivision plan for said lots has been completed or another form of security has been substituted, sufficient to complete said streets and ways, municipal services and other improvements.
  - (b) No reduction in the amount of the performance guarantee shall reduce the performance guarantee to a value below the estimated cost of completing the unfinished portions of the improvements.

4350. Inspection Fees

Prior to endorsement of the definitive plan, the applicant shall be required to submit to the Board an amount, as determined by the Board, to pay for reasonable construction inspection services by an agent to assist the Board in its determination as to the adequacy of the subdivision construction. Additional inspection fees may be required as construction subdivision advances.

4360. Certificate of Approval

The action of the Board in respect to such plan shall be by vote per the time limits specified in Section 81-U of

G.L. Chapter 41. Extensions of time between the submission of the definitive plan and Board action thereon shall be permitted upon written request of the applicant. Copies of the Board's vote shall be certified and filed with the Town Clerk, and sent by delivery or registered mail to the applicant.

If the Board votes to modify or disapprove such plan, then the Board shall state in its vote the reasons for its action. The Board shall revoke its disapproval when the plan has been amended to conform to the rules and regulations of the Board or recommendations of the Board of Health or the other boards.

#### 4370. Endorsement of Approved Plans

Final approval, if granted, shall be endorsed on the original drawing of the definitive plan by the signatures of a majority of the Board (or by the signature of the person officially authorized by the Board) but not until the statutory 20 day appeal period has elapsed following the filing of the certificate of the action of the Board with the Town Clerk and said Clerk has notified the Board that no appeal has been filed. After the definitive plan has been approved and endorsed, the Board shall return the original to the applicant.

Approval of the definitive plan does not constitute the laying out or Town acceptance of ways within a subdivision.

#### 4380. Recording

Within 30 days after the return of an approved plan, the applicant shall cause to be recorded in Worcester County Registry of Deeds, and in the case of registered land with the recorder of Land Court, a copy of the approved definitive plan and accompanying conditions of approval, covenants and agreements, if any. Following plan approval, endorsement, and recording, the applicant shall provide the Board with a set of reproducible plans (mylars), and one set of prints of all plans, and one copy of final covenants and restrictions, (noting book, page number and date of recording of each or in the case of registered documents, Land Court certificate numbers), proving that recording (registration) was accomplished. A PDF of all documents shall be provided on disc or via another commonly used electronic media storage or transmission device.

The applicant shall follow those procedures for recording specified under Section 81-X of G.L. Chapter 41.

## SECTION 5000: DESIGN STANDARDS

### 5100. GENERAL

All subdivisions shall adhere to the principles of compatible land use, sound planning, and good engineering, and shall meet the requirements of public safety, including reasonable precautions against possible natural disasters, pedestrian and traffic safety and convenience, adequate water supply, stormwater drainage and protection against flooding, and sanitary sewage disposal, and shall be designed with due regard to the rights, health and welfare of the residents of the Town, including the future residents of such subdivisions.

It is a policy of the Town and a major objective of the Board that all subdivisions designed and improvements made by the subdivider shall accomplish the following:

Reduce, to the extent reasonably possible:

- (a) volumes of cut and fill and excessive grading;
- (b) area over which existing vegetation will be disturbed (especially within 100 feet of wetlands);
- (c) the number of healthy, mature trees removed;
- (d) the extent of waterways altered or relocated;
- (e) visual prominence of man-made elements which are not necessary for safety or orientation;
- (f) erosion and siltation; soil loss or instability;
- (g) flood damage;
- (h) the number of driveways exiting onto existing streets;
- (i) disturbance of important wildlife habitats, outstanding botanical features, geologic features, scenic or historic places;
- (j) visibility of building sites from existing streets;
- (k) blockage of vistas through new development;
- (l) removal of stone walls; and
- (m) alteration and obstruction in groundwater or surface water or naturally occurring chemical constituents.

Increase, to the extent reasonably possible:

- (a) vehicular use of collector streets to avoid traffic on streets providing house frontages;
- (b) visual prominence of natural features of the landscape;
- (c) legal and physical protection of views from public ways;
- (d) street layout facilitating solar orientation of houses;
- (e) use of curvilinear street patterns;
- (f) attractiveness of the street layout in order to obtain maximum livability and amenities of the subdivision;
- (g) the ability to safely pass through the way during construction;
- (h) the preservation of the open rural character of the Town; and



- (i) water quality, both groundwater and surface water.

#### 5110. Compliance with other Requirements

All subdivisions shall be laid out so as to conform to these rules and regulations and to the requirements of other boards and officials of the Town acting within their jurisdiction.

5111. Wetlands Protection. The Board may condition its approval of a definitive plan upon the issuance of an "Order of Conditions" from the Bolton Conservation commission or the Massachusetts Department of Environmental Protection.

5112. Compliance with Bolton's Zoning Bylaw. All proposed streets and ways shall comply with the Town's Zoning Bylaw in effect at the time of plan application. All proposed lots shall comply with those dimensional requirements set forth in the same Zoning Bylaw.

#### 5120. Protection of Natural Features

- (a) Due regard shall be shown for all natural features, such as significant trees of 8 inch or greater diameter at breast height, water courses, scenic points, historic spots, and similar community assets which, if preserved, will add attractiveness and value to the subdivision and protect the natural resources of the Town. The applicant shall use commercially reasonable means to avoid clear cutting of the site.
- (b) Existing contours shall be preserved insofar as it is practical to do so. No change shall be made in the contour of the land that adversely affects the land abutting the proposed subdivision.
- (c) To be more attractive and economical, subdivisions shall closely adhere to the topography of the land, with streets designed so as to minimize the necessity for excessive cut and fill.

#### 5130. Earth Removal

The approval of a definitive plan by the Board shall not be construed as authorizing the removal of earth material from the premises, even though the approval is in connection with the construction of streets shown on the definitive plan. All earth removal within subdivisions shall be in accordance with the Town's Zoning Bylaw for earth removal.

#### 5140. Access through another Town

Any access to a proposed subdivision through another town shall require the certification of that town that the street is in accordance with the rules and regulations of that town's planning board, and that the bond posted is adequate, and that the access is adequate for the expected traffic. The entire street shall be designed in accordance with the most restrictive specifications.

#### 5150. Street Connection

Subdivisions containing 16 or more lots shall have at least two noncontiguous connections with a street or streets, either existing or shown on an approved subdivision plan, for which a performance guarantee has been filed with the Board. All noncontiguous connections shall be separated by a distance of at least 600 feet.

#### 5160. Board's Prerogative

Where the design standards and/or construction specifications as described in these rules and regulations are not specific enough, it shall be the Board's prerogative to impose design and/or construction requirements as deemed necessary and proper. If in the opinion of the Board, the proposed design is inadequate given the specific site conditions, the Board shall specify the appropriate requirement(s) for design and/or construction.

## 5200. STREETS

All streets in the subdivision shall comply with policies and standards per the American Association of State Highway and Transportation Officials (AASHTO) publication, "A Policy on Geometric Design of Highways and Streets" (latest edition).

Major streets should, as far as practicable, provide for the continuation or projection of existing principal streets.

### 5210. Classification of Streets

5211. Major street: A street which, in the opinion of the Board, is being used or will be used as a thoroughfare between different portions of the Town, or which will otherwise carry a heavy volume of traffic (equal to or greater than 1,500 vehicle trips per day). The design speed shall be 50 MPH.

5212. Secondary Street: A street intercepting one or more minor streets and which, in the opinion of the Board, is used or will be used to carry a substantial volume of traffic (400 to 1,499 vehicle trips per day) from such minor street(s) to a major street or community facility, and normally including the principal entrance street of a large subdivision or group of subdivisions, and any principal circulation street within such subdivision. The design speed shall be 40 MPH.

5213. Minor Street: A street which, in the opinion of the Board, is being used or will be used primarily to provide access to abutting lots, carrying 150 to 399 vehicle trips per day and/or less than 3,000 feet in length, and which will not be used for through traffic. The design speed shall be 30 MPH.

5214. Lane: A street which, in the opinion of the Board, is being used or will be used primarily to provide access to a small number of abutting lots, carrying less than 150 vehicle trips per day. Lanes are typically used, but not limited to, dead-end streets. The design speed shall be 20 MPH.

### 5220. Street Design

#### 5221. Location

- (a) Reserve strips prohibiting access to streets or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.
- (b) Proper provision, suitable to the Board, shall be made by means of easements for the projection of streets and ways, or for access to adjoining property which is not yet subdivided.
- (c) Centerline of street jogs shall be greater than 150 feet. Street jogs are the distance between intersections on opposite sides of the street being intersected.
- (d) Streets shall be laid out so as to intersect as nearly as possible at right angles. No street shall intersect any other street at less than 60 degrees.
- (e) Proposed subdivision streets intersecting major (or secondary streets) shall have a minimum sight distance in accordance with AASHTO Standards. Streets shall be laid out so as to intersect at intervals which permit the block size to be in the range of 600 to 1,200 feet in length. In lieu of actual construction of cross street, the Board may approve an easement for a future street.
- (f) The proposed subdivision road's centerline intercept on the same side of an approved or accepted public road must be at least 200 feet from the centerline intercept of any other approved or accepted common driveway. This centerline separation can be reduced at the Board's sole discretion to not less than 100 feet if the applicant demonstrates to the Board's satisfaction that public safety will not be compromised by a lesser separation. The Board will also consider as part of its approval of the location of a proposed common driveway such issues as public safety, the location of existing residential dwellings, the site's topography, the location of wetlands, natural resources and any other significant factors of value of the Town.

5222. Horizontal Alignment

- (a) The centerline of the pavement shall coincide with the centerline of the way.
- (b) The minimum centerline radii for horizontal curves shall be as follows:
  - 1. Major Streets: 530 feet;
  - 2. Secondary Streets: 290 feet;
  - 3. Minor Streets: 125 feet; and
  - 4. Lane: 100 feet.
- (c) Reverse horizontal and vertical curves are allowed for minor streets and lanes and do not require separation by tangents between the curves. Major and secondary streets require a 100 foot tangent be placed between the reverse curves, except where the radius of curvature for both curves is greater than 1,060 feet for major streets and greater than 580 feet for secondary streets.
- (d) Wherever possible, centerline horizontal curve (beginning and end of curve) points shall coincide with centerline vertical curve (beginning and end of curve) points.
- (e) For secondary streets, minor streets and lanes, the curb radius shall be not less than 25 feet and the property line radius shall not be less than 15 feet. For major streets, the curb radius shall be not less than 50 feet and the property line radius shall not be less than 40 feet.

5223. Width

- (a) The minimum width of pavements and rights-of-way shall be as follows:
  - 1. Major street: 70 feet right-of-way and 34 feet pavement;
  - 2. Secondary Street: 60 feet right-of-way and 28 feet pavement;
  - 3. Minor Street: 50 feet right-of-way and 24 feet pavement; and
  - 4. Lane: 40 feet right-of-way and 24 feet pavement.

5224. Grade

- (a) The maximum and minimum longitudinal centerline grades shall be as follows:
  - 1. Major Streets: 5 percent maximum, 1 percent minimum;
  - 2. Secondary Streets: 6 percent maximum, 1 percent minimum;
  - 3. Minor Streets: 8 percent maximum, 1 percent minimum; and
  - 4. Lane: 10 percent maximum\*, 1 percent minimum.

\* Except that on north facing slopes the maximum shall be 8 percent.
- (b) Where curves and grades combine to create potentially dangerous driving conditions, the Board will require a suitable amount of superelevation of the curves or other protection mechanisms.
- (c) The minimum length of a vertical curve shall not be less than 100 feet.
- (d) On any street intersection, a leveling area with a centerline slope of not greater than 2 percent shall be provided for a distance of at least 100 feet from the nearest edge of intersecting road pavement.
- (e) All changes in grade exceeding 0.5 percent shall be connected by vertical curves. The minimum

length of a vertical curve shall be designed in accordance with the following AASHTO standards:

	Safe Sight Stopping Distance (feet)	K value for crest vertical curves (feet)	K value for sag vertical curves (feet)
Major Streets	425	84	96
Secondary Streets	305	44	64
Minor Streets	200	19	37
Lanes	115	7	17

Note: Length of vertical curve (L) =  $K (g_1 \% - g_2 \%)$

For measuring safe sight stopping distance, the height of the eye is 3.5 feet and the height of the object is 0.5 feet.

5225. Dead End Streets (Cul-de-Sac)

- (a) Dead end streets (or streets connected to a throughway at only a single point, whether temporary or permanent) shall not be longer than 500 feet and not shorter than 250 feet measured from the centerline of the intersecting street, along the actual centerline of the cul-de-sac, to the center point of the cul-de-sac.
- (b) Dead end streets shall provide (at the closed end) a turnaround having an outside roadway diameter of at least 120 feet and a property line diameter of at least 140 feet.
- (c) The unpaved portion of a cul-de-sac shall have a diameter of 50 feet and shall be landscaped except where trees or shrubs exist, or where desirable natural features exist to be preserved. This cul-de-sac island shall be curbed as per Section 6267(a).

5226. Setback

The Board will consider in approving the location of a proposed subdivision road public safety, the location of existing residential dwellings, site topography, wetland resource areas, natural resources and any other significant factors of value to the Town.

The centerline of a proposed subdivision road shall be at least the greater of the following:

- (a) one hundred (100) feet from any existing residential building;
- (b) seventy five (75) feet from any lot line of a lot not served by the proposed subdivision road; or
- (c) fifty (50) feet from any lot line of a lot served by part of the proposed subdivision.

5230. Utility Design

5231. General

- (a) All storm drains, sewer, gas, water, electric, cable and telephone facilities (exclusive of transformers) within the limits of a right-of-way shall be placed underground per utility company specifications and shall be installed after the right-of-way has been excavated to subgrade.
- (b) Connections for electric and telephone service from the main structure in the way to the exterior line of the way shall be constructed for each lot whether or not there is a building thereon, except where the lot shall be a designated open space or playground or used for any other purpose for which such connections shall not be required.
- (c) Where adjacent property is not yet subdivided or where the applicant's property is not being

subdivided at the same time, provision shall be made for the extension of the utility systems by continuing mains the full length of the streets to the exterior limits of the subdivision at such pipe slope and size as will permit their proper extension at a later date.

5232. Lighting

The subdivision shall supply street lighting which will be located on a suitable post which may be of concrete, wood or aluminum and at a height of 15 feet or more as approved by the Board. The street lighting shall be designed in accordance with the current edition of the I.E.S. Lighting Handbook, or designed to standards acceptable to the Board. Luminaires shall be of the indirect, shielded type. Street lights shall be located at each intersection and at the closed end of each cul-de-sac.

5233. Stormwater Management

Stormwater management of any subdivision shall comply with the requirements set forth in the Stormwater Handbook. To the maximum extent practicable, the applicant shall satisfy the requirements of the Stormwater Management Standards and submit to the Board the Checklist for Stormwater Report. The stormwater management design shall emphasize the use of environmentally sensitive site design and Low Impact Development (LID) techniques to minimize the amount of onsite disturbance and to lessen the need for Best Management Practices (BMPs) for stormwater quality treatment and volume/velocity management. The Board shall consider the following three stormwater management components in order of priority as described in the Stormwater Handbook:

- Site planning: design the development using environmentally sensitive site design and LID techniques to preserve natural vegetation, minimize impervious surfaces, slow down times of concentration, and reduce runoff;
- Source controls, pollution prevention, and construction period erosion and sediment control: implement nonstructural measures to prevent pollution or control it at its source; and
- Structural BMPs (physical devices typically designed and constructed to trap or filter pollutants from runoff or to reduce runoff velocities): design, construct and maintain structural BMPs to attenuate peak flows, capture and treat runoff, and provide recharge to groundwater.

(a) Drainage Calculations:

1. All drainage calculations shall be stamped by a registered civil engineer.
2. Calculations shall clearly identify any assumptions utilized in the design including, but not limited to house footprints, driveway areas, roof recharge, soil characteristics and testing. Any back up data such as soil logs or soil maps shall also be included.
3. Calculations shall be accompanied by a plan, at a legible scale, showing Pre and Post development drainage subcatchments, flow paths for time of concentration, points of analysis and location of soil tests.
4. If the development of the site requires extensive fill, the drainage calculations shall reflect a B or C soil for those fill areas unless specifications are provided for the fill material.

(b) General Criteria:

1. Stormwater management design shall permit unimpeded flow of all natural waterways, provide adequate drainage of all surface and subsurface water of the street system so that water does not accumulate thereon, intercept storm water runoff from the adjoining land and eliminate unnatural accumulation of water on any portion of the subdivision or surrounding property.
2. A watershed analysis shall be performed by a registered civil engineer (and submitted with the

definitive plan) for pre- and post-development conditions to show flooding impacts for the 2-, 10-, and 100-year storm events using SCS TR-55 and/or TR-20 stormwater modeling methods. The design of the stormwater management system for the subdivision shall not increase the volumes or rates of discharge off-site.

3. Detention and/or retention ponds shall be designed by a registered civil engineer and based on the latest edition of Urban Hydrology for Small watersheds, Technical Release No. 55 by the Engineering Division, Soil Conservation service, U.S. Department of Agriculture. The SCS TR-55 method (or SCS TR-20 where applicable) shall be used to generate hydrographs used in the design of detention and/or retention ponds or similar water storage facilities and/or structures.
  - a. All basins shall have a minimum of two (2) test holes, performed by a Massachusetts Soil Evaluator. The bottom of the basin shall be a minimum of 2 feet above the estimated seasonal high water table as determined by the on-site testing unless the design intent is a wet basin.
  - b. Basins shall have a 3:1 maximum side slope, finished with a 6 inch layer of loam and seeded. Erosion control mats may be installed during construction to provide stability. The top of berm shall be a minimum of 10 feet wide.
  - c. Overflows shall be provided for all detention and/or retention basins.
  - d. Sites with Hydrologic A soils, there shall be no mining of material beneath the basins. If over-excavation occurs, the basin shall be returned to the design elevations using material meeting the same sieve analysis as the in situ soils.
4. Stormwater management systems shall be designed to remove 80 percent of the average annual post construction load of Total Suspended Solids (TSS). Pretreatment shall be provided and structural BMPs shall be sized to capture the required water quality volume as determined using the methods in the Stormwater Handbook.
5. Post-development recharge rates shall mimic pre-development conditions based on soil type. Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, LID techniques, BMPs, and good operation and maintenance. The stormwater volume to be recharged to groundwater shall be determined using the methods in the Stormwater Handbook.
6. Stormwater Pollution Prevention Plan (Erosion & Sedimentation Control Plan) shall be developed and implemented to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities. The plan shall also establish requirements for the control of wastes, including discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.
7. Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure stormwater management systems function as designed.
8. Road drainage shall be designed to prevent runoff from ponding or crossing the roadway. The use of non-structural, LID techniques, such as open drainage system, grass swales and multiple shallow detention basins is encouraged where practical.
9. Where an open drainage system is not practicable, a closed system of storm drains, culverts, ditches, and related installations including catch basins, gutters, and manholes, shall be designed and installed to provide adequate disposal of surface water, including control of erosion, flooding, and standing water from or within the subdivision and adjacent lands. Catch basins, drain manholes and trenches shall conform to the MassDOT Standards and shall comply with the

Stormwater Handbook.

- a. Calculations for determining the size of street drains (pipes between catch basins and drain manholes) shall be designed using the Rational Method for the 25-year design storm. Calculations for culverts shall be designed using Hydraulic Design Series No.5 for the 50-year storm.
- b. Catch basins shall be located, one on each side of the crowned roadway, and at all low points, and at intervals of not more than 300 feet and at or near the corners of the roadway at intersecting streets. Each catch basin shall connect directly to a manhole and shall be per MassDOT Standards. Catch basins shall not be located at a driveway entrance.
- c. Manholes shall be located at all drain line changes in direction, either horizontally or vertically, and at the intersection of two or more drain lines, or located so that no drain line of a length greater than 300 feet would exist between manholes without either a catch basin or manhole. Each manhole shall be per MassDOT Standards.
- d. All culverts shall have a field stone headwall at each end as per MassDOT Standards. All outfall pipes shall have a headwall (for pipes exceeding 15 inch diameter) or a flared end section (for 12 and 15 inch diameter pipes) as per MassDOT Standards. Scour protection (in the form of stone for pipe ends as per MassDOT Standards) shall be provided as required to reduce velocity of discharge to below 2 feet per second and to minimize erosion.
- e. In areas where the finished grade of the roadway is less than 4 feet above the water table or in other areas where, in the opinion of the Board, the subgrade must be drained, a system of subdrains may be required. The subdrain system shall have a positive outfall and be designed as per MassDOT Standards.
- f. All drain lines shall be reinforced concrete Class III or stronger and a minimum of 12 inches in diameter and shall be laid on a slope of not less than 0.5 percent. The minimum design velocity shall be 2 feet per second (self-cleaning velocity) and, the maximum, design velocity shall be 10 feet per second. Provision shall be made for the disposal of surface water intercepted or collected by the system in such manner that no flow is conducted over town ways, or over land of others, except that flow rate and flow quantity which previously existed in that location.
- g. The minimum earth cover on top of drain lines and culvert pipes is 3 feet. Ductile iron drain pipe or concrete encasement may be substituted for a reduction in cover.
- h. Where applicable, backwater effects shall be taken into account in the design of the storm drainage system.
- i. Culverts or drains proposed to have bar grates to prevent debris from entering at their inlets shall be designed with their inlet capacity reduced 25 percent. Bar grates shall be provided on the inlet and outlet ends of all pipes over 15 inches in diameter.
- j. Culvert and drain design shall be based on a Manning roughness coefficient "n" = 0.013.
- k. Street drainage shall be designed such that pipes flow without surcharge.
- l. If the proposed drainage will connect to an existing drainage system, the drainage calculations and plans shall show the size and location of existing storm drain facilities in order to demonstrate capacity within the existing system. Water quality performance standards shall be met for any new runoff entering an existing system. If any easements

or improvements to the existing drainage system are required, the cost of these improvements shall be borne by the applicant.

- m. Grassed swales within the road right-of-way may be designed. The swales shall be able to carry the 10-year storm without spillage on abutting property. The minimum longitudinal slope shall be 0.5 percent and the maximum shall be designed so that velocities do not exceed 3 feet per second. The use of grassed swales should be designed to retain the "first flush" where possible, thus reducing the size of the required detention and retention basins.
- n. Individual lot grading and drainage shall be designed and constructed in such a manner that development of one lot will not be detrimental (nor cause flooding or erosion or soils) to another lot or any abutting property.
- o. Stormwater runoff generated by driveways shall conform to Section 250-17 of the Code of the Town of Bolton.

5234. Fire Protection

Provision shall be made for fire protection for the proposed buildings within a subdivision per the requirements and specifications of the Town Fire Department.

5235. Easements

The following easements shall be referred to on the plan (by bearings and distances) and in run with the title of land.

- (a) Utility Easements. Easements for utilities carrying underground wires (where required) running across lots or on rear or side lot lines shall be provided where necessary and shall be at least 20 feet wide.
- (b) Drainage Easements. Where a Subdivision is traversed by a water course, drainage systems, channel or stream, the Board may require a stormwater easement or drainage right-of-way of adequate width (20 feet minimum) and proper side slope and surface to facilitate maintenance.
- (c) Access Easements. Access easements and rights-of-way to a park, open space and/or conservation land or for use by emergency vehicles shall be secured for the benefit of the Town and shall be a minimum of 25 feet wide.
- (d) Trail Easements. Trail easements shall be secured where applicable for the benefit of the Town and shall be at least 10 feet wide.
- (e) Sight Distance Easements. Where there is the possibility of a sight obstruction at an intersection or curve, an easement shall be secured for the Town which will insure proper safety of pedestrian and vehicular traffic.
- (f) Slope Easements. Where terrain outside the right-of-way warrants additional grading to meet the intent of these rules and regulations, a temporary slope easement shall be established for the construction of the slope and any retaining structures. Following its construction, the slope easement shall be disbanded and the owner of such slope shall maintain the slope and structures to insure no trespass of eroded material onto the way or abutting property.



### 5300. OPEN SPACE

Before approval of a plan, the Board may require the plan to show open space for preservation and/or recreation purposes.

#### 5310. Criteria for Open Space

Open space is considered to be land set aside and reserved for the public. Open space may or may not include a park area for playground and/or ball field purposes.

The Board may require any or all of the following criteria for open space and/or park area within a subdivision:

- (a) Any open space shall contain a minimum of 1 acre or 10 percent of the gross land area of the subdivision, whichever is greater.
- (b) Any open space shall connect to the street system and have a minimum continuous frontage along the street of 50 feet.
- (c) Any open space shall be so located as to serve adequately all parts of the subdivision.
- (d) Any open space shall be located and laid out so as to be used in conjunction with similar areas of adjoining subdivisions or probable subdivisions.
- (e) Any open space shall be graded to dispose properly of surface water and shall be left in condition for the purpose intended.
- (f) Any open space land so reserved may contain the subdivision stormwater detention and/or retention pond(s). However the area of the basin (including its sides) shall not be considered to qualify as open space.
- (g) Any open space so reserved may contain land considered wetlands such as "Land Under water Bodies and waterways" or "Bordering Vegetated Wetlands" as defined under 310 CMR 10.00 Massachusetts Wetlands Protection Act. However, this wet area shall not be considered to qualify as open space.
- (h) The applicant shall provide an entry sign at all existing and/or future trail heads. The design and appearance of the entry sign shall be consistent with other trail entry signs located throughout Town. Boundary markers, obtained through the Conservation Commission, shall be installed on all corners and every 100 feet of the open space property boundary. The applicant shall also provide parking for trail heads at the request of the Board.
- (i) Monuments shall be installed at all points of change in direction or curvature of the open space property boundary. Monuments shall be 5 inches by 5 inches granite or concrete, embedded 3.75 feet below finished grade (except in cases of ledge where the Board may choose an alternative or reduce the required depth). Monuments shall be 3 inches above the finished ground surface. Drill holes shall be placed in the top of each monument.

The Board may by appropriate endorsement on the plan require that no building be erected upon such open space without its approval. Such open space may be required to have maintenance provided for by covenants and agreements acceptable to the Board, until public acquisition is accomplished by the Town.

#### **5400. EROSION AND SEDIMENT CONTROL**

- (a) The applicant shall control erosion and sedimentation during construction as required for the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities greater than 1 acre. A copy of the Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the Board or its agent prior to construction.
- (b) SWPPP inspection reports shall be submitted as outlined in the NPDES Construction General Permit to the Board, Conservation Commission, and their approved agents in an electronic format (PDF). The applicant is responsible for implementing all erosion and sediment control measures and ensuring the proper function of these controls.
- (c) Land shall be developed in increments of workable size which can be completed during a single construction season. Erosion and sediment control measures shall be coordinated with the sequence of grading, development, and construction operations. At a minimum, perimeter controls shall be put into effect prior to the commencement of each increment of the development/construction process.
- (d) Construction vehicles and equipment shall access existing streets from the construction site using stabilized construction entrances to prevent tracking of sediment. Construction entrances shall be a minimum of 100 feet long by 25 feet wide and shall consist of 6 to 10 inch diameter stone on top of filter fabric. As construction of the proposed streets advances, the stabilized construction entrances may be removed at the approval of the Board or its agent.
- (e) The applicant shall identify suitable locations for staging of equipment/material and stockpiling of any soil, pavement or other construction materials including port-a-johns and trailers.
- (f) Sediment basins (detention basins, desilting basins, or silt traps) shall be installed in conjunction with the initial grading operations and maintained through the development process to remove sediment from runoff waters draining from land undergoing development.
- (g) All storm drain inlets shall be protected during construction until final stabilization of the site has been achieved. The applicant shall install inlet protection as soon as storm drain inlets are installed and before soil-disturbing activities begin in areas with existing storm drain systems.
- (h) The applicant shall be responsible for stabilizing soils promptly during construction. Soil stabilization measures shall be implemented when earth-disturbing activities within any area of the subdivision (excluding areas designated for permanent structures) have permanently or temporarily ceased (when clearing, grading, and excavation will not resume for a period of 14 or more calendar days, but will resume in the future).
- (i) Soil stockpiles shall be managed appropriately through wet suppression, seeding, or synthetic covers. Soil stockpiles left inactive for a period of 14 or more calendar days shall be protected.
- (j) The applicant shall be required to clean up any sand, dirt, or debris which erodes from the subdivision onto any existing street or private property, and to remove silt or debris that enters any existing drainage system including catch basins sumps, pipe lines, manholes, and ditches.
- (k) If it is determined by the Board, its agent or other town officials that the erosion control plan is not working, then the plan shall be revised and submitted to the Board for review and approval. Failure to respond shall result in "cease and desist" of all site activity until the revised plan is approved by the Board.

## SECTION 6000: CONSTRUCTION SPECIFICATIONS

Standards of construction not otherwise specified hereunder shall be according to MassDOT Standard Specifications for Highways and Bridges and MassDOT Construction Standard Details (current editions).

### 6100. GENERAL

- (a) The terms applicant, contractor, and subdivider used throughout this section shall all refer to the owner at the time of the construction. It shall be the owner's responsibility to insure that the construction standards are followed and that all of his representatives uphold those standards while maintaining the safety of others.
- (b) Written notice from the applicant shall be sent to the Board advising the Board that construction will commence not sooner than seven (7) days from the date of the notice given.
- (c) All improvements specified or implied on the definitive plan shall be constructed in accordance with the approved plans. The owner shall insure that the Board has two (2) full-size paper prints of the plans, two (2) 11 inches by 17 inches paper prints of the plans and a set of reproducible plans (mylars) prior to construction.
- (d) A copy of the approved plans, conditions of approval and these rules and regulations shall be maintained on site.
- (e) As each construction operation is completed, it shall be inspected and approved by the Board or its agent prior to starting work on the succeeding operation.
- (f) All improvements shall be installed at no cost to the Town unless specifically authorized by the Selectmen.
- (g) During construction, the contractor shall be responsible for communicating and/or providing the following to the Town:
  - 1. construction schedule;
  - 2. construction phasing;
  - 3. SWPPP inspection reports;
  - 4. fill material records;
  - 5. installation and maintenance of erosion and sedimentation controls;
  - 6. location of staging areas for equipment and materials;
  - 7. types and numbers of vehicles and vehicle trips involved with construction; and
  - 8. identification of all other contractors, field engineers, and professionals involved in the construction of the subdivision.
- (h) All erosion and sedimentation control measures shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediment be deposited in a wetland or waterbody. During construction, the contractor shall inspect the erosion controls on a daily basis and shall remove accumulated sediment as needed. The contractor shall immediately control any erosion problems that occur at the site and shall also immediately notify the Board or its agent (refer to Section 5400).
- (i) The contractor shall provide fences, barriers, erosion control, warning lights, police officers, signs and other safety features as may be necessary for the protection of the public when working within a public

way or area, or when deemed necessary by the Board, or other town safety official, at no cost to the Town.

- (j) All pavement, drain lines and underground municipal services shall be laid out as to line and grade by a registered civil engineer or registered land surveyor. All right-of-way lines shall be laid out as to line by a registered land surveyor. The contractor shall facilitate inspection of work and provide for the requested tests of materials by independent laboratories for quality control at no cost to the Town. Sieve analysis tests will be required on gravel borrow material and other material as requested by the Board and/or its agent. Compaction tests will be required on all materials used as fill, roadway and sidewalk base materials, etc. Testing shall be performed at no cost to the Town. A full report shall be submitted to the Board for review.
- (k) Construction activities shall occur Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m., Saturdays at the approval of the Board and shall exclude Sundays and federal holidays. For this condition, construction activities shall include, but not be limited to: start-up of equipment or machinery, delivery of building materials and supplies, removal of trees, grubbing, clearing, grading, filling, excavating, import or export of earth materials, installation of utilities both on and off the site, demolition of existing structures, removal of stumps and debris and erection of new structures, etc.
- (l) Any fill used in connection with the proposed subdivision shall be clean fill, debris-free, and devoid of invasive plants or their parts or seeds. Fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing. The applicant shall maintain records of where fill is coming from and provide these records to the Town.
  - 1. At the discretion of the Board, the contractor shall be responsible for providing chemical analysis of any fill material deemed suspicious or potentially harmful to the Town. Testing of said material shall be conducted by a laboratory certified by the Massachusetts Department of Environmental Protection at no cost to the Town. Results of the analysis shall meet the Massachusetts Contingency Plan (MCP) Method 1 Soil Category S-1 Standards in accordance with 310 CMR 40.0975(6)(a). All material determined to be unsuitable for residential use shall be removed from the site.
- (m) Construction workers operating excavators, backhoes, front end loaders, unloaders, skid loader, skid steer loaders, compact loaders or similar devices, lattice cranes, derricks, cranes with or without wire rope; all Fork Lifts, powered industrial lift trucks, overhead hoists (underhung), overhead cranes, underhung cranes, monorail cranes, lifting devices, cableways, and powered platforms, must be licensed in accordance with Section 53 of G.L. Chapter 146.

## **6200. STANDARDS OF CONSTRUCTION**

### **6210. Survey**

Prior to and during construction, all lines and grades necessary for the construction and inspection of the subdivisions shall be field staked.

### **6220. Clearing and Grubbing**

- (a) Prior to clearing and grubbing, all erosion control measures shall be in place per the plans and the Conservation Commission Order of Conditions.
- (b) The entire area of each street or way within its exterior lines and its adjoining sloped areas shall be cleared of all stumps, brush, roots, boulders, like material, and all trees not intended for preservation. If any large boulders or trees remain within the street lines which may, in the opinion of the Board, constitute a future hazard, the Board may require that they be removed to a depth of not less than 12 inches below the bottom of the street foundation.

- (c) Remaining trees shall be protected from mechanical injury during construction and from adverse changes and/or excavations as recommended in U.S. Department of Agriculture Bulletin 104 (April 1965). Trees existing within right-of-way or easements shall be so protected in such other ways as required by the Board. Where individual trees in fill or cut areas are to be saved, the contractor shall provide adequate tree wells or other suitable protection so that the original ground for a distance around the tree trunk is not covered over.

#### 6230. Excavation and Backfill

- (a) The full length and width of the proposed roadway pavement area shall be excavated or filled, as necessary, to at least the depth of the pavement structure. However, if the soil is soft and spongy, or contains undesirable material such as clay, peat, or any other material detrimental to the subgrade, such material shall be removed and replaced with a sand, gravel, crushed stone, or other suitable material in accordance with MassDOT Standards and thoroughly compacted as per Section 6230(c) on top of filter fabric.
- (b) Ordinary borrow in accordance with MassDOT Standards, M1.01.1, shall be used as fill material to create slopes and embankments. Ordinary borrow shall be a well graded material with a maximum stone size of 8 inches in its largest dimension. All stones greater than 8 inches shall be removed prior to the placement of the material.
- (c) All fills shall be placed in 8 inch maximum lifts below the road sub-base, shall be of an approved material containing not more than 10 percent material by weight passing the 200 sieve and each lift shall be compacted to not less than 95 percent maximum dry density of the material by determining by the standard AASHTO test designation T99 compaction test method at optimum moisture content.
- (d) Ledge occurring anywhere in the full cross-section of the roadway must be cleared to a minimum of 3 inches below the pavement structure.

#### 6240. Side Slopes and Embankments

- (a) Embankments outside the right-of-way shall be evenly graded and pitched at a slope of not greater than 4:1 (H:V) horizontal to vertical. Where cuts are made in ledge, other slopes may be approved by the Board. Where terrain necessitates greater slopes, retaining walls, terracing, fencing, or rip-rap may be used to provide safety and freedom from maintenance, but must be done in accordance with plans filed with (and approved by) the Board. Slopes and embankments with 3:1 (H:V) or flatter slopes shall be loamed and seeded as per Section 6250(a).
- (b) The area in back of the sidewalk within the right-of-way shall be sloped at the maximum slope of 3:1 (H:V) and shall be loamed and seeded as per Section 6250(a), or kept in a natural, neat and maintained condition in areas where cuts and fills did not obliterate existing trees and foliage, or sloped with a greater ratio H:V with proper embankment stabilization as described in the above Section 6240(a).
- (c) Guardrails are required where embankments of fill are greater than 2:1 (H:V).

#### 6250. Landscaping: Loam, Seed and Trees

- (a) The top 6 inches of grassed areas shall consist of loam borrow in accordance with MassDOT Standards, M1.05.0 (no stones over 1 inch in its largest dimension), good quality loam, screened raked and rolled with a suitable roller to grade. The required depth of loam shall be measured after rolling. Fertilizer shall be applied and mixed with the upper 2 inches of loam at the rate of 30 pounds per 1000 square feet. Fertilizer shall be a complete commercial fertilizer grade suitable for the topsoil to which it will be applied. Suitable permanent grass seed shall be spread to provide a thick solid lawn cover. The contractor shall maintain the grassed area for a period of one (1) year minimum to insure its stability and lack of weeds.

- (b) A grass plot (or shoulder) 5 feet wide (minimum) shall be provided between the curbing and sidewalk areas for streets which require sidewalks or along each side of the road. The grass plot shall have a slope 3/8 inch per foot draining towards the road (unless topographic conditions warrant otherwise).
- (c) Street shade trees of a species approved by the Board shall be planted on each side of each street in a subdivision, except where the definitive plan shows existing trees to be retained and preserved. Such trees shall be located on the grass plot, spaced 75 feet on center, at least 12 feet in height when planted, and shall be 2 to 2 1/2 inch diameter at breast height.
- (d) The owner of the subdivision shall plant other trees as needed to provide at least one area of shade on each lot.
- (e) All trees shall be planted in a minimum of 0.5 cubic yard of loam. Trees shall be properly wrapped and guyed in a manner to insure their survival. The contractor shall maintain the trees for a one (1) year period minimum to insure their survival and to enhance their aesthetic value, by pruning and fertilizing as needed. If any trees die within one year minimum, they shall be immediately replaced by the contractor.

6260. Street Construction Specifications

6261. Cross Sections

Cross section(s) of the street construction shall be shown on the definitive plan. All roadways shall be brought to finish grade as shown on the profiles of the definitive plan.

6262. Gravel Borrow

The gravel borrow shall be spread in two layers as per MassDOT Standards, Section 401.60. Before the gravel is spread, the roadbed shall be shaped to a true surface conforming to the proposed cross-section of the road. The bottom 8 inch layer shall be spread and rolled with gravel in accordance with MassDOT Standards, M1.03.0, Type A (no stones over 6 inches in its largest dimension). The top 4 inches shall be spread and rolled with a gravel in accordance with MassDOT Standards, M1.03.0, Type B (no stones over 3 inches in its largest dimension). Sieve analysis tests must be performed on the gravel material and accepted by the Board and/or its agent prior to installing the material.

All layers shall be compacted to not less than 98 percent of the maximum dry density of the material as determined by the standard AASHTO test designation T99 compaction test method at optimum moisture content. The gravel shall be fine graded to a tolerance of 1/2 inch plus or minus within the finished subgrade for a distance of not more than 50 feet (as long as the required crown is maintained). The specified subbase shall not be prepared after a large rainstorm (when the ground is unstable due to excessive moisture) or during freezing weather, or when ground is frozen.

6263. Setting Drainage Structures

Prior to installation of binder course, all catch basins frames and grates and all manhole frames and covers shall be set to binder grade.. Prior to installation of the top course all catch basin frames and grates and all manhole frames and covers shall be set to finished grade and set in concrete. The concrete shall be flush with the binder course to allow the top course to be flush with rim grade.

The contact surface of manholes, catch basins, other appurtenant structures in the pavement, and the abutting pavement of existing roads shall be painted thoroughly with a thin uniform coat of bitumen just before any bituminous concrete mixture is placed against them.

6264. Hot Mix Asphalt (HMA)

The paving shall consist of a binder course (a minimum 4 inches compacted thickness for a major or secondary streets and a minimum 3 inches compacted thickness for minor streets and lanes) followed by a wearing course (a minimum 2 inches compacted thickness) in accordance with MassDOT Standards,

Section 460, Class I bituminous concrete pavement, Type 1.1. The pavement cross slope shall be pitched 1/4 inch per foot from the centerline to the gutter line. The bituminous binder shall not be applied between November 15 and April 1.

Equipment having crawler tracks or other treads that mark or damage pavement shall not move or operate on newly constructed pavement unless precautions are taken to prevent damage to pavements.

6265. Street Signs and Names

- (a) Street Signs. The subdivider shall furnish and erect necessary street signs to designate the name of each street in the development, after recommendation of the Board, said signs to conform to those used by the Town. Each street sign shall be erected prior to the issuance of the first building permit on said street. Until such time as each street is accepted by the Town as a public way, the sign posts at the intersection of such street with any other street shall have fixed thereto a sign designating such street as a private way.
- (b) Street Names. Street names shall be approved by the Board to prevent duplication and to provide names in keeping with the character of the Town.

6266. Street Lights

- (a) At the discretion of the Board, street lights may be required on all streets.
- (b) Street lights shall be installed to conform to type and style in general use in the Town.
- (c) Street lights shall be located at intervals as required by the Board.

6267. Curbing

Curbing is required on both sides of major, secondary and minor streets and shall be as follows:

- (a) Bituminous concrete curb (Type 2), cape cod berm or sloped granite edge in accordance with MassDOT Standards.
- (b) All curves having a radius of 60 feet or less at the street line shall have the gutter line curbed with vertical granite curbing cut to fit the curve.
- (c) Granite curb inlets shall be provided at all catch basins.
- (d) Curb transitions are required for all handicap ramps.
- (e) Lanes do not require curbs, however the gravel borrow base on lanes shall extend a minimum of 12 inches beyond the edge of the pavement and up to finish grade for a firm road shoulder.

6268. Sidewalks, Walkways and Bicycle Paths

- (a) Sidewalk Widths and Locations. Sidewalks shall be a minimum of 4 feet in width and constructed in accordance with the requirements of the Massachusetts Architectural Access Board and MassDOT Standards. In general, sidewalks shall be constructed within the street layout and located as follows: on each side of the street for major and secondary streets, on one side of the street for minor streets and lanes, and on existing public streets upon which the subdivision has frontage. Where applicable, sidewalks may end at the beginning of cul-de-sacs. If necessary, sidewalks shall be designed around public shade trees and may meander around street side utilities and equipment such as hydrants, mailboxes, utility poles, etc. Handicap ramps and extensions of sidewalks shall be provided at all street intersections in accordance with the requirements of the Massachusetts Architectural Access Board and MassDOT Standards.
- (b) Gravel Borrow Base for Sidewalks, Walkways and Bicycle Paths. All materials shall be removed for

the full width of the sidewalk, walkways or bicycle path to subgrade 10 inches below the finished grade; all soft spots and other undesirable material below such subgrade shall be replaced with common borrow in accordance with MassDOT Standards, M1.01.1, and compacted with a vibratory roller.

This excavated area shall then be filled with 8 inches of sidewalk compacted gravel borrow in accordance with MassDOT Standards, M.1.03.0, Type B, and rolled with a pitch toward the curb of not less than 1/4 inch nor greater than 3/8 inch to the foot.

- (c) Bituminous Pavement for Sidewalk, Walkways and Bicycle Paths. Bituminous pavement shall be 2 inches compacted thickness to be applied in two courses (1 inch binder and 1 inch finish courses).
- (d) Walkways and bicycle paths shall be required where appropriate to improve circulation and connections with the existing, proposed and potential future streets and ways.
- (e) Bicycle paths shall be constructed a minimum width of 10 feet.
- (f) Waivers. The subdivider shall be required to donate to the Pedestrian Mobility Fund in the event that the Board grants a waiver to eliminate sidewalk or portions of sidewalk. The amount donated to the Fund shall be equal to the cost to construct the sidewalk.

#### 6270. Utility Specifications

##### 6271. Drainage Construction Specifications

- (a) All detention and/or retention basins shall be excavated, loamed and seeded prior to the closed drainage system installation. This will allow the drainage system to function throughout the various construction phases.
- (b) The drainage lines shall be laid with the bell ends upstream, beginning at the lower end of the drainage system.
- (c) Trench Excavation: Those specifications in Section 6230(a) shall also apply for trench excavation in unsuitable spongy soil material. For ledge occurring in pipe trenches, the ledge must be cleared (blasted if necessary) a minimum of 6 inches below and on both sides of the pipe. Excavation in earth shall be to a depth of 9 inches lower than the bottom of the pipe. Trenches shall be shaped to give the pipe a continuous and even bearing. The minimum width of trench shall be 3 feet or 2 feet plus pipe diameter, whichever is greater.
- (d) Pipe Bedding: Gravel borrow in accordance with MassDOT Standards, M1.03.0, Type C, or crushed stone in accordance with MassDOT Standards, M2.01.2, to the pipe's spring line, compacted to 95 percent in 6 inch lifts.
- (e) Pipe Laying: The pipe line shall be laid to the grades and alignment indicated on the approved definitive plans. While laying the pipe, the contractor shall remove, by pumping or other suitable means, any water accumulated in the trench, keeping the trench dry until the joints are properly connected and inspected. Joints in accordance with MassDOT Standards.
- (f) Backfilling:
  - 1. First Layer (from the pipe's spring line to 12 inches over the top of the pipe) shall be sand borrow in accordance with MassDOT Standards, M1.04.0, Type A, compacted to 95 percent in 6 inch lifts.
  - 2. Second Layer Backfill (above the first layer) shall be select backfill in accordance with MassDOT Standards, M1.02.0 (no stones over 3 inches in its largest dimension), compacted to 95 percent in one foot lifts.



- (g) The drainage system shall be cleaned and maintained by the owner throughout construction and until the road has been accepted by the Town. Erosion control measures and other necessary precautions shall be taken to prevent silt and debris from accumulating.

6272. Other Public Utilities

Installation of telephone and electric lines and service connections shall be underground.

6273. Utility Extension

Where adjacent property is not subdivided or where all the property of the applicant is not being subdivided at the same time, provision shall be made for the extension of the utility system by continuing the mains the full length of streets and to the exterior limits of the subdivision, at such grade and size which will, in the opinion of the Board, permit their proper extension.

6274. Laterals

All utility service stubs (laterals) shall be installed and capped off at the edge of the right-of-way for every lot with appropriate ties (and/or location markers) to enable the quick recovery of such laterals without excavation within the right-of-way.

6275. Notify "DIGSAFE"

The contractor shall notify the Massachusetts Public Utilities Underground Plant Damage Prevention System, called "DIGSAFE", at 1-888-344-7233 at least 72 hours prior to digging or excavating on public or private property in accordance with Section 40 of G.L. Chapter 82.

6280. Monuments

Monuments shall be installed on both sides at all intersections of streets with each other, at all points of change in direction or curvature of streets, and at all such other points as in the opinion of the Board may be necessary to show the location of projected streets or easements. Monuments shall be 5 inches by 5 inches granite or concrete, embedded 3.75 feet below finished grade (except in cases of ledge where the Board may choose an alternative or reduce the required depth). Monuments shall be 3 inches above the finished ground surface. Drill holes shall be placed in the top of each bound. No permanent monuments shall be installed until all road construction which would destroy or disturb the monuments is completed. A letter from the surveyor shall be submitted certifying that the monuments have been installed as indicated on the definitive plan.

6290. Cleaning Up

The entire area must be cleaned up to leave a neat and orderly appearance free from debris and other objectionable materials.

6300. Damage to Existing Streets

Any damage to existing streets caused by the construction of the subdivision shall be repaired and paid by the applicant. The applicant is responsible for documenting before and after conditions of these roads as proof for determining damage caused by the construction of the subdivision. A copy of this documentation at time of recording shall be provided to the Director of Public Works for review and approval. Final release of any sureties shall not be made until any damage to existing streets caused by the construction of the subdivision are repaired and pass inspection by the Director of Public Works (refer to Section 4344).

**SECTION 7000: ADMINISTRATION OF SUBDIVISION FOLLOWING BOARD  
APPROVAL OF THE DEFINITIVE PLANS**

**7100. EVIDENCE OF SATISFACTORY PERFORMANCE**

Before the Board will release in whole or in part the interest of the Town in a performance bond, deposit or securities (or, in the case of approval with covenant: release of covenant), the applicant shall complete to the satisfaction of the Board the following:

**7110. Street Acceptance and As-Built Plans**

The applicant shall submit two (2) copies and one (1) mylar of the Street Acceptance Plan and As-Built Plan at a scale of 40 feet to the inch at size 24 inches by 36 inches, plus a copy on disc or via another commonly used electronic media storage or transmission device in PDF and a format compatible with ArcGIS and registered to the Massachusetts State Plane Coordinate System. All elevations shall refer to NAVD88.

Copies of each shall be filed with the Board of Selectmen:

7111. Street Acceptance Plan. The applicant shall file with the Board of Selectmen a certified "Street Acceptance Plan" (or, in the case of approval with covenant, a plan of the street ways serving the lots for which a release is desired), prepared by a registered land surveyor, showing the dimensions and directions of the way, and showing monuments installed. The surveyor shall certify on the plan that the monuments have been accurately installed in accordance with these rules and regulations. This plan shall be suitable for recording or registration.
7112. As-Built Plan. The applicant shall file an "As-Built Plan," prepared by a registered civil engineer or land surveyor, and shall bear a statement certifying that streets, storm drains, and other infrastructure have been constructed in accordance with these rules and regulations and any conditions approved by the Board. Said plan shall include a centerline profile (8 feet per inch on the vertical scale and 40 feet per inch on the horizontal scale) taken at 50 foot intervals along the street (25 foot intervals at vertical curves) as it has been completed.

**7120. Inspection Records**

The applicant shall be responsible for obtaining and submitting to the Board written evidence that the construction of the subdivision road and infrastructure was inspected and approved by the Board or its agent and that all improvements have been fully completed in accordance with these rules and regulations.

The owner shall schedule a pre-construction conference to discuss the construction schedule and review the conditions of the definitive plans and all other permits with the contractor.

The owner shall request to the Board or its agent inspections at least 48 hours in advance. If in the opinion of the Board, the developer/contractor abuses inspectional services or additional inspectional services are required, the developer shall pay for them.

**7130. Conveying Title to Streets**

The applicant shall provide to the Town the proposed deed in electronic Word format conveying the fee in the street plus the associated easements to the Town, and legal evidence that the fee in the street has not been inadvertently conveyed to abutting lot owners.

**7140. Conveying Title to Utilities**

The applicant shall execute an instrument transferring to the Town, without cost, valid unencumbered title to all utilities and appurtenances thereto, constructed and installed in the subdivision or approved portion thereof, and conveying to the Town without cost and free of all liens and encumbrances, perpetual rights and easements to

construct, inspect, repair, renew, replace, operate and forever maintain such utilities, and to do all acts incidental thereto, in, through and under the whole of all streets in the subdivision or approved portion thereof, and if any such utilities have been constructed and installed in land not within such streets, then in, through and under a strip of land extending 10 feet in width on each side of the centerline of all such utilities.

#### 7150. Conveying Title to Easements

The applicant shall execute an instrument transferring to the Town, without cost, valid unencumbered title to all easements established in connection with the subdivision or required by the Board in the definitive plan. Legal description of the easement by metes and bounds shall appear in the deed and provided to the Town in electronic Word format.

#### 7160. Copy of Recorded Deed(s) for Open Space

The applicant shall provide to the Town a copy of recorded deed(s) and other instruments for any common land or public open space, park or other such parcels contained within the subdivision.

#### 7170. Additional Testing

If additional testing is required to confirm or verify the suitability of as-built conditions, such shall be the responsibility of the applicant under the direction of the Board or its agent.

#### 7180. Taxes Paid in Full

The applicant shall provide written evidence from the Town Treasurer that all property taxes owed to the Town for land contained within the subdivision owned by the applicant or by the original developer, or his/her successors in interest have been paid to the Town.

#### 7190. Release of Performance Guarantee

Upon the completion of improvements, security for the performance of which was given by bond, deposit or covenant, or upon the performance of any covenant with respect to any lot, the applicant may send by registered mail to the Town Clerk a written statement in duplicate that the said construction or installation in connection with such bond, deposit or covenant given has been completed in accordance with these rules and regulations. The statement shall contain the name and address of the applicant, and the Town Clerk shall present a copy of said statement to the Board.

If the Board determines that said construction or installation has been completed, it shall notify the Town Treasurer in writing that it releases the interest of the Town in such bond or deposit, and that such bond or deposit shall be returned to the person or persons who furnished same. In the case of a covenant, the Board shall issue a written release of the covenant suitable for recording. However, 10 percent of the value of the bond shall be held by the Town for one year after completion of construction or until the streets are accepted by the Town, whichever comes first.

Prior to releasing the Town's interest in a performance bond or deposit or covenant, the Board shall receive from the applicant written statements of approval from the Department of Public Works Director, Board of Health, Fire Department, and Conservation Commission, or 15 days shall lapse after the applicant's request for said approval without action from such.

If the Board determines that said construction or installation has not been completed, it shall specify to the applicant in writing the details wherein said construction and installation fail to comply with these rules and regulations. Upon failure to so specify within 45 days after the Town Clerk has received the applicant's statement of completion, all obligations under the bond shall cease and terminate by operation of law, any deposit shall be returned and any such covenant shall become void. In the event that said 45-day period expires without such specification, or without the release and return of the bond or release of the covenant as aforesaid, the Town Clerk shall issue a certificate to such effect, duly acknowledged, which may be recorded.

The Board may release from such covenants only those lots for which installation of ways and services has been completed in accordance with these rules and regulations.