TOWN OF KINGSTON
Massachusetts

Rules and Regulations
Governing the
Subdivision of Land

Adopted by the Kingston Planning Board
Under the Subdivision Control Law, Sections
81K to 81GG inclusive, Chapter 41 of the
General Laws of Massachusetts

Approved by the Planning Board October 26, 1970
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RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND
KINGSTON, MASSACHUSETTS – 2001

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SECTION 1.0. AUTHORITY, PURPOSE AND EFFECT

1.1. Authority

1.1.1. Under the authority in the Planning Board of the Town of Kingston by Section 81-Q of Chapter 41 of the General Laws, said Board hereby adopts these rules and regulations governing subdivision of land in the Town of Kingston.

1.2. Purpose

1.2.1. These subdivision regulations have been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the Town by regulating the laying out and construction of ways in subdivisions providing access to the several lots therein, but which have not become public ways, and insuring sanitary conditions in subdivisions and in proper cases parks and open areas. The powers of the Planning Board and of the Board of Appeals under these regulations shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways; for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for insuring compliance with the applicable zoning by-laws; for securing adequate provision for water distribution, sewerage, drainage, underground utility services, fire, police and other municipal equipment, protection of natural water sources, flood control wetland areas, and other requirements where necessary in a subdivision; for protecting, promoting and enhancing the natural beauty and amenities of the Town; and for coordinating the ways in a subdivision with each other and with the ways in neighboring subdivisions.

1.3. Effect

1.3.1. The following rules and regulations shall from and after the effective date thereof govern the subdivision of land within the Town of Kingston and no person shall subdivide land in the Town of Kingston after such effective date without complying with these regulations and first obtaining from the Planning Board either approval of the Definitive Plan for the proposed subdivision or the endorsement "Approval Under the Subdivision Control Law Not Required" upon such plan. The effective date is when the Board has notified the Register of Deeds and the Recorder of the Land Court of their adoption.

1.3.2. Within a 40R Smart Growth District the design standards and procedures identified in the Kingston Smart Growth District Design Standards and Procedures dated March 19, 2007, as amended will apply. In the case of inconsistency between the Rules and Regulations Governing the Subdivision of Land and Kingston Smart Growth District Design Standards and Procedures the Design Standards, shall govern. In the case of inconsistency between the District Bylaw and these Design Standards, the District Bylaw shall govern. In the case of inconsistency between applicable state or federal laws, including, without limitation, state building codes or life safety codes, and these Design Standards, the applicable state and federal laws, rules and regulations shall govern. (Amended June 22, 2009)
§1.3.3. The Planning Board may grant waivers from the Rules and Regulations Governing the Subdivision of Land where opportunities exist to incorporate Low Impact Development strategies. Low Impact Development is a way to protect the environment and reduce construction costs at the same time. Conventional design and construction methods generally use expensive systems of curbs, gutters, pipes, and ponds to collect and treat runoff. In contrast, the Low Impact Development approach uses a more decentralized approach; the idea is to reduce the amount of runoff and treat it closer to the source using smaller, less expensive techniques. Basic design strategies seek to reduce the extent of rooftops and paved areas, use infiltration techniques such as bioretention areas and grass swales, and design the site to protect natural features that improve water quality. Acceptable techniques including some of those listed below can be found with the Massachusetts Low Impact Toolkit contained in the Massachusetts Smart Growth/Smart Energy Toolkit http://www.eot.state.ma.us/smartgrowth/07toolkit/LID/LID.html

- Careful site design
- Narrow roadways
- Smaller parking areas
- Bioretention areas (also known as Rain Gardens)
- Vegetated swales
- Grassed filter strips
- Infiltration trenches and dry wells
- Rain barrels and cisterns
- Green roofs

(Amended June 22, 2009)
SECTION 2.0 GENERAL

2.1. Definitions

2.1.1. Where the terms below are defined also in Chapter 41, Section 81-L, the definition in said Chapter shall govern, unless a contrary intention clearly appears. In addition, the following words shall have the following meaning:

2.1.2. As used in these rules and regulations, the following words or terms shall have the following meanings:

Applicant. A person, as hereinafter defined, who applies for the approval of a plan of a subdivision or a person who applied under Section 3.0. "Applicant" shall include an owner, or his agent or representative, or his assigns. (See Chapter 41, Section 81-L, GL.)

Bench Mark. A mark made in a durable object of known position and elevation as a reference point.

Bikeway. A way designed for travel on a bicycle or similar unpowered vehicle.

Board. The Planning Board of Kingston.

Certified By. Certified by or endorsed by the Planning Board, as applied to a plan or other instrument required or authorized by the subdivision control law to be recorded, shall mean bearing a certification or endorsement signed by a majority of the members of the Planning Board, or by its chairperson or clerk or any other person authorized by it to certify or endorse its approval or other action and named in a written statement to the Register of Deeds and Recorder of the Land Court, signed by a majority of the Board. (Section 81-L of Chapter 41. G.L.)

Common Driveway. Any drive, right-of-way or private way which provides access to two (2) lots but which does not qualify as a street for determining frontage under Chapter 40A and 41 of the General Laws of Massachusetts.

Designer. A Professional Civil Engineer, Landscape Architect or Land Surveyor registered to practice in Massachusetts. All work defined as professional engineering or surveying shall be done by or under the direct supervision of a registered professional engineer or surveyor.

Develop. To construct a street, install utilities, erect a house or other structure, or in any way to improve a lot substantially.

Developer. A person (as hereinafter defined) who develops under a plan of a subdivision approved under Section 3.0. of these Rules and Regulations.

Easement. A right acquired by public authority or other person to use or control property for a utility or other designated public purpose.

Frontage. The linear extent of a lot measured in a continuous line along the street right-of-way from the intersection of said right-of-way with one side lot line to the intersection with the other side lot line of the same lot, but not including any portion thereof devoted to a right-of-way or a driveway serving more than...
one lot or dwelling unit. Frontage must provide vehicular access to the lot from the right-of-way counted for
frontage unless otherwise approved by the Planning Board on a Definitive Plan submitted in accordance
with Chapter 41, General Laws or approved by the Planning Board in the same manner as a Definitive Plan.
(See also Section 2.7.1.)

General Laws, any citation of particular sections of the General Laws shall be applicable to the
Corresponding sections in the new codification.

Lot. An area of land in one (1) ownership with definite boundaries used, or available for use, as the site of
one (1) or more buildings and buildings accessory thereto. (Section 81-L of Chapter 41 G.L.)

Low Density Area. An area where the lots are used for single family dwellings and where each lot is at least
thirty thousand (30,000) square feet.

Monument. A permanent marker to indicate a boundary.

Municipal Service. Services such as sewers, water drains, water pipes, gas pipes, electrical lines, telephone
lines, fire alarm system, cable, similar systems and their respective appurtenances. (Section 81-L of Chapter
41 G.L.)

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.

Person. An individual, or two (2) or more individuals, or a group or association of individuals, a partnership
or a corporation having common or undivided interests in a tract of land.

Plan: Approval Not Required. A plan of a proposed subdivision or resubdivision of land prepared and
submitted in accordance with Section 3.0. with the appropriate application to the Planning Board meeting all
of the requirements for Approval Not Required.

Plan: Definitive. The plan of a proposed subdivision of land prepared and submitted in accordance with
Section 3.0. to the Board for approval (with appropriate application) to be recorded in the Registry of Deeds
or filed with the Land Court when approved by the Board, and such plan when approved and recorded; all as
distinguished from a preliminary plan.

Plan: Preliminary. A plan of a proposed subdivision, or resubdivision of land prepared and submitted
together with the appropriate application in accordance with Section 3.0. to facilitate the proper preparation
of a definitive plan.

Planned Residential Development: A development in accordance with Section 5.3. of the zoning Bylaw of
the Town of Kingston.

Planning Board Agent. Town employee or consultant authorized by the Planning Board to review
subdivisions and administer the regulations.

Recorded. Recorded shall mean recorded in the Registry of Deeds of Plymouth County, except that, as
affecting registered land, it shall mean filed with the Recorder of the Land Court. (Section 81-L of Chapter
41 G.L.)

Kingston – September 1993 as amended
Registry of Deeds. Registry of Deeds shall mean the Registry of Deeds of Plymouth County, and when appropriate, shall include the Land Court. (Section 81-L of Chapter 41 G.L.)

Roadway. That portion of a way which is designed and constructed for vehicular travel.


Sidewalk. A way within the street right-of-way, generally parallel to the street, designed for use by pedestrians.


Street. A way either shown on a definitive plan submitted, approved and recorded in accordance with the subdivision control law or otherwise qualifying a lot for frontage under the subdivision control law.

Street, Major. A street intercepting one (1) or more minor and/or secondary streets (s) and which, in the opinion of the Board, is used or will be used to carry a substantial volume of traffic (generally, over four hundred (400) vehicles per day) from such minor and/or secondary street (s) to a major street or community facility, and normally including a principal entrance street to a shopping center, industrial park, planned residential area, or a large subdivision, or group of subdivisions, and any principal circulation street within such subdivision.

Street, Minor. A street which, in the opinion of the Board, is being used or will be used primarily to provide access to no more than ten (10) abutting lots and which is not designed to be used for through traffic.

Street, Primary. A street which, in the opinion of the Board, is being used or will be used as a thoroughfare within the Town of Kingston or which will otherwise carry a heavy volume of traffic (generally, over fifteen hundred (1500) vehicles per day).

Street, Secondary. A street which, in the opinion of the Board, will normally carry between one hundred (100) and four hundred (400) vehicles per day.

Subdivision. "The division of a tract of land into two (2) or more lots and shall include re-subdivision, and, when appropriate to the context, shall relate to 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 a frontage on (a) a public way, or a way which the Town Clerk of the Town of Kingston 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 and having in the opinion of the Planning Board, sufficient width, suitable grades and adequate construction to provide for the needs of 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 the buildings erected or to be erected thereon. Such frontage shall be of at least such distance as is then required by the Zoning Bylaw. Conveyances or other instruments adding to, taking away from, or changing the size and shape of lots in such a manner as not to leave any lot so affected without the frontage above set forth, or the division of a tract of land on which two (2) or more buildings were standing when the Subdivision Control Law went into effect in the Town into separate lots on each of which one (1) of such buildings remains standing, shall not constitute a subdivision." (Section 81-L of Chapter 41 G.L.)

Kingston – September 1993 as amended

E-Copy
Subdivision Control. The power of regulating the subdivision of land granted by the Subdivision Control Law, Chapter 41, Sections 81A through GG inclusive, as hereinafter amended.

Super Elevation. Super elevation is the decimal fraction of a foot of rise per foot of horizontal cross section.

Town. Town of Kingston, unless otherwise specified.

Trails. A path or track made by or reserved for the passage of persons and/or animal, usually through undeveloped land.

Trees, Large. Trees twenty-four (24) inches or more in caliper four (4) feet above the ground.

Walkway. A way designed for pedestrian use, not necessarily parallel to a travelled way, as contrasted to a sidewalk.

Way. A way is synonymous with the terms: road, street, highway and avenue, and shall denote any such line or route for passage, whether public or private.

Way, Accepted. An accepted way is a way which has been accepted as a public way by vote of the Town. (See also 2.9.2.)

Width. The width of a way shall be the width of the strip of land laid out, designated, acquired and/or dedicated for the use of such way. Such width includes the spaces for vehicular travel, sidewalks, edgestone and planting spaces where required.

2.2. Approved Plan Required

2.2.1. 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 for sale of lots in a subdivision, or the construction of ways, or preparation therefore or the installation of utilities and municipal services therein, unless and until a definitive plan of such subdivision has been submitted, approved and endorsed by the Planning Board as hereinafter provided. (Amended November 30, 1998)

2.3. Source of Information Required

2.3.1. In those cases in which the land shown on the plan is abutted by land of an owner not the owner of the land as shown, the Board may require a statement from the person who prepared the plan as to the source or sources of the information about the location of boundaries. A separate form for such statement will be furnished by the Board, Form D-Designer's Certificate (Appendix).

2.4. More Than One Building for Dwelling Purposes on a Lot

2.4.1. Not more than one (1) building designed or available for use for dwelling purposes shall be erected or placed or converted to use as such on any lot in a subdivision, or elsewhere in the Town, without the consent of the Planning Board. Such consent may be conditional upon the providing of adequate ways furnishing access to each such building and adequate improvements in the same manner as otherwise required for lots within a subdivision.
2.5. Fee and Costs

2.5.1. There shall be a minimum filing fee for each plan application submitted to the Board for consideration, which fee shall be paid upon submission of the plan.

2.5.1.1. The fee for a plan submitted under Section 3.1. shall be two hundred and fifty ($250.00) dollars for the first lot division, and two hundred ($200.00) dollars for each additional lot division thereafter shown on the plan. (Amended June 22, 2009)

2.5.1.2. The minimum fee shall be five hundred dollars ($500) or be one ($1.00) dollars per linear foot of street shown within the subdivision on a preliminary plan, or a definitive plan if a preliminary plan is not submitted, whichever is greater. The minimum fee for a non residential subdivision shall be one thousand dollars ($1,000) or one dollar per linear foot of street shown on the required preliminary plan whichever is greater. Amended December 10, 2001, November 27, 2006 and June 22, 2009)

2.5.1.3. All expenses for advertising, mailing, notices, secretarial services, engineering, professional planning review and legal review as deemed necessary by the Planning Board; plans, construction, inspection, recording and filing of documents and all other expenses in connection with a Preliminary Plan, Definitive Plan and development of a subdivision through the final inspection and approval, shall be borne by the applicant and shall be in addition to the filing fee.

2.5.1.4. The applicant shall place a sum in escrow with the Kingston Planning Board and the Town of Kingston in accordance with Massachusetts General Laws, Chapter 44, Section 53, to be used for the payment of these costs. The amount will be determined by the Planning Board based on estimates made from similar subdivisions and shall be added to as needed, within thirty (30) days of a request by the Planning Board.

2.5.2. Failure of the applicant to comply with the requirements of this Section shall be deemed adequate cause for disapproval of the plan.

2.5.3. Upon endorsement of a Definitive Plan, the developer shall place a sum in escrow with the Kingston Planning Board and the Town of Kingston in an inspection account to be used for the payment of inspection costs in accordance with the inspection schedule (See Section 6.4.). The amount will be determined by the Planning Board based on estimates made from similar subdivisions and shall be added to as needed, within thirty (30) days of a request by the Planning Board. Any sum remaining in escrow at the time of approval of the Definitive Plan shall be credited to this account.

2.6. Compliance With These Rules and Regulations and Waivers

2.6.1. All plans and all procedures relating to subdivisions and to plans not requiring approval shall conform in all respects to the provisions of these Rules and Regulations unless otherwise authorized by the Planning Board in writing when, in the judgment of the Board, such action is in the public interest and not inconsistent with the Subdivision Control Law.

2.6.1.1. Any such requests for waivers from these Rules and Regulations must be submitted by the applicant to the Planning Board in writing. Approval by the Board must be by vote and confirmed to the applicant in writing and shall become a part of the application.

2.6.2. All requirements of these regulations for a definitive plan shall be met except as may otherwise be provided for a planned residential area in the Zoning Bylaw.
2.6.3. No rules can affect size, shape, width, frontage or use of lots except that compliance with the requirements of the zoning bylaw will be required.

2.6.4. No lots shall be released until ten (10) copies of an approved, endorsed and recorded plan have been received by the Town Clerk. (Amended March 11, 1996)

2.7. Compliance With Zoning Bylaw

2.7.1. The Planning Board shall not approve or modify and approve any plan of a subdivision of land unless all buildings, structures and lots shown on said plan comply with the Zoning Bylaws of the Town of Kingston.

2.8. Criteria for Board Action

2.8.1. The Board in considering any proposed subdivision plan will be concerned with the requirements of the community and the best use of the land being subdivided.

2.8.1.1. Particular attention will be given to width, arrangement and location of streets, sanitation, drainage, size and arrangement of lots, open areas, parks, retention of major site features and to land uses which preserve the character of the Town.

2.9. Other Required Plans

2.9.1. Special permits and certain site plans, e.g., planned residential development, multiple dwellings and mobile home parks, which now or in the future require submittal and/or approval in the same manner as a Definitive Plan shall be submitted in accordance with Section 3.3., except for such items as the Planning Board waives in accordance with Section 6.1. and except that the Performance Guarantee shall be in accordance with Section 3.5.1.2. a.), b.) and d.) only.

2.9.2. Prior to acceptance by the Town private ways not shown on a Definitive Plan and approved by the Planning Board, which are submitted to the Planning Board under authority of Massachusetts General Laws Chapter 41, Section 81-l, shall comply with the following:

2.9.2.1. As built plans, legal descriptions and deeds shall be filed by the applicant as required in Section 3.3.15.

2.9.2.2. Except for items waived by the Planning Board in accordance with Section 6.1., the way(s) shall meet the Design Standards contained in Section 4.0.

2.9.2.3. Construction of the way(s) shall be in accordance with the applicable requirements of Section 5.0.

2.9.2.4. A maintenance bond shall be posted in accordance with Section 5.14.
SECTION 3.0. PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS

3.1. Plan Believed Not To Require Approval

3.1.1. Submission of Plan

3.1.1.1. Any person who wishes to cause to be recorded in the Registry of Deeds or to be filed with the Land Court a plan of land and who believes that his plan does not require approval under the Subdivision Control Law shall submit the plan, the required filing fee, eight (8) contact prints and properly executed forms A and E (See Appendix) to the Planning Board at a regularly scheduled meeting accompanied by the necessary evidence to show that the plan does not require approval. Said person shall file, by delivery or registered mail, a notice with the Town Clerk stating the date of submission for such determination accompanied by a copy of said application and describing the land to which the plan relates sufficiently for identification. If the notice is given by delivery, the Town Clerk shall, if requested, give a written receipt therefor.

3.1.1.2. The applicant shall submit a disk (CD, DVD, Zip, or diskette) containing the plan, produced by an AutoCAD or similar computerized drafting system in a format compatible with the Town’s system such as AutoCAD Drawing Format (.dwg), Data Exchange Format (.dxf) or ESRI Interchange Format (.e00), registered to Massachusetts State Plane (Mainland) Coordinates, North American Datum of 1927 or 1983, as part of the application for endorsement of the plan. Orthophotos available from Mass GIS may be used in registering data. If the applicant is unable to provide the above, a fee determined by the Board will be charged to cover the cost of digitizing the plan. (Amended December 10, 2001)

3.1.2. Form and Contents of Plan

3.1.2.1. Said plan shall be of the dimensions twelve by eighteen (12 x 18) inches, eighteen by twenty-four (18 x 24) inches, or twenty-four by thirty-six (24 x 36) inches and shall be prepared in such a manner as to meet the Registry of Deeds and/or Land Court requirements for recording and shall contain the following information:

a.) Identification of the plan by name of owner of record "deed reference" and location of the land in question.

b.) The statement "Approval Under Subdivision Control Law Not Required", and sufficient space for the date and the signatures of all five (5) members of the Board.

c.) Zoning classification and location of any Zoning District Boundaries that may lie within the locus of the plan.

d.) In the case of the creation of a new lot, the remaining land area and frontage of the land in the ownership of the applicant shall be shown.

e.) Notice of any decisions by the Zoning Board of Appeals, including but not limited to variances and exceptions, regarding the land or any buildings thereon.

f.) A list of abutters from latest available Assessors’ records unless the applicant has knowledge of any change subsequent to the latest available Assessors' records. Form E, Certified List of Abutters.
g.) Names and status of private and public streets and ways shown on the plan.

h.) Bearings and distances of all lines of the lot or lots shown on the plan and the distance to the nearest permanent monument. The plan shall show a minimum of three (3) permanent bounds.

i.) The location of all existing buildings on the land shown on the plan or within fifty (50) feet of its boundaries including set back and side and rear yard designations as required by zoning.

j.) Existing contours at five (5) foot intervals and the location of any topographic features which interfere with the use of the frontage for access. Contours shall be based on the U.S.C. & G.S. Datum. A benchmark shall be shown on the plan.

k.) Location of all bounds, brooks, fences, walls and bodies of water, including, but not limited to, streams, brooks, water courses, ponds, lakes and other standing bodies of water. Said plan shall reflect the average annual high water level with respect to any such bodies of water.

1.) A locus map at a scale not to exceed one thousand (1000) feet to the inch.

3.1.3. Endorsement of Plan Not Requiring Approval

3.1.3.1. If the Board determines that the plan does not require approval, it shall without a public hearing and within twenty-one (21) days of submission, endorse on the plan the words "Approval Under the Subdivision Control Law Not Required." Such endorsement shall not be deemed to constitute any determination of compliance with requirements of the Zoning Bylaw. The Board shall also notify the Town Clerk of its determination.

3.1.3.2. The Planning Board may add to such endorsement a statement of the reason or reasons approval is not required. The original copy of the plan shall be returned to the applicant, who shall file it with the Registry of Deeds within six (6) months, and return a receipt of filing to the Planning Board within seven (7) months. These communications shall be sent by certified mail with return receipt requested.

3.1.4. Determination that Plan Requires Approval

3.1.4.1. If the Planning Board determines that the plan does require approval under the Subdivision Control Law, it shall, within twenty-one (21) days of the submission of the plan, so inform the applicant in writing and return the plan. The Planning Board shall also notify the Town Clerk in writing of its action.

3.1.5. Failure of Board to Act

3.1.5.1. If the Planning Board fails to act upon a plan submitted under this section or fails to notify the Town Clerk and the person submitting the plan of its action within twenty-one (21) days after its submission, it shall be deemed to have determined that approval under the Subdivision Control Law is not required, and it shall forthwith make such endorsement on said plan, and on its failure to do so forthwith, the Town Clerk shall issue a certificate to the same effect.

3.2. Preliminary Plan

3.2.1. General
3.2.1.1. The submission of such a Preliminary Plan will enable the subdivider, the Planning Board, the Board of Health, the Superintendent of Streets, the Police Department, the Fire Department and other Town agencies and owners of property abutting the subdivision to discuss and clarify the details of such subdivision before a Definitive Plan is prepared. Therefore, it is strongly recommended that a Preliminary Plan be filed in each case. It is also recommended that a "Concept" meeting with the Planning Board be requested by the Applicant prior to the preparation of said plan and application to assure that the requirements of these Regulations are understood and will be met.

3.2.2. Filing Procedure

3.2.2.1. Any person who wishes to create a subdivision may submit a Preliminary Plan, which to be accepted as duly submitted, shall be submitted at a regularly scheduled meeting of the Board and the applicant shall include the following with the submission:

a) The Preliminary Plan and eight (8) prints thereof;

b) Properly executed Application Forms B, D & E; (Amended March 11, 1996)

c) The minimum filing fee (See Section 2.5.).

3.2.2.2. Any person submitting a Preliminary Plan shall give written notice(s) to the Town Clerk by delivery or registered mail; such notice shall identify the tract, the date of submission, and the name and address of the owner and applicant. (Use Forms B & C-C) (Amended March 11, 1996)

3.2.2.3. The applicant shall file five (5) contact prints with the Board of Health. The applicant shall obtain a receipt from the Board of Health. (Use Form C-3) (Amended March 11, 1996)

3.2.3. Contents

3.2.3.1. The Preliminary Plan shall be drawn on paper with pencil, at a suitable scale and to form a clear basis for discussion of the details of the subdivision and for preparation of the Definitive Plan, the Plan shall contain the following:

3.2.3.2. Subdivision name, boundaries, north point, date, scale legend, the title, "Preliminary Plan", and the name of the nearest existing way abutting the land in question as part of the deed.

3.2.3.3. Name and address of record owner, deed reference, subdivider and designer, engineer or surveyor, which shall appear in the lower right hand corner.

3.2.3.4. The names of all abutters, as determined from the last assessment, and, if the applicant has knowledge of changes in the list, to new abutters. Form E, Certified List of Abutters.

3.2.3.5. The locus of the land, drawn at a scale of one thousand (1,000) feet to the inch, shown on the plan with sufficient information to accurately locate the plan.

3.2.3.6. Existing and proposed lines of streets, ways, cartpaths, and/or rights of way, easements and public or common areas within the subdivision in a general manner. Proposed names and numbers of proposed streets shall be shown in pencil until they have been approved by the Planning Board after review by the Fire Chief.
3.2.3.7. Proposed systems of sewage disposal, drainage including adjacent existing natural waterways and water installations, including easements, in a general way and adjacent existing natural waterways intended to receive drainage effluent.

3.2.3.8. Proposed locations of fire boxes, if any, and hydrants.

3.2.3.9. The approximate boundary lines of proposed lots with approximate areas and dimensions with each lot numbered in accordance with the Kingston Board of Assessors’ system.

3.2.3.10. Location, names and present widths of adjacent streets or streets approaching or within reasonable proximity of the subdivision.

3.2.3.11. Profiles of existing grades and approximate proposed finished grades of the streets and utilities at a vertical scale of one (1) inch to each four (4) feet, which may be submitted on separate sheets.

3.2.3.12. Existing and proposed topography, based on U.S. Coast and Geodetic Datum, at two (2) foot contour intervals for "gentle" slopes (zero (0) to five (5) percent) and five (5) foot contour intervals for "steep" slopes (more than five (5) percent). Bench mark shall be shown on the plan.

3.2.3.13. A sketch plan, acceptable to the Board, showing a possible or prospective street layout for any adjacent land owned or controlled by the owner or the applicant of the subdivision.

3.2.3.14. If the Preliminary Plan Application contains more than one (1) sheet or drawing, each sheet or drawing must be titled and numbered and an index showing the contents of each sheet or drawing inserted on the upper left hand corner of the "Preliminary Plan" layout, or as a separate sheet.

3.2.3.15. Major features of the land such as existing walls, fences, monuments, buildings, wooded areas, outcroppings, ditches, swamps, water bodies and natural waterways. Where available, aerial photographs may be required.

3.2.4. Additional Filing Requirements

3.2.4.1. Covenants or restrictions applicable to the area shown on the plan.

3.2.4.2. The zoning classification of land shown on the plan together with any zoning boundary lines within or near the subdivision, if any.

3.2.4.3. Notice of any decisions by the Zoning Board of Appeals, including but not limited to variances and exceptions, regarding the land or any buildings thereon.

3.2.4.4. A written, signed and dated document indicating waivers to these Regulations, which may be requested or desired, including the purpose or reason for such waiver.

3.2.5. Approval of a Preliminary Plan

3.2.5.1. The Preliminary Plan, when submitted, will be studied in order to determine whether it is in compliance with the requirements of design adopted by the Board (see Section 4.0).

3.2.5.2. The Planning Board may give such Preliminary Plan approval, with or without modification or suggestion, after the Board's review with the Board of Health, Conservation Commission, Water
Department, Street Department, Police Department, Fire Department and the Planning Board Agent. Such approval does not constitute approval of the subdivision but facilitates the preparation of the Definitive Plan and obtaining final approval thereof.

3.2.5.3. Approval shall be effective for seven (7) months or until a Definitive Plan evolving from the Preliminary Plan is filed, whichever comes first. Within forty-five (45) days after the submission of a Preliminary Plan, the Board shall notify the applicant by certified mail that the plan has been approved, or that the plan has been approved with modifications suggested by the Board or agreed upon by the applicant, or that the plan has been disapproved. In the event of disapproval, the Planning Board shall state the reasons for its disapproval in accordance with Section 81-U of Chapter 41. The Planning Board shall notify the Town Clerk of its approval or disapproval as the case may be. After endorsement, the original of the Preliminary Plan will be returned to the applicant.

3.2.6. Disapproval of a Preliminary Plan

3.2.6.1. In the event of disapproval of a Preliminary Plan, the Planning Board shall state the reasons for its disapproval in accordance with Section 81-U of Chapter 41, G.L. and the original of the plan shall be returned to the applicant.

3.2.7. Failure of the Board to Act

3.2.7.1. If the Board fails to act upon a plan submitted under this section or fails to notify the Town Clerk and the persons submitting the plan of its action within forty-five (45) days after its submission, it shall be deemed to have approval under the Subdivision Control Law and the Planning Board shall forthwith make such endorsement on said plan, and on its failure to do so forthwith, the Town Clerk shall issue a certificate to the same effect.

3.3. Definitive Plan

3.3.1. General

3.3.1.1. The Definitive Plan shall conform substantially to the Preliminary Plan as approved but may constitute only that portion which is proposed to be recorded and developed at the time. The Planning Board may disapprove a Definitive Plan if it violates sound land use planning principles and design, even though all requirements hereinafter enumerated are met. The subdivision rules and regulations and zoning in effect at the time of the submission of the Preliminary Plan shall govern the Definitive Plan if it is duly submitted within seven months.

3.3.2. Filing Procedure

3.3.2.1. For a Definitive Plan to be accepted as duly submitted with these Rules and Regulations and the General Laws of Massachusetts, any person who submits a Definitive Plan of a Subdivision to the Planning Board for approval shall file with the Planning Board all the items required by Section 3.3. and unless previously filed with a Preliminary Plan, the minimum filing fee (see Section 2.5.). Such submission shall be simultaneously submitted, that is filed with the Town Clerk the day of the Planning Board meeting, at a regularly scheduled meeting of the Board and shall include, as a minimum, the following:

a.) An original drawing of the Definitive Plan and twelve (12) contact prints thereof, dark line on white background.
b.) Two (2) copies of a properly executed application Form C, Application for Approval of a Definitive Plan (see Appendix) including the time within which the applicant agrees to complete the ways and install the public utilities in the subdivision; Form D, Designer's Certificate (see Appendix); and a Certified List of Abutters, Form E, (see Appendix). (Amended November 30, 1998)

3.3.2.2. The applicant shall file by delivery or registered mail a notice to the Town Clerk (using Form C-C, with required materials) stating the date of submission of such application for approval, accompanied by a copy of the completed Application for Approval of Definitive Plan (Form C) and a copy of all information that was submitted to the Planning Board. (Amended March 11, 1996)

3.3.2.3. In accordance with Chapter 41, Section 81-0, Massachusetts General Laws, a written notice of submission shall be given to the Town Clerk by delivery or registered mail. Further, in accordance with Chapter 41, Section 81-0, Massachusetts General Laws, a copy of said plan shall be filed with the Kingston Board of Health.

3.3.2.4. The numbering of all subdivision lots and maps scales shall be consistent with the requirements of the Assessors' Office prior to formal submission to the Board to ensure consistency between applicant's and Town's records. (Amended January 29, 1996)

3.3.2.5. The applicant shall file five (5) contact prints with the Board of Health. The applicant shall obtain a receipt from the Board of Health. (Use Form C-3). (Amended March 11, 1996)

3.3.3. Plan Preparation

3.3.3.1. The Definitive Plan shall be prepared by a professional engineer and a land surveyor registered in Massachusetts and shall be clearly and legibly drawn in black, India ink upon tracing cloth, mylar or similar substance to the following standards:

a.) The classification and precision of surveys shall conform to Class A or better of the most recent Land Court Manual of Instructions, Commonwealth of Massachusetts. It is required that all other survey and Definitive Plan preparation, where not herein specified, be guided by the Manual of Instructions.

b.) The plan shall be at a scale of one (1) inch equals forty (40) feet, or such other scale as the Planning Board may accept to show details clearly and adequately.

c.) Plans and profiles of each individual street shall be at a scale of one (1) inch equals forty (40) feet horizontal and one (1) inch equals four (4) feet vertical.

d.) All elevations shall refer to the most recent U.S. Coast and Geodetic Datum. Sheet sizes shall be twenty-four (24) by thirty-six (36) inches including a two (2) inch border. All plans shall be accompanied by an index sheet at a scale of one (1) inch equals one hundred (100) feet or one (1) inch equals two hundred (200) feet depending on which plat of the Kingston Assessors’ Atlas the proposed subdivision is located, showing the entire subdivision and adjacent streets, and dimensions of the lots and streets and lot numbers.

e.) The Definitive Plan shall be drawn in accordance with the Rules and Regulations of the Plymouth County, Registry of Deeds.

3.3.3.2. Prior to endorsement of the Definitive Plan, the applicant shall submit a disk (CD, DVD, Zip, or diskette) containing the contents of the layout plan, subdivision plan and topographic plan sheets of the final version of the Definitive Plans, produced by an AutoCAD or similar computerized drafting system in a Kingston – September 1993 as amended
format compatible with the Town’s system such as AutoCAD Drawing Format (.dwg.), Data Exchange Format (.dxf) or ESRI Interchange Format (.e00), registered to Massachusetts State Plane (Mainland) Coordinates, North American Datum of 1927 or 1983, as part of the application for endorsement of the plan. Orthophotos available from Mass GIS may be used in registering data. If the applicant is unable to provide the above, a fee determined by the Board will be charged to cover the cost of digitizing the plan. **(Amended December 10, 2001)**

3.3.4. Contents

3.3.4.1. The Definitive Plan shall contain the following information and any other information shown on the Preliminary Plan:

a.) A title, appearing in the lower right-hand corner of the plan, showing the name of the subdivision, if any; the way or ways on which it is located; the legend; the date; scale; the owner and deed reference; the names and addresses of the applicant, and the names and seals of the designer, engineer and surveyor who made the plan.

b.) North point, whether true or magnetic, benchmark, scale and boundaries of the subdivision.

c.) The locus of the land drawn at one thousand (1000) feet to the inch shown on the plan with sufficient information to accurately locate the plan.

d.) Key plan, showing location of the subdivision at a scale of one (1) inch equals one thousand (1000) feet and an accurate index plan at a scale of one (1) inch equals three hundred and thirty (330) feet or similar scale as shown on the individual Assessors’ map on which the proposed development is located.

e.) Location and ownership of abutting property as it appears on Form E, Certified List of Abutters (see Appendix), and if the applicant has knowledge of changes in the list, to the new abutters, including all abutting land owned by the applicant not presently being subdivided.

f.) Major features of the land, such as existing waterways, swamps and water bodies, marshes, flood plains, natural drainage courses, walls, fences, buildings, large trees twenty-four (24) inch caliper or more, trails, public or common areas, wooded areas, outcroppings and ditches which exist on or near the site at the time of survey.

g.) Subsurface conditions on the tract, location and results of tests made to ascertain subsurface soil, rock and ground water conditions, depth to ground water, and location and results of soil percolation tests if individual sewage disposal systems are proposed (on a separate sheet). Percolation tests satisfactory to the Board of Health are to be taken on each lot within the subdivision.

h.) Lines of existing and proposed streets, ways, lots with an area of each, lot numbers or other designation of each lot, easements, trails, and public or common areas within the subdivision and the centerline radius of all proposed streets. (The proposed names and numbers of proposed streets and lots shall be shown in pencil until they have been approved by the Planning Board).

i.) Sufficient data to determine the location, direction and length of every street and way line, lot line and boundary line, and to establish these lines on the ground in accordance with the Massachusetts Highway Department practice. This shall include the lengths and bearings of plan and boundary lines of all subdivision lot lines including lot frontage on the streets, of the boundary lines of all streets and easements, and the length, radii, tangents, and central angles of all curves in lot lines and street lines. All angle points,

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or intersections of tangents along the street lines shall be shown. Areas of lots with lot numbers and the area and frontage on public ways as set forth in Section 81-L of Chapter 41 G.L. of adjoining lands of the applicant not included in the subdivision will be shown.

j.) Base flood elevation data as shown in the A zone on the Kingston Flood Insurance Rate Map (FIRM), and the Flood Boundary and Flood Maps, on file with the Town Clerk, Planning Board and the Inspector of Buildings.

k.) Location of all permanent monuments properly identified as to whether existing or proposed. The distance and bearing to the nearest town, county or state monument on an accepted way and monuments at all points of curvature and changes in direction of street side lines, or where designated by the engineer retained by the Town.

l.) The zoning district classification of land shown on the plan and the location of any zoning district boundaries that lie within the locus of the plan and the applicable minimum frontage and front, side and rear yard depths for each lot as is required by the Zoning By-Laws.

m.) Minimum building set-back lines on all lots and a sketch plan showing proposed house sites.

n.) Location, names and present widths of streets or private ways bounding, approaching or within reasonable proximity of the subdivision, showing both roadway widths and rights-of-ways widths leading from the subdivision to the nearest public road.

o.) Indication of all easements, covenants or restrictions applying to the land and their purposes, whether or not within the subdivision, including any decision on appeal or any variances or exceptions made by the Zoning Board of Appeals applicable to the subdivision of the land or any buildings thereon.

p.) If the property that comprises the subdivision or any part or boundary thereof has been examined, approved, and confirmed by the Massachusetts Land Court, such information shall be noted on the plat with case numbers and other pertinent references to Land Court procedure, then the same requirement shall apply to any adjoining parcels of land of the applicant.

q.) The location of all common drives accompanied by the proposed declaration of covenants, easements and restrictions.

r.) Sheet number (s) from the Assessors' Maps.

s.) Suitable space to record the action of the Planning Board and the signatures of all members of the Planning Board or officially authorized person (and all members of the Board of Health) including where appropriate the words "Deeds of easements to be recorded herewith" or the words "Approved subject to covenant conditions set forth in a covenant executed by, dated, and to be recorded herewith".

t.) In addition to the items in paragraphs h.) and i.) above, the layout plans shall show sidelines, center lines, points of tangent, length of tangents, length of curves, intersection angles, and radii of the curve for each street in the sub-division, together with all buildings, walls, drives and other existing fixtures, within one hundred (100) feet of the sidelines of such street. The layout plan shall also show the proposed system of water supply and sewer, when applicable, include size, location and elevation of all storm drains, sewers and water mains and their appurtenances existing in or proposed for each street, the plan shall also show all underground utilities, gas, electrical, Cable TV and telephone widths legend.

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The layout plan shall have a center line in the layout measure to one hundredth (.01) of a foot and stations at one hundred (100) foot intervals in accordance with the practice of the Commonwealth of Massachusetts Highway Department. Each straight portion of the center line shall have a bearing and distance given on the center line. The point of curvature and point of tangent of all center line curves shall be indicated by center line stations and radii and length of all center line curves shall be given on the plan. Bounds shall be set at the point of curvature, center of cul-de-sacs and point of tangent of all side line curves and shall be described by bearing and off set from center line stations. All side line curves shall have the readings and length given on the plan. Permanent bounds shall be described from center line stations and shall occur at not greater than three hundred (300) foot intervals. In special cases the above procedure may be varied to meet existing conditions or requirements of the applicant by permission of the Planning Board.

u.) Location of all the following improvements unless specifically waived in writing by the Board: street paving, sidewalks, street signs, street lighting standards, all utilities above and below ground, curbs, gutters, street trees, storm drainage, all easements, and fire alarm boxes. (On separate sheet.)

v.) A legend denoting any signs and symbols used on the plan and not otherwise explained.

w.) All existing roads, cartpaths, and rights of way.

x.) If wetlands are present, the developer shall get an Order of Conditions from the Conservation Commission.

y.) All subdivisions exceeding seven (7) lots must have a minimum of two (2) fully constructed ways connected to adequate public ways. The developer must show that the existing ways can handle the additional traffic. A traffic report may be deemed necessary by the Board.

3.3.4.2. Profiles shall be shown on a separate sheet, as follows:

a.) A horizontal scale of one (1) inch to forty feet.

b.) A vertical scale of one (1) inch to four (4) feet.

c.) Existing center line in fine black solid line with elevations shown every fifty (50) feet.

d.) Existing right side line in fine black dash line.

e.) Existing left side line in fine black dotted line.

f.) Proposed center line grades with elevations shown every fifty (50) foot station, except that in vertical curves elevations shall be shown at twenty-five (25) foot station and at PVC and PVT.

g.) Rates of gradient shown.

h.) Size and location of existing and proposed water mains and their appurtenances as required by the Water Department and surface drains and their appurtenances.

i.) Directly below the layout plan of each street a profile shall show existing and proposed grades along the centerline of the street, together with figures of elevation of fifty (50) foot intervals along vertical uniform grade, and at twenty-five (25) foot intervals along vertical curves. Profiles shall be plotted at forty (40) feet to the inch horizontally, and four (4) feet to the inch vertically, and drawn in accordance with the...
Massachusetts Highway Department. The drainage and sewerage systems shall be shown on a profile and inverts of all manholes, catch basins, culverts shall be given to one hundredth (.01) foot. The plan shall show when the system begins and terminates to existing systems when applicable. All elevations given shall be referenced from either the United States Geodetic Base.

j.) All existing and proposed intersections and sidewalks, bikeways and walkways shall be shown with all proposed grade elevations calculated. Elevations are to be referred to the Town Datum (United States Coast and Geodetic Survey). Gradients shall be shown by figures expressed in percent.

3.3.4.3. A Contour Plan showing the following:

a.) Existing and proposed topography at two (2) feet contour intervals and by symbols the highest known high water mark of the last five (5) years. There will also be indicated by differentiating symbols the contour line four (4) feet above said high water mark.

b.) Grading details shall indicate proposed street grades and elevations, building site grades and elevations and drainage patterns throughout the subdivision sufficient to determine the approximate balance between cut and fill. There shall be a general note indicating the disposition of topsoil on the site, which note shall include how topsoil will be handled in areas of cut and fill; how soil will be stockpiled, if applicable; the minimum amount of topsoil to be redistributed to the site; and that no topsoil will leave the site except in accordance with the Kingston Earth Removal Bylaw.

3.3.4.4. A Utility Plan showing the following:

a.) Size and location of existing and proposed water supply mains and their appurtenances, hydrants, sewer pipes and their appurtenances and/or storm drains and their appurtenances, proposed grade elevations, and easements pertinent thereto, and the design, size and location of sewage disposal systems and their appurtenances, dimensions of gutters, including data on borings and percolation tests made, and method of carrying water to the nearest watercourse or easements for drainage as needed, whether or not within the subdivision.

b.) If surface water drains will discharge onto adjacent existing streets or onto adjacent properties not owned by the applicant, he shall clearly indicate what course the discharge will take, and shall present to the Board evidence from the Highway Department, the engineer to the Board or the owner of adjacent property that such discharge is satisfactory and permitted by public or private ownership of adjacent street or property.

c.) The Plan shall include invert and rim elevations of all catch basins and manholes together with surface elevations of all waterways within the subdivision at one hundred (100) foot intervals and approximate depth of water at these points. Surface elevations and approximate depth of water shall be shown at each point where drainage pipe ends at a waterway. Drainage calculations prepared by the applicant's engineer, including design criteria used, drainage area and other information sufficient for the Board to check the size of any proposed drain, culvert or bridge.

d.) Location of proposed street lights and sidewalks and pedestrian lighting, if required, and transformer pads.

e.) If a package treatment plant or waste water treatment plant is proposed, the applicant shall submit a plan showing the size, location, design, and provisions for maintenance.
3.3.4.5. Drainage Calculations shall be shown as follows:

a.) Drainage calculations prepared by a Registered Professional Engineer shall be submitted in a suitable form to substantiate proposed drain pipe sizes along with amplifying plans outlining drainage areas within and affecting the subdivision. A plan shall also be submitted showing the route followed by all drainage discharging from the subdivision to the primary receiving watercourse or other large body of water. Drainage design shall be based on the methods contained in the United States Soil Conservation Service Urban Hydrology for Small Watersheds, Technical Release Number 55 which may be obtained from the Soil Conservation Service or referred to in the office of the Planning Board.

3.3.4.6. A Tree Plan shall be prepared as follows:

a.) Location and species of proposed street trees and location of trees to be retained with trunks over six (6) inches in diameter, measured four (4) feet above the finished ground level, located outside of the street right-of-way line of existing or proposed streets not closer than five feet (5) or more than ten (10) feet from said right-of-way line.

3.3.4.7. Cross Sections shall be shown as follows:

a.) A typical section of the proposed street shall be drawn to a scale of one (1) inch to four (4) feet and shall be properly located and identified by station number, at such intervals along the street as will adequately indicate any variations in its section, supplemented where necessary by lines on the layout plan showing the width and location of proposed roadways, grass plots, gutters, sidewalks, utilities (storm drains, water mains and sewer mains, if any) and similar physical features; provided, however, that where all cross-sections of the street will coincide with the appropriate cross-section shown on the Board’s Typical Cross-Section Plus (Schedules B and C), such agreement may be indicated by proper notation on the layout plan, and the cross-section drawing may be omitted therefrom.

b.) Cuts or fills in excess of six (6) feet of roadway locations resulting in lots being more than six (6) feet above or below grade of the roadway shall be substantiated by the submission of cross sections showing the proposed grading within two hundred (200) feet of the roadway on both sides. Cross sections should be drawn to a scale of one (1) inch = four (4) feet horizontally and vertically.

3.3.4.8. A Tabular Summary shall be prepared:

a.) In tabular form for the total area in square feet and acreage of the subdivision plan as submitted. See Form L.

1.) The total area which is being subdivided.

2.) The total area of lots.

3.) The total of areas dedicated for street purposes, drainage, sewer or utility easements.

4.) The total of areas reserved for park, schools, and other public use.

5.) The total area reserved for open space as defined in the Town of Kingston Zoning Bylaws.

3.3.4.9. An Environmental Impact Statement shall be filed in accordance with Schedule E with each definitive plan submission. (Amended January 29, 1996)
3.3.4.10. An Erosion/Sedimentation Control Plan shall be prepared including the following:

a.) A clear outline of the areas and type of control proposed.

b.) A general note indicating the developer's responsibility to maintain erosion/sedimentation controls during construction and until sale of the lots involved, including the frequency of maintenance.

c.) Appropriate details of erosion/sedimentation control devices.

d.) The outline of any areas, including drainage ways, steep slopes and proposed stockpile of topsoil that shall be restored and/or seeded immediately.

e.) A general note stating that temporary ground cover or erosion/siltation control shall be established on any unbuilt lots where required by the Planning Board.

3.3.4.11. Soil Surveys and Percolation Tests

a.) Subsurface conditions on the tract, location and results of tests made to ascertain subsurface soil, rock and ground water conditions, depth to ground water, and location and results of soil percolation tests if individual sewage disposal systems are proposed (on a separate sheet) and the suitability of the land for the proposed storm drainage installations, individual sewage disposal systems, if any, and proposed street construction shall be submitted. Such soil surveys and tests must be filed with all plans for non-residential subdivisions or multi-family residences. Percolation tests satisfactory to the Board of Health are to be taken on each lot within the subdivision.

b.) Test pits, borings or soundings shall be taken along the center line of each street shown on the plan at intervals of at least every two hundred (200) feet and at locations such as cut sections and areas of questionable foundation material where the subsurface conditions may be, in the opinion of the Planning Board or its Agent, factors affecting the quality and service life of the street. Test pits shall not be back-filled until the applicant has been notified by the Planning Board or its Agent that all necessary inspection and sampling has been completed. Where borings are used, samples shall be taken at five (5) foot intervals and at each change in strata. Soundings shall be taken areas of unsuitable material for the purpose of determining the hard bottom contours. Test pits and boring, where required, shall extend to a minimum depth of five (5) feet below the street profile grade or to bedrock, whichever is less. The applicant shall indicate, on the plan, a proposed layout of the subsurface exploration program complete with location, spacing and type of exploration proposed.

c.) Soil surveys when required by the Planning Board or its Agent shall include a test excavation not less than seven (7) feet below finished grade at a frequency of one(1) per lot, location of which must be shown on the contour plan, and a report thereon; a percolation test at a frequency one (1) per lot, location of which must be shown on the contour plan, and a report thereon. Percolation tests shall be in accordance with Article XI of the Commonwealth of Massachusetts Sanitary Code.

d.) Natural watercourses and ponds may not be altered, filled, drained or relocated. Any pond that has been in existence for over twenty-five (25) years shall be deemed to be a natural pond.

e.) Flood plain, marshes or seasonal wet areas may be included as part of a lot, but may not be altered, filled, drained or relocated and may not be used for building sites, sewerage disposal areas or ways.
f.) All lots in a subdivision shall be laid out with the minimum areas required by the Zoning Bylaws to be exclusive of the areas of any pond with such lots.

3.4. Procedures

3.4.1. Staking

3.4.1.1. To facilitate review of the Definitive Plan by the appropriate authorities, at the time of filing of the Definitive Plan, the applicant shall stake the center line of all proposed streets at a minimum of every one hundred (100) feet with the center line stations and the cut or fill dimensions to finish grade marked on the stakes.

3.4.2. Review by Board of Health as to Suitability of the Land. (See Schedule F)

3.4.2.1. At the time of filing of the Definitive Plan, the applicant shall also file with the Board of Health two (2) contact prints of the Definitive Plan, dark line on white background, together with such information in the nature of percolation tests and deep test holes as the Board of Health may require plus the information requested on Schedule F, Board of Health Review. The Board of Health shall, within forty-five (45) days after filing of the plan report to the Planning Board in writing approval or disapproval of said plan. 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 purposes without injury to the public health, and include such specific findings and the reasons therefore in such report, and, where possible, shall make recommendations for the adjustment thereof. Every lot shall be provided with a sewerage system or a sewer connection satisfactory to the Kingston Board of Health and the Kingston Planning Board and/or their agents.

3.4.3. Review by Other Town Officials

3.4.3.1. The Clerk of the Planning Board will transmit copies of the Definitive Plan to Town Officials other than the Board of Health as follows:

One (1) copy each to the Town Counsel for review of easements and agreements, if appropriate, the Highway Department, the Conservation Commission, the Water Department, the Fire Department, the Police Department, the Board of Selectmen, the Planning Board Agent and, if appropriate, the Industrial Development Commission.

3.4.3.2. Before the Definitive Plan is approved, the Planning Board may request written statements from the above Officials with regard to the proposed improvements in the following respects:

a.) Town Counsel as to the form of easements, covenants and performance guarantees.

b.) The Highway Department, the Water Department and/or Planning Board Agent as to the design of the street system, location of easements, monuments, street lights, drainage system, water system, and, if applicable, the sewage system.

c.) The Fire Department as to location of hydrants and the alarm system.

d.) The Conservation Commission as to environmental impacts.

e.) The Industrial Development Commission in the case of an industrial subdivision.
3.4.4. Common Driveway

3.4.4.1. When there are circumstances of traffic or topography which warrant a common driveway and when a common driveway is shown on the plan, before final approval of the plan the Planning Board must approve:

a.) An agreement between the owner or developer and the Town of Kingston prohibiting the sale of lots and erection of buildings until such time as the common driveways have been constructed in accordance with the approved plan.

b.) A declaration of covenants, easements and restrictions for the use and maintenance of said common drives.

3.4.5. Public Hearing

3.4.5.1. Before taking any action to approve, modify and approve or disapprove a Definitive Plan the Planning Board shall hold a hearing at which parties in interest shall have an opportunity to be heard, in person or by agent or attorney. Notice of the time and place of such hearing and of the subject matter, sufficient for identification, shall be published once in each of two (2) successive weeks, the first publication to be not less than fourteen (14) days before the date of the hearing, in a newspaper of general circulation in the Town of Kingston and by mailing a copy of such advertisement to the applicant and to all owners of land abutting the land shown on the plans and on the most recent tax list and to all owners of land within three hundred (300) feet of a property line of a subdivision. (Amended March 11, 1996)

3.4.6. Planning Board Procedure

3.4.6.1. The procedure that the Planning Board will follow with regards to approval, disapproval or modification of the final plan submitted by the applicant will be that as set forth in Chapter 41, Section 81-U of the General Laws, as amended. In summary, the Board, after receiving the Definitive Plan and profiles, will review the same to determine whether they are in compliance with its adopted Rules and Regulations and the Zoning Bylaw.

3.4.6.2. The plan shall comply with all reasonable regulations and rules of the Highway Department and/or Selectmen, Water Department and the Board of Health not otherwise covered by these rules and regulations. Specific reference is made to the specifications for septic system which shall conform with the rules and regulations of the Board of Health.

3.4.6.3. Before final approval of the plan, the applicant shall establish that the lots in the definitive plan are in conformity with the Kingston Zoning Bylaw. Failure of the lots to so comply will be adequate grounds for disapproval of the definitive plan. See Chapter 41, Section 81-Q of the General Laws, and amendments thereto. The Board may, as a condition of granting approval, impose reasonable requirements designed to promote the health, convenience, safety and general welfare of the community and to benefit the Town. In such event the Board shall endorse such conditions on the plan to which they relate, or set forth a separate instrument attached thereto, to which reference is made on such plan and which shall for the purpose of the subdivision control law be deemed to be a part of the plan. Before final approval, all necessary permits under Chapter 131 of the General Laws and from the Massachusetts Highway Department shall be obtained, and the applicant shall notify the Planning Board of any changes in the plan required by said permit or permits.
3.4.6.4. The Planning Board may extend the ninety (90) day period or the one hundred and thirty-five (135) day period, whichever is applicable, permitted by statute between submission of a Definitive Plan and action thereon upon written request of the applicant.

3.4.6.5. If the Board fails to act upon a Definitive Plan for a non-residential subdivision submitted under this section or for a residential subdivision for which a Preliminary Plan was submitted and acted upon by the Board, or forty-five (45) days have elapsed since the submission of the Preliminary Plan and the Board has taken no action thereon or fails to notify the Town Clerk and the persons submitting the plan of its action, within ninety (90) days after its submission, or within one hundred and thirty-five (135) days after its submission, for all other subdivisions, whichever is applicable, it shall be deemed to have approval under the Subdivision Control Law, and the Planning Board shall forthwith make such endorsement on said plan, and on its failure to do so forthwith, the Town Clerk shall issue a certificate to the same effect.

3.4.6.6. The Board may decline to approve any plan unless the Applicant agrees to complete the ways shown thereon and install the public utilities aforesaid within two (2) years of the date of his Approval of Definitive Plan or such other time as the Applicant shall specify in writing. If the ways in any subdivision are not completed and the utilities aforesaid are not installed within the time so agreed to by the Applicant, no such way shall thereafter be laid out, constructed, completed or opened for public use unless and until a new application is filed with and approved by the Board. Ways or portions thereof not completed within the agreed upon time shall thereafter be completed in accordance with the in force requirements and construction standards of the Planning Board, and with applicable General Laws.

3.4.7. Certificate of Approval

3.4.7.1. The action of the Planning Board in respect to such plan shall be by vote, copies of which shall be certified and filed with the Town Clerk and sent by delivery or registered, return receipt requested mail to the applicant. If the Planning Board modifies or disapproves such plan, it shall state in its vote the reasons for its action and shall rescind such modification and/or disapproval if the plan is amended to conform to the reasons for said Planning Board action and resubmitted to the Board within seven (7) months of the date of said action. Failure of the Applicant to so resubmit within the stated seven (7) month period shall void the plan and application. Any further action on a plan involving the area or any part thereof shall require a new Application in accordance with the Rules and Regulations in force at the time of the new Application. Final approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by the signatures of a majority of the Planning Board but not until the statutory twenty (20) day appeal period has elapsed following the filing of the Board's certificate of approval on Form C-1, or disapproval on Form C-2 (See Appendix), as the case may be, 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 Planning Board shall return the original to the applicant.

3.4.7.2. Approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of streets within a subdivision.

3.4.7.3. The endorsement of plan approval by the Planning Board shall be valid for a period of two (2) years from the date of said approval or such other period of time as is specified in Section 3.5.1.3. Prior to the expiration of the said approval period, the developer and/or owner shall request in writing to the Planning Board an extension of time, if necessary. Failure to request an extension of time prior to the expiration of the said approval period shall result in the Planning Board notifying the Building Inspector that no additional building permits should be issued in said development. The request for extension shall state the reasons for said extension and also the length of time requested. Extension of time shall not in any case exceed one (1) year. Additional extensions after the first may be applied for but not until at least ten (10) months have passed.
expired on the extension in effect. For any approved subdivision that is not completed within the time lines above the Planning Board will automatically rescind the subdivision approval. *(Amended June 22, 2009)*

**3.4.7.4.** The applicant shall file the approved Definitive Plan and covenant, if any, at the Registry of Deeds, and shall file with the Town Clerk ten (10) copies of the approved, endorsed and recorded definitive plan and covenants. It shall be the Town Clerk's duty to distribute a copy of the plan and covenant, if any, to the following: Assessors, Planning Board, Town Clerk, Building Department, Board of Health, Water Commission, Highway Department, Conservation Commission, Police Department and Fire Department. *(Amended March 11, 1996)*

**3.4.7.5.** All approved definitive plans shall be endorsed within two months of their approval date, unless the plan has been appealed. Failure to obtain the endorsement within the required time period shall render the approval void. *(Amended January 29, 1996)*

**3.4.7.6.** All approved definitive plans shall be filed with the Registry of Deeds within six months of their endorsement by the Board. Failure to record an approved definitive plan within the required time period shall render the approval void. A notation to this effect shall be placed on the plan and on any accompanying decision. *(Amended January 29, 1996)*

**3.5. Performance Guarantee**

**3.5.1.** Before endorsement of the Board’s approval of a subdivision, the Board shall require that:

**3.5.1.1.** The subdivider shall specify in writing the time within which the construction of ways and installation of municipal services required in Section 5.0. shall be completed, which time shall be two (2) years unless the subdivider stipulates otherwise.

**3.5.1.2.** The subdivider shall secure the construction of ways and installation of municipal services by one, or in part by one and in part by another, of the following methods:

a.) By a proper bond in a form acceptable to the Town Treasurer and sufficient in the opinion of the Planning Board to secure performance of the construction of ways and the installation of principal services required in Section 5.0. for lots in the subdivision shown on the plan. See Form F.

b.) By a deposit of money or negotiable securities, sufficient in the opinion of the Planning Board to secure performance of the construction of ways and the installation of municipal services required in Section 5.0. for lots in the subdivision shown on the plan. See Form G2.

c.) By a covenant, executed and duly recorded by the owner of record, running with the land, whereby the ways and services required in Section 5.0. 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 all applicable portions of the covenant including 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 by a single deed, subject to such covenant, of either the entire parcel of land shown on the subdivision plan or of all lots not previously released by the Planning Board. See Form H.

d.) By delivery to the Planning Board of an agreement (Tri-Partite) executed after the recording of a first mortgage covering the premises shown on the 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, otherwise due the applicant, sufficient in the opinion of
the Planning Board to secure the construction of ways and the installation of municipal services. Said
agreement shall also provide a schedule of disbursements which may be made to the applicant upon
completion of various stages of the work, and shall further provide that in the event the work is not
completed within the time set forth by the applicant, any funds remaining undisbursed shall be available to
the Town for completion. See Form M.

3.5.1.3. The subdivider shall submit an agreement, suitable for recording, executed by the Planning Board
and the applicant setting forth the form of the guarantee and the stipulated time for completion of
improvements as required in 3.5.1. and 2., which shall be recorded in the Registry of Deeds by the
subdivider and a receipt therefore be delivered to the Planning Board.

3.5.1.4. The subdivider shall grant an easement to the Town for all proposed drainage areas, roads and
utilities. The easement shall be suitable for recording. (Amended October 17, 1994)

3.5.2. Reduction of Performance Guarantee

3.5.2.1. The penal sum of any such bond held under 3.5.1.2. subparagraph a.) or any deposit held under
subparagraph b.) or any amount of funds retained pursuant to an agreement under subparagraph c.) shall
bear a direct and reasonable relationship to the expected cost, including the effects of inflation, necessary to
complete the subject work. Such amount or amounts shall from time to time be reduced so that the amount
bonded, deposited or retained continues to reflect the actual expected cost of work remaining to be
completed, plus the additional amount required by the Planning Board for contingencies.

3.5.3. Release of Performance Guarantee

3.5.3.1. Upon completion of improvements required under Section 5.0., security for the performance of
which was given by bond, deposit, covenant or agreement or upon the performance of any covenant with
respect to any lot, the developer or owner, at his expense, shall cause to be published in a newspaper of
general circulation in the Town of Kingston at least fourteen (14) days prior to the final release of the
performance bond or surety, an announcement that such release is contemplated and shall deliver to the
Planning Board a copy of the page containing a copy of the announcement. He shall also send by registered
mail to the Town Clerk and the Planning Board a written statement that the said construction or installation
in connection with which such bond, deposit, covenant, or agreement has been secured, has been completed
in accordance with the requirements contained under Section 5.0., such statement to contain:

a.) Name and address of applicant.

b.) A Compliance Certificate signed by the Planning Board that the development has been completed
according to the Rules and Regulations of the Planning Board and the Town of Kingston Zoning Bylaws,
which shall be recorded in the Registry of Deeds by the applicant and a receipt therefore be delivered to the
Planning Board.

c.) Copies of or reference to the requisite number of Inspection Forms and Reports.

d.) An As-Built Plan. See Section 5.1.9.
e.) Written evidence as to construction of all ways and sidewalks, installation of monuments, street signs, traffic signs, pavement, lighting, gutters and curbs, required grading and drainage, water mains, hydrants and appurtenances, adequate lot drainage, planting and seeding, all in accordance with the Definitive Plan.

f.) Written evidence from the Board of Health as to the installation of sewage disposal facilities, if applicable, all in accordance with the Definitive Plan.

g.) Written evidence from the Fire Department as to the installation of the fire alarm system, all in accordance with the Definitive Plan.

h.) Written evidence from the Zoning Enforcement Officer as to conformance to the Town of Kingston Zoning Bylaws.

3.5.3.2. If the Planning Board determines that said construction has been completed, it shall notify the Town Treasurer within forty-five (45) days, on a properly executed Form I-Release Form, that it releases the interest of the Town in such bond or deposit and that it shall be returned to the person or persons who furnished same, or, in the case of a covenant, it shall issue a written release of the covenant on a properly executed Release Form. However, a maintenance guarantee providing surety equal to ten percent (10%) of the total value of the work within the subdivision shall be held by the Town for the proper maintenance of streets and municipal services for eighteen (18) months after completion of construction and installation or until the streets are accepted by the Town, whichever comes first, after which date the Town shall return the remainder of the bond to the person or persons who furnished same.

3.5.3.3. If the Planning Board determines that said construction or installation has not been completed, it shall specify to the developer in writing by registered mail the details wherein said construction and installation shall have failed to comply with requirements contained under Section 5.0. Upon failure of the Planning Board to act on such application within forty-five (45) days after the receipt of the application by the Town Clerk and the Planning Board, 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.

3.5.3.4. In the event that said forty-five (45) day period expires without such specification, or without the release and return of the deposit or release of the covenant as aforesaid, the Town Clerk shall issue a certificate to such effect, duly acknowledged, which may be recorded.

3.5.4. Acceptance by the Town

3.5.4.1. The subdivider shall file with the Planning Board a final as-built plan, as described in Section 5.1.9., on tracing cloth, mylar or similar substance of completed street or streets, utilities and easements together with proper legal descriptions for initiating an article in the Town Warrant pursuant to the acceptance of the ways by the Town Meeting (See Section 5.0.) and shall grant a deed to the Town of the streets, utilities and easements, as contained in the plan, said deed to be recorded by the Town upon acceptance of the streets by the Town Meeting. (Amended March 9, 2009)

3.5.5. Phasing

3.5.5.1. If a subdivision is to be constructed in phases, each phase shall be completed before the next in sequence is begun, unless written permission of the Planning Board is obtained.
SECTION 4.0 DESIGN STANDARDS

4.1. General

4.1.1. Basic Requirements
The subdivider shall observe all design standards for land subdivision as hereinafter provided. These standards shall be considered minimum standards and shall be varied from or waived, only as provided in Section VI.

4.1.2. Conformance with the Master Plan

4.1.2.1. Any proposed subdivision shall conform to the proposals and intentions of the Kingston Master Plan which includes the Conservation Plan of the Conservation Commission and the Recreation Plan as adopted in whole or in part by the Planning Board, unless substitute proposals may be shown to the satisfaction of the Board to serve better the general area of the subdivision and the Town.

4.1.3. Lot Size and Frontage

4.1.3.1. All lots shall be of such size and dimensions to meet the minimum requirements of the Zoning By-laws.

4.1.4. Access through Another Municipality

4.1.4.1. In case access to a subdivision crosses land in another municipality, the Board may require certification, from appropriate authorities, that such access is in accordance with the Master Plan and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic. Lot lines shall be laid out so as not to cross municipal boundary lines. (Amended November 30, 1998)

4.1.5. Adequate Access from Public Way

4.1.5.1. Where the street system within a subdivision does not connect with or have, in the opinion of the Board, adequate access from a Town, County or State (public) way, the Board may require as a condition of approval of a plan, that such adequate access be provided by the subdivider, and/or that the subdivider make physical improvements to and within such a way of access, in accordance with the provisions of Section 5.0 of these regulations, from the boundary of the subdivision to a Town, County or State way.

4.1.5.2. Where the physical condition or width of a public way from which a subdivision has its access is considered by the Board to be inadequate to carry the traffic expected to be generated by such subdivision, the Board may require the subdivider to dedicate a strip of land for the purpose of widening the abutting public way to a width at least commensurate with that required within the subdivision, and to make physical improvements to and within the subdivision. Any such dedication of land for the purpose of way and any such work performed within such public way shall be made only with permission of the governmental agency having jurisdiction over such way, and all costs of any such widening or construction shall be borne by the subdivider.
4.2. Streets

4.2.1. Location and Alignment

4.2.1.1. All streets in the subdivision shall be designed so that, in the opinion of the Board, they shall provide safe vehicular travel. Due consideration shall also be given by the subdivider to the attractiveness of the street layout in order to obtain the maximum livability and amenity of the subdivision.

4.2.1.2. Provision satisfactory to the Board shall be made for the proper projection of streets, or for access to adjoining property which is not yet subdivided.

4.2.1.3. 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.

4.2.1.4. Streets shall be continuous, of uniform width, and alignment with existing streets, as far as practicable.

a.) Entry roads to subdivisions with a landscaped median are permitted. Median breaks on such divided roads shall occur at least every 650 feet. While the right of way width shall be continuous, street widths may narrow at the end of landscaped median. Divided roads widths shall not narrow where they intersect streets outside of the subdivision.

b.) Provisions for narrower pavement widths and smaller cul-de-sacs may be made by the Planning Board for developments employing accepted "traffic calming measures" and for developments employing accepted “low impact development methods” as shown in Massachusetts Low Impact Development Toolkit. http://www.eot.state.ma.us/smartgrowth/07toolkit/LID.html (Amended November 30, 1998 and June 22, 2009)

4.2.1.5. Streets shall be designed so that existing ways and cartpaths in use or available for use for access to adjoining property are included within the right-of-way.

4.2.1.6. Provisions shall be made for the proper projection of streets, if adjoining property is not subdivided.

4.2.1.7. All curved streets must be designed to permit safe vehicular travel. A minimum two hundred (200) foot length tangent shall be provided between the PT of one curve and the PC of any following curve.

4.2.2. Right-of-Way Width and Street Design Standards

4.2.2.1. On all classification of streets, the following characteristics shall be the minimum acceptable. Provisions for narrower pavement widths and smaller cul-de-sacs may be made by the Planning Board for developments employing accepted "traffic calming measures" and for developments employing accepted “low impact development methods” as shown in Massachusetts Low Impact Development Toolkit. http://www.eot.state.ma.us/smartgrowth/07toolkit/LID.html (Amended November 30, 1998 and June 22, 2009)

<table>
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<th>Street Classification</th>
<th>Right-of-Way Width (ft.)</th>
<th>Pavement Width (ft.)</th>
<th>Radius of ** Curves + (ft.)</th>
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<td>Local</td>
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**using c max = 0.04

Kingston – September 1993 as amended
<table>
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<th>Horizontal Sight Distance (ft.)</th>
<th>Gradient %Maximum</th>
<th>Gradient %Minimum</th>
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<tr>
<td>Local</td>
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<td>200</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

* clear sight distance at 4.5 ft. above pavement
+ measured at centerline of pavement
ft. = feet

(Amended November 30, 1998)

4.2.2.2. When a minor street will provide the only access for lots fronting on a length in excess of six hundred and fifty (650) feet or where, on a major street, potential volume or safety warrants, in the opinion of the Planning Board, the Board may require a greater right-of-way than that specified above and may require construction of a divided roadway.

4.2.3. Street Jogs

4.2.3.1. Streets entering opposite sides of another street shall be laid out either directly opposite each other or with a minimum offset of one hundred and fifty (150) feet between their centerlines. Provisions for street jogs offset less than 150 feet may be made by the Planning Board for developments employing accepted "traffic calming measures" where sidewalks and multi-use paths are incorporated into the development as a part of a town wide bicycle and pedestrian path system. (Amended November 30, 1998)

4.2.4. Intersection

4.2.4.1. Rights-of-way shall be laid out so as to intersect as nearly as possible at right angles. No right-of-way shall intersect any other right-of-way at less than sixty (60) degrees. The vertical curvature of the road shall not exceed grade of three (3) percent for a minimum distance of one hundred (100) feet from the intersection.

4.2.4.2. Property lines at right-of-way intersections shall be cut back to provide for a curb radius on the roadway of not less than thirty (30) feet, except where the angle of intersection varies more than ten degrees from a right angle, in which case the radii of the curve connecting the acute angle may be less and the opposite radius must be correspondingly greater.

4.2.4.3. When the intersection of two (2) streets varies more than ten (10) degrees from a right angle, the radius of the curve at the obtuse angle may be less, and at the acute angle may be greater, than thirty (30) feet to the extent approved or required by the Planning Board.

4.2.4.4. Streets shall be laid out so as to intersect at intervals in a range of six hundred (600) feet to twelve hundred (1200) feet in length, unless otherwise specified by the Planning Board. In special instances, the Planning Board may approve an easement for a future street, in lieu of actual construction of a cross street.

4.2.4.5. Sight distances at intersection shall be according to the American Association of State Highway and Transportation Officials, 1990 publication, "A Policy on Geometric Design of Highways and Streets"
4.2.5. Dead-end Streets

4.2.5.1. For the purposes of this section, any proposed street which intersects solely with a dead-end street shall be deemed to be an extension of the dead-end street. Dead-end streets and their extensions, if any, shall not be longer than six hundred and fifty (650) feet. A dead-end street shall not be less in length than one and one-half (1 1/2) times the frontage required in the District in which it is located. Dead-end streets shall be measured from the right-of-way line of the intersecting street. (Amended February 13, 1995)

4.2.5.2. Dead-end street shall be provided at the closed end with a turn-around having an outside roadway diameter of a least one hundred and ten (110) feet, and a property line diameter of at least of at least one hundred and twenty (120) feet unless otherwise specified by the Planning Board. The Planning Board may, at its option, require a minimum outside roadway diameter of one hundred forty (140) feet, and a property line diameter of one hundred sixty (160) feet if the dead-end street is not intended to connect with another street at some future point in time. Where a future street is projected beyond the circle, the circle shall be designed in relation to such extension. The turn-around or stub shall be located at the property line of the subdivision, unless the Planning Board approves otherwise. Provisions for smaller cul-de-sacs may be made by the Planning Board for developments employing accepted "traffic calming measures. Provisions for flexibility of cul-de-sac design are permitted for Low Impact Developments. (Amended November 30, 1998 and June 22, 2009)

4.2.5.3. The Board may require a roadway easement from the end of the dead-end street to adjacent property. If a dead-end street is subsequently extended beyond the required turn-around, any easement appurtenant to a lot not abutting the turn-around, except that portion of the turn-around included in said extension shall terminate upon the approval and recording of a certificate by the Planning Board of the construction of said extension, at which time additional land used for the circle may be relinquished to the adjacent property.

4.2.6. Street Names

4.2.6.1. To provide names in keeping with the character of the Town, street names shall be subject to the approval of the Planning Board after consultation with the Fire Chief and the E911 Committee. Proposed street names shall not duplicate nor bear phonetic resemblance to the name of existing public ways, paper streets, or any other way qualified to afford frontage under Section 81-L of Chapter G.L. A proposed street which is in alignment with an existing street shall bear the same name as the existing street.

4.3. Driveways and Curb Cuts

4.3.1. Driveways in subdivisions containing one (1) and/or two (2) family dwellings only shall be at least ten (10) feet wide and have a curb return at the roadway of two (2) feet in radius, and shall have an opening of at least sixteen (16) feet at the gutter line.

4.3.2. Driveways for all other residential uses and for non-residential uses shall be at least sixteen (16) feet wide and have a curb return at the roadway of two (2) feet in radius, and shall have an opening of at least twenty (20) feet at the gutter line.

4.3.3. Where rolled curbs or no curbs exist, the driveway flare should have a three (3) foot radius. Driveway cuts shall not be within sixty five (65) feet of the intersection of the center line of intersecting streets.

4.3.4. If driveways slope from the edge of the street right-of-way to the edge of the pavement, there shall be a grade of not less than one (1) percent but not more than eight (8) percent, but the grade between the sidewalk and the right-of-way shall be only as shown on the cross-sections, Schedules B and C.
4.3.5. At every intersection, ramps three (3) feet wide shall be provided, adjacent to the granite curb sections required in Section 5.6.1.

4.4. Easements

4.4.1. Wherever possible, easements shall be centered along side or rear lot lines. All easements shall be marked with concrete bounds. (Amended November 30, 1998)

4.4.2. Where utilities cross lots or are centered on rear or side lot lines, easements shall be provided of a width of at least twenty (20) feet.

4.4.3. Where a subdivision is traversed by a water course, drainage way, channel or stream, the Planning Board may require a storm water easement, maintenance easement or drainage right-of-way of adequate width and proper side slope to conform substantially to the lines of such water course, drainage way, channel or stream and to provide for construction or other necessary purposes. In no case shall the width be less than twenty (20) feet or the side slope be steeper than two (2) horizontal to one (1) vertical. The boundaries shall not be closer than five (5) feet horizontally from the annual high water line. Parallel streets or pedestrian ways and/or appropriate access may be required in connection therewith. Streams and watercourses shall remain open except at street crossings. (Amended June 22, 2009)

4.4.4. Access easements to park and conservation land shall be provided, if required by the Planning Board, and shall be at least twenty (20) feet wide.

4.4.5. Wherever possible easements along rear lot lines shall be continuous to the street at the end of the block to connect with the adjoining blocks in the shortest direct line.

4.4.6. Where the applicant/developer provides trails or where trails traverse the land shown on the plan, an easement at least fifteen (15) feet wide shall be shown, which may be limited to passage on foot or horseback. Where the present location of the trails interferes with logical development of the land, adjustments shall be made to relocate the trail or to connect the trail to a street right-of-way, another trail or suitable open space.

4.4.7. The Planning Board may require that other areas be included within a conservation restriction.

4.4.8. In any subdivision, the developer may grant to the Town a conservation restriction over any portion of the subdivision providing the area subject to the restriction is part of the Conservation or Recreation Plan of the Town.

4.4.9. Upon definitive plan approval, all easements shown on the plan shall become part of the approved plan. (Amended January 29, 1996) The Planning Board agent will record all easements and proof of the recording will be required before final approval and endorsement of subdivision plan. (Amended November 30, 1998)

4.5. Open Space

4.5.1. Before approval of a plan, the Planning Board may also, in proper cases, require the plan to show a park or parks, suitably located for playground or recreation purposes or for providing light and air. The park or parks shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land. The Planning Board may, by appropriate endorsement on the plan, require that no building be erected upon such park or parks without its approval for a period of three (3) years. Each area reserved for
such purpose shall be of suitable area, dimensions, topography and natural character for the purposes of a
park and/or playground. The area or areas shall be so located as to serve adequately all parts of the
subdivision as approved by the Planning Board. The Planning Board may require that the area or areas
reserved shall be located and laid out so as to be used in conjunction with similar areas of adjoining
subdivisions or of probable subdivisions. Unless otherwise specifically approved by the Planning Board, the
total amount of area to be reserved for park and/or playground purposes shall be no less than ten (10)
percent of the gross area of the subdivision. Any land so reserved shall be graded to dispose properly of
surface water and shall be left in condition for the purpose intended, as required by the Planning Board.

4.5.2. Any open space park or playground shall provide at least fifty (50) feet of continuous frontage on a
street.

4.5.3. Such parks and/or playgrounds may be required to have maintenance provided for by covenants and
agreements acceptable to the Board, until public acquisition is accomplished by the community.

4.5.4. Pedestrian ways, bikeways, or bridle paths of not less than fifteen (15) feet in width may be requested
where deemed desirable to provide circulation or access from each of the surrounding streets to schools,
playgrounds, parks, shops, transportation, open space and/or community facilities, as provided in Section
4.10.

4.5.5. The Town shall have the right to acquire ownership of same by gift or as provided in Section 81-Q of
Chapter 41 of the General Laws.

4.6. Protection of Natural Features

4.6.1. Due regard shall be shown for all natural features, such as large trees, wooded areas, water courses,
scenic points, historic spots, and similar community assets, which, if preserved, will add attractiveness and
value to the subdivision. Outside of street right-of-ways, no trees over a fifteen (15) inch caliper measured at
four (4) feet above the existing grade shall be removed or have the grade level surrounding the trunk altered
by more than six (6) inches without approval of the Planning Board.

4.7. Lot Drainage

4.7.1. Lots shall be prepared and graded in such a manner that development of one shall not cause
detrimental drainage on another. If provision is necessary to carry drainage to or across a lot, an easement or
drainage right-of-way of adequate width and proper side slope shall be provided. Storm drainage shall be
designed in accordance with the specifications of the Planning Board. Where required by the Planning
Board or the Board of Health, the Applicant shall furnish evidence as to any lot or lots to either Board that
adequate provision has been made for the proper drainage of surface and underground waters from such lot
or lots. The Planning Board will also consider Low Impact Development drainage designs based on

4.8. Fire Hydrants

4.8.1. Fire Hydrants shall be provided every five hundred (500) running feet on one side of each street
unless an alternate distance is approved in writing by the Fire Department. Fire hydrants shall be placed so
that the Fire Department hose connections are at least sixteen (16) inches above the finished grade.

All fire hydrants shall be painted "fire hydrant red" and all caps and the top section shall be painted yellow.
For identification purposes, either a metal post, painted yellow twelve (12) inches from the top the remainder red, shall be placed vertically in a concrete base to achieve a height of sixty (60) inches above said finished grade, or, a yellow metal flag approximately six (6) inches square affixed to a red metal shaft and affixed to a hydrant hose connection so that the top of the flag is sixty (60) inches above said finished grade, shall be installed. (Amended November 30, 1998)

4.9. Sidewalks, Grass Plots, Trees, Curbs and Berms

4.9.1. Sidewalks shall be provided on one side of each street for the full length of major streets. Sidewalks shall be provided in the vicinity of pedestrian generators on minor and secondary streets as required by the Planning Board and in any area determined by the Planning Board to be a high density area. Minimum widths of the sidewalks shall be four (4) feet. Sidewalks shall be designed with due regard for existing trees, the natural environment and the character of the neighborhood. Sidewalks shall have ramp access at intersection. Each driveway shall be provided with a minimum 10' wide apron from the edge of the road pavement to the edge of the road layout. (Amended 10/17/94) Provision of sidewalks may be waived by the Board if multi-use paths are incorporated into the development as a part of a town wide bicycle and pedestrian path system. (Amended November 30, 1998)

4.9.2. See Cross Sections in Schedules B and C

4.9.2.1. Sidewalks, grass plots, trees, curbs and berms shall be shown in accordance with these Cross Sections and the requirements of Section 5.0.

4.10. Utilities

4.10.1. Required utilities include water, sewer, storm drainage, telephone, electricity, gas, street lights, fire alarm systems and cable TV unless otherwise specified by the Planning Board. The Applicant shall submit evidence of complete financial arrangements with private utility companies prior to approval.

4.10.1.1. All utilities shall be placed underground at the time of initial construction. The Planning Board may permit transformers, switches and other such equipment to be placed on the ground in approved locations, screened from view with evergreen shrubbery.

4.10.1.2. 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 as will, in the opinion of the Planning Board, permit their proper extension at the later date.

4.10.1.3. Adequate disposal of surface and sub-surface water shall be provided on both sides of the roadway at intervals not to exceed three hundred (300) feet, unless otherwise approved by the Planning Board and at such other places as deemed necessary by the Planning Board to assure adequate drainage of all low points and to provide proper run-off of storm water. In no instances shall catch basins be located along a driveway cut. The Planning Board will also consider accepted “low impact development methods” as shown in the Massachusetts Low Impact Development Toolkit. http://www.eot.state.ma.us/smartgrowth/07toolkit/LID/LID.html (Amended June 22, 2009)

4.10.2. Sewerage

4.10.2.1. Each subdivision shall, where a public sewerage system is located within two thousand (2000) feet of the subdivision, be connected to the public sewerage system unless otherwise approved by the Sewer Commission, Planning Board and Board of Health. (Amended December 10, 2001)
4.10.2.2. If a public sewerage system is planned to be installed within two thousand (2000) feet of any subdivision within three (3) years of the date of submission of the Definitive Plan as indicated by prior Town Meeting action, the sewer system shall be installed by the developer in the street and to every lot which can be connected later to the public sewerage system. *(Amended December 10, 2001)*

4.10.2.3. If public sewerage connections are not required according to the above, or if the planned public sewerage system has not yet been installed to within the required distance of the proposed subdivision, private on-lot or communal sewerage systems, as approved by the Kingston Board of Health, shall be installed. The on-lot facility shall be located in the front yard wherever practicable to facilitate connections to an eventual public sewerage system.

4.10.2.4. Manholes shall be located at every change in grade or horizontal alignment but not more than three hundred (300) feet apart.

4.10.2.5. Sewerage, where sewerage systems are required, pipes and related equipment such as grinder pumps, and pumping stations shall be installed within the subdivision as necessary to provide all lots on each street with adequate sewerage as approved by the Sewer Department. *(Amended December 10, 2001)*

4.10.2.6. Small wastewater treatment facilities and sewage pumping stations shall be in accordance with Kingston's Regulations for Small Wastewater Treatment Facilities and regulations of the Sewer Department. *(Amended December 10, 2001)*

4.10.3. Water

4.10.3.1. All lots approved by the Planning Board through the Definitive Subdivision Plan process shall conform to the requirements of the Water Department Rules and Regulations. *(Amended January 29, 1996)*

4.10.3.2. Water, where water systems are required, pipes and related equipment such as hydrants and main shutoff valves, shall be installed within the subdivision as necessary to provide all lots on each street with adequate water supply for domestic use as approved by the Water Department and for fire protection use, as approved by the Fire Department.

4.10.3.3. All house connections shall be installed in accordance with the requirements of the Water Department.

4.10.3.4. If the Planning Board and Board of Health approves a private well or private water system, the requirements of the Board of Health shall govern the design of the well or system.

4.10.3.5. The water system shall be designed so as to minimize infiltration.

4.10.3.6. All proposed water systems/main extensions shall be looped whenever the Kingston Water Commissioners indicate that this is feasible and desirable. *(Amended January 29, 1996)*

4.10.4. Storm Drainage

4.10.4.1. A complete system of drainage shall be constructed in a manner satisfactory to the Planning Board and in conformance to the Commonwealth of Massachusetts Highway Department, formerly the Department of Public Works, standard specifications and provide adequate control of surface and subsurface water, information from the subdivision and adjacent land. Pipe size, location and number of catch basins,
manholes, headwalls, and other appurtenances shall be in accordance with the regulations of the Board. The Planning Board will also consider accepted “low impact development methods” as shown in the Massachusetts Low Impact Development Toolkit. 
http://www.eot.state.ma.us/smartgrowth/07toolkit/LID/LID.html Drainage shall be designed to:

a.) Permit unimpeded flow of all natural water courses.

b.) Insure adequate drainage of all low points along streets.

c.) Intercept excessive ground water in the subsoil along the streets.

d.) Intercept storm water runoff along streets at intervals reasonably related to the extent and grade of the area drained. *(Amended June 22, 2009)*

**4.10.4.2.** Catch basins with four (4) foot sumps with hoods shall be required on both sides of the roadway on continuous grades at intervals of not more than three hundred (300) feet; at all low points in the grade and near the corners of the roadway at intersecting streets. Not more than two (2) catch basins shall be connected together before entering a manhole. Manholes shall be constructed at the end of each line, catch basin connections, at changes in grade, size and alignment, and shall not exceed a spacing of three hundred (300) feet, and have inverts of sewer bricks. All catch basin grates shall be bicycle safe. *(Amended March 11, 1996 and March 9, 2009)*

**4.10.4.3.** All drain pipes shall be laid in a straight line and grade. At every change in direction or grade a manhole shall be provided. Drains shall be laid with open bottoms joints in a three quarter (3/4) inch crushed stone cradle.

**4.10.4.4.** Proper connections shall be made with the existing public drainage system. Where adjacent property is not subdivided, provision shall be made for extension of the system by continuing appropriate drains to the exterior boundaries of the subdivision, at such size and grade as will allow for their proper projection.

**4.10.4.5.** Storm drainage systems shall be designed on the basis of a storm occurrence once in twenty-five (25) years, and the resulting runoff shall be calculated by the Runoff Curve Number (CN) method as contained in TR-55.

**4.10.4.6.** All drainage pipes shall be reinforced concrete conforming to A.S.T.M. directing C-76, Class 3 pipe, or such high class as may be required by depth of trench, and shall be at least twelve (12) inches in diameter and shall be laid to a slope which will maintain a velocity of three (3) feet per second when flowing full using N=.0 15. Comparable high density polyethylene pipe (HDPE) may be used if deeded appropriate by the Planning Board.

At least three (3) feet of cover will be required over all drains unless otherwise specified or approved by the Board. *(Amended March 9, 2009)*

**4.10.4.7.** Drainage rights which are appropriate, sufficient and necessary, in the acquiring of the bounds shall be secured for the Town of Kingston. Reinforced concrete bounds of the same dimensions as for granite bounds shall be installed at angle points on all easements to the Town of Kingston.

**4.10.4.8.** Drains and catch basins shall not be backfilled until inspected.
4.10.4.9. Provisions shall be made to collect and remove silt from the drainage system during the construction period.

4.10.4.10. The Board may also require provision for subsoil drains, along or near the edge of the travelled way in addition to the trunk line system, wherever, in its opinion, ground water conditions in the subsoil warrant such drains.

4.10.4.11. In no instance shall catch basins be located at driveway entrances.

4.10.4.12. Cross culverts and their appurtenances shall be designed to accommodate a storm of fifty (50) year frequency.

4.11. Bikeways, Walkways and Trails

4.11.1. Public bikeways, pedestrian walkways or trails shall be required by the Planning Board to provide circulation or access to schools, playgrounds, parks, shopping, transportation, open space and/or community facilities or for such other reason as the Board may determine. These may or may not be part of normal sidewalk provisions, but they shall not be a part of any lot in the subdivision. Bikeways and walkways shall conform to the following standards: The Planning Board encourages the use of permeable materials including permeable pavement for bikeways, pedestrian walkways or trails. (Amended March 9, 2009)

4.11.1.1. Minimum right-of-way width: Fifteen (15) feet

4.11.1.2. Minimum pavement width for bikeways and walkways: Eight (8) feet for bikeways and five (5) feet for walkways. (Amended March 9, 2009)

4.11.1.3. Maximum gradient: Five (5) percent for segments less than one hundred (100) feet in length, three (3) percent elsewhere.

4.11.1.4. Minimum center line radius: Twenty five (25) feet

4.12. Common Driveways

4.12.1. Common driveways as permitted by Town Bylaw, and all drives serving more than two (2) dwelling units, if permitted by a variance issued by the Zoning Board of Appeals, shall meet the following standards:

4.12.1.1. Minimum Width: Eighteen (18) feet for residential use; Twenty four (24) feet for all other uses. Narrower widths may be permitted by using accepted “low impact development methods” as shown in the Massachusetts Low Impact Development Toolkit. http://www.eot.state.ma.us/smartgrowth/07tkit/LID/LID.html. (Amended June 22, 2009)

4.12.1.2. Maximum Grade: Nine (9) percent

4.12.1.3. Maximum Length: Two hundred and fifty (250) feet

4.12.1.4. Curb Cut: Not nearer than sixty five (65) feet from the centerline intersections of any right-of-ways.

4.12.1.5. In addition, the design shall, in the opinion of the Planning Board, assure adequate safety for emergency vehicles and shall provide for adequate drainage of surface waters.
4.12.1.6. All requirements of 5.12. also must be met.

4.13. Retention and Detention Ponds

4.13.1. Where a retention or detention pond is shown on the plan, it shall be part of one (1) or more lots and shall be governed by an easement available to the Town for the purposes of maintenance and also by an easement available to the Town for access for such maintenance.

4.13.2. Retention and detention basin as well as all stormwater management shall conform to Stormwater Management Volumes I and II prepared by MA Department of Environmental Protection and MA Office of Coastal Zone Management. Copies of text available from State Bookstore (617) 727-2834, can be downloaded at http:\www.state.ma.us\dep\brp\ww\wwpubs.htm#storm and are available for review in the Planning Department, Building Department, Conservation Commission Office or Town Clerk's Office.

(Amended November 30, 1998)
SECTION 5.0. REQUIRED IMPROVEMENTS FOR AN APPROVED SUBDIVISION

5.1. General

5.1.1. The subdivider shall install all of the improvements itemized herein unless waived in writing by the Board. All work done under this section shall be done under the direction of the Planning Board. No aforementioned bond or covenant shall be released until full approval in writing of all work done under this section is received by the Planning Board Agent. The following minimum specifications shall govern the installation of all roadways, utilities and other improvements in all subdivisions as noted on Typical Cross Section, designated on the Definitive Plan and otherwise determined by the Planning Board.

5.1.2. No street or way through private property shall be accepted by Town unless the same be previously constructed and completed in accordance with the Standard Cross Section (See Schedules B,C), Street Layout Plan, Profile and the following specifications. Prior to the commencement of the construction phase of development a pre-construction conference shall be held between the Planning Board and/or their Agent and the Developer and/or his Agent to be sure that all the requirements herein are understood and will be met. (Amended November 30, 1998)

5.1.3. Unless otherwise specified, all the work and the materials used in the work to be done shall conform to the requirements of the "Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, 1988 Edition as amended, hereinafter referred to as the Standard Specifications, as amended and the Special Provisions included hereinafter. Appropriate illustrations are found in "Commonwealth of Massachusetts, Department of Public Works, Construction Standards, 1977 as amended".

5.1.4. Supplementing the aforesaid Standard Specifications, certain specifications or special provisions shall apply particularly to the work to be done hereunder. References in the following specifications, unless otherwise stated, are to the aforesaid Standard Specifications, amendments or addenda. These specifications and special provisions shall take precedence and shall govern when they are stricter.

5.1.5. To facilitate reference, each paragraph in these specifications is noted with the paragraph number of the particular section as contained in the Standard Specifications.

5.1.6. Wherever in the Standard Specifications or other contractual documents, the following terms, or pronouns in place of them, are used, the intent and meaning shall be interpreted by substitution as follows:

"Commonwealth" Town of Kingston

"Department" Highway Department and Board of Selectmen of Kingston

"Engineer" The Planning Board of the Town of Kingston acting directly or through an authorized representative; such representative acting within the scope of the particular duties entrusted to him.

5.1.7. The extent of work required shall be as shown upon approved plans, and in compliance with the Standard Cross Section Plans. Stakes shall be set which will indicate the exact amount of cut or fill.
5.1.7.1. Offset stakes shall be set under the direction of a Registered Land Surveyor at fifty (50) foot intervals and at each sewerage and drainage structure and at each hydrant to indicate the location and the exact amount of cut, fill or grade.

5.1.7.2. Improvements to minimize adverse environmental impact, if required, shall be installed in accordance with all details as shown on the approved definitive plan and all possible measures shall be taken during construction to minimize dust and erosion.

5.1.7.3. No earth shall be removed from the area shown on a definitive plan except in accordance with the approved plan and in accordance with an approved Earth Removal Permit where required.

5.1.8. As each construction operation is completed, it shall be inspected and approved by the proper Town authority prior to starting working on the succeeding operation.

5.1.9. As-Built Plans

5.1.9.1. Prior to the release of any lots, the developer shall have prepared and certified by a Registered Land Surveyor a "Plan of Acceptance" drawn with India ink on tracing cloth, mylar or similar substance, size eighteen (18) by twenty-four (24) inches or twenty-four (24) by thirty-six (36) inches, showing widths, lengths, bearings of all boundary lines of streets and easements and radii, tangents and central angles of all curves in street lines. It shall show that all stone bounds have been set. (Amended March 9, 2009)

5.1.9.2. A blank space, four (4) by eight (8) inches, shall be provided on the lower right hand corner of the plan for a title block to be filled in by the developer. The surveyor shall place a certification on the plan stating "The street (or way or portion thereof) is laid out and the bounds have been set as shown on this plan" and shall be dated, signed and the surveyor's stamp affixed thereon. One (1) copy of the plan shall be submitted to the Board of Selectmen and one (1) copy to the Planning Board.

5.1.9.3. The developer shall have the original plans and profiles that were submitted to the Planning Board and that are on file in the Planning Board office corrected and certified by his engineer to show the actual as built locations and grades of all utilities and roadway profiles and any changes authorized by the Planning Board.

5.2. Street and Roadway

5.2.1. The roadway shall be graded and prepared for pavement as follows:

5.2.1.1. Clearing and grubbing of the entire area of such street or way shall be performed to remove all trees not intended for preservation, stumps, brush, roots, rocks or boulders and like material which may exist upon the surface; except that trees of aesthetic value and over four (4) inch caliper may be allowed to remain provided that they are located at least five (5) feet from the proposed side line of the finished roadway and are approved by the Tree Warden and the Planning Board.

5.2.1.2. Roadway earth excavation shall remove all materials encountered down to the true surface of the subgrade, or to suitable material in areas where unsuitable material exists, in preparation for foundation of roadway, sidewalks, driveways and berms. Approved material obtained from the excavation may be used in fills as required if, in the opinion of the Planning Board, they are suitable.
5.2.1.3. When, in the opinion of the Planning Board, suitable material is not available within the limits of the highway location to form the subgrade or sub-base, the contractor shall obtain such additional material from other sources in accordance with this section and as may be approved by the Planning Board.

5.2.1.4. The sub-grade surface, sixteen (16) inches below the finished surface grade in minor and secondary streets, and eighteen (18) inches below the finished surface grade in major streets in residential subdivisions and in all streets in non-residential subdivisions, shall be prepared true to the lines, grades and cross sections given and properly rolled. All soft or spongy material below the subgrade surface shall be removed to a depth determined by the Planning Board and the space thus made shall be filled with special gravel borrow containing no stones over six (6) inches in their largest diameter.

5.2.1.5. Gravel sub-base or foundation containing no stones having any dimensions greater than six (6) inches shall be spread in two (2) equal layers on the surface of the subgrade to a minimum depth of twelve (12) inches in conformity with requirements of Section M 1.02.0. The first six (6) inches of gravel borrow shall be Type A as specified in the Standard Specifications and the top six (6) inches shall be Type B as specified in the Standard Specifications. To assure compliance with the Standard Specifications, the Planning Board may authorize, at the applicant's expense, a testing of the gravel by an independent testing company. Each layer shall be thoroughly watered, rolled and compacted true to line and grade. Any depressions that appear during and after the rolling shall be filled with additional gravel and re-rolled until the surface is true.

5.2.1.6. Final grading, rolling and finishing including the shaping, trimming, rolling and finishing of the surface of the sub-base prior to application of gravel for surfacing of the roadway and base courses for walks or loam for berms shall be in accordance with this section as directed by the Planning Board.

a.) If the Planning Board determines that enough time has elapsed to make it desirable, a tack coat meeting their specifications shall be applied prior to the application of the second layer of gravel.

b.) At the conclusion of this step the roadway shall be staked in all locations where permanent monuments are to be installed as provided in Section 5.9.

5.2.2. Roadways shall be constructed for the full length of all streets within the subdivision and shall have the same curb radius required in Section 4.2.4.2. The center line of all roadways shall coincide with the centerline of the street right of way unless a deviation is approved by the Planning Board. The minimum and maximum widths of roadways shall be as follows:

<table>
<thead>
<tr>
<th>Street Classification</th>
<th>Right of Way Width (in feet)</th>
<th>Pavement Width (in feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>70</td>
<td>48</td>
</tr>
<tr>
<td>Collector</td>
<td>60</td>
<td>34</td>
</tr>
<tr>
<td>Sub-collector</td>
<td>50</td>
<td>26</td>
</tr>
<tr>
<td>Local</td>
<td>50</td>
<td>22</td>
</tr>
</tbody>
</table>

All pavement width shall be as defined above but are subject to alteration by the Planning Board at its option. Provisions for narrower pavement widths and smaller cul-de-sacs may be made by the Planning Board for developments employing accepted "traffic calming measures." Pavement width shall be measured from within the inside edge of the curb or berm. (Amended November 30, 1998 and June 22, 2009)

5.2.3. The base and wearing surfaces of roadways shall be of Class I Bituminous Concrete Pavement, Type I-1, unless otherwise approved or required by the Highway Department. The Type I-1 pavement shall be.
composed of mineral aggregate, mineral filler and bituminous material, plant mixed and laid hot. The pavement shall be constructed in conformity with lines, grades and typical cross-section shown on plans. Material and construction methods shall conform to all other requirements of Section 460 of the Standards Specifications except that no such construction shall be undertaken before March 30th of any year nor after November 1st of any year without written permission of the Planning Board Agent. The developer shall employ a qualified engineering company for services during the batching and placement of bituminous concrete paving. The engineer shall submit a Report of Bituminous Concrete Plan Inspection providing Plant Information, Mix Information, and Extraction Results by % (percent) passing by weight. Thickness of Pavement, Mixture Field Specimens (ASTM D-3549) shall be provided for every thousand (1,000) lineal feet of road or portion thereof at locations directed by the engineer. Certified results of these inspections and test shall be submitted to the Kingston Highway Department and Planning Board Engineer.

5.2.3.1. Pavement on all streets shall be laid to a finished depth of four (4) inches laid in two (2) courses; the base course shall be two and one half (2-1/2) inches, and the top course shall be one and one half (1-1/2) inches.

5.2.3.2. Greater pavement thickness shall be required by the Board on roadways subject to heavy traffic such as in non-residential subdivisions or in selected major streets of residential subdivisions.

5.2.4. Embankments outside, within or adjoining the right-of-way shall be evenly graded and pitched at a slope of not greater than two (2) horizontal to one (1) vertical in fill. Where cuts are made in ledge, other slopes may be determined with the approval of the Planning Board. Where terrain necessitates greater slopes, retaining walls, terracing, fencing, or rip-rap may be used either alone or in combination to provide safety and freedom from maintenance, but must be done in accordance with plans filed with and approved by the Planning Board. Whenever embankments are built in such a way as to require approval by the Planning Board, the developer must furnish to the Town duly recorded access easements free of encumbrances for maintenance of the slopes, terraces or retaining walls. All such slopes shall be grassed in accordance with the specifications for the area between the roadway and sidewalk or roadway and boundary of the right-of-way.

5.2.5. Loam shall be placed on all shoulders, embankments and other areas disturbed by the construction to a depth of four (4) inches. Grass conforming to Section M 6.03.0 of the Standard Specifications shall be placed at the rate of four (4) pounds per one thousand (1000) square feet, or such other ground cover as the Planning Board may approve. The Planning Board may also approve alternative methods as described in Appendix B: Landscape Design Standards for Stormwater Treatment. (Amended June 22, 2009)

5.2.6. Granite curbing shall be installed in all subdivisions. The Planning Board may waive granite curbing where accepted “low impact development methods” as shown in the Massachusetts Low Impact Development Toolkit are employed. http://www.eot.state.ma.us/smartgrowth/07toolkit/LID/LID.html (Amended January 29, 1996 and June 22, 2009)

5.2.6.1. The type of granite curbing whether vertical, chamfered, or sloped with be at the discretion of the Planning Board in consultation with the Fire Chief and the Superintendent of Streets, Trees and Parks. (Amended November 23, 2009)
5.2.6.2. The type of curbing will be based on the type of road as defined in the Kingston Zoning By-Law section 2.1.1.58, characteristics of which are identified in the Rules and Regulations Governing the Subdivision of Land section 4.2.2.1. Local and Minor Streets will typically be constructed with sloped granite. In the event that no grass strip is provided and the sidewalk abuts the roadway vertical granite curbing with a chamfered edge will be installed. Collector streets will be constructed with a vertical curbing with a chamfered edge. Sub collector streets will typically be constructed with vertical curbing with a chamfered edge. Sub collector streets whose use and volume approach those of local streets may be constructed with sloped granite curbing based on the recommendations of the Fire Chief and the Superintendent of Streets, Trees and Parks. (Amended November 23, 2009)

5.3. Utilities

5.3.1. Installation and materials unless otherwise specified shall conform to the standards of the Town of Kingston.

5.3.1.1. Excavation for structures, including foundations for drains, sewers and water pipes, wells and other structures shall be made to the depth as indicated on the Definitive Plan or established by the Planning Board as appropriate. Rock excavation designated as Class B, encountered in trench excavation, shall be removed as directed by the Planning Board.

5.3.1.2. All drain, sewer, gas and water pipes, underground utilities and other structures, including laterals which shall be installed from the right-of-way line of each lot, shall be installed upon the completion of roadway subgrade and before the placing of the sub-base, gravel base course, sidewalks or pavement. If the pavement is removed, excavated or damaged, the trench shall be repaired in accordance with the Town of Kingston Rules and Specifications Regulating Street Excavations.

5.3.1.3. 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 fall length of streets and to the exterior limits of the subdivision, at such grade and size which will, in the opinion of the Planning Board, permit their proper extension at a later date.

5.3.2. Water

5.3.2.1. Public water mains and related facilities shall be installed to the standards of the Kingston Water Department. Hydrants shall be located as specified in Section 4.8.

5.3.2.2. Each hydrant shall be served directly from the water main through a six (6) inch lateral connection. It shall be gated with a five (5) inch bottom valve and shall have two (2) two and one half (2-1/2) inch hose outlets and one five (5) inch pump outlet. Water main valves shall be located in such number and locations that lines by individual block may be isolated for maintenance purposes.

5.3.2.3. Where a public water system is located within four hundred (400) feet of the subdivision, the subdivider may connect to the public water system. Where a public water system is not located within four hundred (400) feet of the subdivision, the subdivider may install a private on-lot water system.

5.3.2.4. Private on-lot water systems shall be located a minimum of fifty (50) feet from a septic tank, one hundred (100) feet from a leaching field, seepage pit and cesspool, ten (10) feet from durably constructed building sewer, and one hundred (100) feet from a privy. Such systems shall be constructed in accordance with Massachusetts Department of Public Health and Kingston Board of Health regulations.
5.3.2.5. Community-type systems or the joint use of wells shall be subject to the standards of the Massachusetts Department of Public Health and acceptance by the Kingston Board of Health.

5.3.3. Sewerage

5.3.3.1. Where public sewers are required, they shall be designed according to professional engineering practices in accordance with the requirements and the standards of the Kingston Sewer Department. (Adopted December 10, 2001)

5.3.3.2. On-site sewage disposal facilities shall be installed and constructed in conformity with the rules, regulations and requirements of the Board of Health. On-site septic tanks and leaching fields may be located in either the front or rear yard of the building(s) served, with the front yard preferred. Due consideration should be given to surface and subsurface soil conditions, drainage and topography in the location of such on-site facilities, and in no instance can any portion of the sewage disposal facilities be located closer than ten (10) feet to a property line.

5.3.4. Drainage

5.3.4.1. Adequate disposal of surface and sub-surface water shall be provided and pipes, manholes and catch basins shall be provided according to the sizes and depths as indicated on the plans and in conformity with the requirements of Sections 200, 220, 230 of the Standard Specifications and shall be built on both sides of the roadway at intervals not to exceed three hundred (300) feet unless otherwise approved by the Planning Board, and at such other places as deemed necessary by the Planning Board to assure an unimpeded flow of all natural watercourses, to assure adequate drainage of all low points and to provide proper runoff of storm water. In no instances shall catch basins be located along a driveway cut. The standard depth of catch basins shall be three(3) feet below the invert of lowest drain. Manholes shall be constructed to the required depth at each junction point and as shown on the plan. Pipe culvert and pipe drains shall be in conformity with the requirements of Section 230 for installation of pipes.

5.3.4.2. Reinforced concrete pipe (used on all cross drains under pavements) shall be installed according to the size as shown on the plans. Comparable high density polyethylene pipe (HDPE) may be used if deeded appropriate by the Planning Board. No backfilling of pipes shall be done until the installation has been inspected by the Planning Board Agent. All drainage trenches except cross drains shall be filled with clean gravel borrow in accordance with Specification 760. All cross drain trenches shall be backfilled with selected material satisfactory to the Planning Board Agent. (Amended March 9, 2009)

5.3.4.3. The size of pipe shall be in accordance with the approved Definitive Plan and in any case shall not be less than twelve (12) inches in diameter. Pipe for the construction of culverts and drains shall be reinforced concrete except where such culverts or drains pass under a roadway or driveway in which case they shall be reinforced concrete (extra strength). All pipes shall be laid true to line and grade as shown on the Plan. Each section of pipe shall have a full, firm bearing throughout its length. All joints shall be made of Portland Cement Mortar unless otherwise directed. Minimum covering of all pipe shall be no less than thirty-six (36) inches.

5.3.4.4. Sizes and slopes of drains shall satisfy the "Rational Formula" where:

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Q = AC_i
\]

\[
Q = \text{peak discharge of the watershed in cfs due to a twenty-five (25) year storm}
\]

\[
A = \text{area of watershed in acres}
\]

\[
C = \text{co-efficient of runoff}
\]

Kingston – September 1993 as amended
i = rainfall intensity in inches per hour for a twenty-five (25) year storm

In no case shall a drainage line of less than twelve (12) inch diameter be used. All drains must be sloped to provide for a minimum velocity of two and one-half (2-1/2) feet per second for self-cleaning purposes. The maximum design velocity shall be fifteen (15) feet per second.

5.3.4.5. Catch Basins and Man-holes

(1) Location

Catch basins located in pavements shall be located so that the greatest distance which water will have to flow over the surface shall not be over three hundred and fifty (350) feet.

(2) Materials Specifications

a) Cement brick masonry or concrete block masonry, machine-made solid segments not less than eight (8) inches in width and precast concrete structures.

b) Man-hole frames - twenty-six (26) inches in diameter, and cover (marked "D" for drains and "E" for electric - two hundred (200) pounds minimum weight.

c) Square catch basin frames - twenty-four (24) inches square; and grates - two hundred (200) pounds minimum weight.

Catch basin flanges in "c" above shall have three flanges only at curb inlets.

(3) Construction Specifications

Catch basins and man-holes shall not be less than four (4) feet in inside diameter at a point two and one-half (2-1/2) feet below the bottom of the frame. Catch basins shall not be less than three (3) feet in depth measuring from the invert of the outlet pipe. Brick masonry inverts shall be constructed for all man-holes. The base of these structures shall consist of precast concrete pies. A twelve (12) inch weep hole shall be left in the base of the catch basins. The walls of these structures shall not be less than six (6) inches in thickness, shall consist of cement brick concrete block masonry or precast concrete units and shall be laid in mortar composed of one (1) part Portland Cement and two (2) parts sand and sufficient water to form a workable mixture. Backfill shall not be applied until after inspection. Outside walls shall be thoroughly plastered with one-half (1/2) inch thick Portland Cement Mortar. Steps or mental rungs shall be provided in man-holes over five (5) feet in depth.

(4) Installation of Castings

Castings shall be set at the pavement binder course grade. Frame castings for catch basins and man-holes shall be set in full mortar beds. All casting to be adjusted to finish grade prior to the application of the wearing surface. All adjustments to be with sewer brick.

5.3.4.6. Where sub-drains are required they shall be constructed in conformance with Section 260 of the Standard Specifications.
5.3.5. Gas

5.3.5.1. Gas mains shall be installed if gas connection is available unless said installation is specifically waived by the Planning Board. See Section 4.9.1.

5.3.5.2. The Gas Company shall be notified by the developer upon approval of the Definitive Plan so that installation of gas mains may be completed without undue delay.

5.3.5.3. If excavation is made after the subgrade is completed and inspected, the mains shall be put in a trench covered with a poured reinforced concrete slab to the lines, grades and dimensions approved by the Planning Board.

5.3.6. Telephone and Electricity

5.3.6.1. Telephone lines shall be installed in underground conduits in conformity with the Standard Specifications. Electric lines shall be installed underground in accord with the regulations of the Commonwealth Electric Company. The Planning Board may permit transformers, switches and other such equipment to be placed on the ground in approved locations.

5.3.7. Other Utilities

5.3.7.1. Any and all wiring shall be installed underground and may be in the same trench with vertical and/or horizontal separation as approved by the Planning Board. Service shall be provided to each lot and each street light before the subgrade is prepared.

5.3.7.2. Other utilities shall be installed in underground conduits in accord with Section 800 of the Standard Specifications or as required by the utility company or department.

5.3.7.3. Mailboxes shall be clustered at a location that is approved by the Planning Board and in accordance with postal regulations.

5.3.7.4. A light post 8 (eight) feet high shall be installed at the edge of the road layout. The light shall be full cut off light fixtures to limit excessive illumination of the night sky equipped with a photosensitive cell, set to operate from dusk to dawn and be connected to the property owner's electrical service. It shall be the property owner's responsibility to maintain the light. (Amended October 17, 1994 and March 9, 2009)

5.4. Sidewalks

5.4.1. Sidewalks shall be constructed within the subdivision, separated from the pavement area by a seeded grass plot. See Section 5.7. When unusual topographic conditions require, the Board may approve the placement of a sidewalk at a greater distance from the roadway or at a higher or lower elevation in relation thereto, provided such variation is indicated on the Definitive Plan and accompanying cross-sections. See Section 4.9.

5.4.2. Sidewalks shall have a finished grade in relation to the finished grade of the roadway as shown on the applicable cross-section plan and shall extend the full length of each side of the street.

5.4.3. All materials shall be removed for the full width of the sidewalk to subgrade twelve (12) inches below the finished grade as shown on the Cross Sections, Schedules B - C.
5.4.4. Bituminous concrete sidewalks laid in two (2) courses, each of one and a quarter (1-1/4) inch, shall have thickness of two and one half (2-1/2) inch after compression, shall be constructed on a nine and one half (9-1/2) inch gravel foundation to the required lines and grades in accordance with the Standard Specifications. The Planning Board encourages the use of permeable materials including permeable pavement for bikeways, pedestrian walkways or trails. *(Amended March 9, 2009)*

5.4.5. If the applicant prefers to install cement concrete sidewalks, they shall be constructed in conformity with this section of the Standard Specifications.

5.5. Bikeways and Walkways

5.5.1. Except as specified herein, where bikeways and walkways are required, they shall be constructed in conformance with Section 701 of the Standard Specifications.

5.5.2. Specifications for sidewalks contained in Section 5.4. shall apply to bikeways and walkways.

5.5.3. For the length of each bikeway and walkway there shall be a cross slope equivalent to three-eighths (3/8) of one (1) inch per foot of width to provide for proper drainage. Leveling areas at intersections with sidewalks shall be shown in details.

5.6. Granite Curbs, Granite Edging, Granite Curb Construction & Guard Rails *(Amended March 11, 1996)*

5.6.1. Granite Curbs: Natural color variation characteristic of the deposit from which the curbing is obtained will be permitted. Sawed surfaces shall be thoroughly cleaned and any iron rust or iron particles or any saw mark in excess of 1/8 inch shall be removed. Stones shall be Type VB and have a minimum length of 36 inches, minimum width at the top of 5 inches and minimum width at the bottom of 2/3 of each stone length and depth of 15 to 17 inches. Stones used for closure pieces may be up to 1/3 shorter than the specified minimum length. Stones set on a radius of 100 feet or less shall be cut to the required curvature and, except for marking closures, shall be a minimum length of 54 inches on radius from 25 to 50 feet or less. At drainage inlets, a gutter mouth of at least 3 inches in depth and at least 2 feet in length shall be cut in the front of the stone.

The front face shall be at right angles to the planes of the top and ends shall be smooth quarry split, free from drill holes and with no projection of more than 1 inch and no depression of more than 1/2 inch measured from the vertical plane of the face of the arris or pitch line for the distance down from the top of 8 inches.

For the remaining distance there shall be no projection or depression greater than 1 inch measured in the same manner. The ends of all stones shall be square with the planes of the top and face so that when the stones are placed end to end as closely as possible no space shall show in the joint at the top and face of more than 1/2 inch for the full width of the top and for eight (8) inches down on the face after which the end may break back not over eight (8) inches from the plane of the joint. The arris formed by the intersection of the plane of the joint with the planes of the top and exposed faces shall have no variation from the plane of the top and exposed faces greater than 1/8 inch.

The finish and surface dimensions shall have a top surface free from wind, shall be peen hammered or sawed to an approximately true plane, and shall have no projections or depressions greater than 1/8 inch. The front and back arris lines shall be pitched straight and true and there shall be no projection on the back.
surface for 3 inches down from the top which would exceed a batter of 4 inches in 1 foot. (Amended March 11, 1996)

5.6.2. Granite Edging: Edging stones shall be cut to the following dimensions:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Length</td>
<td>2 feet</td>
</tr>
<tr>
<td>Maximum Length</td>
<td>6 feet</td>
</tr>
<tr>
<td>Thickness</td>
<td>3 inches to 6 inches</td>
</tr>
<tr>
<td>Width of Face</td>
<td>11 inches to 13 inches</td>
</tr>
</tbody>
</table>

Minimum length stone shall be used on curves with a radius of less than 60 feet, except 1 foot lengths shall be used on curves with a radius of 10 feet or less.

The exposed face shall be smooth quarry split to an approximately true plane having no projections or depressions which will cause over 1 inch to show between a 2 foot straight-edge and the face when the straight-edge is placed as closely as possible on any part of the face.

If projections on the face are more than that specified they shall be dressed off. The top and bottom lines of the face shall be pitched off to a straight line and shall not show over 1 inch between stone and straight-edge when straight-edge is placed along the entire length of the top and bottom lines and when viewed from a direction at right angles to the plane of the face and for the top line only not over 1 inch when viewed from a direction in the place of the face. The ends shall be square to the length at the face and so cut that when placed end to end as closely as possible, no space shall show in the joint at the face of over 1 1/2 inches, except that where the edging is to be used on a curve having a radius of 10 feet or less the ends of the stones shall be so cut as to provide a finished joint at the face section of not more than 1/2 inch. The arris formed by the intersection of the plane of the face with the plane of the end joint shall not vary from the plane of the face more than 1/4 inch. Drill holes not more than 3 1/2 inches in length and 1/2 inch in depth will be permitted. The sides shall not be broken under the square more than 4 inches and the side adjacent to the grass shall not project over 1 inch.

Granite edging shall be set in conformance with the current detail contained in the Massachusetts Highway Department's construction standards. The gravel foundation shall be thoroughly compacted before setting the edge stones. Additional gravel shall be placed and compacted as needed to support the edge stones. Edge stones shall be fitted together as closely as possible.

The concrete toe support shall be placed after the edge stones have been set to fill the space between the edge stones and the bituminous concrete base course. The top support shall be placed to the full depth of the base course and finished flush with the base course surface. (Amended March 11, 1996)

5.6.3. Granite Curb Construction – Preparation (Amended March 11, 1996)

5.6.3.1. A trench shall be excavated at least 18 inches wide to a minimum depth of 6 inches below the bottom of the curb stones. The edge of the trench shall be 6 inches from the curb line to the roadway. Shape the excavation to a uniform surface and tamp.

5.6.3.2. Cement concrete shall be placed in trench so that curb sits on top of six (6) inches of cement with six (6) inches of cement concrete in front and back.

5.6.3.3. The stones shall be set on the foundation true to line and grade with the front face vertical with a 7 inch reveal.

Kingston – September 1993 as amended
5.6.3.4. Cement concrete shall not be poured on frozen or thawing subgrade.

5.6.3.5. The space between curb stones shall be filled with cement mortar and point the mortar joints.

5.6.3.6. At driveway openings, the first stone on either side of the opening shall have a 45 degree bevel in the exposed end of the stone at the driveway end.

5.6.4. Guard rails shall be installed for safety at curves or filled areas as required by the Planning Board, in accordance with the Massachusetts Highway Department "Highway Design Manual" Section 9.3.2. Guardrail warrants.

If a waiver for granite curbing is granted, the following shall apply:

5.6.5. Type A berm 'Cape Cod Berm', eighteen (18) inches wide shall be provided along each side of the roadway.

5.6.6. In the event that the Planning Board waives curbs and berms, paved gutters shall be provided along each edge of the roadway where the grade exceeds three (3) percent.

5.6.7. The profile of the berm is subject to Planning Board approval. (Amended March 11, 1996)

5.7. Grass Plots

5.7.1. A four (4) foot grass plot shall be provided on each side of each roadway between the pavement and sidewalk areas, where sidewalks are required, and shall occupy all the remaining area not paved up to the right-of-way lines. The top four (4) inches of all required grass plots shall consist of good quality loam, rolled and planted.

5.7.2. Grass shall be used unless other ground cover is approved by the Planning Board. Seed shall conform to Section M 6.03.0 of the Standard Specifications.

5.7.3. The slope of the grass plot shall be a maximum of two (2) feet horizontal to one (1) foot vertical.

5.7.4. Street light stanchions and street lights shall be located at least ten (10) feet from the edge of the roadway in the grass plot or in the median, if there is one, but shall not be nearer than twenty five (25) feet from the intersection of two (2) streets, measured from the intersection of the tangents of the intersecting street curb lines. If street lights are located in the median, the Board may require pedestrian lighting placed in the grass plot. See also Section 5.11. Street lights shall be installed to meet criteria set by the Board of Selectmen and installed in accordance with the Kingston Highway Superintendent's specifications. The developer shall establish an account with the Board of Selectmen to cover the cost of required street lighting for a period of two (2) years. This account must be in place prior to applying for occupancy permits.

5.8 Trees

5.8.1. Street trees of a species approved by the Planning Board shall be planted on each side of each street in a subdivision, except where the Definitive Plan showed trees to be retained which are healthy and adequate. Such trees shall be located outside of the right-of-way as shown in the Profile and Standard Cross Sections Schedules B, C, approximately at forty (40) foot intervals, and shall be least twelve (12) feet in height, two (2) inches in caliper measured four (4) feet above the approved grade, and shall not be closer than five (5) feet.
feet nor more than ten (10) feet from said right-of-way line. Trees shall be planted in accordance with Section M 6.06.0 and M 6.09.0 of the Standard Specifications.

5.8.2. The developer shall plant other trees as needed to provide at least one (1) area of shade to each lot. A waiver shall be granted only if there are trees growing along the right of way or on the abutting property which, in the opinion of the Planning Board comply with these regulations. (Amended November 30, 1998)

5.8.3. All deciduous street trees shall be clear of any branches from the approved grade level to a point seven (7) feet above ground level.

5.8.4. The developer will be liable for all trees so planted as to their erectness and good health for one (1) year after planting.

5.8.5. No evergreen trees such as pine, fir, spruce or hemlock are to be planted on an easterly or southerly side of a road, street or way.

5.8.6. Except as otherwise provided, all cut bankings shall be planted with a low growing shrub or vine and wood chipped to a minimum depth of six (6) inches or seeded with a deep-rooted, perennial grass to prevent erosion. See also Section 5.2.4.

5.8.7. All reasonable care shall be exercised to preserve the trees in the subdivision.

5.8.8. Landscaping, street trees and tree belts.

5.8.8.1. Tree belts a minimum of eight feet wide shall be provided on each side of the roadway (seven feet if it is not possible to accommodate eight in the right-of-way). When sidewalks are required, the tree belt shall be between the curb and the sidewalk with the trees planted along the center line of the tree belt. The finished grade of such tree belts shall have a slope of 1/2 inch per foot toward the roadway. Where unusual physical land characteristics or topographic conditions exist, and where no sidewalk is to be constructed, the Planning Board may approve the construction of a tree belt of a greater slope with the finished slope not projecting above a plane sloped four horizontal to one vertical from the back of the curb.

a.) The top six inches of tree belt shall consist of good quality loam extending to the right-of-way, screened, raked, and rolled with lawn grass seed applied in sufficient quantity to assure adequate coverage, rolled when the loam is moist. Spreading of loam and seed shall be in accordance with Sections 751 and 765 of the Standard Specifications.

(b.) There shall be no small trees or shrubs, and no herbaceous plants taller than one foot, within the tree belt.

5.8.8.2. Street shade trees shall be on both sides of subdivision streets in the tree belt when possible and otherwise within the right-of-way or within five feet of the right-of-way. There shall be one tree planted an average of every 30 feet of street frontage along each lot and not less than two trees per lot. Any mature deciduous shade trees preserved may be applied toward this average.

5.8.8.3. Street trees shall not be permitted within 25 feet of the curb line of the intersection of two streets.

5.8.8.4. Trees shall be mature deciduous trees or newly planted trees no less than three-inch caliper at time of installation. Clumping is permitted, using both sides of the sidewalk for tree planting, in order to frame or enhance a view. The center of the tree should be four feet from pavement or curbs.

5.8.8.5. Street trees shall be deciduous shade trees, including, but not limited to, those listed in the table below. No more than 35% of any one species shall be used throughout the subdivision.
5.8.8.6. Street trees shall have a minimum caliper of three inches measured six inches above the soil root ball. They shall be single-stemmed with a single, straight leader. All tree species must meet American Association of Nurserymen Standards for the types and sizes specified. These standards shall be included on the detail sheets.

5.8.8.7. The developer shall install on each lot the street trees specified on the approved plans prior to the issuance of the final certificate of occupancy. Trees must survive one year after planting prior to the release of warranty performance guarantees.

5.8.8.8. Planting operations and requirements for street trees and after-planting tree care shall be in accordance with the American Association of Nurserymen Standards for Planting and shall have a two-year growth warranty. These standards shall be indicated on detail sheets. This warranty period also pertains to trees that have been slated for protection and specified to count toward the public street tree requirement as shown on plans.

5.8.8.9 Specifications for tree protection for all trees slated for protection shall be included in the plans and shall conform to ANSI standards.

A Selection of Approved Street Tree Species

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer rubrum</td>
<td>Red Maple</td>
<td>Low salt areas</td>
</tr>
<tr>
<td>Acer saccharum</td>
<td>Sugar Maple</td>
<td>In special circumstances, low salt, wide root zone areas</td>
</tr>
<tr>
<td>Cercidiphyllum japonicum</td>
<td>Katsura tree</td>
<td>Prune to single stem, moist soils</td>
</tr>
<tr>
<td>Fraxinus pennsylvanica</td>
<td>Green Ash</td>
<td></td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>Ginkgo</td>
<td>Male only</td>
</tr>
<tr>
<td>Gleditsia triacanthos var. inermis</td>
<td>Thornless Common Honeylocust</td>
<td></td>
</tr>
<tr>
<td>Nyssa sylvatica</td>
<td>Black Gum, Tupelo</td>
<td>Moist soils</td>
</tr>
<tr>
<td>Quercus coccinea</td>
<td>Scarlet Oak</td>
<td></td>
</tr>
<tr>
<td>Quercus robur</td>
<td>English Oak</td>
<td></td>
</tr>
<tr>
<td>Quercus rubra</td>
<td>Red Oak</td>
<td>Will tolerate poor, sandy soils</td>
</tr>
<tr>
<td>Platanus x acerifolia</td>
<td>London Plane Tree</td>
<td></td>
</tr>
<tr>
<td>Tilia cordata</td>
<td>Littleleaf Linden</td>
<td></td>
</tr>
<tr>
<td>Ulmus americana &quot;Valley Forge&quot;</td>
<td>Valley Forge Elm</td>
<td></td>
</tr>
<tr>
<td>Ulmus americana &quot;Princeton&quot;</td>
<td>Princeton Elm</td>
<td></td>
</tr>
<tr>
<td>Ulmus parvifolia &quot;Allee&quot;</td>
<td>&quot;Allee&quot; Lacebark Elm</td>
<td></td>
</tr>
<tr>
<td>Zelkova serrata</td>
<td>Japanese Zelkova</td>
<td></td>
</tr>
</tbody>
</table>

(Amended June 22, 2009)

5.9. Monuments

5.9.1. Monuments shall be installed on street lines at all points of intersections of streets with each other and at all points of curvature, at all points of change in direction, at each point where the lot line intersects the street right of way, at all corners of lots, at intersection of easements and lot lines and streets and at all other

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points where in the opinion of the Planning Board, permanent monuments are necessary. *(Amended November 30, 1998)*

5.9.2. Monuments shall be reinforced concrete marker of not less than three (3) feet in length and not less than five (5) inches in width and breadth and shall have a brass seal with the name of the installer. Said monuments shall be installed at the time of final grading with the top flush with the top final graded surface. Concrete bounds shall be reinforced with a one-half (1/2) inch diameter steel rod.

5.9.3. Entrances to subdivisions shall not be marked by elaborate monuments.

5.9.4. The placement and accurate location of these markers shall be certified by a registered land surveyor and properly located on the street acceptance plans.

5.10. Street Signs

5.10.1. Street signs shall be installed at each intersection to conform to the standards established by the Town of Kingston Highway Department and the Police Department. *(Amended March 11, 1996)*

5.10.2. From the time of rough grading 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 affixed thereto a sign designating such street as a private way.

5.11. Street Lights

5.11.1. Street and pedestrian pole and light types shall be approved by the Planning Board.

5.11.2. Street and pedestrian light stanchions shall be located at such intervals as required by the Planning Board in the grass plot or median, as provided in Section 5.7.4. and shall be installed in accord with the procedure required by the Utility Company.

5.12. Driveways, Single/Common

5.12.1. The driveway shall be graded in accordance with Section 5.1. and a wearing surface applied in accordance with Section 5.2.3.1., unless a lesser thickness is approved by the Planning Board, to a width of at least fifteen (15) feet and the to edge of the roadway right-of-way.

5.13. Areas Disturbed by Construction

5.13.1. Loam and grass seed shall be placed on all shoulders, embankments, and other areas disturbed by construction in accordance with the Erosion/Sedimentation Control Program, and the following factors shall be considered during all phases of construction:

5.13.1.1. No larger area shall be developed than that on which construction can be completed rapidly so that large areas are not left bare and exposed for long periods.

5.13.1.2. Grading shall be kept at a minimum. Where possible, only undesirable trees shall be removed.

5.13.1.3. Runoff shall be controlled and conveyed into storm sewers or other outlets so it will not erode the land or cause off-site damage.
5.13.1.4. Critical areas shall be protected during construction with mulch or temporary crop covers and with mechanical measures such as diversions and prepared outlets.

5.13.1.5. Sediment basins shall be constructed where necessary to detain runoff and to trap sediment during construction.

5.13.1.6. Safe off-site disposal of runoff shall be provided, including the increased runoff resulting from construction.

5.13.1.7. Permanent vegetation and erosion control structures, where necessary, shall be installed as soon as possible.

5.14. Maintenance of Improvements

5.14.1. For the purpose of protecting the safety, convenience and welfare of the Town's inhabitants; for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for reducing the danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; under the authority of Chapter 41, Section 81-M as amended, the applicant or his successor shall provide for the proper maintenance and repair of improvements under this Section of the Rules and Regulations during the construction and for the period of eighteen (18) months after the completion of the construction of said improvements and the release of security or until the Town votes to accept such improvements, whichever comes first. Such maintenance shall include snow removal beginning at the time of occupancy of an individual owner or tenant other than the developer.

5.15. Provision for Competent Supervision

5.15.1. The applicant shall provide competent supervision during the development of his subdivision. If at any time, it becomes apparent to the Planning Board that the supervision is not satisfactory, they may order the discontinuance of the development until competent supervision is provided.

5.15.2. Competent supervision shall include the necessary supervision to make sure that all temporary drainage controls, erosion and sedimentation controls, stock pile controls and other such measures as contained in the approved Definitive Plan are adequately and properly provided and maintained.

5.16. Cleanup

5.16.1. Any area disturbed by the construction and all rights-of-way shall be cleaned up so as to leave the area shown on the Plan in a neat and orderly appearance free from debris, tree stumps, loose rocks, mounds of dirt or other objectionable material. Seeding of these areas may be required by the Planning Board. On-site burial of rocks, stumps or other debris take place only with the approval of the Planning Board.
SECTION 6.0. ADMINISTRATION

6.1. Variation

6.1.1. Strict compliance with the requirements of these Rules and Regulations may be waived when, in the judgment of the Planning Board, such action is in the public interest and not inconsistent with the Subdivision Control Law. Any such waivers granted must be requested by the Applicant in writing and approved by vote and in writing by the Planning Board.

6.2. Reference

6.2.1. For matters not covered by these Rules and Regulations, reference is made to Section 81-K to 81-GG, inclusive, of Chapter 41 of the General Laws.

6.3. Building Permit

6.3.1. No building shall be erected within a subdivision without written permission from the Planning Board by Form I.

6.3.2. The Board of Selectmen and/or Building Inspector shall not issue any permit for the erection of a building until he is first satisfied that the lot on which the building is to be erected is not within a subdivision or that a way furnishing the access to such lot as required by the Subdivision Control Law is shown on a plan recorded or entitled to be recorded under Chapter 41 Section 81-X, as amended 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, and in the event that more than one (1) building for dwelling purposes be erected or placed or converted to use as such on any lot, that the Board of Selectmen and/or Building Inspector is satisfied that consent has been obtained from the Planning Board in accordance with Section 2.4. of these Rules and Regulations, Chapter 41 Section 81-Y, and amendments thereto.

6.3.3. In the case of a bond, surety or tripartite agreement, no structure shall be occupied until at least the base course of bituminous concrete as specified in Section 5.0. has been applied to the streets which serve the structure. In the case of a covenant in lieu of a bond or surety, no occupancy permit shall be issued until all improvements are completed.

6.4. Inspections

6.4.1. Inspections shall be arranged by the developer with the Planning Board Agent for that purpose prior to the construction of streets and the installation of utilities and during construction as specified herein at each significant construction stage. See Form K.

6.4.2. Inspection shall be requested in writing at least forty eight (48) hours in advance of each inspection to the Planning Board.
6.4.3. Inspection shall be by the Planning Board Agent except where otherwise noted, for the following:

- Satisfactory excavating
- Satisfactory laying of water and sewer mains, hydrants and related equipment by the Water Department
- Satisfactory laying of gas mains and related equipment
- Satisfactory installation of surface and sub-surface drainage system and related equipment
- Satisfactory filling
- Satisfactory compacting
- Satisfactory installation of electric lines and related equipment, including Cable T.V. lines
- Satisfactory installation of telephone lines and related equipment
- Satisfactory completion of the pavement
- Satisfactory placing of curbs and gutters
- Satisfactory construction of sidewalks
- Satisfactory finish grading of grass plots
- Satisfactory installation of monuments
- Satisfactory grading of lots
- Satisfactory installation of fire alarm system
- Satisfactory planting of street trees
- Satisfactory final clean-up

6.4.4. The Planning Board may establish the order of the required inspections and may require satisfactory completion of one step before the subdivider proceeds to the next. It may require tests to be done by the subdivider as a condition for approval when in the opinion of the Planning Board it is advisable.

6.4.5. The proper Town official or agent shall indicate on Form K, Inspection Form, provided by the Planning Board, the date of inspection and the approval and shall file such form with the Planning Board whereupon the cost of the inspection shall be paid to the inspector from the Inspection Escrow account.

6.4.6. Failure to comply with the inspection procedure may necessitate removal of improvements at the expense of the applicants or rescission of the approval of the plan in accord with Chapter 41, Section 81-W of the General Laws of Massachusetts. For any approved subdivision that is not completed with the time
lines above the Planning Board will automatically rescind the subdivision approval. (Amended June 22, 2009)

6.5. Meetings

6.5.1. The Planning Board will hold regular and/or special meetings on such dates as will be designated and on file with the Town Clerk.

6.6. Validity

6.6.1. If, in any respect, any provision of these Rules and Regulations in whole or in part, shall prove to be invalid for any reason, such invalidity shall only affect the part of such provision which shall be invalid and in all other respects these Rules and Regulations shall stand as if such invalid provision had not been made, and they shall fail to the extent, and only to the extent, of such invalid provision, and no other provision of these Rules and Regulations shall be invalidated, impaired, or affected thereby.

6.7. Effective Date

6.7.1. These regulations became effective after approval by the Board, certification by the Town Clerk and filing with the Register of Deeds and the Recorder of the Land Court.
APPENDIX A:
STORMWATER TECHNICAL DESIGN CRITERIA

To Achieve Phase II Stormwater Compliance and Promote Low Impact Development

JUNE 2005
Appendix A:
Stormwater Management Design Criteria

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Appendix A:

Stormwater Technical Design Criteria

Introduction
Why use design criteria at all? Early subdivisions and other developments were built with no protective design criteria at all – there were no design criteria – and when the land is cleared for development, runoff characteristics change dramatically for the worse. More runoff at higher velocities is discharged. The result of these developments was flooding, environmental damage, and economic losses where development became dense enough to affect people downstream.

In roughly the mid 1950s, engineers working for communities and design engineers for developments began using crude peak flow criteria such as designing for the 10-year storm. These criteria helped a little, but to a large degree just made people feel like they were controlling the impacts of development on flooding in particular. Storms smaller than the 10-year, which almost all of them are, passed untreated, undetained through the detention basins that were typically used to meet this minimal criteria. Larger storms also were not controlled.¹

In the late 1980s and 1990s, stormwater quality became the focus of engineers and scientists trying to protect water quality. Many improvements were made in stormwater treatment, and proprietary units proliferated. The focus on quality improved the situation and added considerable costs to many projects, but also left the quantity side somewhat unregulated. Today, recognition of the quantity/quality link and the affects of stormwater losses on groundwater levels, streamflows and general dewatering of urban areas has brought the focus back to the quantity issue but with a different twist. Instead of trying to control only flooding, engineers are now trying to control smaller and smaller storms since over 90% of the runoff and its associated pollutant loads is in very small storms. A new recognition has also dawned that using peak criteria only results in sustained flows downstream – flows that over time cause significant channel and environmental damage.

Today, Low Impact Development or LID is the new buzzword, and many people are excited at the opportunity to better control the impacts of development that have become well recognized in the last 20 years. But there are no real design criteria to achieve LID, and without design criteria, the impacts of development will be difficult to control and most communities will have trouble identifying exactly what makes up LID and whether a development is actually going to achieve the best outcome possible.

¹ Note that stormwater management techniques that control small storms, recharge and other factors affect water quantity and quality significantly. Using peak discharge rates of 25, 50 and 100-year storms typically leaves the smaller storms untouched and addresses only the hydraulic impact of massive amounts of rain on downstream flooding, a somewhat rarer event.
Controlling the smallest storms and providing better, low impact development and drainage design has been done only rarely. Methods and data to measure its success are not yet perfected. So actually accomplishing LID will be slow and erratic, with potentially many more mistakes than successes until design criteria are established. This document is a working document meant to provide the first steps towards implementing better drainage design and Low Impact Development. Typically the use of these criteria will not add significantly to the cost of the development, but the long-term economic benefits to host communities could be substantial. Granted, developers and their engineers may not jump right into using the new criteria without encouragement -- no one likes change – but their use will help communities and designers provide better protection for abutters, the environment and the community’s infrastructure.

These criteria update an earlier version of CEI’s stormwater design criteria (CEI, 2002) to reflect recent improvements in methods to measure and control stormwater impacts\(^2\). In some cases, they provide more than one method to reach similar performance benchmarks, so that communities and design engineers can choose the best fit method for achieving the similar goals.\(^3\) The criteria include:

1. **Stormwater Recharge**: an additional option has been added to the 1 inch infiltration found in CEI’s 2002 criteria. The purpose is to address sites where soils are less conducive to infiltration while still providing hydrologic protection.

2. **Pretreatment**: more criteria for sizing pretreatment have been added to the 2002 criteria.

3. **Flood Protection**: More options are added to reflect the level of urbanization.

4. **Channel Protection**: this is a new criteria designed to protect downstream channels from the damage caused by sustained flows that would occur if only peak discharge was applied.

5. **Water Quality Volume**: Additional methods to compute water quality volume have been added. The purpose of this criteria is to ensure that stormwater runoff is treated, even if recharge is not an option.

6. **Erosion Control**: This is a new criteria from 2002, added because erosion control is crucial and an often overlooked or underutilized practice that may result in tons and tons of sediment released into waterways.

---

\(^2\) Some of CEI’s 2002 criteria have been combined together where it made sense for simplification, and others have been modified to add more options for calculating the results. There are also three new criteria.

\(^3\) Communities may choose to allow the use of any of the methods as alternates or may identify the one they are most comfortable with and allow only that method to be used. The criteria are listed from most conservative and protective of receiving waters to least conservative.

Appendix A: Stormwater Technical Design Criteria
7. **Detention Basins:** This is a new criteria that if used will result in more naturalized detention basins being built, with better performance.

1. **Stormwater Recharge**

Impervious and disturbed surfaces from development alter the natural hydrologic cycle by discharging stormwater directly to streams, rather than allowing it to infiltrate through the soils and into groundwater as it did before development. This increases flooding and reduces the baseflow to streams that is needed in the summer months when there is little precipitation. The increased runoff from impervious surfaces also increases stream temperatures, since pavement and other impervious surfaces absorb substantial amounts of heat in the summer due to their dark coloring and lack of shade, which is transferred to runoff passing over the surface. The result is runoff that is dramatically warmer than natural groundwater inflow would have been under a natural hydrologic cycle. The purpose of this criteria is to maintain existing recharge rates to preserve existing groundwater levels and stream baseflows. Two different methods to achieve better recharge are shown below. The first method is more conservative and protective of receiving waters than the second method.

**Method 1**

All storms up to 1-inch must be retained on site for post-development conditions. The volume of water to be retained can be calculated using the following equation:

\[
\text{Infiltration required per storm (ft}^3) = \text{impervious surfaces (ft}^2) \times 1.0 \times \frac{\text{inch}}{12 \text{ inches per foot}}
\]

The following criteria also apply:

- Initial exfiltration during the design storm shall not be accounted for during the unit/device sizing, with the exception of roof runoff devices, which may account for exfiltration in sizing calculations.

- All units/devices shall be designed to drain within 48 hours from the end of the storm.

- Recharge shall not be concentrated to one area. It shall be distributed to multiple areas throughout the site.

---

4 The appropriate local review authority may alter or eliminate the recharge volume requirement if the site is situated on unsuitable soils (i.e., marine clays). In this situation the water quality volume must still be treated through other BMPs designed to remove pollutants. Underdrained soil filters using a highly organic material are the preferred alternative in these cases, as they most closely mimic the benefits of infiltration.

Redevelopment projects may not be able to achieve the one inch recharge criteria due to site layout and limited space. These projects must recharge or treat a minimum of one half inch of precipitation over the impervious surface.
• The recharge volume criteria does not apply to any portion of a site designated as a stormwater hotspot. Hotspots are defined as sites with higher potential pollutant loads, including:
  - Auto salvage yards (auto recycler facilities)
  - Auto fueling facilities (gas stations)
  - Fleet storage areas (cars, buses, trucks, public works)
  - Vehicle service and maintenance areas
  - Vehicle and equipment cleaning facilities
  - Commercial parking lots with average trip generation rates of 1,000 or greater per day, such as fast-food restaurants, convenience stores, high-turnover (chain) restaurants, shopping centers, and supermarkets
  - Road salt storage and loading areas (if exposed to rainfall)
  - Commercial nurseries
  - Flat metal (galvanized metal or copper) rooftops of industrial facilities
  - Outdoor storage and loading/unloading areas of hazardous substances
  - SARA 312 generators (if materials or containers are exposed to rainfall)
  - Marinas (service, repainting, and hull maintenance areas)

**Method 2**
The volume of water to be recharged shall be based on the site soils. The volume of water to be retained from the developed site should be calculated using the following equation:

\[
Re_v = \frac{[(S)(R_v)(A)(43,560)]}{12}, \text{ where}
\]
\[
R_e = 0.05 + 0.009(I) \text{ where } I \text{ is the percent impervious cover}
\]
\[
A = \text{site area in acres}
\]
\[
S = \text{Soil Specific Recharge Factor}
\]

<table>
<thead>
<tr>
<th>Hydrologic Group</th>
<th>Soil Specific Recharge Factor</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>0.40</td>
</tr>
<tr>
<td>B</td>
<td>0.25</td>
</tr>
<tr>
<td>C</td>
<td>0.10</td>
</tr>
<tr>
<td>D</td>
<td>0.07</td>
</tr>
</tbody>
</table>

The following criteria also apply:
- Initial exfiltration during the design storm shall not be accounted for during the unit/device sizing, with the exception of roof runoff devices, which may account for exfiltration in sizing calculations.
• All units/devices shall be designed to drain within 48 hours from the end of the storm.

• Recharge shall not be concentrated to one area. It shall be distributed to multiple areas throughout the site.

• The soil group classification used to determine the CN value shall be based on an on-site percolation test and the table below:

<table>
<thead>
<tr>
<th>Soil Group</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infiltration rate when wet (inches/hour)</td>
<td>&gt; 0.3</td>
<td>0.15 – 0.3</td>
<td>0.05 – 0.15</td>
<td>0 – 0.05</td>
</tr>
</tbody>
</table>

• If more than one soil type is present at the site, a composite soil specific recharge factor shall be computed based on the proportion of total site area within each soil type. The recharge volume provided at the site shall be directed to the most permeable soil available.

• The recharge volume criteria does not apply to any portion of a site designated as a stormwater hotspot. Hotspots are defined as sites with higher potential pollutant loads, including:

  ▪ Auto salvage yards (auto recycler facilities)
  ▪ Auto fueling facilities (gas stations)
  ▪ Fleet storage areas (cars, buses, trucks, public works)
  ▪ Vehicle service and maintenance areas
  ▪ Vehicle and equipment cleaning facilities
  ▪ Commercial parking lots with average trip generation rates of 1,000 or greater per day, such as fast-food restaurants, convenience stores, high-turnover (chain) restaurants, shopping centers, and supermarkets
  ▪ Road salt storage and loading areas (if exposed to rainfall)
  ▪ Commercial nurseries
  ▪ Flat metal (galvanized metal or copper) rooftops of industrial facilities
  ▪ Outdoor storage and loading/unloading areas of hazardous substances
  ▪ SARA 312 generators (if materials or containers are exposed to rainfall)
  ▪ Marinas (service, repainting, and hull maintenance areas)

2. Pretreatment
To prevent premature failure, the design of stormwater treatment devices shall include a pre-treatment device or method that will trap sand and sediments to avoid clogging the treatment mechanism. Infiltration of stormwater from the treatment device into underlying soils and eventually groundwater aquifers is an important beneficial
component of the device. Pre-treatment basins must be designed and located to be easily inspected and accessible to facilitate maintenance. Pre-treatment devices must also be sized to accommodate a minimum of one-year’s worth of sediment and debris.

The following standards shall be followed to ensure that the device will permit sufficient treatment to treat stormwater and allow for a reasonable required maintenance frequency for the BMP:

- Pre-treatment devices shall be provided for each BMP; and
- Pre-treatment devices shall be designed to accommodate a minimum of one-year’s worth of sediment; and
- Pre-treatment devices shall be designed to capture anticipated pollutants, such as oil and grease; and
- Pre-treatment devices shall be designed and located to be easily accessible to facilitate inspection and maintenance; and
- The Revised Universal Soil Loss Equation (RUSLE)\(^5\) shall be used to calculate sediment deposits that would occur from pervious areas adjacent to the BMP; and
- Pretreatment structures shall be sized to hold an annual sediment loading. An annual sediment load shall be calculated using a sand application rate of 500\(^6\) lbs/acre for sanding of roadways, parking areas and access drives within the subcatchment area, a sand density of 90 lbs per cubic foot and assuming a minimum frequency of ten sandings per year. To obtain an annual sediment volume, perform the following calculation:

\[
\text{Area to be sanded (acres)} \times 500 \text{ pounds} \div 90 \text{ pounds} \times 10 \text{ storms} = \text{cubic feet of Acre-storm} \times \text{ft}^3 \times \text{year} \times \text{sediment/yr}
\]

- The developer shall maintain any BMPs used to trap sediment during construction to prevent sediment from leaving the site, and shall remove all sediment from all BMPs when construction is finished and the site is stabilized.

Sanding rates and numbers of storms may need to be adjusted downward for southern New England and upward for northern New England.

3. Flooding Protection
Impervious and disturbed surfaces from development cause an increase in the volume, velocity and flowrates of stormwater leaving sites and entering surface waters. This in

---

\(^5\) Developed by the Natural Resources Conservation Service, USDA to predict soil erosion due to water.

\(^6\) Municipalities may wish to adjust the sanding rate for roadways based on actual sanding rates for their Town or City. Sanding rates for private parking lots and facilities should assume the 500 lbs/acre.

Appendix A: Stormwater Technical Design Criteria
turn causes flooding of the receiving waters during storms, which damages the streambanks. This can be controlled through the use of flow controls to prevent post-development peak discharges from exceeding pre-development peak discharges. It is important to control various size storms. Even the smaller storms warrant control as these occur more frequently and can be damaging to streambanks as the frequency and magnitude of flooding increases. Larger storms, such as the 100-year storm should also be controlled to prevent flood damage and maintain the 100-year flood plain boundaries.

The following standards should be followed to control peak discharge rates and improve the overall effectiveness of the BMPs. These are minimum design standards.

- The post-development peak discharge rate shall be equal to or less than the pre-development peak discharge rate (based on a 1-year, 2-year, 10-year, 25-year, 24-hour storm); and

- Control the peak discharge rate from the 100-year storm to pre-development levels within the 100-year floodplain; and

- The site shall be designed to ensure that all runoff from the site up to the maximum design storm (i.e., 100-year storm) enters the control structure. For example, the drainage system may only be sized to handle a ten-year storm, with larger storms flooding the distribution system and traveling overland. This overland flow, or overflow, must be directed into the peak control structure; and

- The applicant shall account for all run-on and run-off (including off-site impacts) in both pre- and post-development conditions; and

- The applicant shall prepare hydrographs for pre- and post-development conditions; and

- The pre-developed condition shall be a forested land cover in good condition. Post development should assume a worst case condition (i.e., poor vegetated cover) for disturbed areas; and

- Any site that was wooded within the last five years must be considered undisturbed woods for all pre-construction runoff conditions, regardless of clearing or cutting activities that may have occurred on the site during that pre-application period; and

- Use TR-55 to develop hydrographs and peak flow rates for the proposed development site. Make sure all areas are accounted for in the pre/post runoff calculations. The total tributary area that contributes flow from the proposed site, including runoff entering the site through piped drainage or surface runoff from off-site sources, must be included even if a portion
does not contribute flow to the BMP. The objective is for the development’s storm drain design to account for total runoff leaving the site; and

- Off-site areas should be modeled as “present land use condition” in good hydrologic condition for the 2 and 10-year storm events for both pre and post development calculations; and

- The length of overland sheet flow used in $t_c$ calculations shall be limited to no more than 50 feet for pre- and post-development conditions.

4. Channel Protection
Many storm water management practices focus on controlling peak flow rates for larger storms, including the 2-year, 10-year and 100-year storms. This does not address the increased duration at which those high flows occur because of the increased volume of water from development compared to pre-development. For example, although the peak flows are kept the same, there is a much greater volume of water leaving the site under developed conditions and the streams have higher flows for longer durations than they did under predevelopment conditions. In addition, because the impervious development has limited recharge, base flow during non-storm event times is lower. The purpose of this criterion is to limit the total amount of time that a receiving stream exceeds an erosion-causing threshold based on pre-developed conditions. Two methods to achieve better channel protection are shown below, with the more conservative and protective provided first.

**Method 1**
24 hours extended detention of the post-development 1-year, 24-hour return frequency storm event shall be provided.

**Method 2**
12 hours extended detention of the post-development 1-year, 24-hour return frequency storm event shall be provided.

5. Water Quality Volume
Development also impacts the water quality of streams, ponds, lakes and wetlands. As impervious area increases, the volume and velocities of stormwater increase, often resulting in erosion of soils. Pollutant deposits on the land surface also increase as the intensity of land use increases. These materials are then washed off by rain and runoff, increasing the pollutant load to receiving waters. Thus, it is important that BMPs are used to handle water quantity as well as treat water quality. The water quality volume should include the first flush of storms, as this is where the majority of pollutants are collected and discharged. Two different methods for calculating water quality volumes are

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7 Redevelopment projects may not be able to treat the full water quality volume as estimated above due to site layout and limited space. These projects must treat a minimum of one half inch of precipitation over the impervious surface.
presented below. The first is more conservative and protective of receiving waters than the second.

Method 1
The water quality volume required to be treated shall be calculated as:

\[
\text{Water Quality Volume (ft}^3\) = [(P)(R_v)(A)(43,560)]/12, \text{ where}
\]
\[
P = \text{rainfall depth in inches – use 1”}
\]
\[
R_v = 0.05 + 0.009(I) \text{ where } I \text{ is the percent impervious cover}
\]
\[
A = \text{site area in acres}
\]

- At a minimum use 0.2 inches per acre at sites with less than 15% impervious cover.

Method 2
The water quality volume required to be treated shall be calculated as:

\[
\text{Water Quality Volume (ft}^3\) = \text{impervious surfaces (ft}^2\) X 1.0 (inch) / 12 \text{ (inches per foot)}
\]

6. Erosion Control
Land clearing and grading for construction purposes leaves soils susceptible to erosion. If not controlled, eroded soils may reach streams and lakes, filling them in and adding pollutants attached to the soil particles. It is important to have controls in place to prevent and control the erosion of disturbed lands. The following standards shall be met for erosion control:

- Prior to any land disturbance activities commencing on the site, the developer shall physically mark limits of no land disturbance on the site with tape, signs, or orange construction fence, so that workers can see the areas to be protected. The physical markers shall be inspected daily.

- Appropriate erosion and sediment control measures shall be installed prior to soil disturbance. Measures shall be taken to control erosion within the project area. Sediment in runoff water shall be trapped and retained within the project area. Wetland areas and surface waters shall be protected from sediment.

- Sediment shall be removed once the volume reaches ¼ to ½ the height of the silt fence or hay bale.

- Divert offsite runoff from highly erodible soils and steep slopes to stable areas.

- Land disturbance activities exceeding two acres in size should not be disturbed without a sequencing plan that requires stormwater controls to be installed and the soil stabilized, as disturbance beyond the two acres continues. A construction phasing plan shall be submitted to the Planning Department prior to any
construction on the site. Mass clearings and grading of the entire site shall be avoided.

- Soil stockpiles must be stabilized or covered at the end of each workday. Stockpile side slopes shall not be greater than 2:1. All stockpiles shall be surrounded by sediment controls.

- The area of disturbance shall be kept to a minimum. Disturbed areas remaining idle for more than 14 days shall be stabilized.

- For active construction areas such as borrow or stockpile areas, roadway improvements and areas within 50 feet of a building under construction, a perimeter sediment control system shall be installed and maintained to contain soil.

- A tracking pad shall be constructed at all entrance/exist points of the site to reduce the amount of soil carried onto roadways and off the site.

- Dust shall be controlled at the site.

- On the cut side of roads, ditches shall be stabilized immediately with rock rip-rap or other non-erodible liners, or where appropriate, vegetative measures such as sod.

- Permanent seeding shall be undertaken in the spring from March through May, and in late summer and early fall from August to October 15. During the peak summer months and in the fall after October 15, when seeding is found to be impractical, an appropriate temporary mulch shall be applied. Permanent seeding may be undertaken during the summer if plans provide for adequate mulching and watering.

- All slopes steeper than 3:1 (h:v, 33.3%), as well as perimeter dikes, sediment basins or traps, and embankments must, upon completion, be immediately stabilized with sod, seed and anchored straw mulch, or other approved stabilization measures. Areas outside of the perimeter sediment control system must not be disturbed.

- Monitoring and maintenance of erosion and sediment control measures throughout the course of construction shall be required. The applicant shall submit an Operation and Maintenance Plan for temporary and permanent erosion control measures as part of the application package.

- Temporary sediment trapping devices must not be removed until permanent stabilization is established in all contributory drainage areas. Similarly, stabilization must be established prior to converting sediment traps/basins into permanent (post-construction) stormwater management facilities. All facilities
used as temporary measures shall be cleaned prior to being put into final operation.

- All temporary erosion and sediment control measures shall be removed after final site stabilization. Disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 days of removal.

7. Naturalized Detention Basins

Naturalized basins are attractively landscaped basins that fit better into a natural landscape. Naturalized planting themes incorporate native plants and use an informal pattern to mimic the natural environment. They have several advantages over traditional basins, including:

- The deeper root systems of the native plant materials encourage infiltration, recharging groundwater tables and increasing base flows.
- The plants trap pollutants, increasing the water quality of the discharge.
- The vegetation serves to cool water temperatures and slow storm water velocities.
- They are visually more attractive and can help beautify a neighborhood, increasing property values.
- They require less maintenance. Generally annual mowing and periodic trimming of trees and plants is sufficient.

Minimum Design Standards

Naturalized basins shall be used in lieu of conventional detention basins wherever feasible. The following design standards shall be followed to achieve the maximum benefit:

1. The basin shall be easily accessible for maintenance.

2. Construct basin with a sediment forebay at the inlet, sized to hold a minimum of one year’s worth of sediment accumulation if no other pre-treatment is proposed.

3. Construct basin to have a natural low flow channel with turf reinforcement material to remove pollutants and prevent erosion.

4. Incorporate a naturally landscaped area at the ground surface. The ground surface around the basin shall be large enough to be in scale with the overall landscaped area. The purpose is to filter and soften views from residential areas.

5. Plant all areas of the naturalized basin, including basin floors, side slopes, berms, impoundment structures, or other earth structures, with suitable vegetation such as naturalized meadow plantings or lawn grass specifically suited for storm water basins. Suggested plants include:

a. Grasses: Big Blue Stem, Switchgrass and wildflower mixes. In wet areas, plant Sweetflag, Yellow Iris and Soft Rush for color and texture.
b. Shrubs: Red Chokeberry (Aronia arbutifolia), Silky Dogwood (Cornus ammomum), Arrowwood (Viburnum Dentatum), Cranberrybush (Viburnum trilobum).
c. Trees: Red Maple (Acer rubrum), River Birch (Betula nigra), Sweetgum (Liquidambar styraciflua), various Willows.

6. Trees may not be planted below the pool area of the basin. If shrubs are used, they must be adapted to wet or moist soils conditions.

7. Mulch may be used in shrub beds located within the pool area with a non-floating type mulch.

8. Group trees or shrubs to avoid a spotty effect.

9. Provide access to the basin for maintenance. Blend access area in with the surrounding landscape to the extent feasible.

10. The forebay/sediment trap shall be at least 10 feet long and sized to hold at least the annual sediment loading.

11. Maintenance access shall be planted with grass and at least 10 feet wide with a maximum slope of 15% and a maximum cross slope of 3%.

12. Provide a means to prevent soil compaction on the floor of the basin during construction.

13. Size treatment storage area to hold the water quality volume.

14. The perimeter of all basins shall be curvilinear so that from most edges of the basin, the whole basin will not be in view. A more traditionally shaped (oval or rectangular) basin may be permitted when conditions such as topography, parcel size, or other site conditions warrant. Basins shall follow natural landforms to the greatest extent possible or be shaped to mimic a naturally formed depression.

15. Place inlets and outlets to maximize the flow path through the facility. At a minimum, the flow path shall be twice as long as wide. Baffles, pond shaping or islands can be added within the permanent pool to increase the flow path. If there are multiple inlets, the length-to-width ratio shall be based on the average flow path length for all inlets.

16. Minimum 1 foot of freeboard above the 25-year storm elevation.

17. The interior slopes of the basin within the pool area shall not exceed a slope of four horizontal to one vertical.
18. A minimum of six inches of topsoil with at least 6% organic content shall be provided for all planting ground cover beds or lawn areas.

19. Low flow outlets shall be designed to prevent clogging.

20. For basins that cannot infiltrate the water quality volume, use a soil filter conforming to the following:

   a. Impoundment Depth – Peak storage depth within the filter area for water quality volume may not exceed 18 inches.

   b. Pipe layout and spacing – Layout of the pipe underdrain system must be sufficient to effectively drain the entire filter area. There must be at least one line of underdrain pipe for every 8 feet of the filter area’s width. The slope of the pipe must be 1% or greater.

   c. Pipe bedding – Minimum 12 inches over top of drainage pipe, 6” thick at sides, and 6 inches below drainage pipe of clean well-graded gravel.

   d. Filter bed – The soil must consist of loamy, coarse sand. The soil filter must extend across the bottom of the entire filter area. The soil must be at least 18” deep and underlain by a gravel bedding. A nonwoven filter fabric shall be installed between the soil and gravel with sufficient permeability rates to drain the water quality volume.

   e. Surface Cover – The top of the underdrain system must be covered with a 4 inch layer of sandy loam and then covered with plantings consisting of species tolerant of frequent inundation.

   f. Underdrain outlet – Each system must discharge to an area capable of withstanding concentrated flows and saturated conditions without eroding.

8. Hydrologic and Hydraulic Criteria for All Designs

   • Impervious cover is measured from the site plan and includes any material or structure on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved parking lots, sidewalks, roof tops, driveways, patios, and paved, gravel and compacted dirt surfaced roads.

   • Determination of flooding and channel erosion impacts to receiving streams due to land development projects shall be measured at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.
• The specified design storms shall be defined as a 24-hour storm using the rainfall distribution recommended by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).

• Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.
APPENDIX B:
LANDSCAPE DESIGN STANDARDS FOR STORMWATER TREATMENT

JUNE 2005
Appendix B
Landscape Design Standards for Stormwater Treatment

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Appendix B:

Landscape Design Standards for Stormwater Treatment

1. General Standards

Soil and landscaping play an important role in stormwater impacts and treatment results. From a quantity standpoint, the loss of good quality topsoil from many sites during construction results in significant increases in runoff quantities that are often not calculated in the models such as TR-55 typically used for runoff assessment. In terms of quality, high organic content of soils absorbs and adsorbs many pollutants. In fact peat and compost have been shown to provide considerable pollutant removal and are sometimes used in various treatment strategies.

Landscaping also affects stormwater quality and quantity. Grassed areas, while not totally undesirable, may have considerably more runoff due to compaction and more pollutant contribution due to the frequently-occurring overuse of fertilizers and pesticides. Alternatively, a tiered landscape containing an overstory (typically large shade trees), understory trees, shrubs and groundcovers provides the most absorption and natural uptake of rainfall. Some grass may be included but typically not an expansive monoculture. A more desirable landscape is diverse and provides wildlife habitat, shade, and beauty along with strips of grass for open areas.

Tiered landscapes, like natural landscapes, tend to require less maintenance and chemical input once established. These landscapes, including a highly organic soil profile, absorb and cleanse rainfall and runoff so that the quantity and quality are more reflective of a natural hydrology. By using these specifications, water, pesticide and fertilizer use will be minimized and vegetation will thrive with little but spring and fall cleanup.

2. Soil Preparation

1. Compacted soils restrict root penetration, impede water infiltration, and contain few macropore spaces needed for adequate aeration. In addition, compacted soils have a higher runoff coefficient and should be avoided. Preventing construction activities on parts of the site will help prevent compaction. In areas where this is not practical, methods to compensate for the compaction must be employed. Landscape areas should be deep tilled to a depth of at least 12 inches to facilitate deep water penetration and soil oxygenation. Use of soil amendments is encouraged to improve water drainage, moisture penetration, soil oxygenation, and/or water holding capacity. Soil amendments are organic matter such as compost, sewer biosolids, and forestry by-products, but do not include topsoil or any mix with soil as an element.
2. For all newly landscaped areas, including single-family residences, organic matter (three to four cubic yards of organic matter per 1,000 square feet of landscape area) should be incorporated to a depth of four to six inches. Organic content of landscaped soils shall not be less than 18% by volume in the top six inches of the finished topsoil.

3. For newly landscaped areas where topsoil is limited or nonexistent, or where soil drainage is impeded due to subsurface hardpan or bedrock, 6 to 24 inches of sandy loam topsoil should be spread in all planting and turf areas, in addition to the incorporation of organic matter into the top horizon of the imported soil. Organic content of landscaped soils shall not be less than 18% by volume in the top six inches of the finished topsoil.

4. Soil analysis of new or renovated turf areas should include a determination of soil texture, including percentage of organic matter; an approximated soil infiltration rate; and a measure of pH value.

3. Mulching

Mulch should be applied regularly to, and maintained in all, planting areas to assist soils in retaining moisture, reducing weed growth, and minimizing erosion. Mulches include organic materials such as wood chips, compost and shredded bark and inert organic materials such as decomposed lava rock, cobble, and gravel. If weed barrier mats are used, the use of inert organic mulches is recommended. Non-porous materials, such as plastic sheeting, are not recommended for use in any area of the landscape because of down-slope erosion, potential soil contamination from herbicide washing and increased runoff coefficients. Mulches should be applied to the following depths: three inches over bare soil, and two inches where plant materials will cover. Mulches for stormwater management areas should be heavier and not of a type that will float away.

4. Site Features and Layout

1. Landscaping should be designed to remain functional and attractive during all seasons of the year through a thoughtful selection of deciduous, evergreen, flowering and non-flowering plant varieties.

2. Prominent natural or man-made features of the landscape such as mature trees, surface waters, natural rock outcrops, roadways or stonewalls should be retained and incorporated into the landscape plan where possible. The addition of ornamental rocks, fencing and other features new to the landscape are encouraged.

3. Existing natural vegetation should be retained where possible. Existing trees and shrubs to be retained may be substituted for any compatible required plantings.
4. Lawn areas should be kept to a minimum. Natural re-growth, mulched planting beds and alternative groundcover plant varieties are preferred. Lawn areas should not be planted in strips of less than six feet in width, especially adjacent to roads or parking areas, since such areas require watering but have little utility and are less likely to thrive.

5. Native plant species, or plant species that have been naturalized in the area or the surrounding region should be used to meet the minimum requirements of this section. Plant varieties selected should be hardy, drought and salt resistant, and require minimal maintenance. Less hardy, exotic or higher maintenance plant varieties may be used to supplement minimum landscaping requirements where appropriate, but are not encouraged. Species listed on the current Invasive Species List for Massachusetts shall not be used.

5. Use of Compost

Incorporation of organic matter such as compost improves the structure (tilth) of the till and any other soil types, with the exception of soils that are already highly organic. In sandy soils, compost increases the water holding capacity and nutrient retention. The physical and chemical properties of most New England soils can be significantly improved by blending in compost.

Compost-amended soil has many potential benefits when instituted with establishment of turf and landscaping, including: (1) increased water conservation, (2) increased nutrient retention, (3) better turf aesthetics, (4) reduced need for chemical use, (5) improved stormwater retention, and (6) cost-savings to the private landowner, and the Town of ______________.

Compost shall be a stable, humus-like organic material produced by the biological and biochemical decomposition of source separated compostable materials, separated at the point of generation, that may include, but are not limited to, leaves and yard trimmings, food scraps, food processing residuals, manure and/or other agricultural residuals, forest residues and bark, and soiled or non-recyclable paper. Compost shall not be altered by the addition of materials such as sand, soil or glass. Compost shall contain no substances toxic to plants and shall not contain more than 0.1 percent by dry mass of man-made foreign matter. Compost shall pose no objectionable odor and shall not closely resemble the raw material from which it was derived. Compost shall have a minimum organic matter content of 30 percent dry unit weight basis as determined by loss on ignition in accordance with ASTM D 2974. Compost shall be loose and friable, not dusty, have no visible free water and have a moisture content of 35 - 60 percent in accordance with ASTM D 2974. The particle size of compost shall be 100 percent less than 25 mm in accordance with AASHTO T27 and shall be free of sticks, stones, roots or other objectionable elongated material larger than 50 mm in greatest dimension. The pH of compost shall be in the range of 5.5 - 8.0. The maturity of the compost shall be tested and reported using the Solvita Compost Maturity Test and must score 6 or higher to be
acceptable. The soluble salt content of compost shall not exceed 4.0 mmhos/cm as determined by using a dilution of 1 part compost to 1 part distilled water.

The quantity of compost to be incorporated into a site is determined by the final organic content goal for the soil and is dependent on its existing organic content. Organic content of landscaped soils shall not be less than six percent.

6. Low Impact Development Landscaping

Landscaping that incorporates Low Impact Development (LID) strategies for stormwater management should serve to meet the requirements of the Town of ________’s stormwater management plan by absorbing and treating stormwater runoff to the greatest extent possible onsite. Low Impact Development landscaping includes the use of biofilters, raingardens, shallow swales, drywells and other features that use soil and landscaping to mimic natural hydrologic features and functions. The high organic content of the soils encourages healthy growth and absorbs and retains rainwater on site as soil moisture, minimizing irrigation needs and runoff quantities.

Landscape areas shall include all areas on the site that are not covered by buildings, structures, paving or impervious surface. The selection and location of turf, trees, ground cover (including shrubs, grasses, perennials, flowerbeds and slope retention), pedestrian paving and other landscaping elements shall be used to absorb rainfall, prevent erosion and meet the functional and visual purposes such as defining spaces, accommodating and directing circulation patterns, managing hardscape impacts, attracting attention to building entrances and other focal points, and visually integrating buildings with the landscape area. Where possible, the landscaping design should combine form and function, incorporating drainage features invisibly into the landscape such as through shallow detention areas, parking lot islands that provide for infiltration of parking lot runoff and sheet flow.

7. Neighboring Properties

Landscape Design Plans shall mitigate the impact to neighboring properties. The rear elevations of buildings, loading docks, and refuse collection areas must also be addressed in the Landscape Design Plan. It is required that rear elevations adjacent to non-commercial zoned parcels will be screened to the full height of the structure within seven (7) years of occupancy of the retail space.

8. Parking Lots

Parking lots with more than fifty (50) parking spaces shall have curbed planting areas. Planting areas shall be placed at each end of a parking row. No parking row shall contain 30 contiguous parking spaces without a curbed planting area.

Curbs around parking lot planting areas shall have a shallow descending cut that is a minimum of five feet wide to allow drainage to flow from the parking lot into the curbed

Appendix B: Landscape Design Standards for Stormwater Treatment
planting areas for infiltration. Such planting areas shall be underlain by a suitable layer of crushed stone or other water holding reservoir, with an overlay of filter fabric to minimize clogging by fines. Topsoil depths and minimum organic content shall be as above for other landscaped areas for the maximum absorption of rainfall.

9. Vegetation

Any landscape element that dies, or is otherwise removed, shall be promptly replaced with the same, if not similar to, height or texture element as originally intended.

A split rail or picket fence, not less than two feet in height and not more than four feet in height, shall be provided between or to the rear of the trees to serve as a back drop and support for the shrubs and other planting, to serve as a unifying architectural element, and to protect against damage cause by pedestrian “cut-through” traffic. Shrubs and other smaller plantings should be placed between the fence and the street or on both sides where the fence is placed toward the center of the landscaped strip.

Landscape strips should be mulched or planted with hardy groundcover plant varieties rather than planted as lawn areas. Where landscape strips are used as part of the drainage system, plantings shall be tolerant of periodic wet conditions and shall be shallowly sloped to allow infiltration and storage.

Wheel stops should be provided in all parking areas abutting landscaped strips to avoid accidental damage.

Collector Roads: A deciduous shade tree and accompanying understory shrubs and groundcovers shall be planted in groupings along the front property line of all sites adjoining the collector road at a rate of not less than 1 tree per 25 linear feet of property frontage. Where larger shade trees may interfere with overhead utilities, minor shade or ornamental tree varieties should be used.

10. Maintenance

Low maintenance, drought, insect and disease resistant plant varieties are encouraged so that buffer areas and other required landscaping can be maintained with minimal care and the need for watering, pesticide or fertilized use is minimized. For these reasons, native species and species that have long thrived within the region are preferred since such plant species are well adapted to the local environment.

To avoid maintenance problems, soil testing should be conducted prior to planting to ensure that the appropriate plant varieties are selected for various portions of a site.

To avoid maintenance problems and excessive watering, organic matter such as compost or peat should be added to the soil before planting as appropriate to increase the water holding capacity of the soil and to provide nutrients.
Where used, irrigation systems should be installed with moisture meters or other devices designed to avoid unnecessary or excessive watering. Alternatively, irrigation systems should be manually activated.

11. Informal, Re-growth and Peripheral Landscape Areas

Disturbed areas intended for natural re-growth should be, at a minimum, graded, loamed and seeded with wildflowers, perennial rye grass or similar varieties. The planting of native trees, shrubs and other plant varieties is encouraged. The planting of blueberry, rhododendron, winterberry, bayberry, shrub dogwoods, cranberry bush, spicebush, native viburnums and other hardy shrubs along the edge of cleared woodlands provides for an attractive transition between natural woodland and more formally landscaped portions of a site. Where woodland areas are intended to serve as buffers, such plantings can fill in voids by rapidly reestablishing undergrowth. Perennial flowerbeds are also encouraged.

Plant Specifications and Definitions

1. Trees and shrubs – installation size requirements
   a) Minimum size for shade or canopy trees shall be 3 inches in diameter measured at a point six inches above grade with a height of not less than 12 feet.
   b) Minimum size for small or minor shade trees shall be 2.5 inches in diameter measured at a point six inches above grade with a height of not less than nine feet.
   c) Minimum size for ornamental or flowering fruit trees shall be 2 inches in diameter measured at a point six inches above grade with a height of not less than seven feet.
   d) Minimum size for evergreen trees shall be six feet in height.
   e) Minimum size for shrubs shall be 1.5 feet in height.

2. Planting Specifications
   a) Areas intended as planting beds for shrubs or hedges shall be cultivated to a depth of not less than 18 inches. All other planting beds shall be cultivated to a depth of not less than 12 inches.
   b) Pits for planting trees or shrubs shall be generally circular in outline with vertical sides. Pits for trees or shrubs shall be deep enough to allow one-eighth of the ball of the roots to be the existing grade. Pits for trees shall be wide enough to allow for at least 9 inches between the ball of the tree and the sides of the pit on all sides.
   c) Cultivated areas shall be covered with not less than a two to three inch deep layer of mulch after planting.
   d) All trees and shrubs shall be appropriately pruned after planting with all broken or damaged branches removed.
   e) All plants shall be nursery grown.

Appendix B: Landscape Design Standards for Stormwater Treatment
3. **Retention of Existing Vegetation**

The boundary of areas to be cleared should be well defined in the field with tree markings, construction fencing or silt fencing as appropriate to avoid unnecessary cutting or removal. Care should be taken to protect root systems from damage from excavation or compaction. Individual trees, rock formations and other landscape features to be retained should also be clearly marked and bounded in the field.

12. **Recommended Plant Varieties**

See Attachment A

13. **Definitions**

1. Berm: a linear earthen mound designed to block views, noise or other potentially objectionable circumstances.
2. Deciduous: a plant with foliage that is shed annually.
3. Evergreen: a plant with foliage that is retained and remains green throughout the year.
4. Mulch: nonliving organic or synthetic matter spread over cultivated ground to retain moisture, limit weed growth and control erosion.
5. Ornamental tree: a deciduous tree, generally smaller than a shade tree, that is planted primarily for its aesthetic or ornamental value.
6. Shade tree: a large deciduous tree with a high crown of foliage or overhead canopy.
7. Shrub: A self-supporting woody plant, smaller than a tree, which consists of several small stems or branches from a base at or about the ground.
<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acorus</td>
<td>Sweet flag</td>
</tr>
<tr>
<td>Adiantum</td>
<td>Maidenhair fern</td>
</tr>
<tr>
<td>Agastache</td>
<td>Giant hyssop</td>
</tr>
<tr>
<td>Amelanchier</td>
<td>Shadbush serviceberry</td>
</tr>
<tr>
<td>Amelanchier</td>
<td>Allegheny serviceberry</td>
</tr>
<tr>
<td>Andropogon</td>
<td>Big bluestem</td>
</tr>
<tr>
<td>Anemone</td>
<td>Canada anemone</td>
</tr>
<tr>
<td>Angelica</td>
<td>Angelica</td>
</tr>
<tr>
<td>Apocynum</td>
<td>Dogbane</td>
</tr>
<tr>
<td>Aquilegia</td>
<td>Columbine</td>
</tr>
<tr>
<td>Arisaema</td>
<td>Jack-in-the-pulpit</td>
</tr>
<tr>
<td>Aronia</td>
<td>Red chokeberry</td>
</tr>
<tr>
<td>Astilbe</td>
<td>Black chokeberry</td>
</tr>
<tr>
<td>Asclepias</td>
<td>Swamp/Marsh milkweed</td>
</tr>
<tr>
<td>Asclepias</td>
<td>Common milkweed</td>
</tr>
<tr>
<td>Asclepias</td>
<td>Butterfly weed</td>
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<tr>
<td>Aster</td>
<td>New England Aster</td>
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<tr>
<td>Athyrium</td>
<td>Lady fern</td>
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<tr>
<td>Betula</td>
<td>River birch</td>
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<tr>
<td>Calamagrostis</td>
<td>Blue joint grass</td>
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<tr>
<td>Caltha</td>
<td>Marsh marigold</td>
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<tr>
<td>Campanula</td>
<td>Harebell</td>
</tr>
<tr>
<td>Carex</td>
<td>Bottlebrush sedge</td>
</tr>
<tr>
<td>Carex</td>
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</tr>
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<td>Carex</td>
<td>Prairie star sedge</td>
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<td>Carex</td>
<td>Lurid sedge</td>
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<td>Carex</td>
<td>Drooping sedge</td>
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<tr>
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<td>Broom sedge</td>
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<td>Common fox sedge</td>
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<tr>
<td>Carex</td>
<td>Brown fox sedge</td>
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<td>Cephalanthus</td>
<td>Buttonbush</td>
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<td>Chelone</td>
<td>Turtlehead</td>
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<tr>
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<td>Virgin's bower</td>
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<tr>
<td>Corylus</td>
<td>American hazelnut</td>
</tr>
<tr>
<td>Desmodium</td>
<td>Showy tick-trefoil</td>
</tr>
<tr>
<td>Dicentra</td>
<td>Fringed bleeding heart</td>
</tr>
<tr>
<td>Diervilla</td>
<td>Low bush honeysuckle</td>
</tr>
<tr>
<td>Echinacea</td>
<td>Purple coneflower</td>
</tr>
<tr>
<td>Eleocharis</td>
<td>Great spike rush</td>
</tr>
<tr>
<td>Elymus</td>
<td>Virginia wild rye</td>
</tr>
<tr>
<td>Equisetum</td>
<td>Horseshell</td>
</tr>
<tr>
<td>Eupatorium</td>
<td>Joe-pye weed</td>
</tr>
<tr>
<td>Eupatorium</td>
<td>Boneset</td>
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<tr>
<td>Eupatorium</td>
<td>Savanna Joe-pye weed</td>
</tr>
<tr>
<td>Filipendula</td>
<td>Queen of the prairie</td>
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<tr>
<td>Fothergilla</td>
<td>Fothergilla</td>
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<tr>
<td>Fragaria</td>
<td>Wild strawberry</td>
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<tr>
<td>Galium</td>
<td>Northern bedstraw</td>
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<tr>
<td>Gentiana</td>
<td>Bottle gentian</td>
</tr>
<tr>
<td>Getum</td>
<td>Prairie smoke</td>
</tr>
<tr>
<td>Glyceria</td>
<td>Fowl mara grass</td>
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<tr>
<td>Hamamelis</td>
<td>Witch hazel</td>
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<tr>
<td>Helianthus</td>
<td>Sneezeweed</td>
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<td>Helianthus</td>
<td>Showy sunflower</td>
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<tr>
<td>Hypericum</td>
<td>Downy sunflower</td>
</tr>
<tr>
<td></td>
<td>Ox-eye sunflower</td>
</tr>
<tr>
<td></td>
<td>Great St. John's wort</td>
</tr>
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SCHEDULES
## SAMPLE

**SUBDIVISION NAME**

A SUBDIVISION LOCATED IN

**KINGSTON, MA**

**TITLE SHEET**

<table>
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<tr>
<th>SCALE</th>
<th>DATE</th>
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<table>
<thead>
<tr>
<th>OWNER'S NAME</th>
<th>SUBDIVIDER'S NAME</th>
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<tbody>
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<td>ADDRESS</td>
</tr>
<tr>
<td>PHONE</td>
<td>PHONE</td>
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<table>
<thead>
<tr>
<th>ENGINEERS NAME</th>
<th>SURVEYOR'S NAME</th>
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<td>PHONE</td>
</tr>
<tr>
<td>STAMP</td>
<td>STAMP</td>
</tr>
</tbody>
</table>

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**SCHEDULE A**
class 1 bituminous concrete:
finish course — 1\% in.
blender course — 2\% in.
crushed bank-gravel — 6 in.
coarse gravel — 6 in.
slope — 1/4" per lin. ft.

6" min.
slope — 1/4" per lin. ft.
curb
loam min. 6 inches

Typical Cross Section for Street Construction

SCHEDULE B
Minimum Standards: New Street Construction

Secondary or (Minor)

Major

Primary
dimensions in feet

SCHEDULE C
SCHEDULE D
PROJECT INFORMATION SUMMARY

This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please fill out this form as accurately as possible. Answers to these questions will be considered as part of the application for approval of a subdivision and may be subject to further certification and public review.

Please submit any additional information to document how any known impacts, whatever the magnitude, will be dealt with in the design process. This additional information will help in the review of the PIS, and will reduce time delays by addressing potential impacts early in the process.

Applicants need not fill out every part in the PIS, but only those parts applicable to the type of project proposed.

The Planning Board will, in its review of the application, determine what elements of the Environmental Impact Statement must be included in the application for approval of the Definitive Plan for a proposed subdivision.
PROJECT INFORMATION SUMMARY FORM

PART 1 – GENERAL INFORMATION

Name of Project: ________________________________________________________________

Name and Address of Owner: ____________________________________________________

(Name)

(Street)

(P.O.) (State) (Zip)

Business Phone: ______________________________________________________________

Name and Phone of Contact Person: _____________________________________________

Description of Project: (Briefly describe type of project): __________________________

A. PROJECT INFORMATION:

1. ___ Variance of Special Permit – Specify ________________________________
   Rezoning From: __________________________________________ To: ______________
   _____ Residential Development - # of Units: __________________________
   _____ Business Development Type: _________________________________
   _____ Industrial Development - Type: _________________________________
   _____ PUD/Cluster

2. Location of Project
   a. Address: ______________________________
   b. Distance and direction from nearest intersection(s): ______________________
   c. Tax Account Number: _______________________________________________

3. Present Zoning: ___________________________________________________________

4. Dominant zoning with ¼ mile of site: _______________________________________

5. Present Land Use: _________________________________________________________

6. Dominant land use with ¼ mile of site: ______________________________________
7. Project Extent

a. Total number of acres in parcel: ___________________ acres
b. Number of acres already development: ___________________ acres
c. Number of acres to be developed under this application: __________ acres
d. Anticipated construction dates – From: ______ To: ___________
e. Anticipated capital expenditure: $ ______________
f. If expansion of existing project: ___________________ expansion

8. Total height of tallest proposed structure: __________ feet.

B. NATURAL FEATURES OF SITE

1. Approximate acreage of site by use (Note: land should not be classified in more than one category. Total current acreage = total after completion).

<table>
<thead>
<tr>
<th>Nature of Land</th>
<th>Current</th>
<th>After Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meadow or Brushland</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Forested</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Active Agriculture</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Idle Agriculture</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Wetlands and Aquifers</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Water Surface Area (ponds, lakes, streams)</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Unvegetated (rock, gravel)</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Roads, Building, Pavement</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Active Recreation Facility</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
<tr>
<td>Total</td>
<td>_______ acres</td>
<td>_______ acres</td>
</tr>
</tbody>
</table>
2. Will disturbed area be in or within 100’ of any of the following? (If, yes, please specify)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>SPECIFY</th>
</tr>
</thead>
</table>
|     |    | Stream 
|     |    | Classification: |
|     |    | Waterbody |
|     |    | Wetlands |
|     |    | Woodlands |
|     |    | Steep Slopes |
|     |    | Agricultural Land |
|     |    | Unique Ecological Feature |
|     |    | Unique Geological Feature |
|     |    | Designated Open Space |
|     |    | Designated Sensitive Environmental Area |
|     |    | Parkland |
|     |    | Recreational Facilities |
|     |    | Historic Site |
|     |    | Known Archeological Site |
|     |    | Unique Archeological Site |
|     |    | Plant or animal species identified as threatened or endangered (specify) |

3. Are there any known drainage ways, drainage ditches or seasonal flow of water On or through the site?  
   No_____  Yes____ (specify on separate sheet)

C. PLANNING CONSIDERATIONS

1. Is the site served by:
   a. Sanitary sewer  Septic Systems  Other
   b. Storm sewer  Open Drainage
   c. Public water  Wells  Other
   d. Other utilities (specify)

2. Is the site contiguous with any of the following:
   _____ State Road
   _____ County Road
   _____ Town Street
   _____ Undesignated Road

2. Is there a property line boundary within 100’ of the proposed disturbed area?

4. Is the site served by public transportation?  NO_____  YES_____
5. Are there any of the following within 1000' of the site?
   School
   Library
   Church
   Cultural Center (Museum, etc.)
   Cemetery
   Firehouse
   Ambulance Station
   Governmentor Public Building
   Electrical Generating Facility
   High Voltage Electrical
   Transmission Line

6. Will the action result in the preservation of any open space? NO YES
   Is the site presently used by the community as open space or recreation area?
   NO YES

7. Will the project result in any major visual impacts? NO YES

8. Will the project affect and important views or vistas NO YES

9. Special Planning Considerations: is the site within any of the following?
   Food Plain District
   Historic Preservation District
   500 feet of a state or county road, parkland, or municipal boundry
   100 year floodplain as defined by FEMA Flood Insurance Maps

10. Has any provision been made for solar or other alternative sources of energy for
    this project? NO YES

11. Has provision been made for siting the project to make use of natural solar
    heating or shading NO YES

12. Will this project require the relocation of any other project or facility?
    NO YES (specify: ____________________________)

PART II – GEOLOGY & HYDROLOGY

A. What is the predominant soil type(s) on the project site? ____________________________

B. What is the depth to bedrock? ______ feet (Info source: ________________)

C. Are there any bedrock outcroppings on the site NO YES

D. What is the general slope of the land?
   0-10% ______%  10-15% ______%  15% or greater ______%

E. What is the depth to the water table? ______ feet (Info. Sources: ________________)

F. Will surface area of any existing lakes, ponds, streams, bays or other surface water areas
   be increased or decreased by project? No YES (Specify on separate sheet)
G. Will any stream channels be modified? NO_________YES________

H. What additional percentage of the site will be covered by impervious materials as a result of the project? ________________

I. Are any mitigation measures being designed into the project to minimize the effects of impervious surfaces on drainage and runoff?

J. Are there any existing drainage problems on the site, upstream, or downstream?
   NO_______YES_______ (if YES, please attach a narrative explanation on separate sheet)

K. How much on-site storage of runoff will be provided? ________________acre-feet

L. Are Sedimentation ponds to be provided? NO_______YES_______

M. 1. Are retention or detention ponds to be provided? NO_______YES_______
   2. Which
      Temporary_________Permanent_________

PART III – GRADING AND SITE DEVELOPMENT

A. How much natural material will be removed from the site of the project?
   Rock_________cubic yards      Topsoil_________cubic yards
   Subsoil_______cubic yards

B. How much natural material will be brought onto the site of the project?
   cubics yards      Rock_________Topsoil
   subsoil_________cubic yards

C. How much natural material will be redistributed on the site of the project?
   cubics yards      Topsoil
   Rock_________subsoil_________cubic yards

D. How many square feet of vegetation (trees, shrubs, ground cover) will be disturbed on this project site? ________________square feet

E. Are there any plans for revegetation NO_______YES_______ (specify on separate sheet)

F. Will blasting occur during construction? NO_______YES_______

G. How will demolition debris (if any), vegetation waste, and similar materials be disposed of?

H. Will existing contours be altered by more than 3 feet of:
   Cut: NO_______YES_______
   Fill: NO_______YES_______

I. 1. What will be the maximum gradient of roadways within the project?
   2. What will be the maximum gradient of driveways within the project?__________
PART IV - RESIDENTIAL

A. Is project to be single phased______________, or multi-phased_______?

B. If multi-phased project:  
   a. total number of phases anticipated? 
   b. anticipated date of phase I commencement(including any necessary demolition) mo:___ year___ 
   c. approximate date of completion of final phase: month______ year__________ 
   d. is phase #1 financially dependent upon subsequent phases? NO_______YES_____

C. Number and type of housing units to be constructed:  
<table>
<thead>
<tr>
<th>One family</th>
<th>Two family</th>
<th>Multi-family</th>
<th>Condo or Co-op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>_________</td>
<td>_________</td>
<td>_________</td>
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<tr>
<td>Ultimate</td>
<td>_________</td>
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D. If project is not on public sanitary sewers:  
   1. Type of on-site sewerage system(s) to be installed:  
      ________ standard leach field(s) 
      ________ raised fill systems 
      ________ package plant 
      ________ other (specify): ____________________________

   2. If any surface outflow, name of stream into which effluent will be discharging ____________________________

E. If project involves storm sewers:  
   1. Where do storm sewers discharge? ____________________________

   2. What volume of storm water runoff is planned for? ________ cfs at point of discharge

F. Solid Waste:  
   1. Where will solid wastes be disposed of?  
      Name of facility ____________________ location ________________

   2. Will any waste not go to a sanitary landfill?  
      NO_______YES_____

G.  
   1. If water supply is from existing wells, indicate pumping capacity:  
      ________ gal/min

   2. If water supply is to be from new wells, what impact can be expected on the local water table?  
      ____________________________

   3. If water supply is from source other than public water supply, what is the quality of the water to be provided? ____________________________

Schedule D  
Page 7 of 10
Project

H. Total anticipated water usage per day: ________________________________ gal
   Number of off-street parking spaces: ______________ existing ______ proposed

PART V - BUSINESS

A. Orientation of development: _____ Neighborhood _____ Regional

B. Estimated employment generated: during construction; ______________
   during operation: ______________

C. Total gross floor area proposed: ______________ sq. ft.

D. Number of off-street parking spaces: ______________ existing ______________ proposed

E. 1. Is surface or subsurface liquid waste disposal involved?  NO  __ Yes __
   2. If YES to #1, type of waste: ______________________________
   3. If surface outflow, name the stream into which the effluent will be discharged:

F. If not on public sanitary sewers, how will liquid wastes be treated?

G. If project is on public sanitary sewers, name of sewage treatment facility to which effluent will be Directed: ______________ Location ______________

H. If project involves storm sewers:
   1. Where do storm sewers discharge? ______________
   2. What volume of storm water runoff is planned for? __ cfs at point of discharge.

I. Maximum vehicular trips generated per hour upon completion of project __________

J. If multi-phased project:  a. total number of phases anticipated __________
    b. anticipated date of phase 1 commencement (including any necessary demolition):
       month ______ year ______
    c. approximate date of completion of final phase:
       month ______ year ______
    d. is phase #1 financially dependent upon subsequent phases?  NO ______ YES ______
K. Solid Wastes: 1. Where will solid wastes be disposed of?
   Name of facility_________________________ location_________________________
   2. Will any wastes not go to a sanitary landfill? No__Yes__

3. Will compactors be utilized for on-site storage No__Yes__
4. Have provisions been made for on-site storage No__YES__
5. If project involves a take-out food facility, have any provisions been made to restrict carry-out litter? No__Yes__Specify ______________

L. Will project routinely produce odors (more than 1 hr/day?) No__Yes__

M. Will project produce noise exceeding the local ambient noise levels:
   ☐ during construction? NO__________YES____________
   ☐ after construction? NO__________YES____________

N. Will dust control techniques be employed during or after construction of this project?
   NO__________YES____________ (specify on separate sheet)

O. Will the project result in any potential contraventions of any State or Federal air quality Standards? NO__________YES____________ (specify:____________________________)

P. Will project use herbicides? NO_____Yes_____ (Specify__________)

Q. Will project use pesticides? NO_____Yes_____ (Specify__________)

R. Will project be landscaped to provide visual and sound screening? No__Yes__

S. Has project been designed for energy efficiency? NO_____YES____________
   If yes, please specify:_________________________________________________________

PART VI – INDUSTRIAL

Please complete Part V – Business, and continue below:

A. Are any liquid (or solid) substances produced as wastes that cannot be
   adequatelyTreated (or safely disposed of) at a standard municipal sewage treatment
   plant (or Sanitary landfill)? NO__________YES_______ (if YES, please explain on
   separate sheet.)

B. Are any hazardous toxic materials produced (NO_____YES____) or utilized
   (NO____YES______)

C. Have any provisions been made to utilize any waste heat produced for productive
   purposes No__Yes_____ (Specify____________________________)
PART VII – PERMITS AND/OR APPROVALS REQUIRED

A. Does the project involve any State or Federal funding or financing?
   NO _____ YES _____ (specify: ____________________________)

B. Status of Permits and/or Approvals:

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>APPROVAL REQUIRED</th>
<th>SUBMITTED (DATE)</th>
<th>APPROVED (DATE)</th>
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<tr>
<td>Board of Selectmen</td>
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<td>Planning Board</td>
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<td>Other Federal Agency</td>
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Attach any additional information as may be required to clarify your projects. If there are, or may be any adverse impacts associated with the proposal, please discuss such impacts and the measures which can be taken to mitigate or avoid them.

I hereby certify that the information given above is true and accurate to the best of me ability to provide such information.

Preparer’s Signature: ______________________________________
Title: _____________________________________________________
Representing: _____________________________________________
Date: ___________________________________________________
SCHEDULE E
ENVIRONMENTAL IMPACT STATEMENT

1. The environmental impact statement shall clearly and methodically assess the relationship of the implementation of a proposed development to the natural and man-made environment of the Town. The statement shall utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in the planning and designing of the proposed project. The elements of statement shall be prepared by professionals registered in Massachusetts to practice in their fields where so specified or by authorities recognized in their field having reached a professional status or its recognized equal.

2. To insure the adequate preparation and consideration of the statement, it is strongly recommended that a draft statement be prepared and submitted together with the submission of the preliminary plan of the proposed development.

3. It is intended that the statement be a guide to the Planning Board in its judgement and deliberation on the proposed development and its compatibility with existing conditions and planning efforts of the Town. Failure of the plans or of the impact statement of the proposed development to indicate such compatibility may be grounds for re-examination and/or the re-submission thereof at the determination of the Planning Board.

4. An environmental impact statement shall be prepared when required by the Planning Board, other Town By-laws, State or Federal Laws or Regulations.

   a) The Planning Board may require any private person, firm or corporation to prepare an environmental impact report for any and all work, project or activity which may cause damage to the environment, and for which no funds of the Commonwealth are to be expended.

   b) This report shall be limited in scope to the purposes of the Subdivision Control Law, Section 81-K through 81GG.

Further, the environmental statement concerning each character of subdivision shall contain at least the elements required as noted except as modified or required by the Planning Board.

5. Each environmental statement shall consist of four (4) separate sections, each section to address one of the following concerns:

   a) The environmental impact of the proposed development (see paragraph 6 below for required elements of impact disclosure).
b) Any adverse environmental impacts which cannot be avoided should the proposed development be implemented.

c) Alternatives to the proposed development which are expressly allowed or allowed by permit by the Zoning Bylaw.

d) All measures available, and those measures to be used to minimize adverse environmental impacts (or maximize beneficial impacts).

6. The section on environmental impact shall consist of the elements and sub-elements as required by the Planning Board.

   a) A Physical Element to consist of the following sub-elements:

   i) Air Pollution – Changes in local air quality caused by the proposed development shall be predicated. Sources shall be identified, and consideration shall be given to changes in air quality both during construction and after completion of the project. Except in large residential developments of one hundred (100) dwelling units or more, or in high density multi-family developments and in non-residential subdivision, air-pollution impacts may be identified and expressed in relative terms. For these large and/or high density residential developments and non-residential developments, the Planning Board may require a detailed, technical report to be prepared. This sub-element shall consider not only impacts caused by the proposed development and its alternatives, but also impacts on it by adjacent existing or proposed developments.

   ii) Noise Pollution – The same requirements for air-pollution sub-element shall govern.

   iii) Surface and Sub-surface Water Pollution – Impact of storm water run-off on adjacent and downstream water bodies and sub-surface ground water and the water table shall be detailed. Coordination with State and Town water quality agencies including the Board of Health and Conservation Commission is recommended so that necessary agreements and responsibilities can be included in the study of the proposed development to navigable streams and flood plains and municipal water supply impoundments and reservations shall be shown.

   iv) Soils – the potential dangers of erosion and sedimentation caused by both the construction, operation and maintenance of the proposed development and its alternatives shall be detailed and may also be related to sub-element (iii) above. It shall also deal with the compatibility of existing soils with the proposed development.
v) General Ecology – the relation of the proposed development to the major botanical, zoological, geological and hydrological resources of the site shall be examined. Consideration of these resources adjacent to the site shall also be made where deemed appropriate by the Planning Board. Consideration shall also be given to rare or endangered species of plant and wildlife found on the site.

b) A Transportation Element to consist of the following sub-elements:

i) Traffic Generation – Existing traffic volume, composition, peak hour levels and street capacities shall be shown. Overall average daily traffic generation, composition, peak hour levels, and directional flows shall be estimated. The methodology used to drive these predictions shall be included.

ii) Street Maintenance – Methods, responsibility, and projected cost to the Town shall be detailed. Coordination with the Highway Department is recommended.

iii) Mass Transit – Consideration shall be given to the relation of the proposed development to existing mass transit (bus, rail or other modes) and how the proposed development may be served.

c) A Public Utility Element prepared by a professional engineer registered in Massachusetts, to consist of the following sub-elements:

i) Water Supply and Distribution – The average daily and peak demand; method to supply the buildings on the site including sizes of mains, existing and proposed; and the cost and the proposed responsibility for bearing and sharing the cost shall be detailed. Coordination with the Kingston Water District is strongly recommended so that necessary agreements and responsibility can be included in the study of the proposed development and its alternatives.

ii) Sewage Treatment – the average daily and peak demand; and any unusual composition or concentration of component flows into the public system, the method to serve the buildings on the site including size of pipe, existing and proposed, the cost and proposed responsibility for bearing and sharing the cost shall be detailed. Coordination with the Board of Health, and if deemed advisable, appropriate State agencies, is strongly recommended for the reasons in i) above.
iii) Storm Drainage – The same requirements for the water supply and distribution sub-element shall govern.

iv) Solid Waste – The average weekly demand; expected contents; recycling potential; on-site incineration, reduction or compaction; and method of delivery to the Town facilities shall be detailed. Coordination with the Board of Health is strongly recommended, for the reasons in i) above.

d) A neighborhood and Community Element to consist of the following sub-elements.

i) Schools – the excepted impact on the school system pre-primary, primary and secondary levels, by type of housing (i.e. single-family, garden apartment, town house, high rise), and by bedroom (i.e., one-bedroom, two-bedroom). The number of students; school bus routing changes if found necessary; and the impact if any on the parochial systems. Coordination with the Superintendent of Schools is recommended, particularly for large residential development.

ii) Police – The expected impact on police service, time and manpower needed to protect the proposed development; provision for special alarm or warning devices or agents and other needs shall be presented. Coordination with the Police department is recommended.

iii) Fire – expected fire protection needs; on-site fire fighting capabilities; on-site alarm or other warning devices; fire-flow water needs, source and delivery system and other needs shall be presented. Coordination with the Fire Department is recommended.

iv) Recreation – On-site recreation provisions shall be detailed and off-site recreation demands shall be estimated. Provision for public open space, either dedicated to the Town or available to its residents shall be described open space available primarily or exclusively for residents or employees shall also be described. Coordination with the Park and Recreation Department is recommended.

v) Existing Neighborhood Land Use – Compatibility with adjacent or nearby existing land uses, or approved private development plans, if known, for adjacent or nearby land use changes to occur during the life of the proposed development.
c) A Socio-Economic Element to consist of the following sub-elements.

i) Population - in residential developments, the overall population; ranges in expected family size by housing type and bedroom count; ranges in expected income and other relevant social data shall be estimated.

ii) Low and Moderate Income Housing – in residential developments, provisions for low and moderate income housing shall be identified as to type of housing and bedroom count; State or Federal subsidies proposed to be applied; and indication, if any, from the appropriate agencies including Housing Authority as to its desirability and feasibility for its location, financing, and operating subsidy.

iii) Employment – in all non-residential developments and in large residential developments the number and types of job skills to be employed shall be detailed. This shall include both construction labor and full-time work force when the development is in operation; employment by shift; estimates as to the amount of local labor opportunities. Coordination with the Development and Industrial Committee is recommended for industrial and commercial development.

f) An Aesthetics Element to consist of the following sub-elements:

i) Architecture – the type of style of architecture of the buildings shall be described; its relation to prevailing types of architecture for similar buildings; and its compatibility with the function of the building and to the architecture of adjacent buildings. Sketches, photos, elevations and renderings are encouraged to illustrate architectural appropriateness as well as innovation. Consultation with the Building Inspector is recommended.

ii) Lighting – the type, design, location, function and intensity of all exterior lighting facilities shall be described. Attention given to safety, privacy, security, and daytime and nighttime appearance shall be detailed. Consultation with the Building Inspector is recommended.

iii) Landscaping – Provision for landscaping shall be described including type, location and function. Consultation with the Highway Department is recommended.

iv) Visual – attention given to views into the site and from the site shall be described. Included shall be long-distance views as well as
to and form adjacent properties. Visual impact may be related to the preceding sub-elements concerning the overall aesthetics of the proposed development.

g) A Master Plans Element to detail the compatibility of the proposed development and its alternatives to established plans of record of the Planning Board, Conservation Commission, Highway Department, and other Town and State agencies as applicable. If not compatible, the reasons therefore shall be detailed.

h) A Municipal Benefit/Cost Element - A primary part of this element shall be an analysis of the net benefit or cost to the Town in dollars, as complete as is practicable. This municipal benefit/cost analysis should follow standard and usual procedures and parameters for measuring both the benefits to be derived and costs to be incurred by the Town of Kingston as a result of the implementation of the proposed development. It will be helpful to provide one or more benefit/cost analyses for alternative uses to provide for a basis for comparison. Except in unusual cases, or when the construction of a proposed development is scheduled to take place in distinct and separate phases and each phase may be functional and operable without any or all of the others, the municipal benefit/cost analysis may assume full and complete development and occupancy. In phased development of in other unusual cases, the Planning Board may require more than one analysis (an analysis for each phase) and/or more than one environmental impact statement. This element may also estimate net benefits or costs of non-qualifiable environmental impacts.

7. The remaining three (3) sections (paragraphs 5b) – d) above) of the environmental statement shall be in sufficient detail to enable the Planning Board to determine whether unavoidable impacts have been fully recognized; whether all reasonable measures to minimize adverse or unavoidable impacts (or maximize beneficial impacts) have been taken.
SCHEDULE F
BOARD OF HEALTH REVIEW

REVIEW BY THE BOARD OF HEALTH AS TO SUITABILITY OF THE LAND

At the time of filing of the Definitive Plan, the applicant shall also file with the Board of Health two (2) contact prints of the Definitive Plan, dark line on white background, together with the following information:

a. A statement in writing concerning the status of the proposed project in relationship to the removal fill or dredge of any bank flat marsh, meadow or swamp bordering on any inland water. (General Laws Chapter 131 Section 40.)

b. If the disposal system is to be on site, the applicant must comply with all the provisions of the State Environmental Code, including 310 CMR 15.00 covering percolation tests. Arrangements at the applicants cost shall be made to conduct said tests in accordance with said regulations in the presence of the Board of Health is so required. The applicant must file a written report signed by a registered professional engineer or registered sanitarian with the Board of Health within thirty (30) days of filing of the Definitive Plan, which indicates exactly the procedure used and test results and a conclusion based upon the test results concerning whether the soil conditions on each lot are suitable for the sewerage disposal purposes intended.

Sewerage to be disposed in excess of 2,000 gallons per day must be approved by the Massachusetts Department of Public Health. (General Laws Chapter 111, Section 17.)

c. The Board of Health reserves the right to make further and additional requirements as in its judgement it may determine to be necessary in a particular case.

d. Failure to comply with this procedure may result in the Board of Health’s disapproval of said plan. (General Laws Chapter 41 Section 81U.) The Board of Health shall within forty-five (45) days after filing of the plan report to the Planning Board in writing approval or disapproval of said plan. 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, and include such specific findings and the reasons therefore in such report, and, where possible, shall make recommendations for the adjustments thereof. Every lot shall be provided with a sewerage system or sewer connection satisfactorily to the Board of Health.
FORMS
APPLICATION FOR ENDOREEMENT OF
PLAN BELIEVED NOT TO REQUIRE APPROVAL

PLAN# ___________________
FILING DATE ____________________

To the Planning Board:

The undersigned, believing that the accompanying plan of their property in the Town of Kingston
does not constitute a subdivision within the meaning of the Subdivision Control Law, herewith submits said plan
for a determination and endorsement that Planning Board approval under the Subdivision Control Law is not
required.

The undersigned believes that the division of land shown on this plan is not a subdivision for the following reasons:
1. **Name of Applicant** ________________________________
   (and Owner, if not applicant) ________________________________

   **Address of Applicant** ________________________________
   (and Owner, if not applicant) ________________________________

   **Phone of Applicant** ________________________________
   (and Owner, if not applicant) ________________________________

2. **Name of Engineer/Surveyor** ________________________________

   **Address of Engineer/Surveyor** ________________________________

   **Phone of Engineer/Surveyor** ________________________________

3. **Deed of property recorded in the Plymouth County Registry of Deeds,**

   Book ____________ Page ____________

4. **Location and Description of Property:** ________________________________

   ________________________________  ________________________________
   Signature                        Date

   ________________________________
   Address

NOTE: Necessary evidence to show that the plan does not require approval must be filed with this application.

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
APPLICATION FOR TENTATIVE

APPROVAL OF A PRELIMINARY PLAN

PLAN #

SUBDIVISION NAME __________________________ FILING DATE ________

______________________________________________

To the Planning Board:

The undersigned herewith submits the accompanying Preliminary Plan of property located in the Town of Kingston for approval as a subdivision under the requirements of the Subdivision Control Law and the Rules and Regulations Governing the Subdivision of Land of the Planning Board in the Town of Kingston.

1. **Name of Subdivider**
   Address of Subdivider
   Phone of Subdivider

2. **Name of Engineer/Surveyor**
   Address of Engineer/Surveyor
   Phone of Engineer/Surveyor

3. **Deed of Property Recorded in Plymouth County Registry of Deeds,**
   Book __________________ Page __________________________

4. **Location and Description of Property:**
   ______________________________________________________

   ___________________________ __________________________
   Signature of Owners(s) Date

   ___________________________
   Address

Note: A designer's certificate, on Form D, and a certified list of abutters, on Form E, must be filed with this application.

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
CERTIFICATION OF APPROVAL

OF A PRELIMINARY PLAN

PLAN #

SUBDIVISION NAME ____________________________ FILING DATE ______

It is hereby certified by the Planning Board of the Town of Kingston, Massachusetts, that at a duly called and properly posted meeting of said Planning Board, held on _____, 200__, it was voted to approve a preliminary plan entitled: ____________________________________________;

submitted by:____________________________________
originally filed with the Planning Board on ________________________________,
concerning the property located ________________________________________;

with the following conditions:

A copy of this Certificate of Approval is to be filed with the Kingston Town Clerk with a copy sent to the applicant.

______________________________________________________________________

A true copy, attest:

______________________________________________________________________

Clerk, Kingston Planning Board

Kingston Planning Board

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
CERTIFICATION OF DISAPPROVAL

OF A PRELIMINARY PLAN

SUBDIVISION NAME __________________________ PLAN # ____________
FILING DATE __________

It is hereby certified by the Planning Board of the Town of Kingston, Massachusetts, that at a duly called and properly posted meeting of said Planning Board, held on _____, 200_, it was voted to disapprove a preliminary plan entitled:

_________________________________________________________________________

_________________________________________________________________________

submitted by: ____________________________
originally filed with the Planning Board on ____________________________
concerning the property located ____________________________,
for the following reasons:

A copy of this Certificate of Disapproval is to be filed with the Kingston Town Clerk with a copy sent to the applicant.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

A true copy, attest:

________________________________________________________________________

__________________________  ____________________________
Clerk, Kingston Planning Board  Kingston Planning Board

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
APPLICATION FOR TENTATIVE APPROVAL OF A DEFINITIVE PLAN

SUBDIVISION NAME ____________________________ PLAN # __________
FILING DATE ________________________________

To the Planning Board:

The undersigned herewith submits the accompanying Definitive Plan of property located in the Town of Kingston for approval as a subdivision under the requirements of the Subdivision Control Law and the Rules and Regulations Governing the Subdivision of Land of the Planning Board in the Town of Kingston.

1. Name of Subdivider _________________________________
   Address of Subdivider _________________________________
   Phone of Subdivider _________________________________

2. Name of Engineer/Surveyor ________________________________
   Address of Engineer/Surveyor ________________________________
   Phone of Engineer/Surveyor ________________________________

3. Deed of Property Recorded in Plymouth County Registry of Deeds,
   Book ____________ Page ____________

4. Location and Description of Property:
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

   Signature of Owners (s) ____________________ Date ____________

   Address __________________________________________

Note: A designer’s certificate, on Form D, and a certified list of abutters, on Form E, must be filed with this application.

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
NOTICE TO TOWN CLERK

FORM C-C

PLAN #

SUBDIVISION NAME ______________________ FILING DATE______

Please be advised that the enclosed application, plan and materials are being filed with the Planning Board and will be presented at their meeting on ________________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
CERTIFICATION OF APPROVAL

OF A DEFINITIVE PLAN

SUBDIVISION NAME ___________________________ PLAN # __________________
FILING DATE ____________________________

It is hereby certified by the Planning Board of the Town of Kingston, Massachusetts, that at a duly called and properly posted meeting of said Planning Board, held on _____, 200_, it was voted to approve a definitive plan entitled: ________________________________________

submitted by: ____________________________________________,
originally filed with the Planning Board on ________________________,
concerning the property located ____________________________________,

with the following conditions:

A copy of this Certificate of Approval is to be filed with the Kingston Town Clerk with a copy sent to the applicant.

A true copy, attest:

Kingston Planning Board ___________________________ Kingston Planning Board ___________________________

Clerk, ___________________________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
CERTIFICATION OF DISAPPROVAL

OF A DEFINITIVE PLAN

SUBDIVISION NAME ______________________  PLAN # ________

FILING DATE ________

It is hereby certified by the Planning Board of the Town of Kingston, Massachusetts, that at a duly called and properly posted meeting of said Planning Board, held on _____, 200__, it was voted to disapprove a definitive plan entitled:

-----------------------------------------------------------------------------------------------------------------

submitted by: __________________________________________,
originally filed with the Planning Board on _____________________________,
concerning the property located ________________________________,
for the following reasons:

-----------------------------------------------------------------------------------------------------------------

A copy of this Certificate of Disapproval is to be filed with the Kingston Town Clerk with a copy sent to the applicant.

-----------------------------------------------------------------------------------------------------------------

A true copy, attest:

-----------------------------------------------------------------------------------------------------------------

Kingston Planning Board  Clerk, Kingston Planning Board

-----------------------------------------------------------------------------------------------------------------

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
DESIGNER'S CERTIFICATE

FORM D

PLAN #

SUBDIVISION NAME_________________________ FILING DATE__________

To the Planning Board:

I hereby certify that the accompanying Definitive Plan, entitled ______________________

and dated ________________ 200__, is true and correct to the accuracy required by the Rules and Regulations of the Kingston Planning Board, and that all pertinent data are shown.

__________________________
Registered: Engineer, Land Surveyor or Landscape Architect

__________________________  __________________________
Address                                         Date

__________________________
PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
CERTIFICATE LIST OF ABUTTERS

FORM E

PLAN #

FILING DATE

SUBDIVISION NAME

To the Planning Board:

This is to certify that at the time of the last assessment for taxation made by the Town of Kingston, the names and addresses of the parties assessed as adjoining owners of the parcel of land shown above were as above written.

For the Board of Assessors
PLANNING BOARD  
TOWN OF KINGSTON, MASSACHUSETTS

PERFORMANCE BOND  
SURETY COMPANY

FORM F

PLAN #  
FILING DATE

SUBDIVISION NAME ___________________________  

That ___________________________ as Principal,
And ___________________________ a corporation
duly organized and existing under the laws of the State of __________________ and having
a usual place of business in __________________ as Surety,
hereby bind and obligate themselves and their respective heirs, executors, administrators, successors and
assigns, jointly and severally, to the Town of Kingston, a Massachusetts municipal corporation, in the
sum of __________________ dollars, ($__________).

The conditions of this obligation is that if the Principal shall fully and satisfactorily observe and perform
in the manner and in the time therein specified, all of the covenants, conditions, agreements terms and
provisions contained in the application signed by the Principal and dated __________________ ,
200__ under which approval of a Definitive Plan of a certain subdivision,
entitled ___________________________ and
dated ___________________________ 20___ , has been or is hereafter granted by the Kingston
Planning Board, then this obligation shall be void, less ten percent (10%) for the necessary period,
otherwise it shall remain in full force and effect and the aforesaid sum reduced as necessary, shall be paid
by the Town of Kingston as liquidated damage.

The Surety hereby assents to any and all changes and modifications that may be made of the aforesaid
covenants, conditions, terms and provisions to be observed and performed by the Principal, and waives
notice thereof.

IN WITNESS WHEREOF, the undersigned applicant agrees to the above, this _____ day
Of ______________, 200__.

__________________________________________
Principal

__________________________________________
Title

__________________________________________
Surety

__________________________________________
Attorney

PLANNING BOARD  
TOWN OF KINGSTON, MASSACHUSETTS

E-Copy
PERFORMANCE BOND

SECURED BY DEPOSIT

PLAN #

FILING DATE

SUBDIVISION NAME

hereby

binds and obligates himself/itself/his/its executors, administrators, devises, heirs, successors and assigns to the Town of Kingston, a Massachusetts municipal corporation, in the sum of _______________________________ dollars, ($________), and has secured this obligation by the deposit with the Treasurer of said Town of Kingston of said sum of money or negotiable securities with proper stock powers.

The condition of this obligation is that if the undersigned or his/its executors, administrators, devises, heirs, successors and assigns shall fully and satisfactorily observe and perform in the manner and in the time herein specified, all of the covenants, conditions, agreements, terms and provisions contained in the application signed by the Principal and dated ________________________, 200____, under which approval of Definitive Plan of a certain subdivision, entitled

And dated ________________________, 200____, has been or is hereafter granted by the Kingston Planning Board, then this obligation shall be void; otherwise, it shall remain in full force and effect and the aforesaid security for said sum shall become and be the sole property of said Town of Kingston as liquidated damage.

IN WITNESS WHEREOF, the undersigned applicant agrees to the above, this ______ Day of ___________________________ 200____.

Principal

By: __________________________

Title

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
COVENANT

SUBDIVISION NAME ___________________________ PLAN# ____________

FILING DATE ____________

Whereas the undersigned has submitted an application dated _______ 200 __, to the Kingston Planning Board for approval of a Definitive Plan of a subdivision entitled ____________ and dated _______ 200 __, and has requested the Board to approve such plan without requiring a performance bond; and, in consideration of the Planning Board approving said plan without requiring a performance bond, and in consideration of one (1) dollar in hand paid, receipt hereby acknowledged, the undersigned covenants and agrees with the Town of Kingston as follows:

1. The undersigned will not sell any lot in the subdivision or erect or place any permanent building on any such lot until the construction of ways and municipal services necessary to serve adequately such lot has been completed in the manner specified in the aforesaid application, and in accordance with the covenants, conditions, agreements, terms and provisions thereof.

2. This agreement shall be binding upon the executors, administrators, devisees, heirs, successors and assigns of the undersigned.

3. It is the intention of the undersigned and it is hereby understood and agreed that this contract shall constitute a covenant running with the land included in the aforesaid subdivision and shall operate as restrictions upon said land.

4. It is understood and agreed that lots within the subdivision shall, respectively, be released from the foregoing conditions upon the recording of a certificate of performance executed by a majority of said Planning Board and enumerating the specific lots to be so released.

5. The undersigned represents and covenants that undersigned is the owner (s) in fee simple of all land included in the aforesaid subdivision and that there are no mortgages of record or otherwise on any of said land, except such as are described below and subordinated to this contract, and the present holders of said mortgages have assented to this contract prior to its execution by the undersigned.

In witness whereof, the undersigned applicant agrees to the above, this _______
Day of ________, 200 __.

Owner (s) ____________________________ Applicant (if not owner) ____________________________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
RELEASE FORM

PLAN #

SUBDIVISION NAME _______________________

FILING DATE ________________

The undersigned, being a majority of the Planning Board of the Town of Kingston hereby certifies that:

a. The requirements for the construction of ways and municipal services called for by the Performance Bond or Surety dated ___________ 200__, (and/or) by the Covenant dated ______________, and recorded in District Deeds, Book __________, or registered in ______________ Land Registry District as Document No. ___________ and noted on Certificate of Title No. ___________ in Registration Book ___________, have been completed/partially completed, to the satisfaction of the Planning Board to adequately serve the enumerated lots shown on the Plan entitled ______________, recorded by the Plymouth Registry of Deeds, Book ___________, Plan ___________ or Registered in said Land Registry District, Plan Book ___________, Plan ___________ and said lots are hereby released from the restrictions as to sale and building specified therein. Lots designated on said Plan as follows:

b. The Town of Kingston, acting by its duly organized Planning Board, holder of a Performance Bond or Surety, dated ___________, 200__, (and/or) a Covenant dated December 12, 2001, Massachusetts recorded with the District Deeds, Book 21166, Page 103, (or registered in Land Registry District as Document No. ___________, and noted on Certificate of Title No. ___________ in Registration Book ___________, Page ___________), acknowledges as satisfactory the terms thereof and hereby releases its right, title and interest in the property designated on said plan as follows:

__________________________ Executed as a sealed instrument this
__________________________ day of _______________ 200__

Planning Board of the Town of Kingston:

__________________________
__________________________
__________________________

COMMONWEALTH OF MASSACHUSETTS

ss

Then personally appeared the above-named ______________________________ and acknowledged
The foregoing instrument to be ______________________________ free act and deed, before me.

__________________________ Notary Public
My Commission Expires ____________________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
# DOCUMENT CONTROL SHEET

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<thead>
<tr>
<th>AGENCY</th>
<th>DISTRIBUTION</th>
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<td>BOARD OF HEALTH</td>
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CONVEYANCE OF EASEMENTS AND UTILITIES

SUBDIVISION NAME ________________________________ of __________________________ County,
Massachusetts, for good and adequate consideration, grant the Town of Kingston a municipal corporation in
Plymouth County Massachusetts, the perpetual rights and easements to construct, inspect, repair, renew,
replace, operate and forever maintain, water and sewer mains and drainage systems with any manholes, pipes,
conduits, easements and other appurtenances thereto, and to do all acts incidental thereto, in, through under the
following described land: ______________________________________ appearing on a
plan entitled ____________________________________________________________________________

For the consideration aforesaid, the said grantor does hereby give, grant, transfer and deliver unto the Town of
Kingston all water sewer mains and drainage systems, manholes, pipes, conduits, easements and all
appurtenances thereto that are now or hereafter constructed or installed in, through, or under the above
described land by the grantor and the grantor’s successors and assigns.
The grantor warrants that the aforesaid easements are free and clear of all liens and encumbrances, that it has
good title to transfer the same, and that he will defend the same against claims of all persons.
The grantor’s title free deed from ______________________________________ dated 200 ,
and recorded in __________________________ district Registry of Deeds, Book __________________________,
Page __________________________, or under Certificate of Title No. __________________________, registered
In __________________________ District Land court, Book __________________________, Page __________________________.
(To be completed if a mortgage exists) Name of Mortgagee __________________________,
Address of Mortgagee __________________________,
The present holder of a mortgage on the above described land, which mortgage is dated ________________, 200 ,
And recorded in said Deeds, Book __________________________, Page __________________________, for
Consideration paid, hereby releases unto the Town forever from the operation of said mortgage, the rights and
easements herein above granted and assents thereto.
IN WITNESS WHEREOF the undersigned applicant agrees to the above, this ______ day of
____________________, 200 __________________________,
Applicant __________________________,
Address __________________________

COMMONWEALTH OF MASSACHUSETTS

ss

__________________________________________ 200

Then personally appeared the above named __________________________ and acknowledged
The foregoing instrument to be __________________________________________ free act and deed, before me

________________________________________
Notary Public
My Commission Expires: ____________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
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<th>Item Inspected</th>
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<th>Remarks</th>
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<th>Signature of Inspector</th>
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<td>Excavation</td>
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<td>Laying Water Mains</td>
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<td>Laying Gas Mains</td>
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<td>And Related Equipment</td>
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<td>Completion of Pavement</td>
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<td>Grading of Curbs and Gutter</td>
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<td>Construction of Sidewalks</td>
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<td>Grading of Grass Plots</td>
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<td>Installation of Monuments</td>
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<td>Installation of Fire Alarm</td>
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<td>Landscaping</td>
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<td>Final Cleanup</td>
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PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
## TABULAR SUMMARY

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<thead>
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<th>PLAN #</th>
<th>FILING DATE</th>
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</thead>
</table>

### Total Area, in square feet, of original tract as shown on this plan equals

(a) Area in lots, e.g., Nos. 1,2,3, equals

(b) Area in streets, e.g., A,B,C, equals

(c) Open Space

### Total Areas of Subdivision (Should equal of (a), (b), (c), above)

A. Street: Beginning Station to End Station equals

B. Street: Beginning Station to End Station equals

C. Street: Beginning Station to End Station equals

### Total Areas of Streets (Should equal of (b) above)

- Sewer Easement: Beginning Station to End Station equals
- Drainage Easement: Beginning Station to End Station equals
- Utility Easement: Beginning Station to End Station equals

Total Remaining Area (Should equal © above)

### NOTE: All figures should be in square feet

---

**PLANNING BOARD**

**TOWN OF KINGSTON, MASSACHUSETTS**
APPROVAL WITH LENDER AGREEMENT

SUBDIVISION NAME ___________________________ FILING DATE ____________

Whereas the undersigned has submitted an application dated to the Kingston Planning Board for approval of a Definitive Plan of a Subdivision entitled ___________________________ and dated _______ 200_, and has requested the Board to approve such plan, in consideration of the Kingston Planning Board approving said plan, an agreement has been executed by the applicant and the lender after the recording of the first mortgage covering the premises shown on the plan or a portion thereof given as security for advances to be made to the applicant by the lender, which agreement with a copy attached here to provides:

1. for the retention by the lender of funds sufficient in the opinion of the Planning Board, and otherwise due the applicant the secure construction of ways and the installation of municipal services;
2. for a schedule of disbursements which may be made to the applicant upon Planning Board approval of the completion of various stages of work;
3. that in the event that the work is not completed in the time set forth by the applicant, or in a manner approved by the Planning Board, any funds remaining shall be available to the Town for completion.

In the event of bank failure, it will be the responsibility of the applicant to substitute a Performance Guarantee in a form and amount satisfactory to the Planning Board within five (5) business days thereto.

No building will be sold or occupied until the Planning Board certifies to the Inspector of Buildings that the Conditions of Approval have been satisfied and roads and utilities have been completed in accordance with the Rules and Regulations Governing the Subdivision of Land and applicable Conditions of Approval.

IN WITNESS WHEREOF the undersigned applicant agrees to the above, this ___________ day of _______ 200_,

________________________________________
Applicant

________________________________________
Address

Description of Mortgages: __________________________________________________________

(Give complete names and Registry of Deeds Reference) ____________________________________________

Assents of Mortgagees: _________________________________________________________________

________________________________________
COMMONWEALTH OF MASSACHUSETTS

ss

Then personally appeared the above named ___________________________________________ and acknowledged The foregoing instrument to be ___________________________________________ free act and deed, before me

________________________________________
Notary Public
My Commission Expires: ____________

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
RULES AND REGULATIONS
OF THE
KINGSTON PLANNING BOARD
FOR THE CONDUCT OF
PLANNING BOARD FUNCTIONS,
MEETINGS AND HEARINGS

ADOPTED: September 13, 1993
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SECTION 1.0. GENERAL

Section 1.1. Authority

The following rules and regulations are adopted by the Kingston Planning Board for the conduct of hearings and normal business required by Chapter 40A. and Chapter 41 of the Massachusetts General Laws, and the Zoning Bylaws of the Town.

Section 1.2. Powers

(a) Functions required by statutes.

(1) To make careful studies;
(2) To prepare plans of the resources, possibilities and needs of the Town;
(3) To act as Park Commissioner in the Town if so authorized;
(4) To make a Master or study plan;
(5) To have an official map prepared if authorized by Town meeting;
(6) To review and submit a report regarding the layout, alteration, relocation or discontinuance of public ways;
(7) To report annually to the Town meeting regarding the condition of the Town.
(8) To hear proposed zoning amendments in accordance with Massachusetts General Laws, Chapter 40A;
(9) To hear and decide applications for special permits as authorized by the Zoning Bylaws;
(10) To hear and review site plans as authorized by the Zoning Bylaws;
(11) To hear and review subdivision plans as required by Massachusetts General Law, Chapter 41;
(12) To conduct any other hearing required by law.

(b) The Planning Board functions requiring a public hearing are:

(1) Zoning amendments in accordance with Massachusetts General Laws, Chapter 40A;
(2) Applications for special permits as authorized by the Zoning Bylaws;
(3) Site plans as authorized by the Zoning Bylaw;
(4) Subdivision plans as required by Massachusetts General Law, Chapter 41; and
(5) To conduct any other hearing required bylaw.

Section 1.3. Petitioner or Applicant

A petition or application may be brought by any party in interest as defined by Massachusetts General Laws.

SECTION 2.0. ORGANIZATION

Section 2.1. Duties of Members of the Planning Board

In the conduct of the functions of the Board, the duties of the members of the Planning Board shall be as described in Sections 2.2-2.4.

The officers of the Board shall be elected annually by a majority vote of the members of the Board.
Section 2.2. Chairperson. Powers and Duties

The Chairperson shall preside over all meetings and hearings of the Board and shall decide all points of order. He shall appoint such committees or assign tasks as may be deemed necessary or desirable from time to time to conduct the business of the Board. He shall administer oaths, summon witnesses and call for production of papers, as necessary.

In addition to powers granted by Massachusetts General Laws and Kingston Bylaws, and subject to these rules and further instructions of the Board, the Chairperson shall supervise the work of the planning staff, if any, arrange for additional assistance, as necessary, and exercise general supervision over the Board's activities.

Section 2.3. Vice-Chairperson

In the absence of the Chairperson, the Vice-Chairperson shall preside and exercise all of the powers and duties of the Chairperson.

Section 2.4. Clerk

The Clerk of the Board shall have the responsibility of publishing and posting notices of meetings and hearings, and of mailing notices of hearings and of Board's decisions to persons and Town agencies as provided herein or as required by law.

The Clerk shall keep a detailed record of the Board's proceedings showing the vote of each member upon each question, or, if absent or failing to vote, indicating such fact and setting forth clearly the reason or reasons for Board decisions, and the Board's other official actions, and, subject to the direction of the Board and its Chairperson, shall conduct all correspondence of the Board and maintain necessary files and records.

Section 2.5. Meetings

For the purpose of these rules and regulations:

(a) Quorum. A quorum shall consist of three (3) members.

(b) Regular Meetings. Regular meetings of the Board shall be held at such times determined by the Board and at a place specified in the meeting notice.

(c) Working Meetings. In addition to regular meetings, meetings can be scheduled and shall be posted in the usual manner for the specific purpose of field inspection, plan review and planning.

(d) Order of Business. The order of business at all regular meetings of the Board shall be as follows:

1. Roll Call
2. Minutes of the Previous Meeting
3. Communications
4. Unfinished Business
5. New Business
SECTION 3.0. SUBMISSION OF PETITION, PLAN OR APPLICATION

Section 3.1. Application Form

Any plan, application or petition to the Board shall be made on the official form. Any communication, purporting to be an application, plan or petition shall be treated as a mere notice of intention to seek action, until such time as it is made in proper form and filed with the Town Clerk.

All information called for by the official application form shall be furnished by the applicant in the manner therein prescribed. The applicable provisions of the Bylaws or Rules and the specific nature of the plan, petition or application shall be identified. The form to be used is hereby made a part of these Rules.

Section 3.2. Filing Date

All applications, plans or petitions shall be submitted and accepted by the Board only at a regular meeting, unless otherwise provided by law.

Section 3.3. Submissions

(a) Under Section 1.2. (b)(1), (2) and (5) herein, four (4) copies of the application form shall be submitted and shall be accompanied by four (4) copies of plans, sketches or diagrams sufficient to show clearly the nature of the specific request being made by the petitioner.

(1) The size of the document(s) shall be eight and one half (8-1/2) inches by eleven (11) inches.

(2) Maps and plans shall be twenty four (24) inches by thirty six (36) inches, drawn to a scale of one (1) inch equals forty (40) feet, unless otherwise required by the Planning Board (see paragraphs (b) and (c) below).

(3) The document shall have a north point, names of streets, zoning districts, property lines, dimensions of the subject lot, locations of buildings on and use of the lot, if any, names of owners and location of buildings on abutting properties, parking areas, driveways and all other information pertinent to the petition or application as requested by the Zoning Bylaws, other Bylaws or Rules, and these Rules. (See paragraphs (b) and (c) below.)

(4) All changes requested by the petitioner shall be clearly identified.

(b) Under Section 1.2(b)(2) and (3) an application for a special permit and/or a site plan shall contain all other information required by the Zoning By-Laws and Regulations of the Planning Board adopted thereunder.

(c) Under Section 1.2(b)(4). A definitive plan shall contain all other information required in the Rules and Regulations Governing the Subdivision of Land.

Section 3.4. Fees

(a) Filing Fee
Plans, petitions and applications, except when otherwise provided by the Massachusetts General Laws, shall be accompanied by a check, payable to the Town of Kingston, in the amount of Five Dollars ($50.00), except that the fee for a subdivision plan is as required by the Rules and Regulations Governing the Subdivision of Land.

(b) Other Costs

(1) All other costs and reasonable expenses incurred by the Planning Board in connection with review and processing of plans, petitions and applications filed with the Board shall be borne by the applicant.

(2) All costs of inspections to assure compliance with any action by the Planning Board shall be borne by the applicant in the same manner as under the Rules and Regulations Governing the Subdivision of Land. Each inspection must be paid for before another inspection may take place.

(3) All payments shall be by certified check payable to the Town of Kingston.

(4) Any unexpended amounts paid to the Town under (b) above will be refunded to the applicant when the Planning Board certifies that the project is complete.

Section 3.5. Names and Address of Abutters

The petition, where applicable shall be accompanied by a list of all names and addresses of all abutters and the owners of land next adjoining the land of the abutters as defined by Massachusetts General Laws, Chapter 40A, Section 17. In the case of a definitive plan an executed Form E is required.

SECTION 4.0. HEARINGS

Section 4.1. Notice

Notice of hearings shall be advertised as required by Massachusetts General Laws, Chapter 40A, or Chapter 41, whichever is applicable. In addition, a copy of the advertised notice shall be sent by mail, at least seven (7) days prior to the date of the hearing, postage prepaid, to the applicant, to the owners of all property deemed by the Board to be affected thereby, as they appear on the most recent local tax list, to the Board of Selectmen, Building Inspector and Town Clerk.

Section 4.2. Open Hearings

All hearings shall be conducted in accord the Massachusetts Open Meeting Law, Massachusetts General Laws, Chapter 39, Sections 23A, 23B and 23C as amended.

Section 4.3. Attendance

In the absence of an adequate number of members as required by law, the hearing shall be adjourned to a date decided by the Chairperson and re-advertised.

Section 4.4. Representation and Absence

An applicant may appear in his own behalf or be represented by an agent or attorney. In the absence of an appearance without due cause indicated by the applicant, the Board shall decide on
the matter either using the information it has otherwise received or dismissing the petition, at its
discretion, with or without prejudice.

Section 4.5. Hearing Procedure

(a) Hearing Time and Date

All hearings will start at the stated time in the notice unless delayed because of prior hearings.
Hearings shall be held within the time periods prescribed by the Massachusetts General Laws.

(b) Hearing Format

(1) The Chairperson or Vice-Chairperson will open each hearing by reading, or
causing to be read by the Clerk, the petition notice as advertised, together with
presentation of exhibits, if any.
(2) The Chairperson or Vice-Chairperson shall introduce the members of the board
and explain the hearing procedures.
(3) The petitioner or his representative will then present his case, stating fully the
reason(s) why the petition or application should be granted.
(4) Reports of Planning Board and other concerned agencies, if any, will be
presented.
(5) All those in favor of the matter under consideration will speak. Those who wish
to speak will rise, address the Chairperson, give their names and addresses, then
proceed.
(6) When all those in favor have spoken, the Chairperson will then allow those
in opposition a similar opportunity to be heard.
(7) Rebuttals restricted to matters raised by those in opposition may only be allowed
at the discretion of the Chairperson.
(8) No cross-examination will be allowed, although questions seeking information
and deemed relevant to the Board may be allowed at its discretion.
(9) Members of the Board who are hearing the case may direct appropriate
questions during the hearing.
(10) When all facts have been presented, the Chairperson will close the hearing and
inform the petitioner or his representative and others present that they will be
notified of the Board’s decision and directed through the chairperson.
(11) The Board will take under advisement consideration of the case.
(12) The Chairperson may close or recess the hearing immediately if, in his
opinion, these Rules are being violated and/or the hearing is becoming unruly.
(13) In the case of definitive plans additional informal discussion may be permitted
by the Chairperson.

Section 4.6. Information to be Furnished to the Board

Every application for a special permit shall be supported by all of the facts relied upon by an
applicant. All information required by the Rules and Regulations governing the Subdivision of
Land and Massachusetts General Laws Chapter 41 or the Zoning Bylaws and Massachusetts
General Laws Chapter 40A, or Rules of the Planning Board acting under the Zoning Bylaws or
Massachusetts General Laws Chapter 40A, whichever is (are) applicable, shall be submitted on the
applicable form or in writing.
SECTION 5.0. ACTIONS BY THE BOARD

Section 5.1. Withdrawal

Any application or petition may be withdrawn without prejudice by notice in writing to the Clerk prior to the publication of the notice of hearing thereon, but thereafter may be withdrawn without prejudice only with the approval of the Board.

Section 5.2. Reconsideration

When a petition or application has been voted upon and the meeting adjourned, there shall be no reconsideration of a decision of the Board.

Section 5.3. One Year Limitation on Approval/Extensions

If an application is approved by the Board, all permits necessary for the prosecution of the work shall be obtained and construction shall be commenced within twelve (12) months and completed in two (2) years from the date of filing of the Board’s decision with the Town Clerk, unless the Board otherwise provides in the decision. A reasonable extension of said time may be granted by the Board in the case of an appeal to the Superior Court or District Court under Massachusetts General Laws, Chapter 40A, or for other good cause shown.

Section 5.4. Decisions

(a) The decision of the Board shall be made as follows:

1. In regard to special permits and site plan not later than ninety (90) days after the hearing unless otherwise provided by Town bylaw; or
2. In regard to a preliminary plan within forty-five (45) days of filing; or
3. In regard to a definitive plan within ninety (90) days after filing or one hundred and thirty-five (135) days after filing if no preliminary plan has been filed.

(b) When granting approvals of site plans, definitive plans or special permits, the Board may impose conditions and/or limitations of time, construction and use, and a continuation of the use permitted may be conditioned upon compliance with said conditions and/or limitations.

(c) The Planning Board shall cause its decisions to be filed with the Town Clerk within fourteen (14) days, except in the case of a plan submitted under Massachusetts General Laws, Chapter 41. A notice of such decisions shall be mailed forthwith to the petitioner, to all parties to whom notice of the hearings was mailed, and to every person present at the hearing who requested that notice be sent to him and who stated the address to which such notice was to be sent, and to the Building Inspector, and where applicable, to the Board of Health, the Conservation Commission and other Town boards or departments.

(d) The Board’s decision becomes final when the decision is filed with the Town Clerk and duly recorded as provided in (e) below. It is the duty of the Clerk of the Board to file the petition without unreasonable delay.

(e) No special permit approved by the Board shall take effect until a notice of such approval signed by the Board is recorded in the Plymouth County Registry of Deeds. The
recording of such notice is a responsibility of the petitioner receiving the variance or special permit.

SECTION 6.0. OPINIONS AND ADVICE

Any advice, opinion, or information given by any Board member or any other official or employee of the Town shall not be binding on the Board.

SECTION 7.0. ASSISTANCE

The Board may hire a secretary and professional assistance as needed for the conduct of its duties. Personnel added to the payroll of the Town is subject to the job description, personnel regulations, and appropriations voted by the Town meeting or adopted by the Board of Selectmen.

Section 8.0. REFERENCES

In addition to these Rules and Regulations, the applicant is referred to as follows for:

"Approval Not Required" Plan - Rules and Regulations Governing the Subdivision of Land and Massachusetts General Laws Chapter 41.

Preliminary Plan - Rules and Regulations Governing the Subdivision of Land and Massachusetts General Laws Chapter 41.

Definitive Plan - Rules and Regulations Governing the Subdivision of Land and Massachusetts General Laws Chapter 41.

Site Plan - Section 7.3 of the Kingston Zoning Bylaws and Massachusetts General Laws, Chapter 40A.

Special Permits - Section 7.6 of the Kingston Zoning Bylaws

SECTION 9.0. AMENDMENTS

These Rules may be amended by a majority vote of the Board, provided that such amendment shall be presented in writing at a regular meeting and action taken thereof at a subsequent regular meeting. The amendment of the Massachusetts General Laws in respect to any matter covered by these Rules and Regulations will constitute automatic amendment of these Rules.

SECTION 10.0. EFFECTIVE DATE

The Rules were adopted at a regular meeting of the Board on and became effective as of that date. All Rules previously adopted and amended are hereby repealed. No action taken under said Rules shall be affected by said repeal.
APPLICATION FOR HEARING BEFORE THE PLANNING BOARD

Date: ____________________

Name of Applicant or Appellant: ____________________________________________

Address: ________________________________________________________________

Location of Property: ______________________________________________________

Applicant is (owner, tenant, licensee, prospective purchaser): __________________

Nature of Application: _____________________________________________________

________________________________________________________________________

Applicable section of Building, Zoning Bylaw, Rules and Regulations Governing the Subdivision or Land: __________________________

I hereby request a hearing before the Board acting as a Permit Granting Authority or acting on a Site Plan or Subdivision Plan with reference to the above noted application.

Signed ______________________________________________________________

Signed ______________________________________________________________

Titled _________________________________________________________________

Received from above applicant, the sum of $ _____________ to apply against advertising costs.

The applicant was received by

(TOWN OF KINGSTON)

(DATE)

PLANNING BOARD
TOWN OF KINGSTON, MASSACHUSETTS
REGULATIONS OF THE
PLANNING BOARD

GOVERNING THE DESIGN,
CONSTRUCTION AND
MAINTENANCE OF OFF-STREET
PARKING AND LOADING AREAS

TOWN OF
KINGSTON, MASSACHUSETTS
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1.0. General

1.1. Authority

1.1.1. These regulations are adopted by the Planning Board pursuant to authority contained in the various sections of the Zoning By-Laws as they apply to parking.

1.2. Purpose

1.2.1. The intent of these regulations is to assure safe, well designed, attractive and well maintained parking and storage areas.

1.3. Areas to which regulations apply.

1.3.1. The following standards apply to all off-street parking and loading spaces as required by the Zoning Bylaw of the Town of Kingston, except for off-street parking spaces for one family dwellings.

1.4. Intent.

1.4.1. All required off-street parking and loading bay spaces, including traffic lanes and maneuvering space thereof, as well as driveways, shall be paved, shall be located entirely on the same lot as and within a reasonable distance of the principal use they are designated to serve, and shall be cleaned, plowed and maintained in good condition at all times by the owner or occupant thereof as the responsibility between them shall have been determined. The owner shall have ultimate responsibility for compliance.

1.5. Loading Space Requirements

1.5.1. Off-street loading spaces shall be provided for each type of indicated use according to the following table, which shall be interpreted as both the minimum and maximum number of spaces permitted, except for food distribution uses, in which case only the minimum shall apply.

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>2-15</th>
<th>15-50</th>
<th>50-100</th>
<th>100-150</th>
<th>additional 150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail trade, wholesale, storage, industry, utilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Office buildings, hotel, institutions, recreation, education</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
2.0. Design Requirements

2.1. Setback

2.1.1. There shall be no parking spaces nor space for loading bays, except for driveways, within the first ten (10) feet of the applicable front yard setback requirement. In Commercial and Industrial Districts there shall be no off-street parking spaces nor space for loading bays within the side yard or rear yard setback requirements except as to any such side and rear yard which is adjacent to similarly zoned land, or where a single common driveway serves both parcel of similarly zoned land.

2.1.2. All exterior loading bays shall be between the rear of the building and the rear yard setback line.

2.2. Coverage

2.2.1. No more than seventy-five (75) percent of the developed lot area not covered by building(s) shall be devoted to parking and loading spaces. The balance shall be devoted to driveways, islands and landscaped areas.

2.2.2. Parking spaces shall measure ten (10) feet by twenty (20) feet.

2.3. Landscaping

2.3.1. The first ten (10) feet in each yard depth shall be maintained open, except for driveways, with grass, bushes, flowers or trees indigenous to the area, and in the case the boundary abuts property being used for residential purposes or in a residential district, a fence to provide suitable screening between properties shall be erected in such area in addition to appropriate landscaping. A minimum of ten (10) percent of the total area of the lot area not covered by buildings shall be landscaped. A minimum of ten (10) feet adjacent to all structures except for areas used for sidewalks, loading and unloading bays and entrances to underground parking shall be appropriately landscaped.

2.4. Screening

2.4.1. In addition to the screening required in Section 2.3, all loading bays and aprons shall be screened from view from abutting properties by a twenty-five (25) foot landscaped area.

2.5. Driveways and/or Service Roads

2.5.1. Interior driveways and/or service roads shall have minimum widths as follows:

- One-way traffic - fifteen (15) feet
- Two-way traffic - thirty (30) feet

2.5.2. The minimum turning radius shall be twenty (20) feet.
2.5.3. The profile gradient of driveways or service roads shall be steeper than three (3) percent for a distance of at least fifty feet from the nearest edge of an intersecting roadway or drive.

2.5.4. Parking areas shall be arranged so as to prevent through traffic from one area to another.

2.6. Parking Aisle Width

2.6.1. Aisles widths shall be provided as follows:

<table>
<thead>
<tr>
<th>Angle of Parking</th>
<th>Number of Tiers</th>
<th>Aisle Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel to curb</td>
<td>One each side of aisle</td>
<td>Two-way traffic 24 feet, One-way traffic 24 feet</td>
</tr>
<tr>
<td>90 degrees</td>
<td>One each side of aisle</td>
<td>24 feet</td>
</tr>
<tr>
<td>60 degrees</td>
<td>One each side of aisle</td>
<td>24 feet</td>
</tr>
<tr>
<td>45 degrees</td>
<td>One each side of aisle</td>
<td>24 feet</td>
</tr>
<tr>
<td>30 degrees</td>
<td>One each side of aisle</td>
<td>24 feet</td>
</tr>
</tbody>
</table>

In the case of herringbone parking the aisle size may be reduced by three feet.

2.7. Bay Alignment

2.7.1. In no case shall parking bays be aligned at an angle of less than thirty (30) degrees to the aisle except for parallel parking.

2.8. Designated Parking Areas

2.8.1. No more than twenty (20) spaces shall be provided in a row without separation by an interior driveway and by a landscaped area. In the case of double rows, this separation shall mean twenty (20) spaces on each side of the bay areas.

2.8.2. There shall be at least fifty (50) feet of landscaped area separating paved parking areas.

2.9. Sidewalks or Crossings

2.9.1. Paved sidewalks, painted pedestrian crossings and painted pedestrian aisles shall be provided for pedestrian safety and convenience as approved by the Planning Board.

2.9.2. All dwelling units shall be connected to parking areas by a paved sidewalk.

2.10. Lighting

2.10.1. Lighting facilities shall be provided as approved by the Planning Board as to style, intensity and location and shall be arranged so that they do not:

a. Unreasonably distract occupants of adjacent properties.
b. Glare onto public ways or adjacent properties.

2.11. Entrances and Exits (See also Section 2.5.)

2.11.1. Entrances and exits to parking lots shall be for one-way traffic, unless divided by a suitable landscaped median strip. Driveway entrances shall be at least fifty (50) feet from the intersection of any streets and in the case of parking lots in excess of one hundred (100) vehicle capacity they shall not be closer than two hundred (200) feet from a street intersection, unless otherwise approved by the Board. Each such entrance and exit shall have a minimum lane width of twelve (12) feet.

2.11.2. Each entrance and exit must have a levelling area at the intersection with the street of at least one hundred (100) feet which shall have a maximum grade of one and a half (1/2) percent.

2.12. Apron Size

2.12.1. For all loading areas, there shall be an apron of sixty (60) feet, which added to the bay requires a minimum dock approach area of one hundred and twenty (120) feet from the interior driveway or service road.

2.13. Direction Markers and Signs and Space Designation

2.13.1. All spaces shall be delineated by painted pavement markings. Each intersection of an aisle and interior driveway shall be marked by traffic flow direction signs or by pavement arrows marking flow direction. Each intersection of an interior driveway and a public street shall be marked by a stop sign and traffic flow direction signs.

2.14. Snow Storage

2.14.1. An area shall be designated on the plan to be off the parking lot surface for snow storage, equal in amount to at least five (5) percent of the gross parking lot area. The area, which need not be paved, will be located where the storage of snow will not interfere with flow of traffic, the line of vision or the preservation of landscaping.

2.15. Utilities

2.15.1. All utility lines shall be installed underground.

2.16. Decked or Garage Parking and Decked or Interior Loading Areas

2.16.1. These areas shall be approved subject to the approval of the Inspector of Buildings.
2.1.7. Loading Facilities

2.1.7.1. Each loading bay shall be not less than twelve (12) feet in width, fourteen feet in height, and twenty-five (25) feet in length, normal usage and sixty (60) feet in length for tractor-trailer usage (exclusive of platforms, maneuvering space, access drives, and screening).

2.1.7.2. Required loading bays shall include sufficient reserved space on lot in addition to the bays so that vehicles can be maneuvered into position without interference with streets or required off-street parking.

3.0. Construction Requirements

3.1. Pavement

3.1.1. Parking lots, loading areas, drives and sidewalks shall conform with the relevant requirements for street and sidewalk construction under the current Rules and Regulations Governing Subdivision of Land of the Kingston Planning Board and the Zoning By-law of the Town.

3.2. Drainage

3.2.1. Grading shall be such that no drainage flows from parking areas across public walks and public ways, or onto abutting property without the consent of the abutter. Paved areas larger than ten-thousand (10,000) square feet in area shall be provided with a closed drainage system with at least one catch basin provided for each twenty thousand (20,000) square feet of drainage area or fraction thereof. Drainage systems shall extend to an existing water course or may connect to a town drainage system with the approval of the Board of Selectmen. Each catch basin shall have at least a three (3) foot sump and shall be connected to a drainage manhole. Minimum drainage pipe size shall be ten (10) inches in diameter. Trunk drains shall be adequate in capacity to carry the flow of a ten (10) year storm frequency (rational method) where flowing full. Drainage flow calculations with backup data prepared by a registered professional engineer shall be provided to the Board upon its request. Finished grade elevations shall be shown on the parking lot plan for at least the following:

a. pavement low points and high points;

b. pipe invert, rim grades of drainage structures, ditch invert, existing invert and water level in existing water courses, abutting existing traveled ways and

c. sidewalks, existing and proposed building entrances.

3.2.2. Grease traps shall be installed and maintained. Discharge from cleaning and portable oil change activities shall be collected and disposed of in compliance with applicable Town and Commonwealth regulations.
3.3. Curbing, Wheelstops, and Islands

3.3.1. Curbing or wheelstops a minimum of six (6) inches high and a maximum of nine (9) inches high shall be provided at all locations where parking spaces abut lawn or landscaped areas and pedestrian areas including aisles and sidewalks.

3.4. Pavement Slopes and Grading

3.4.1. Pavements shall be graded to avoid sheet flow of snow melt and rain water. Low points shall be kept at a minimum number and shall be provided with at least one catch basin or other approved outlet. Pavement slopes shall be shown on plan or profiles.

3.4.2. The following maximum and minimum slopes shall apply:

<table>
<thead>
<tr>
<th>Areas</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Lot Surface</td>
<td>4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Access Drive Profile</td>
<td>6%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Cross Slope</td>
<td>3/4&quot;/ft.</td>
<td>3/8&quot;/ft.</td>
</tr>
<tr>
<td>Pedestrian Walks Profile</td>
<td>06%</td>
<td>Level</td>
</tr>
<tr>
<td>Cross Slope</td>
<td>3/4&quot;/ft.</td>
<td>3/8&quot;/ft.</td>
</tr>
</tbody>
</table>

4.0. Maintenance

4.1. All off-street parking and loading areas shall be plowed and suitably sanded at all times when weather conditions warrant same before they are available to the public for use.

4.2. Landscaping, pavement, signs and other improvements shall be maintained by the owner. This maintenance includes but is not limited to painting, mowing, weeding, trimming and in the case of pavement and curbing to patching and reconditioning as needed.

5.0. Administration

5.1. Enforcement

5.1.1. These regulations shall be enforced in the same manner as the Zoning Bylaw with the same procedure for appeal.

5.2. Waivers

5.2.1. The Planning Board may vary the above parking regulations to accommodate areas clearly marked and designated for use by compact cars only, and the loading regulations for areas similarly designated for pick-up trucks only, and may vary design and construction standards where the projected use of the parking or loading area is infrequent or otherwise does not warrant the standards included herein.