

**Bedford Planning Board  
Bedford Massachusetts**

**Rules and Regulations  
Governing  
The Subdivision of Land**

**Revised to September 10, 1990**

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**Section 1. General Provisions**

1.1 Authority

Under the authority vested in the Planning Board of the Town of Bedford by Section 81-Q of Chapter 41 of the General Laws, as amended, said Board hereby adopts these rules and regulations governing the subdivision of land in the Town of Bedford. Such rules and regulations shall be effective on and after September 10, 1990.

1.2 Waivers

The Planning Board may, in any particular case where such action is in the public interest and not inconsistent with the intent and purpose of the subdivision control law, waive strict compliance with these rules and regulations.

1.3 Rescission

The Planning Board shall have the power at any time to modify, amend or rescind its approval of a plan of a subdivision, or to require a change in a plan as a condition of its retaining the status of an approved plan. The failure of a developer to complete work in a subdivision within the time limit agreed upon at the time of Approval of the Definitive Plan shall result in rescission of said approval.

1.4 Separability

If any provision of these rules and regulations or the administration thereof shall be held unconstitutional, invalid or void, it shall not affect any other provision of these rules and regulations or the administration thereof.

1.5 Reference to Statute

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

**Section 2. Definitions**

- 2.1 In construing these rules and regulations, definitions listed in Section 81-L of Chapter 41 of the General Laws shall apply.
- 2.2 In addition, the following words shall have the following meanings, unless a contrary intention clearly appears.
- 2.2.1 Board. The Town of Bedford Planning Board
- 2.2.2 Principal Way. A way or portion thereof, which, in the opinion of the Board, is likely to carry a substantial volume of through vehicular traffic.
- 2.2.3 Secondary Way. A way or portion thereof other than a principal way, which, in the opinion of the Board, is likely to carry traffic other than just to or from lots on the way.
- 2.2.4 Minor Way. A way or portion thereof, which in the opinion of the Board, is likely to be used only by vehicles traveling to or from lots on that way.
- 2.2.5 Dead-end Ways/ Cul-de-sacs. A way or portion thereof which joins another way at only one end.
- 2.2.6 Owner. The owner of record as shown by the records of the Middlesex County Registry of Deeds or Land Court.
- 2.2.7 Applicant. The person who applies for the approval of a plan or the endorsement of a plan. The applicant may either be the owner, or owner by agreement, of all the land included in the plan for which approval of the Board is required. An agent, representative, or his assigns may act for the owner.
- 2.2.8 Developer or Subdivider. The owner of the land being subdivided, acting directly or through an authorized agent, representative or assigns.

**Section 3.     Administration: Plan Processing and Approval**

- 3.1     Plan Believed Not to Require Approval Under the Subdivision Control Law  
Any person wishing to cause to be recorded a plan of land and who believes that his plan does not require approval under the Subdivision Control Law may submit his plan with six contact prints and an application Form A to the Planning Board accompanied by a filing fee, in accordance with Section 3.4 for each plan and the necessary evidence to show that the plan does not require approval.

Every person submitting a plan of land to the Planning Board for a determination that approval is not required shall give written notice to the clerk of the Town by delivery or by registered mail, postage prepaid, that he has submitted such a plan. Such notice shall describe the land to which the plan relates sufficiently for identification, and shall state the date when such plan was submitted and the name and address of the owner of such land.

If the Planning Board finds that the plan does not require such approval it shall forthwith, without a public hearing, endorse thereon the words “Approval under the Subdivision Control Law Not Required”, or words of similar import.

3.2     Preliminary Plan

Any person, before submitting his definitive plan for approval, may submit to the Planning Board and to the Board of Health, a preliminary plan, and shall give written notice to the clerk of the Town by delivery or by registered mail, postage prepaid, that he has submitted such a plan. The submission of such a Preliminary Plan will enable the subdivider, the Planning Board, the Board of Health, other municipal agencies and owners of property abutting the subdivision to discuss and clarify the problems of such subdivision before a Definitive Plan is prepared. Therefore, it is strongly recommended that a Preliminary Plan be filed in each case. A properly executed application Form B shall be submitted to the Planning Board with eight copies of the preliminary Plan, and the appropriate filing fee in accordance with Section 3.4. One copy of the application Form B and one copy of the Preliminary Plan shall be submitted to the Board of Health. Said plan shall be identified as the Preliminary Plan and shall show the following information so as to form a clear basis for discussions of its problem, and for preparation of the Definitive Plan.

- 3.2.1     The Subdivision name, boundaries, north point, date, scale 1” equals 40’, legend and title “Preliminary Plan”.
- 3.2.2     The names of the record owner and the applicant, if not the owner and the seal and signature of the Registered Land Surveyor or Registered Engineer.

- 3.2.3 The names of all abutters, certified by Board of Assessors (Form N) as determined from the most recent local tax list.
- 3.2.4 The existing and proposed lines of ways, easements and any public areas within the subdivision.
- 3.2.5 The proposed system of drainage, including adjacent existing natural waterways.
- 3.2.6 The approximate areas and dimensions.
- 3.2.7 The names, approximate location and widths of adjacent ways
- 3.2.8 The topography with 2' contour intervals or figures of elevation to represent the natural surface.
- 3.2.9 Location of existing buildings, ponds, watercourses, large boulders or other prominent features within or adjacent to the property.
- 3.2.10 All zoning Boundaries which intersect the proposed subdivision.
- 3.2.11 All deed lines within the subdivision, if subdivision includes more than one deed, in which case deed references shall be given.
- 3.2.12 A minimum of 40' wide right-of-way will be reserved for access to adjoining property if deemed necessary by the Planning Board.
- 3.2.13 The 100-year flood profile as determined by the official Flood Insurance Rate Map (FIRM), as it may be amended from time to time.
- 3.2.14 The location of Wetlands as shown on the Wetland District Map, Town of Bedford, as amended from time to time.

### **3.3 Definitive Plan**

#### **3.3.1 General**

3.3.1.1 Every person, before submitting his definitive plan to the planning Board for its approval shall give written notice to the clerk of the Town by delivery or by registered mail, postage prepaid, that he has submitted such a plan. Such notice shall describe the land to which the plan relates sufficiently for identification, and shall state the date when such plan was submitted and the name and address of the owner of such land.

3.3.1.2 At the time of filing of the Definitive Plan, such person 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.

The Board of Health shall within forty-five days after the plan is so filed, report to the Planning Board in writing, approval or disapproval of said plan, and in the event of disapproval, shall make specific findings as to which, if any, areas 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 adjustment thereof. If the proposed subdivision is to be serviced by a municipal sewerage system, failure to so report within 45 days after filing shall be deemed approval by the Board of Health. The Board of Health shall send a copy of such report, if any, to the person who submitted said plan.

3.3.1.3 Within ten days after the submission of the Definitive Plan, the said applicant shall, at its own expense, cause the centerline of the proposed ways to be marked with stakes at no more than 50' intervals with sufficient markings on said stakes to relate to the station locations as shown on the said plan, so as to enable the Board to do a field evaluation prior to taking action.

3.3.1.4 The Board may require the applicant to furnish, at the applicant's expense, such additional certified professional engineering data supportive of the applicant's subdivision plan as the Board deems necessary or desirable in order for it to further evaluate the plan under consideration prior to taking action thereon.

3.3.1.5 The Board assumes any information submitted to it to be true and correct, unless there appears evidence to the contrary. The acquisition of necessary rights and the presentation of complete and correct information are the responsibilities of the applicant, and failure to do so may constitute a reason for disapproval or rescission of approval of a plan and for other actions provided for by law.

- 3.3.1.6 Any person who submits a Definitive Plan of a subdivision to the Board for approval shall file with the Board the following:
  - 3.3.1.6.1 A properly executed application Form C.
  - 3.3.1.6.2 A properly executed Designer's Certificated Form J.
  - 3.3.1.6.3 A proposed street names Form K
  - 3.3.1.6.4 A list of all abutters Form N, certified by the Board of Assessors, as determined from the most recent local tax list.
  - 3.3.1.6.5 A filing fee in accordance with section 3.4.
  - 3.3.1.6.6 Any copies of easements, covenants and restrictions applying to the area that is proposed to be subdivided and outside the proposed subdivision where conditions exist requiring such.

**3.3.2 Contents**

The Definitive Plan shall be prepared, signed and sealed by a Registered Land Surveyor or Registered Professional Engineer and shall be clearly and legibly drawn in accordance with the recording rules adopted by the Middlesex Registry of Deeds in Massachusetts. The plan shall be at a scale of one-inch equals forty feet or such other scale as the Board approves prior to submittal. Sheet sizes shall not exceed 24"x 36". If multiple sheets are used they shall be accompanied by an index sheet showing the entire subdivision. An original drawing of the Definitive Plan and eight contact prints thereof and five copies of profiles dark lines on white background shall be submitted and shall contain the following:

- 3.3.2.1 A title block containing the name of the owner of record and the applicant, seal and signature of the registered profession engineer or registered land surveyor as appropriate to the date, name and section designation of the subdivision, designation of drawing with reference to the matter shown thereon, scale, name and address of designer, date and number of the drawing. There shall be provided on each drawing space for revisions made before and during construction to be recorded by change number, revision date, revision description, and initials of the person making revisions (see Title Block Layout and Typical Title Block in Appendices).
- 3.3.2.2 North point, boundaries, date of acquisition of land and book and page of recording of deed or Land Court certificated number, and book and page number.

- 3.3.2.3 Existing and proposed lines of ways, lots, easements, rights-of-way and public or common areas within the subdivision. (The proposed names of proposed ways as shown on Form K shall be shown in pencil on the Definitive Plan until they have been approved by the Board.)
- 3.3.2.4 Sufficient data to determine readily the location, direction, and length of every way and lot line, including lot frontage, and boundary line, and to establish these lines on the ground.
- All bearings shall be true, magnetic or grid, and the needle as shown on the plan shall indicate this clearly. In addition, the Station locations as shown on the profile plans shall also be shown on the topography sheet. Also to be shown are the location, areas and dimensions of all proposed lots, and recreation areas.
- 3.3.2.5 A boring log shall be provided at a maximum of 100' intervals, to include the low spots. The road centerline layout shall be test bored to a minimum depth of six feet or such depth to prove that the soil can adequately support the proposed roadway.
- 3.3.2.6 Location and outlines of all existing buildings and site features such as ponds, wetlands, floodplains (100 year flood profile), water bodies and water courses, stone walls, fences, trees greater than 15" in diameter, wooded areas, rock, ridges, boulders greater than 2 cubic yards, and outcroppings all within 200' of the proposed subdivision.
- 3.3.2.7 Location of all permanent monuments properly identified as to whether existing or proposed, using USGS Bench Marks where available in preference to other points of reference. Bounds to be set at tangent points and at turning points on way lines and property lines.
- 3.3.2.8 Location, names, and present widths of ways bounding, approaching or within reasonable proximity of the subdivision, and all zoning boundaries which intersect the proposed subdivisions.
- 3.3.2.9 Suitable space to record the action of the Board and the signatures of the members of the Board or officially authorized person.
- 3.3.2.10 Existing and proposed topography at a 2' contour interval, or as required by the Planning Board.
- 3.3.2.11 Profiles on easements and on the exterior lines of ways at a horizontal scale of 1" equals 40' and vertical scale of 1" equals 4', or such other scale as is acceptable to the Planning Board. All elevations shall refer to the U.S. Coast and Geodetic Survey datum. All subdivision profiles and road grade levels will be established using certified benchmarks within the Town of Bedford.

- 3.3.2.12 Layout of proposed storm drainage, water supply and sewage disposal systems. Proposed arrangements for storm and surface drainage, with supporting data and design analysis, including plans and profiles showing location and size of drain lines, culverts and trenches, design of catch basins and manholes, and such other information as may be required to define the drainage provisions. All such information to be stamped and signed by a Registered Professional Engineer.
- 3.3.2.13 Easements shown must indicate purpose thereof.
- 3.3.2.14 A 1" = 500' scale locus plan of the subdivision shall be shown on all copies of the plan. Ties to existing ways shall be provided.
- 3.3.2.15 House numbers as assigned by the Department of Public Works.
- 3.3.2.16 A typical cross section of the roadway showing sidewalks, utilities, depth of utilities, depth of gravel, crown of road, thickness of surface and materials shall be submitted on the plan or on an accompanying sheet. Slope of the side of the roadway to the property line shall also be shown.
- 3.3.2.17 Way and Profile Plans. On the Way and Profile Plans the following must also be shown:
  - 3.3.2.17.1 On the plan view of the way, the true relative position of all drainage, sewer, water and their appurtenances.
  - 3.3.2.17.2 All main water gate boxes and service boxes at each property line
  - 3.3.2.17.3 Location and elevation of sewer laterals for each house lot at property line.
  - 3.3.2.17.4 Any additional information that would clearly explain or indicate the utility system.

**3.4 Filing Fees**

The following schedule of filing fees shall apply:

Form A Plan

- No change in lot lines: \$25.00
- Change in lot lines: \$35.00 plus \$50.00 for each new buildable lot.

Preliminary Subdivision

- Residential: \$150.00 plus \$50.00/lot
- Commercial/Industrial \$150.00 plus \$100.00/acre

Definitive Subdivision

Residential	\$500.00 plus \$150.00/lot if preliminary plan filed \$600.00 plus \$200.00/lot if preliminary plan was not filed
Commercial/Industrial	\$500.00 plus \$300.00/acre

3.5 Certificate of Board Action

3.5.1 The Planning Board shall file a certificate of its action with the Town Clerk, and shall send notice of such action by registered mail, postage prepaid, to the applicant at his address stated on the application. In the event of disapproval, the Planning Board shall state in detail wherein the plan does not conform to the rules and regulations of the Planning Board or to the recommendations of the Board of Health and shall revoke its disapproval and approve a plan, which, as amended, conforms to such rules and regulations or recommendations.

3.5.2 In case of approval of a plan by action of the Planning Board, after the expiration of twenty days without notice of appeal to the superior court, or if appeal has been taken after the entry of a final decree of the court sustaining the approval of such plan, the Planning Board shall cause to be made upon the plan a written endorsement of its approval. The plan bearing such endorsement or the plan and such certificate, as the case may be, shall be delivered by the Planning Board, or in the case of the certificate by the Town Clerk, to the person who submitted such plan.

3.5.3 After the Definitive Plan had been approved and endorsed, the applicant shall furnish the Board with an original and six prints of the endorsed plan. If a covenant Form D has been executed then it shall be recorded with the approved plan. A certified copy of such recording, plan number and instrument number shall be delivered to the Board within ten days of the delivery of the subdivision plan to the applicant, and the applicant shall execute the Attorney's Certificate Form M.

Failure to comply with the foregoing condition shall constitute a ground for rescinding of approval of the definitive plan. Final approval of the Definitive Plan does not constitute acceptance by the Town of ways within a subdivision. Acceptance of ways must be in accordance with the General Laws.

**Section 4. Administration – Construction Phase**

4.1 Performance Guarantee

4.1.1 Guarantee Required

Before endorsement of its approval of a plan the Planning Board shall require that the construction of ways and the installation of municipal services be secured by one, or in part by another, of the methods described below, which method or combination of methods may be selected and from time to time varied by the applicant.

4.1.2 Methods of Guarantee

4.1.2.1 By a proper bond or a deposit of money or negotiable securities, sufficient in the opinion of the Board to secure performance of the construction of ways and the installation of municipal services required for lots in the subdivision shown on the plan, and the Board may require that the time be specified within which such construction and installation shall be completed. The Planning Board, in the event the work is not completed within the specified time, may require an additional amount to cover the increased cost of completion. Upon failure of the developer to complete such work to the satisfaction of the board and in accordance with all applicable plans, regulations and specifications, the Planning Board shall be entitled to enforce such bond or to apply such deposit or other securities for the benefit of the Town to the extent necessary to complete all such work without delay. The penal sum of any such bond, or the amount of any deposit held under this section, may, from time to time, be reduced by the Planning Board and the obligations of the parties thereto released by said board in whole or in part.

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

By delivery to the Planning Board of an agreement 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 sufficient in the opinion of the Planning Board and otherwise due the applicant, to secure the

construction of ways and the installation of municipal services. Said agreement shall also provide for 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 un-dispersed shall be available for completion.

Any covenant given under the proceeding paragraph and any condition required by the Board of Health shall be either inscribed on the plan or contained in the covenant referred to on the plan.

Any such bond may be enforced and any such deposit may be applied by the Board for the benefit of the Town upon failure of the performance for which any such bond or deposit was given to the extent of the reasonable cost to the Town of completing such construction and installation.

#### 4.1.3 Calculation of Amount of Guarantee

4.1.3.1 The amount of a bond, deposit or money or negotiable security or surety required shall include, but shall not be limited to:

- A. Amount of construction cost estimate, including engineering fees, contingencies, any increased costs due to inflation estimated over the proposed construction period, plus a fee for supervision and construction management, as estimated by the Department of Public Works, plus
- B. Amount of estimated cost to complete as built plans in accordance with Section 4.4 of these Rules and Regulations by the Department of Public Works.

4.1.3.2 The amount of such guarantee shall be recalculated as described above when an extension of the construction completion date is requested by the applicant, and the agreement shall be amended accordingly.

4.1.3.3 An agreement specifying the form of such guarantee, the construction completion date, and other terms agreed upon to assure proper construction in accordance with these Rules and Regulations shall be executed by the applicant and the Board. Where such guarantee is provided in lieu of a covenant at the time of plan endorsement, such agreement shall be referenced on the approved definitive plan and recorded therewith at the expense of the applicant.

#### 4.2 Inspections

4.2.1 General

4.2.1.1 The developer shall obtain from the Planning Board a Subdivision Inspection Sheet, Form L, at the time of Definitive Plan approval. Each required inspection will be entered by the Board's inspector and other inspectors as required with their signature and date of each inspection. This fully signed card must be presented to the Planning Board at the time the sub divider asks the Town for release of bond, covenant or security.

4.2.1.2 Each line item on the Subdivision Inspection Sheet, Form L, shall be approved by the Department of Public works and the Planning Board. The developer will give the Director of Public Works and the Planning Board a 72-hour written notice when an inspection is required.

4.2.1.3 The Planning Board may at its discretion, during various stages of the construction of the subdivision, require the applicant to obtain, at his own expense, additional professional engineering certification as to the satisfactory completion of the construction of each way in the subdivision, storm drains, water mains and their appurtenances, and installation of all other services required according to the Definitive Plan.

4.2.1.4 For the purpose of inspection, the applicant will provide safe and convenient access to all parts of the subdivision to representatives of the Board or other Town agencies.

4.2.1.5 The applicant is responsible for requesting inspections at the proper stage in the process of installation of improvements, as provided in Section 4.3.2. Should an inspection not be performed due to the failure of the applicant to notify the inspector, the applicant will be required to uncover the improvements. No work will be accepted that has been covered before inspection.

4.2.2 Inspection Schedule

Inspection by the Department of Public Works and others as required shall be for the following:

4.2.2.1 Construction stakeout of roads and lots

4.2.2.2 Land clearing, grubbing and installation of erosion control measures

4.2.2.3 Sewer system installation including house connection

4.2.2.4 Water system installation including house connection

4.2.2.5 Electrical system installation, including house connection.

4.2.2.6 Gas system installing, including house connection

4.2.2.7 Cable television conduit installation including house connection

- 4.2.2.8 Drainage system installation
- 4.2.2.9 Telephone system connections, including house connection
- 4.2.2.10 Street lights installation
- 4.2.2.11 Excavation to and compaction of way sub grade
- 4.2.2.12 Curbing installation
- 4.2.2.13 Gravel installation and compacting
- 4.2.2.14 Proof rolling for pavement
- 4.2.2.15 Base course installation
- 4.2.2.16 Sidewalk installation
- 4.2.2.17 Loam, seed and fertilizer installation
- 4.2.2.18 Finish pavement
- 4.2.2.19 Monumentation
- 4.2.2.20 Guardrails and wall installation
- 4.2.2.21 Way signs
- 4.2.2.22 Clean up
- 4.2.2.23 Planting of trees

4.3 As Built Plan Required

- 4.3.1 Before final release of bond, covenant or security, the applicant shall furnish, at its own expense, an as-built plan on reproducible mylar certified by a registered professional engineer, upon which plan the said engineer certifies that the construction of the ways and services, as shown on the approved subdivision plans, and the Planning Board rules and regulations have been complied with.

4.4 Amendment or Release of Performance Guarantee

4.4.1 Reversion of Bond or Negotiable Securities to Covenant.

If the developer desires to secure by means of a covenant the construction of ways and the installation of municipal services in a portion of a subdivision for which no building permits have been granted and to have the Board of release the bond or negotiable securities previously furnished to secure such construction and installation, the developer shall submit to the Board a covenant specifying the part of the definitive plan which is subject to such covenant. Upon approval of the covenant by the Board, the covenant shall be recorded with the approved subdivision plan at the expense of the developer and a certified copy of such recording, showing date of recording, plan

number and instrument number shall be delivered to the Board within ten days of the delivery of the covenant to the applicant.

4.4.2 Release of Covenant or Reduction of Performance Guarantee

4.4.2.1 A performance guarantee or covenant shall be reduced or released, in whole, or in part, only by the Board upon written request from the developer by registered mail to the Town Clerk and Planning Board which includes a request to re-establish the guarantee amount in accordance with Section 4.1.3 of these rules and regulations. In the case of a partial release or reduction, the developer shall state in detail what work is claimed to have been satisfactorily completed and which lots, if any, are to be released. Upon such request for release of lots or reduction for sureties, the Board may request from the Department of Public Works verification of satisfactory completion of all work in the subdivision and shall either approve the work and release the surety or the lots or state in a notice by registered mail to the applicant and to the Town Clerk, wherein the work fails to comply with the definitive plan and with these Rules and Regulations and refuse the request.

4.4.2.2 If the Board determines that said improvements have been completed, it shall, within 45 days of receipt of the request, re-establish the amount of the guarantee in accordance with Section 4.1.3 and shall effectively release the interest of the Town in the remainder of the guarantee, if any, to the person who furnished the same, and/or release the appropriate lots from the covenant by appropriate instrument, Certificate of Performance (Form H) duly acknowledged, with a copy to the Building Inspector.

4.4.3 Conveyance of Utilities Services

Before the Board will release a surety bond or deposit, or, in the case of a Covenant, issue a Certificate of Performance, the developer shall execute an instrument transferring to the Town valid, unencumbered title to all sanitary sewers, water mains and all appurtenances thereto constructed and installed in the subdivision and conveying to the Town, without cost and free of all liens and encumbrances, perpetual rights and easements to maintain such sanitary sewers, storm water drains, water mains and all appurtenances thereof and to do all acts incidental thereto, in, through and under the whole of all streets in the subdivision, and if such sewers, storm drains, water drains, and water mains have been constructed and installed in land not within such streets, then in, through and under the easements, as shown on the definitive plan, and where no easements are shown, in, through and under a strip of land extending ten feet in width on each side of the centerline of all such sewer drains, and water mains. The above shall not be construed to relieve the developer and his successors in title to a portion of land or street in the subdivision of responsibility to complete all construction, as required by developer's covenants and agreements with the Town, and to thereafter maintain all streets and utilities in a satisfactory condition until accepted by the Town.

## **Section 5: Design Standards**

### 5.1 General

#### 5.1.1 References

5.1.1.2 All required improvements shall be installed or constructed in accordance with the applicable provisions of these Rules and Regulations, and as shown on approved definitive plan and as specified in the certificate of Planning Board's Action.

5.1.1.3 Where not 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, as amended from time to time, which is incorporated herein and made a part hereof.

5.1.1.4 Where not otherwise specified, construction standards shall conform to the requirements of The Commonwealth of Massachusetts Department of Public Works Construction Standards, as amended from time to time, which is incorporated herein and made a part hereof.

#### 5.1.2 Protection of Natural Features

5.1.2.1 Due regard shall be shown for all natural features, such as trees, water coursed, wetlands, scenic points, historic spots, unique flora or fauna habitat, and similar community assets, which if preserved, will add attractiveness and value to the subdivision and the Town.

5.1.2.2 Water courses, marshes, and like natural features shall be protected and recommendations of the Conservation Commission shall be taken into consideration by the Board.

5.1.2.3 The attention of the applicant is directed to the provisions for protection of Wetlands under General Laws Section 40, Chapter 131, M.G.L.

5.1.2.4 Where necessary, wetlands and other natural features shall be protected for disruption by appropriate easement.

#### 5.1.3 Contours

In the construction of streets and grading of lots, existing contours shall be preserved insofar as is practical. In any event, no change shall be made in existing contours, which in the opinion of the Board, adversely affects any land abutting the proposed subdivision.

5.1.4 Lots

5.1.4.1 Lots shown on the plan shall comply with the area, frontage and other requirements of the Bedford Zoning Bylaw. Lot grading shall also comply with Section 5.1.3, above.

5.1.4.2 All portions of the tract being subdivided shall be taken up in lots, streets, public lands, or other proposed uses, so that remnants and land-locked areas shall not be created.

5.1.5 Proper Installation and Protection of Improvements

The applicant shall protect improvements required under the Subdivision Rules and Regulations including utilities, streets, curbing, sidewalks, etc., from any and all damage, until the entire subdivision is completed and released as a whole by the Planning Board. Any damage to these utilities, etc., prior to such release by the Planning Board, shall be repaired in a manner satisfactory to the Planning Board. The full cost of such repair shall be borne by the sub divider. Any material used which does not meet the standards as set for the in these regulations shall be replaced by the sub divider at his own expense. Underground utilities and appurtenances not installed in accordance with the final grades approved by the Planning Board shall be removed and reset to proper grade at the expense of the sub divider.

5.2 Ways

5.2.1 Location of Alignment

5.2.1.1 All ways in the subdivision shall be designed so that in the opinion of the Planning Board, they will provide safe vehicular travel.

5.2.1.2 Provision satisfactory to the Planning Board shall be made for the proper projection of ways, or for access to adjoining property that is not yet subdivided. The Planning Board shall have the right to require the applicant to complete the projection of such ways, including all services to the adjoining property line and to further grant easements to the Town of Bedford for the right to connect at a future date such ways and /or town services on the adjoining property as may later be approved by the Planning Board under Subdivision Control Law.

5.2.1.3 Reserve strips prohibiting access to ways or adjoining property shall not be permitted, except where, in the opinion of the Planning Board, such strips shall be in the public interest.

- 5.2.1.4 Way jogs with centerline offsets of less than one hundred and twenty five (125) feet should be avoided.
- 5.2.1.5 The minimum centerline radii of curved ways shall be one hundred fifty (150) feet. Greater radii may be required for principal ways.
- 5.2.1.6 Ways shall be laid out so as to intersect as nearly as possible of right angles. No way shall intersect any other way at less than sixty (60) degrees.
- 5.2.1.7 Property lines at way intersections shall be rounded or cut back to provide for a curb radius of no less than thirty (30) feet.
- 5.2.2 Width. The minimum width of way rights-of-way shall be forty (40) feet. The minimum pavement width shall be twenty four (24) feet. Greater width shall be required by the Planning Board when deemed necessary for present and future vehicular travel.
- 5.2.3 Grades. Grades of ways shall not be less than 1.0%. Grades shall not be more than 6.0% for principal ways or more than 8.0% for secondary ways or minor ways.
- 5.2.4 Dead End Ways
  - 5.2.4.1 Dead-end ways shall not be longer than five hundred (500) feet or shorter than one hundred feet, unless in the opinion of the Planning Board, a greater or lesser length is necessitated by topography or other local conditions.
  - 5.2.4.2 Dead-end ways shall be provided at the closed end with a turn-around having an outside roadway diameter of at least one hundred (100) feet, and a property line diameter of at least one hundred and twenty (120) feet. At the discretion of the Planning Board, a paved, back-up strip (tee) may be specified.
  - 5.2.4.3 Dead-end ways ending at a turnaround shall be provided by the developer with "Dead End" signs suitable to the Department of Public Works.
- 5.3 Easements
  - 5.3.1 Utilities Easements. Easements for utilities across lots or centered on rear or side lot lines shall be provided where necessary and shall be at least twenty (20) feet wide. Such easements shall be granted to the Town of Bedford.
  - 5.3.2 Storm Water Easement or Drainage Right-of-Way
    - 5.3.2.1 Where a subdivision is traversed by a watercourse, drainage way, channel or stream, the Planning Board may require that there be provided a storm water easement or drainage right-of-way of adequate width to conform substantially

to the lines of such watercourse, drainage way, channel or stream, and to provide for construction or other necessary purposes.

5.3.2.2 The minimum width of any such easement shall be twenty (20) feet. Where necessary, drainage easements on adjoining property shall be secured and granted to the Town of Bedford.

5.3.3 Footpath Easements. Unless otherwise required, easements for off-way footpaths shall be eight (8) feet in width, and such easements shall be granted to the Town of Bedford.

#### 5.4 Parks and Open Spaces

5.4.1 Before approval of a plan, the Planning Board shall 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 area of the land being subdivided and the prospective uses of such land and shall be at least equal to one (1) acre of land for each twenty (20) dwelling units or fraction thereof shown on the plan. Each area reserved for such purposes shall be of suitable area, dimensions, topography and natural character for the purposes of 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. Any land so reserved shall be left in condition for the purpose intended, as required by the Planning Board. The Planning Board may by appropriate endorsement of the plan, require that no building may be erected upon such park or parks without its approval for a period of three (3) years from the date of the subdivision approval. Pedestrian ways, bikeways, or bridle path of not less than fifteen (15) feet in width may be requested where deemed desirable to provide circulation or access to off-site amenities such as schools, playground, parks, shops, public transportation, open spaces and/or other community facilities.

5.4.2 In the case of subdivisions of land zoned primarily for industrial uses, open spaces may be required for the purpose of providing for the recreational needs of the occupants of the buildings in the subdivision and for the general aesthetic quality of the development.

#### 5.5 Flood Plain District

All subdivision proposals and other proposed new development shall be reviewed to determine whether such proposals will be reasonably safe from flooding. If any part of a subdivision proposal or other new development is located within the Flood Plain District established under the Zoning Bylaw, it shall be reviewed to assure compliance with the following:

- 5.5.1 The proposal is designed consistent with the need to minimize flood damage.
- 5.5.2 All public utilities and facilities, such as sewer, gas, electrical, and water systems shall be located and constructed to minimize or eliminate flood damage.
- 5.5.3 Adequate drainage systems shall be provided to reduce exposure to flood hazards.

**Section 6: Required Improvements**

6.1 General

The developer is responsible for the completion of the following improvements:

- A. Way construction
  - a. Preparation
  - b. Base
  - c. Pavement
  - d. Curbing
  - e. Sidewalks
  - f. Grass plots
  - g. Side slopes
  - h. Way signs
- B. Storm Drains and Channels
- C. Sanitary Sewerage
- D. Water Supply
- E. Utilities
- F. Parks and Open Space
- G. Monuments
- H. Shade Trees

6.2 Ways

- 6.2.1 The entire area of each way shall be cleared of all stumps, brush, roots, boulders, like material and all trees not intended for preservation. All unsatisfactory material is to be removed to a depth suitable to the Department of Public Works. Whenever practical, native plan material and ground surface shall be selectively cleared and left undisturbed.
- 6.2.2 All loam and other yielding material shall be removed from the roadway area of each way and replaced with suitable material. All excess material shall be removed from the subdivision prior to installation of the gravel sub-base of the roadway.
- 6.2.3 Ledge occurring anywhere in the full cross-section of the roadway must be cleared to a minimum depth of 15 inches below the finished surface. Ledge occurring in pipe trenches must be cleared so as to have a gravel cushion of at least six inches below and on both sides of pipe.

- 6.2.4 All roadways shall be brought to a finished grade as shown on the profile of the Definitive Plan. Sub grade preparation, gravel installation and compaction, and proof rolling for pavement shall conform to the specifications of the Department of Public Works.
- 6.2.5 Base course and finish pavement installation and compaction shall conform to the specifications of the Department of Public Works.
- 6.2.6 From the paved way to the edge of the right-of-way all soil areas, whether or not disturbed during construction, shall be loamed six inches, mulched two inches, fertilized and seeded in accordance with sound horticultural practices.
- 6.2.7 Slopes and Walls. Wherever the approved way grade differs from the grade of adjacent land or where otherwise necessary for public safety, the developer shall be required to erect retaining walls and guard rail fences or provide slopes no steeper than 3 feet horizontal to one foot vertical in cut to ensure proper protection and lateral support. Such walls, fences and slopes shall be subject to the approval of the Department of Public Works as to location, design and dimensions and shall be constructed in a manner satisfactory to the Department of Public Works.
- 6.2.8 Curbing. Vertical cut granite curbs shall be installed on both sides of ways in conformity with specifications of the Department of Public Works. Granite curb inlets shall be installed at each catch basin located along a granite curb line.
- 6.3 Utilities
- 6.3.1 Sanitary Sewers. Sanitary municipal sewers shall be installed, flushed and tested in accordance with the standard specifications of the Department of Public Works.
- 6.3.2 Drainage. Adequate disposal of surface water shall be provided. A design shall be submitted with each Definitive Plan submitted for approval and shall include consideration of the entire watershed. Storm water shall not run from a proposed street into an existing street unless there are adequate drainage facilities in the existing street to handle such storm water.
- 6.3.2.1 Design Criteria
- 6.3.2.1.1 The quantity of water carried by drains shall be determined by the Rational Method, unless another is ordered by the Planning Board, and the design storm for drainage shall be a minimum of twenty five (25) years for pipe drains and channels. The Planning Board may require a less frequent or more intense design storm to be used in any situation which in its judgment should be afforded to public or private property, or for portions of the system not economically susceptible to future relief.

### 6.3.2.2 Drain and Channel Size

- 6.3.2.2.1 Drainage pipes shall have a minimum diameter of 12 inches. In general, they should be designed to flow full with the hydraulic gradient at the crown. The minimum velocity at design flow should be 2.0 fps for drainage pipes and the maximum velocity 12 fps unless otherwise approved by the Planning Board. In determining the capacity of concrete drainage pipes, the Manning Formula should be used with the coefficient of friction “n” equal to 0.013.
- 6.3.2.2.2 In cases where an earth or paved open channel is used, the typical section should have a flat bottom and side slopes of one vertical on two horizontal with the top of the slope at least one (1) foot higher than design water surface for earth channels. The maximum velocity allowed in an open channel at design flow should be 6fps. A coefficient of friction “n” equal to 0.030 should be used for both the earth and paved channel.
- 6.3.2.3 Catch Basins. Catch basins shall be built in conformity with the specifications of the Department of Public Works and shall be located on both sides of the road on continuous grades at intervals of not more than 300 feet, at all low points and sags in the roadway, and near the corners of the roadway at intersection streets. Driveways shall not be located within ten feet of a catch basin.
- 6.3.2.4 Manholes. All catch basins shall be connected to the drainage system through manholes. Manholes shall be provided at all changes in alignment, grade or drain size. Manholes shall also be provided at the intersection of two or more drainage pipes. The maximum distance between manholes shall not exceed 300 feet.
- 6.3.2.5 Subsurface Drains. In areas where the finished grade of the roadway is less than four feet above the water table or in areas where less than four feet of fill is placed above water in swampy places or any standing water, or in other areas where, in the opinion of the Planning Board, the sub grade must be drained, a system of sub drains shall be installed. Sub drains shall be installed in all ledge cuts, and shall extend at least fifty feet beyond limits of such cuts. The sub drain shall consist of a minimum of one longitudinal drain for each side of the paved roadway. In addition, laterals may be required as directed by the Planning Board in areas in which an undue amount of water could accumulate in the sub grade. The system of sub drains shall be discharged into the storm drain system or otherwise disposed of in a manner satisfactory to the Planning Board.
- 6.3.2.6 Extension of System. Provision for existing drainage shall be accommodated within the subdivision, and provision for future drainage systems shall be brought to the property line.

6.3.2.7 Rate of Runoff. Where appropriate in the opinion of the Planning Board, the sub divider must design the drainage system in order that the peak rate of flow of surface water runoff will not exceed that which occurs before development.

6.3.3 Water Pipes and Related Equipment

Water pipes and related equipment, such as hydrants and main shut off valves, shall be constructed to serve all lots on each way in the subdivision in conformity with specifications of the Department of Public Works and shall be left uncovered until inspected. Before being placed in service, all new water pipe lines shall be tested and disinfected by Department of Public Works approved methods as specified by the AWWA C600.

6.3.3.1 Hydrants. Hydrants shall be installed, painted and tested in accordance with the specifications of the Department of Public Works, and located at the entrance to the subdivision and be placed at a maximum of 500 feet apart thereafter, or as directed by the Fire Chief or his designated representative. All hydrants and gate valves shall open left and conform to the Department of Public Works standards. All hydrants shall be provided with water flows that are adequate for fire fighting purposes and meet the requirements of the Fire Department and Department of Public Works. If it is not possible to make on site improvements that will provide adequate fire flows and meet the requirements of the Fire Department and Department of Public Works then deed restrictions shall be provided requiring that all dwelling units are provided with fire sprinklers meeting the requirements of the Fire Department. Fire sprinklers will not be necessary if the developer makes on site or offsite improvements to the municipal water system, such that adequate fire flows are provided.

6.3.4 Underground Utilities. Underground distribution systems shall be provided for any and all utility services, including electrical and telephone services. Poles and any associated overhead structures shall be of a design approved by the Department of Public Works. All direct buried cable used to supply buildings or Structures shall comply with Article 300-5 of the Massachusetts Electric Code. In addition they shall be marked at a depth of 12” with yellow marking tape Bearing the words “Caution” – “Electrical Wires” for the entire length of under-Ground installation.

6.4 Sidewalks and Footpaths

6.4.1 Sidewalks. Sidewalks of not less than five (5) feet in width shall be constructed on one or both sides of ways in conformity with specifications of the Department of Public Works, and also in accordance with the Architectural Barriers Board requirements.

6.4.2 Meandering Footpaths. The Planning Board may waive the requirement in whole or in part for sidewalks and accept in substitution thereof a meandering footpath, which final location shall be determined by an as-built plan prepared by the applicant at its cost and duly approved by the Planning Board.

6.5 Monuments

6.5.1 Monuments shall be installed at all way intersections, at all points of change in direction or curvature of ways at the two front property corners of all new lots and at other points where, in the opinion of the Planning Board, permanent monuments are necessary. Such monuments shall conform to the standard specifications of the Department of Public Works and shall be set according to such specifications. No permanent monuments shall be installed until all construction, which might destroy or disturb the monuments is completed.

6.5.1.1 Monuments shall be standard granite markers of not less than four (4) feet in length and not less than six (6) inches in width and breadth and shall have a drill hole in the center. Monuments shall be set flush with final grades.

6.5.1.2 The Board shall require a certificate by a registered land surveyor, to be obtained at the sub divider's expense, indicating that these permanent monuments are in place and are accurately located. The certificate is to be submitted to the Department of Public Works prior to acceptance of the road by the town.

- 6.6      Shade Trees  
The sub divider shall provide and plant at approximately thirty foot intervals on each side of the way at least one suitable shade tree, having a minimum caliper of three inches and a minimum height of twelve feet. These trees may be of varied species, as approved by the Planning Board, and shall be planted in accordance with the specifications of the Department of Public Works and the direction of the Planning Board. Existing trees of at least equal size which have been preserved within the right-of-way may be substituted to fulfill this requirement.
- 6.7      Way Signs.  
Way signs shall be installed under the supervision of the Department of Public Works. Until such time as each way is accepted by the Town as a public way, the signposts at the intersection of such way with any other way shall have affixed thereto a separate detachable sign designating such a street as a private way.
- 6.8      Street Lights  
Streetlights approved by the Board of Selectmen shall be installed by the developer in accordance with the specifications of the Department of Public Works and the electric service company.
- 6.9      Clean Up  
Prior to release of lots, the entire area, including lots, must be cleaned up so as to leave a neat orderly appearance free from debris, loam piles and other material.