

Rules and Regulations Governing The Subdivision  
of Land in  
Sheffield, Massachusetts  
Adopted April 20, 1994

**SECTION 1 GENERAL PROVISIONS**

**1.01 TITLE**

These Rules and Regulations shall be known as the Rules and Regulations Governing the Subdivision of Land in the Town of Sheffield and may be cited as Sheffield Subdivision Rules and Regulations.

**1.02 AUTHORITY**

These Rules and Regulations are adopted pursuant to the statutory rule making authority of section 81Q of chapter 41 of the General Laws for the purposes set forth in section 1.3 of these Rules and Regulations.

**1.03 PURPOSE**

These Subdivision regulations have been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the cities and towns in which it is, or may hereafter be, put in effect 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 ensuring 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 the Subdivision Control Law and 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 ordinances or by-laws; for securing adequate provision for water, sewerage, drainage, underground utility service, fire, police, and other requirements where necessary in a subdivision; for protecting, promoting and enhancing the natural beauty and amenities of Sheffield; and for coordinating the ways in a subdivision with each other and with the public ways in the Town and with the ways in neighboring subdivisions.

**1.04 CONSTRUCTION**

These Rules and Regulations shall be construed and applied to promote the purposes set forth in Section 1.3 of these Rules and Regulations.

**1.05 WAIVER OF REQUIREMENTS**

Where necessary or convenient to accomplish the purposes of these Rules and Regulations, the Board may waive any requirement(s) of these Rules and Regulations. All requests for waivers of these Rules and Regulations must be submitted in writing by the applicant to the Board. Any such waiver shall be upon vote of a majority of the Board.

**1.06 EFFECTIVE DATE**

These Rules and Regulations are to be effective and from that time shall supersede all prior rules and regulations governing the subdivision of land in the Town of Sheffield.

**1.07 CONSULTING EMPLOYMENT RULES**

The Town of Sheffield Planning Board has adopted Sheffield Planning Board Consulting Employment Rules in accordance with MGL c.41, § 81Q which provides for the hiring by the Planning Board at the applicant's expense of consultants and other outside experts to advise the Planning Board in matters dealing with applications for Preliminary and Definitive Subdivision plans.

**SECTION 2    DEFINITIONS**

**2.1** Unless a contrary intention or definition is clearly expressed herein, terms and words defined in the Subdivision Control Law, chapter 41 of the General Laws, shall have the meaning given there for purposes of these Rules and Regulations.

**2.2** The following terms and words shall have the meaning defined herein:

- A. **ABUTTER:** An owner of land as listed in the most recent real property tax list, certified by the Board of Assessors, whose real property is within 300 feet of the boundaries of a proposed subdivision of land as shown on the definitive plan.
- B. **APPLICANT:** A person, corporation, real estate trust, or other legal entity who/which makes application to this Board for approval of a plan for subdivision of land pursuant to chapter 41 of the General Laws or who/which makes application to this Board for determination that a plan of land does not require approval under the Subdivision Control Law, chapter 41 of the General Laws.
- C. **ARTERIAL STREET:** A proposed or existing street servicing more than 120 dwelling units, or for non-residential subdivisions is to be used for major through traffic with a volume in excess of 1200 vehicles in a representative 24 hour period, as determined by the most recent edition of Institute of Transportation Engineers (ITE), Trip Generation.
- D. **BIKEWAY:** A way designed to be used principally or exclusively by a bicycle or similar unpowered vehicle.
- E. **BOARD:** The Planning Board of the Town of Sheffield.
- F. **BUILDING:** A structure designed to be used as a place of occupancy, storage or shelter.
- G. **COLLECTOR STREET:** A proposed or existing street which is to be used primarily for residential purposes and servicing no more than 120 dwelling units, or in the case of a non-residential subdivision is to be used for through traffic with a volume of not more than 1200 vehicles in a representative 24 hour period, as determined by the most recent edition of Institute of Transportation Engineers (ITE), Trip Generation.
- H. **DEFINITIVE PLAN:** A proposed plan for subdivision of land submitted pursuant to chapter 41 of the General Laws and Section 6 et seq. of these Rules and Regulations for approval of the Board.
- I. **DWELLING:** An enclosure containing sleeping, kitchen and bathroom facilities designed for and used or held ready for use as a permanent residence by one family.
- J. **EASEMENT** A right acquired by public authority or other person to use or control property for a utility or other designated public purpose.
- K. **ENGINEER:** A person who is registered and/or lawfully permitted to practice professional engineering in the Commonwealth of Massachusetts.
- L. **ENVIRONMENTAL AND COMMUNITY IMPACT ANALYSIS:** A comprehensive, technical analysis and report by the Applicant which is required to be submitted to the Board pursuant to Section 6.04 of these Rules and Regulations.
- M. **GENERAL LAWS:** The General Laws of the Commonwealth of Massachusetts, Ter. Ed.

- N. INDUSTRIAL-COMMERCIAL STREET: A proposed or existing street which, in the opinion of the Board, is to be used to provide local access to industrial-commercial enterprises.
- O. LAND SURVEYOR: A person who is registered and/or lawfully permitted to practice land surveying in the Commonwealth of Massachusetts.
- P. LANE: A proposed street which, in the opinion of the Board, is to be used primarily for residential purposes and servicing no more than 10 dwelling units.
- Q. LOT: An area of land in one ownership, with definite boundaries, used, or available for use, as the site of one or more buildings.
- R. MDPW: The Department of Public Works, Commonwealth of Massachusetts.
- S. MINOR STREET: A proposed or existing street which, in the opinion of the Board, is to be used primarily for residential purposes and servicing no more than 40 dwelling units.
- T. PERSON: An individual, or two or more individuals or a group or association of individuals, a partnership, trust or corporation, or other legal entity having common or undivided interests in a tract of land.
- U. PRELIMINARY PLAN: A proposed plan for subdivision of land submitted pursuant to chapter 41 of the General Laws and Section 5 et seq. of these Rules and Regulations for the information of and analysis by the Board and other regulatory agencies of the Town of Sheffield.
- V. SECURITY Means by which the planning board requires that the construction of ways and the installation of municipal services is secured by one, or in part by one and in part by another, of the methods described in General Laws Chapter 41, Section 81U.
- W. SIDEWALK: A way within the right-of-way of a street normally parallel, or roughly parallel, to the street, designed for use by pedestrians.
- X. STREET: The right of way or taking and includes the traveled way, curbing, grass strips, sidewalks, drainage facilities, and utilities.
- Y. SUBDIVISION: The division of a tract of land into two or more lots and shall include resubdivision, 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 frontage on (a) a public way or a way which the Clerk of the Town certifies is maintained and used as a public way, or (b) a way shown on a plan heretofore approved and endorsed in accordance with the Subdivision Control Law, or (c) a way in existence when the Subdivision Control Law became effective in the Town, 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 and the buildings erected or to be erected thereon. Such frontage shall be of at least such distance as is then required by zoning or other ordinance or bylaw, if any, of the Town for erection of a building, on such lot, and if no distance is so required, such frontage shall be of at least twenty feet. 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 or more buildings were standing when the Subdivision Control Law went into effect in the Town in which the land lies into separate lots on each of which one of such buildings remains standing, shall not constitute a subdivision.

Z. SUBDIVISION CONTROL: The lawful authority of the Board pursuant to the Constitution of the Commonwealth of Massachusetts, chapter 41 of the General Laws, these Rules and Regulations, and other statutes, ordinances, and bylaws to regulate the subdivision of land in the Town of Sheffield.

AA. UTILITIES Gas, electric, water, drainage, cable television, telephone, sewer, steam distribution and related and ancillary services.

BB. WETLANDS: Any lands or waters subject to sections 40 and/or 40A of chapter 131 of the General Laws and the regulations promulgated pursuant thereto.

**SECTION 3: GENERAL**

**3.01 BASIC REQUIREMENT**

No person shall make a subdivision within the meaning of the Subdivision Control Law of any land within the Town, or proceed with the improvements or sale of lots in a subdivision, or the construction of ways, or the installation of municipal services therein, unless and until a plan has been endorsed "Planning Board Approval Not Required" or a Definitive Plan of such subdivision has been submitted to and approved by the Board (M.G.L.C. 41, s. 81-0).

**3.02 LIMITATION OF ONE BUILDING ON ANY LOT**

Not more than one building designed or available for use for dwelling purposes shall be elected 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, and that such consent shall be conditional upon the providing of adequate ways furnishing access to each site for such building, in the same manner as otherwise required for lots within a subdivision. (M.G.L. C.41, s. 81-Q).

**3.03 EFFECT OF PRIOR RECORDING**

The recording of a plan of subdivision within the Town in the Southern Berkshire District Registry of Deeds prior to the effective date of the Subdivision Control Law in the Town of Sheffield shall not exempt the land within such subdivision from the application and operation of these Rules and Regulations except as specifically exempt by Chapter 41, Section 81FF, of the General Laws and the Sheffield Zoning Bylaws.

**3.04 REFERENCE**

For matters not covered by these rules and regulations reference is made to Sections 81K to 81GG, inclusive, of Chapter 41 of the General Laws

**3.05 SEVERABILITY**

If any part or portions of these rules and regulations should be adjudicated as invalid, the adjudication shall apply only to the material so adjudged, and the remaining rules and regulations shall be deemed valid and of full force and effect. (M.G.L. C. 41, s. 81-GG)

**SECTION 4: PLAN BELIEVED NOT TO REQUIRE APPROVAL**

**4.01 SUBMISSION**

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 Lay, may submit his plan in triplicate with Application Form A, along with a submittal fee of \$100 for the first two lots and \$50 for each additional lot, to the Planning board, accompanied by the necessary evidence to show that the plan does not require approval.

The plan shall be submitted by delivery to the Planning Board office (preferably five (5) days prior to a meeting of the Board) or by certified mail, postage prepaid, to the Board. In addition, written notice of such submission using Application Form A shall be given by the applicant to the Town Clerk by delivery and, the Town Clerk shall, if requested, give a written receipt to the person who delivered such notice.

**4.02 REQUIREMENTS OF PLAN**

A plan not requiring approval shall be prepared by a registered land surveyor and shall be clearly and legibly drawn to the requirements of the Recording Rules adopted by Registry of Deeds in Massachusetts. If multiple sheets are used, they shall be accompanied by an index sheet showing the entire plan. A plan not requiring approval shall contain the following information:

1. Property boundaries, north point, date and scale.
2. Name of the record owner, name of the registered land surveyor, and the Southern Berkshire Registry of Deeds book and page reference of conveyance to record owner.
3. Area of each lot.
4. Sufficient data to determine the location, direction and length of every street and way line, lot line and boundary line, monuments or references necessary to establish these lines on the ground.
5. Where practical, boundary lines of contiguous and adjacent land and the names of the owners thereof, as determined from the most recent tax list.
6. Location of all permanent monuments properly identified.
7. Location, names and present widths of non-public (private) ways abutting the property.
8. Suitable space to record the endorsement of the Board that Approval is not required and the signatures of the members of the Board.
9. Zoning classification and location of any Zoning District Boundaries that may lie within the locus of the plan.
10. 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.
11. Location of all existing buildings, including setback and side and rear yard designations.

**SECTION 5: PLANS TO BE APPROVED UNDER THE SUBDIVISION CONTROL LAW - PRELIMINARY**

**5.01 SUBMISSION**

A preliminary plan of any proposed subdivision should be submitted to the Planning Board and to the Board of Health for the tentative approval, modification or disapproval by each Board. Thereafter, he shall file by delivery or by certified mail, a notice with the Town Clerk stating the date of submission of the plan and accompanied by a receipted copy of the application form. If notice is given by delivery, the town clerk shall, if requested, give written receipt therefor.

Submission of Preliminary Subdivision plans is required for all non-residential subdivisions and is strongly advised for all residential subdivisions. Three (3) copies of Form B (see Appendix) shall be submitted and accompanied by the original and five (5) copies of the preliminary plan, along with a fee of \$500 plus \$50 for each lot plus \$50 for each additional unit after the first unit on a lot. The preliminary plan shall not be deemed to have been submitted to the Planning Board until the application forms and plans have been delivered to the Board at a regular or special meeting.

**5.02 PLAN CONTENT.**

The preliminary plan shall show clearly the following:

1. Subdivision name, boundaries, north point, date, scale, legend and title "Preliminary Plan".
2. Names and addresses of the record owner and the Applicant and the name or names of the engineer or surveyor.
3. Names and addresses of all abutters as determined from the most recent tax list and such others to whom notices are to be sent.
4. Existing and proposed lines of streets, easements, and any public areas within the subdivision, in a general manner.
5. The proposed system of drainage, including the location of all swamps, marshes and lowland, water bodies, streams, open drains and ditches, natural or man-made, and flowage rights, public and private, adjacent to (and to be affected by the drainage from the Subdivision) or within the proposed subdivision in a general manner.
6. A general description of the type of sewage disposal and water distribution system.
7. Approximate boundary lines of proposed lots with approximate areas and dimensions.
8. Names, approximate locations and widths of adjacent streets.
9. The existing topography of the land at two (2) foot intervals based on field survey and referenced to United States Geodetic Survey (U.S.G.S.) datum. Existing topography is to be indicated by dashed lines with elevations shown.
10. The proposed topography of the land at two (2) foot intervals. The proposed topography to be indicated by solid lines with proposed elevations shown enclosed in blocks.
11. Other existing site features (regardless of proposed construction) including water bodies, wetlands, buildings, stone walls, rock outcroppings, and trees twelve (12) inches in diameter or the perimeter of heavily wooded areas.
12. Zoning classification of the area and any Zoning District boundaries that may lie within the locus of the plan.

13. If the Preliminary Plan does not include all of the contiguous land owned by the application in the area, a plan, in a general manner, should be submitted of the overall proposed development. If the developer does not agree to provide future development plans to the Board, the Board shall assume that the remaining land will be developed to the maximum amount allowed under Zoning.
14. Soil association types of the locus based on U.S. Soil Conservation Service Soils Mapping of the Town of Sheffield, if available.

### **5.03 APPROVAL OR DISAPPROVAL**

The Board and the Board of Health shall act upon the preliminary plan and its accompanying materials in accordance with Chapter 41 of the General Laws. Approval, if given, does not constitute approval of a subdivision, but does facilitate the procedure in securing approval of the definitive plan.

Any plan submitted by the Applicant to the Board in advance of the definitive plan which does not conform to the requirements hereof pertaining to a preliminary plan shall not be considered to be a preliminary plan, nor shall such plan afford protection under the Subdivision Control Law.

## **SECTION 6: DEFINITIVE SUBDIVISION PLAN**

### **6.01 APPLICATION PROCEDURE**

Any person who desires approval of a Definitive Plan of a subdivision shall:

1. Submit to the Planning Board the following, with the drawings consolidated onto a single sheet or on separate sheets:
  - a. Three copies (blue-line) of the Definitive Plan, dark line on white background. The original drawing of the Definitive Plan will only be needed if and when signing of the plan takes place.
  - b. Three copies (blue-line) of a locus plan of the subdivision at 1" = 400' showing proposed roads and their relation to the surrounding area, and the location of the zoning district or districts applicable to the site.
  - c. Three copies (blue-line) of street plans and profiles of every proposed street prepared in accordance with Section 6.03.
  - d. Three copies (blue-line) of street cross sections for each class of street within the subdivision, drawn at 1" = 4', showing location of all utilities and other elements within the street right-of-way, and typical cross sections of any altered drainage courses or off-street paths.
  - e. A properly executed application Form C (see Appendix).
  - f. A submittal fee of \$1500 plus \$100 for each lot plus \$100 for each additional unit after the first unit on a lot proposed within the subdivision where a preliminary plan for the subdivision has been previously submitted. A submittal fee of \$3000 plus \$150 for each lot plus \$150 for each additional unit after the first unit on a lot within the subdivision where a preliminary plan has NOT been previously submitted. In addition, an amendment fee of \$350 plus \$100 per affected lot within the proposed subdivision is required for each filed Amendment to the filed Definitive Subdivision Plan.
  - g. Drainage calculations certified by the engineer who prepared them.
  - h. Evidence of ownership and traverse notes, language of any easements, covenants or deed restrictions applying or proposed to apply to the area being subdivided, rights and easements obtained for utilities or drainage outside of the subdivision, description of erosion control methods to be employed.

- i. If necessary in order to determine compliance with the requirements or intent of this Regulation as specified in Section 1.3, the Board may require specialized engineering or analysis' to be prepared at the expense of the applicant.
- j. Four copies of the Environmental and Community Impact Analysis, as may be required under Section 6.04
- k. A list of names and mailing addresses for all abutters as they appear on the most recent local tax list, including property owners on the opposite side of any streets abutting the subdivision.
- l. Three copies (blue-line) of the Construction Plan prepared in accordance with Section 6.05.
- m. Three copies (blue-line) of an Erosion and Sediment Control Plan prepared in accordance with Section 6.06.
- n. Three copies of a landscaping plan prepared in accordance with Section 6.07.
- o. The Board may require soil surveys and/or test pits or borings to be prepared at the applicant's expense to determine the suitability of the land for the proposed ways, drainage and utilities.
- p. A description, in a general manner, of the proposed source of domestic drinking water which is to service the subdivision.
- q. Acknowledgement that the following shall apply to the Definitive Plan of Subdivision:
  1. All expenses for engineering and professional planning review; borings and tests; all as deemed necessary by the Planning Board: plans, construction, inspection, recording and filing of documents; and all other expenses in connection with a definitive plan and development of a subdivision shall be borne by the applicant and shall be in addition to the filing fee. The minimum amount of escrow for review purposes shall be one thousand dollars (\$1,000.) for the first sheet and two hundred fifty dollars (\$250.) for every sheet thereafter. That amount shall be paid with the submittal fee and with any new sheets that are submitted. The applicant will receive the balance, plus any interest, of any amount that is not used and shall receive a statement of the hours and costs.
  2. Consultants' qualifications. The minimum qualifications for a consultant shall consist either of an educational degree in or related to the field of issue or three (3) or more years of practice in the field at issue or a related field, as provided by Chapter 593 of the Acts of 1989. The selection made by the Planning Board shall be recorded with the Town Clerk within five (5) business days of the Board's final selection(s).
  3. Administrative appeal.
    - a. An administrative appeal shall be available from the selection of the outside consultant to the Sheffield Board of Selectmen. The grounds for such an appeal shall be limited to claims that the consultant selected has a conflict of interest or does not possess the minimum required qualification. Such an appeal must be entered within seven (7) days after the selection of the consultant has been recorded in the office of the Town Clerk. Any appeal will not be considered valid unless it is formally filed with the Town Clerk, with a copy given to the Board of Selectmen.
    - b. The required time limits for action upon any application by the Planning Board shall be extended by the duration of the administrative appeal, beginning from the date of filing of such appeal.

- c. In the event no decision is made by the Sheffield Board of Selectmen within one (1) month following the filing of the appeal, the selection made by the Sheffield Planning Board shall stand.
      - d. Such an administrative appeal shall not preclude further judicial review, if otherwise permitted by law, on the grounds provided for in the section and outlined in Chapter 593 of the Acts of 1989.
    - r. Acknowledgement that the following procedures govern the escrow account:
      1. Any such account shall be established by the Sheffield Town Treasurer in the municipal treasury and shall be kept separate and apart from other moneys. The escrow account, including accrued interest, if any, shall be expended at the direction of the Sheffield Planning Board without further appropriation; provided, however, that such funds are to be expended by it only in connection with carrying out its responsibilities under the law.
      2. Any excess amount in the account attributable to a specific project, including any accrued interest, at the completion of said project shall be repaid to the applicant or to the applicant's successor in interest and a final report of said account shall be made available to the applicant or to the applicant's successor in interest, as provided for by chapter 593 of the Acts of 1989.
      3. The municipal accountant shall submit annually a report of said escrow account to the Sheffield Board of Selectmen for its review. Said report shall be published in the Sheffield Town Report. The municipal accountant shall submit annually a copy of said report to the director of the bureau of accounts, as outlined in Chapter 593 of the Acts of 1989.
    - s. Acknowledgement that any anticipated amounts, or cost estimates, above the minimum escrow shall be determined by the Planning Board and shall be based on estimates from professionals, such as hydrologist, botanists, traffic engineers and town employees, as well as estimates made by the Board from similar projects.
    - t. Acknowledgement that failure of the applicant to comply with requirements of the fees and costs set forth in 6.01 shall be deemed adequate cause for disapproval of the plan.
  2. Submit to the Town Clerk by delivery or registered or certified mail:
    - a. A notice stating the date of Definitive Plan Submission to the Planning Board; and
    - b. A copy of the completed application Form C.
  3. Submit to the Board of Health:
    - a. Two copies of the Definitive Plan;
    - b. Two copies of the Street Plans and Profiles;
    - c. A copy of the completed application Form C;
    - d. Two copies of the soils test and environmental analysis, if any.
  4. Submit to the Conservation Commission one copy of each of the following:
    - a. Definitive Plan
    - b. Locus Plan
    - c. Street Plans and Profiles
    - d. Street Cross Sections
    - e. Environmental Analysis, if necessary
    - f. Construction Plan
    - g. Erosion and Sediment Control Plan

- h. Landscaping Plan
5. Submit to the Fire Chief one copy of each of the following:
    - a. Definitive Plan
    - b. Locus Plan
    - c. Street Plans and Profiles
    - d. Street Cross Sections
    - e. Environmental Analysis, if necessary
  6. Submit to the Police Chief one copy of each of the following:
    - a. Definitive Plan
    - b. Locus Plan
    - c. Environmental Analysis, if necessary
  7. Submit to the Highway Department one copy of each of the following:
    - a. Definitive Plan
    - b. Locus Plan
    - c. Street Plans and Profiles
    - d. Street Cross Sections
    - e. Environmental Analysis, if necessary
    - f. Construction Plan
    - g. Erosion and Sediment Control Plan
    - h. Landscaping Plan

#### **6.02 DEFINITIVE PLAN CONTENTS**

The Definitive Plan shall be prepared by a Registered Land Surveyor and a Registered Professional Engineer, in a form acceptable to the Southern Berkshire District Registry of Deeds, as outlined in M.G.L. Ch. 36, Section 13A. The definitive plan shall be prepared by an engineer and surveyor and shall be clearly and legibly drawn at a scale of 1" = 40' in black India ink upon sheets of tracing cloth or Mylar, 24" by 36", with minimum 3/4" border except on the left side which shall be a minimum of 1-1/2". If multiple sheets are used, they shall be accompanied by an index sheet showing the entire subdivision. The Definitive Subdivision Plan shall include the following:

1. Title Block, in lower right hand corner, containing the Subdivision name, Names and addresses of present record owner(s) and Applicant, and name(s) of the engineer and surveyor who prepared the plan; certificates and seals of the engineer and surveyor; and a certificate that the classification and precision of all surveying conforms Class A or better of the most recent Land Court Manual of Instructions, Commonwealth of Massachusetts.
2. Boundaries and true and magnetic north point.
3. Names and locations of all abutters as, determined from the most recent tax list, including property owners on the opposite side of any streets abutting the subdivision.
4. Zoning Classification of the land and Zoning district boundaries, including watershed protection, aquifer protection and flood plain districts and any other overlay district boundaries .
5. Designation of the Flood Insurance Rate Zone as designated on the Federal Insurance Rate Maps prepared by the Federal Emergency Management Agency (FEMA) and any boundary lines of such flood zones affecting the locus.
6. Location of Base Flood elevation contour if encountered within 100 feet of subdivision.

7. Existing and proposed lines of streets, rights-of-way, easements, and any public or common areas within the subdivision. (The proposed names of streets will be shown in pencil until approved by the Board).
8. Location, names and present widths of streets bounding, approaching, or within reasonable proximity of the subdivision.
9. Boundary lines, areas in square feet, and dimensions of all proposed lots, with all lots designated numerically and in sequence.
10. Sufficient data to determine the exact location, direction and length of every street line, lot line and boundary line and sufficient survey data referred to existing permanent monuments such that these lines may be readily established on the ground. 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 radii, tangents, and central angles of all curves in lot lines and street lines. All angle points, 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 of adjoining lands of the applicant not included in the subdivision. The engineer or surveyor shall have the mathematical computations available to present to the Board for a matter of record. Traverse computations shall be provided on a separate sheet.
11. One or more corners of the plan, shall, by a system of azimuths or courses and distances, be accurately tied to and coordinated with a monument of some United States or State Agency survey system, such as the U.S. Geodetic Survey (formerly U.S. Coast and Geodetic Survey) system, where such monument is within 2,000 feet of such corner(s).
12. Location of natural waterways and water bodies within and adjacent to the subdivision.
13. Major site features, such as existing waterways, swamps and water bodies, natural drainage courses, stone walls, fences, buildings, rock ridges, rock outcroppings, trees over twelve (12) inches in diameter, and the perimeter of heavily wooded areas. Location and area of all wetlands located in or within 100 feet of the subdivision.
14. Soil types of the locus based on U.S. Soil Conservation Service Soils Mapping of the Town of Sheffield, if available, and results of required soil tests.
15. Monuments at all points of curvature and at changes in directions of street side lines or where designated by the Board.
16. Existing and proposed topography at a two (2) foot contour interval (may be shown on a separate sheet). The proposed topography will be indicated by solid lines with proposed elevations shown enclosed in blocks. The existing topography to be indicated by dashed lines with elevations shown.
17. Size, material, type and location of existing and proposed storm drains, water mains, hydrants, underground utility lines and sewers including all appurtenances, within and adjacent to the subdivision.
18. Existing and proposed drainage including drainage areas inside the subdivision, areas outside the subdivision which drain into it, and the route, for all existing and proposed drainage discharging from the subdivision, to the primary receiving water course or other body of water. Drainage calculations shall be included with the definitive plan submittal. Cross sections of each drainage ditch or pond shall be included.

Size and location of existing and proposed water supply mains and their appurtenances, hydrants, sewer pipes and their appurtenances and/or sewer disposal systems, storm drains and their appurtenances, and easements pertinent thereto, and curbs and curb dimensions, including data on borings and soil test pits, and methods of carrying water to the nearest watercourse or easements for drainage as needed, whether or not within the subdivision.

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

19. Suitable space, on each sheet of the definitive plan for endorsement by the Town Clerk and to record the action by the Planning Board, with spaces for annotating date of approval and the signatures of the members of the Board.

### **6.03 STREET PLANS AND PROFILES**

For each street there shall be a separate plan at 1" = 40', and profile at 1" = 40', horizontal, 1" = 4' vertical, elevations referenced to the USGS datum drawn to the requirements of the recording rules of the Registry of Deeds, showing the following data:

1. Subdivision name, owner's name and address, boundary lines of ways, north point, scale, date, annotation of revision dates and content, as on the Definitive Plan;
2. Name and address of person preparing the plan together with his Massachusetts registration certificate number as land surveyor and/or engineer;
3. The plan shall show bearings and distances, radii and arcs, central angle and tangent distances on all curves with stationing on the center line;
4. The profile shall show the existing ground on the center line in a dashed black line, the existing right side in a short dash line and the existing left side in a long dash line; the proposed centerline grade shall be shown in a heavy black line with the elevation shown at each 50 foot station, with the rate of grade indicated;
5. The grade of all streets intersecting the proposed streets shall be shown for at least 100 feet each side of the intersection of street center line;
6. The proposed drainage, catch basins, manholes, pipes and any other drainage facilities shall be shown on both plan and profile;
7. Existing and proposed sidewalks, bikeways and walkways shall be shown with width and grade elevations;
8. All plans and profiles shall include a notation on each drawing that the same is one of an indicated total number of sheets;
9. Existing and proposed fire protection mechanisms, ie. Fire Holes, Hydrants, etc.
10. Such additional information as the Board may deem necessary.

### **6.04 ENVIRONMENTAL AND COMMUNITY IMPACT ANALYSIS**

1. Any submission of a residential subdivision creating 1,000 feet or more of subdivision street/roadway, and all non-residential subdivisions, shall be accompanied by four (4) copies of an Environmental and Community Impact Analysis. The Environmental and Community Impact Analysis shall clearly and methodically assess the relationship of the proposed development to the natural and man-made environment of Sheffield. This report shall be prepared by an interdisciplinary team of professionals qualified, experienced, and, where applicable, licensed, in their fields. Such team shall typically consist of a Registered Professional Engineers, Traffic engineers, Architects, Landscape Architects, Land-Use Planners, Hydrogeologists, Hydrologists, Biologists and other environmental professionals.
2. It is intended that the report be a guide to the Planning Board in its deliberations and will build into the board's decision-making process an appropriate and careful consideration of the environmental and community impacts of the proposed development.

3. For each of the components of the Environmental and Community Impact Analysis listed under paragraph 4 below, each of the following concerns must be separately addressed:
  - a. The Environmental and Community Impacts of the Proposed Development - All primary and secondary environmental and community impacts, both beneficial and adverse, anticipated as a result of the proposed development. This section shall include all impacts resulting from the construction phase as well as those resulting from the projects completion.
  - b. Adverse Impacts which cannot be avoided should the proposed development be implemented - The report shall describe the kinds and magnitudes of adverse impacts which cannot be reduced in severity or which can be reduced in severity, but not eliminated.
  - c. Alternatives to the proposed development - The report shall develop, describe, and objectively weigh alternatives to the proposed development which are allowed by the Zoning By-law.
  - d. Measures to be used to minimize adverse environmental and community impacts - Corrective and protective measures which will be taken, as part of the project, to minimize adverse impacts shall be described in detail.
4. The Planning Board, as part of a review for a Preliminary Subdivision Plan, submitted in accordance with the requirements of Section 5, shall specify which of the following topics shall be evaluated, and the level of detail required for each topic, in the Environmental and Community Impact Analysis and submitted with the Definitive Plan. If no preliminary subdivision plan is submitted, The Environmental and Community Impact Analysis shall evaluate all of the following topics:

#### A. NATURAL ENVIRONMENT

- i. Air and Noise Pollution - The impact of local air quality and noise from the proposed development (including traffic generated from the development), both during and after construction, shall be evaluated. For larger developments (over 100 dwelling units) the Planning Board may require detailed technical reports of such impacts.
- ii. Water Pollution - The impact of storm water run-off on adjacent and downstream surface water bodies and sub-surface ground water shall be evaluated. Dangers of flooding as a result of increased downstream runoff, especially peak runoff. The impact of the proposed project on water table levels shall also be analyzed.
- iii. Land - Compatibility of the proposed development with existing soils; the impact of any soils or other materials to be removed from the site; and the potential dangers and impacts of erosion and sedimentation caused by the proposed development.
- iv. Plants & Wildlife - The impact that the proposed project may have on wildlife habitat and on any rare or endangered plant or animal species known to exist in the area.
- v. Water Supply - The average and peak daily demand and the impact of such demands on groundwater aquifers.
- vi. Sewage Disposal - The average and peak daily disposal and the impact of such disposal on groundwater aquifers.

#### B. MAN-MADE ENVIRONMENT

- i. 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. If not compatible, reasons therefor shall be detailed. Consultation with the Planning Board is strongly recommended.

- ii. Zoning - Compatibility of proposed development with the purposes of the Zoning By-Law and the Zoning district.
- iii. Architecture - The 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.

#### C. PUBLIC SERVICES

- i. Schools - The expected impact on the school system both elementary and secondary levels, the number of students; projected school bus routing changes and projections of future school building needs resulting from the proposed project.
- ii. Police - The expected impact on police services, time and manpower needed to protect the proposed development and service improvements necessitated by the proposed development.
- 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. Fire department service improvements necessitated as a result of the proposed project shall also be discussed.
- 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.
- v. Solid Waste Disposal - Analysis of the projected volume and type of solid waste to be generated by the proposed development and methods of removal.
- vi. Traffic - The expected impact of traffic generated by the proposed development on area roadways. Discussion shall include existing average and peak traffic volumes and composition, projected average and peak traffic generation and composition, intersection impacts and analysis of area roadway and intersection capacities. Methodologies used to make projection shall be included.
- vii. Highway - Projected need, responsibility and costs to the Town of roadway maintenance shall be analyzed. Impacts of construction equipment on area roadways shall also be discussed.

#### D. AESTHETICS

- i. 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.
- ii. Landscaping - Provisions for landscaping shall be described including type, location and function of all plantings and materials.
- iii. Visual - Attention given to views into the site and from the site shall be described. Included shall be long-distance views as well as views to and from adjacent properties.

#### E. COST/BENEFIT ANALYSIS

This municipal benefit/cost analysis should follow standard and usual procedures for measuring both the benefits to be derived and costs to be incurred by the Town of Sheffield as a result of the proposed development. This element should also estimate net benefits or costs of non-quantifiable environmental impacts.

#### **6.05 CONSTRUCTION PLAN CONTENTS**

The Construction Plan shall be drawn at the same scale as the Definitive Plan. It shall contain the following:

1. Subdivision name, north point, legend, date, annotation of revision dates and contents and scale.
2. At two-foot contour intervals, existing topography and topography resulting from development of streets, drainage, and other required improvements.
3. Location of tree cover and individual trees over 12" diameter at breast height, if within the area of disturbance, existing structures including fences and walls, existing water supplies and on site disposal systems, wetlands, and if encountered, the boundary of the Flood Plain District established by the Federal Emergency Management Agency (FEMA) Flood Boundary and Floodway Map dated September 16, 1981.
4. Existing and proposed streets, ways, and easements;
5. Road centerline stationing, referenced to the Street Plans and Profiles;
6. Drainage system schematic layout, with elevations and sizes for any facilities not shown on the Plans and Profiles of Streets.

#### **6.06 EROSION AND SEDIMENTATION CONTROL PLANS**

A plan for erosion and sedimentation control covering all proposed excavation, filling and grade work for improvements shall be required. Said plan shall be prepared and certified by a Registered Professional Engineer.

Requirements for Erosion Control: Such plans shall show proper measures to control erosion and reduce sedimentation, as set forth in Section 8.08. Such Erosion and Sedimentation Control Plan shall consist of:

1. All Construction Plan Contents plus,
2. Location of areas to be stripped of vegetation and other exposed or unprotected areas.
3. A schedule of operations to include starting and completion dates for major development phases, such as land clearing and grading, street, sidewalk, and storm sewer installation, and sediment control measures.
4. Seeding, sodding, or revegetation plans and specifications for all unprotected or unvegetated areas.
5. Location and design of structural sediment control measures, such as diversions, waterways, grade stabilization structures, debris basins, etc.
6. General information relating to the implementation and maintenance of the sediment control measures.

#### **6.07 LANDSCAPING PLAN**

A plan for landscaping and plantings to be made shall be required. Said plan shall be prepared and certified by a Registered Landscape Architect. Such Landscaping Plan shall consist of:

1. All Erosion and Sedimentation Control Plan contents plus:
2. Locations, type and size of all trees and shrubs to be planted.

3. Methods to be used to plant such trees and shrubs and for supporting such materials.
4. Specifications and composition of grass seed to be used in unpaved right-of-way areas.

## **6.08 OTHER**

### **A. Staking**

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 feet (100') with the center line stations.

### **B. Soil Survey and Percolation Tests**

The Board or its agent may require soil surveys and/or test pits or borings which are to be prepared at the expense of the applicant to establish the suitability of the land for the proposed storm drainage system and proposed street construction.

1. Test pits, borings, soil surveys or soundings shall be taken along the center line of each street shown on the plan at intervals of at least every two hundred feet (200') and at locations such as cut sections and areas of questionable foundation material where the subsurface conditions may be, in the opinion of the Board or its Agent, factors affecting the quality and service life of the street. Test pits shall be made under the supervision of an Agent of the Planning Board, and shall not be backfilled until the applicant has been notified by the Board or its Agent that all necessary inspection and sampling has been completed. Where borings are used, samples shall be taken at five foot (5') intervals and at each change in strata. Test pits and boring, where required, shall extend to a minimum depth of five feet (5') 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.
2. All information concerning the test pits, borings, or soundings (location, depth, soil stratas, depth of water table) shall be submitted to the Board in a written report to be made, evaluated and stamped by a Registered Professional Engineer.

## **6.09 REVIEW PROCEDURES**

### **A. Board of Health**

The Board of Health shall, within 45 days after the plan is 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 adjustments thereof. Failure of Board of Health to report shall be deemed approval by such board. When the Definitive Plan shows that no town sewer system is to service the proposed lots, approval by the Board of Health shall not be treated as, nor deemed to be approval of a permit for the construction and use of any lot of an individual sewage system; and approval of a Definitive Plan for a subdivision by a Board of Health shall not be treated as, nor deemed to be, an application for a permit to construct or use an individual sewage system on any lot contained therein. If the report of the Board of Health shall so require, the approval by the Planning Board shall be on condition that no building or structure shall be built or placed upon the areas designated, without consent by said Board of Health. In the event approval by the Board of Health is by failure to make a report, the Planning Board shall note on the plan that approval by the Board of Health is by failure to report.

### **B. Conservation Commission Review**

The developer shall document prior to Planning Board approval of the Definitive Plan either that the Conservation Commission has determined that the Wetlands Protection Act, and/or the Sheffield General Wetland By-Law, is not applicable to the proposed development or that he has filed a Notice of Intent with the Commission.

#### **C. Review by Other Town Officials**

Prior to approval of any Definitive Plan and Profile, the Planning Board will require a letter of review from the Highway Superintendent, the Chief of the Fire Department, and the Chief of Police. If any of the above officials fail to report, such failure shall be noted in the minutes of the Public Hearing.

#### **D. Public Hearing**

The Board will not approve a Definitive Subdivision Plan submitted to it until it shall have held a Public Hearing with respect to such plan. Notice of each such public hearing shall be given by the Board in accordance with M.G.L. Ch. 41, Section 81-T.

### **6.10 ACTION BY THE PLANNING BOARD AND PERFORMANCE GUARANTEES**

#### **A. Decision**

After the Public Hearing, the Board shall within 135 days (90 days in the case of non-residential subdivisions and subdivisions for which a preliminary plan has been submitted), unless otherwise agreed upon by the applicant and the Board, approve, approve with modifications, or disapprove the Definitive Subdivision Plan submitted. Criteria for action by the Board shall be the following:

1. Completeness and technical adequacy of all submissions;
2. Determination that development at this location does not entail unwarranted hazard to safety, health and convenience of future residents of the development or of others because of possible natural disasters, traffic hazard, or other environmental degradation which will result in an increased threat to public health and safety.
3. Conformity with the requirements of these Rules and Regulations;
4. Determination, based upon the Environmental Analysis, where submitted, that the subdivision as designed will not cause substantial damage to the environment, which damage could be avoided or ameliorated through an alternative development plan;
5. Conformity with all applicable zoning requirements;
6. Consistency with the purposes of the Subdivision Control Law.

Following such action, the Board will file a certificate of its action with the Town Clerk and will send notice of its action by registered or certified mail to the applicant at his address stated in the application. Such summary will be available to any person upon request. A copy of the certificate shall be transmitted by the Board to the Inspector of Buildings.

#### **B. Performance Guarantee**

The Board's approval of a subdivision plan, if granted, shall be endorsed on the Definitive Plan only after the expiration of any applicable statutory appeal period. Before the Board endorses its approval on the plan, the applicant shall provide assurances as set out below.

The applicant shall file security in an amount determined by the Board to be sufficient to cover the cost of all or any part of the improvements as shown on the Definitive Plan and as specified in the design and construction standards not covered by a covenant below. The form of the security shall be as required by the Board. Such security, shall be approved as to form and manner of execution by the Town Counsel and as to sureties by the Town Treasurer and shall be contingent on the completion of such improvements within three years of the date of the security. At the discretion of the Board a time extension may be granted for a period not to exceed one

(1) year; provided that such an extension may be conditioned upon an increase in the amount of such security as determined by the Board.

Alternatively, the owner, may execute an appropriate covenant which shall be recorded with the subdivision plan, stipulating that no lot of the land shown on the plan shall be sold, or buildings or other structures erected or placed on, or application for a building permit made with respect to, any such lot until:

1. All required improvements required by the Board shown on the plans and profiles have been constructed throughout in accordance with the requirements of these Rules and Regulations.
2. The subdivision plan, bearing the Board's signed endorsement thereon, and a signed copy of such agreement have been recorded in the Registry of Deeds or with the Recorder of the Land Court;
3. The owner has executed a contract with the Board on behalf of the Town, accompanied by appropriate security to secure performance of the terms and conditions thereof, to complete construction of all required improvements not later than a specified date;
4. The owner has recorded in the Registry of Deeds or with the Recorder of the Land Court a certificate of release from the Board indicating that the conditions set forth in this section have been met. In addition, the owner shall covenant that no Building Certificates of Use and Occupancy shall be applied for until streets serving such building have been surfaced with at least at the required base course of bituminous concrete.

However, nothing in this section shall be construed as a limitation on the authority of the Board to condition its approval of any plan upon the satisfaction of additional conditions.

#### **C. Copies of Documents**

At the time of plan approval, the applicant shall provide the Board with the original mylar of plans to be signed for recording purposes, one reproducible mylar copy of every plan submitted to the Board under Section 6.01. Following plan endorsement and recording the applicant shall provide the Board with five copies of the Definitive Plan and two copies of final covenants and restrictions, noting book and page number, and date of recording for each; and two copies of the Plan and a copy of the covenant shall be transmitted to the Inspector of Buildings by the Planning Board.

#### **D. Evidence of Satisfactory Performance**

Before the Board will release the interest of the Town in a performance bond or deposit, or issue a release of covenant, the applicant shall file with the Planning Board a certified copy of the layout plan of each street in the subdivision (with accompanying cross-sections and profile). Certification shall be by a Registered Civil Engineer and Registered Land Surveyor, and shall indicate that streets, storm drains, utilities, and their appurtenances have been constructed, and monuments have been installed, in accordance with these rules and regulations and with said plan and are accurately located, as shown thereon.

#### **E. Release of Performance Guarantee**

1. Upon completion of improvements required by this regulation, the subdivider may request either partial or full release of his bond, deposit or covenant by sending a statement of completion and request for release by registered mail to the Planning Board and to the Town Clerk. Copies of release from covenants or agreements regarding building or use and occupancy permits shall be sent by the Planning Board to the Inspector of Buildings.

2. Partial Release. The Board may grant partial release from such security for partial completion of improvements, provided that the completed portion provides a reasonable system for circulation and utilities pending completion of the rest, and provided that appropriate arrangements have been made for later disposition of interim facilities.

3. Security. The Board may release the applicant from the covenant upon receipt of an agreement executed by the applicant and by the holder of a first mortgage on the premises providing for retention of funds and their availability to the Town upon default (see Ch. 41, G.L., Sec. 81-U, 11th paragraph).

4. Retainment of Security after Completion. The developer shall remain liable for landscaping and trees planted within the street right-of-way for a period of three years after planting. The Board shall retain security sufficient to cover the cost of such landscaping to ensure survival. Such security shall be retained for a period of three years from the date of landscaping or tree planting or until the road is accepted as a Public Way, whichever is sooner.

5. Refusal of Release. If the Planning Board determines that said construction or installation has not been completed, it shall specify in a notice sent by registered mail to the applicant and to the Town Clerk the details wherein said construction and installation fails to comply with the requirements of these Subdivision Rules and Regulations.

#### **F. Rescission**

Failure of the developer to record the Definitive Plan within six months of its endorsement, or to comply with the construction schedule, if any, incorporated into the performance agreement or to either initiate construction of improvements or sell lots in a subdivision or portion thereof within eight years of the approval of the Definitive Plan, or to comply with all applicable Zoning Bylaws and requirements of the Conservation Commission under the Wetlands Protection Act, or unauthorized departure from any agreements made from these regulations or plans submitted, whether or not at the direction of other public agencies or officials, shall constitute sufficient reason for the planning board to consider rescission of such approval, in accordance with the requirements and procedures of M.G.L. c. 41 s. 81-W.

#### **6.11 WAYS AND EASEMENTS**

- A. Approval by the Planning Board of a definitive subdivision plan shall not constitute the laying out or acceptance by the Town of any streets, sidewalks, jogging path or bicycle path within a subdivision.
- B. The subdivider shall retain title to the fee of each street, path or easement in or appurtenant to the subdivision until conveyed to the Town of Sheffield. Notation that this is to be done shall be placed on the Definitive Plan and a notation stating "the grantor hereby retains all title in the streets, path and easements referenced to in the description" or words of similar import and meaning, shall be placed on all deeds transferring lots within the subdivision.

#### **6.12 INSPECTIONS**

- A. Purpose. Inspections of the quality of materials used and methods of installation of the improvements within a subdivision by the Board are required to protect the health and welfare of the future subdivision residents, and of the Town.
- B. Access. The applicant will provide safe and convenient access to all parts of the subdivision, for the purposes of inspection, to representatives of the Board or other Town agencies and Boards.
- C. Responsibility. The applicant is responsible for requesting inspections at the proper stage in the process of installation of improvements (see Section 8.02). Should an inspection not be performed due to the failure of the applicant to notify the Planning Board, the applicant will be required to uncover the improvements. No work will be accepted that has been covered before inspection.
- D. Inspection Fee. Upon approval of the definitive plan, an inspection fee of two dollars (\$2.00) per linear foot of roadway shall be charged to cover the cost of inspections.
- E. Inspection Process. The applicant shall request each inspection in writing at a properly posted Planning Board meeting at least ten (10) days before the preferred date for such inspection. Inspections shall be made at the proper time in the construction schedule.

#### **6.13 AS BUILT PLANS**

Upon completion of construction, and before release of the performance guarantee, the subdivider shall have prepared and submitted As-Built Plans at the same scale as the street plans, which shall indicate the actual locations of street line; traveled way edges; path locations; permanent monuments; inverts and location of required utilities and drainage; locations of all underground utilities. The accuracy of such As-Built Plans shall be certified by a Registered Land Surveyor and Registered Professional Engineer retained by the subdivider. The Planning Board shall be provided with one mylar copy of said As-Built Plan.

## **SECTION 7: DESIGN STANDARDS**

### **7.01 GENERAL**

A. All standards in this regulation shall be considered minimum standards and may be varied from or waived where the board considers that alternative conditions will serve substantially the same objective. All waivers must be made in writing from the Planning Board with an explanation for the reasons therefor. A copy of any written waiver shall be filed with the Town Clerk.

### **7.02 DESIGN OBJECTIVES**

Design and construction shall reduce, to a maximum extent possible, the following features:

1. Volume of cut and fill;
2. Area over which existing vegetation will be disturbed, especially if within 200 feet of a river, wetland or waterbody or in areas having a slope of more than 15%;
3. Number of trees removed having a diameter over 12" diameter at breast height (DBH);
4. Extent of waterways altered or relocated;
5. Dimensions of paved areas (including streets) except as necessary for safety and convenience, especially in aquifer recharge areas;
6. Buildings located within 500 feet of existing Town Roads.

Design shall emphasize, to the extent possible, visual prominence of natural features of the landscape, and the maintenance within the subdivision of runoff and vegetative cover equivalent to the conditions that existed before development. Street grades shall follow the natural contour of the land as nearly as is possible so as to minimize excessive cuts and fills.

### **7.03 EASEMENTS**

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

Where a subdivision is traversed by a water course, drainage way, channel or stream, the Board shall require an easement(s) of adequate width and proper side slopes 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 of said easement be less than twenty feet (20') or the side slope be steeper than two (2) horizontal to one (1) vertical.

Access easements or parcels to adjacent property shall be provided, if required by the Board, for use by emergency vehicles and for the benefit of the Town. They shall be a minimum width of twenty feet (20'). Bikeways or walkways may satisfy this requirement.

### **7.04 PROTECTION OF NATURAL FEATURES**

All natural features, including, but not limited to, stone walls, trees, wooded areas, water courses, wetlands, scenic points, historic spots, shall be preserved to the maximum extent possible. Any clearance, backfilling,

cutting, thinning or other disturbance to trees twelve inches (12") or over in diameter measured four feet (4') above finished ground level (dbh), located within the minimum front setback distance shall be prohibited unless specifically approved by the Board. Any such proposed clearance shall be shown on the plan and written reasons therefor may be requested by the Board. Tree wells or retaining walls should be installed whenever necessary for suitable grading around trees and where necessary to protect trees during the construction process. Tree wells or retaining walls shall be of such design to meet the standards as set forth in the Tree Experts Manual or similar publication.

#### **7.05 LOT DRAINAGE**

Lots shall be prepared and graded consistent with drainage into the subdivision and in such a manner that development of one shall not cause detrimental drainage onto another or on areas outside the subdivision, to the extent permitted by law. If provision is necessary to carry drainage to or across a lot, a utility easement of a minimum width of twenty feet (20') and proper side slope shall be provided. To the maximum extent possible runoff exiting the overall subdivision area shall not be of greater volume after the completion of all improvements than existed prior to such improvements.

#### **7.06 UTILITIES**

All required utilities exclusive of transformers shall be placed underground at the time of initial construction. 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 utility lines/mains the full length of streets and to the exterior limits of the subdivision at such grade and size which will, in the opinion of the Board, permit their proper extension, at a later date. The applicant shall not deny others connection to the utilities provided they pay all cost of such connection.

Connections for utilities located in the way shall be constructed for each lot whether or not there is a building thereon, except that the Board may waive such requirement, in whole or in part, in the case of a lot to be used for a park, playground or for any other purpose for which, in the opinion of the Board, such connections shall not be required.

#### **7.07 MISCELLANEOUS**

- A. All streets, sidewalks, bikeways, walkways, water mains, pipes, hydrants, utilities, drains, basins, culverts, and other related facilities and services shall be installed and completed without expense to the town in accordance with these regulations and the specifications of the appropriate boards.
- B. Reserve strips prohibiting access to streets or adjoining property shall not be permitted except where, in the opinion of the Planning Board, such strips are in the public interest.
- C. Access through another municipality: In case access to a subdivision crosses land in another municipality, the Board may require certification by the appropriate officials that such access is in accordance with the zoning and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted and that such access is adequately improved to handle prospective traffic.
- D. Resubdivision: Resubdivision of all or part of land covered by an existing plan shall be governed by regulations then in force. Such resubdivision shall show clearly the areas being resubdivided and the file number of all previous plans of the same area, together with filing dates.
- E. All street and pedestrian path designs shall be consistent with the Sheffield Growth Management Master Plan, as may be adopted, in whole or in part, at the time of submission.

#### **7.08 STREETS AND WAYS**

##### **A. General.**

Residential street systems shall be designed to be compatible with existing streets, and to rationalize traffic patterns within new subdivisions. The street plan shall accommodate existing street alignments which enter or border the tract.

**B. Residential Street Classification.**

The following classification of residential streets is intended to assist in the evaluation of the design of each street in a subdivision's system, and not intended to be used to set arbitrary standards without assessing the complete plan for a subdivision and the intended use of each street.

Residential streets shall be classified, according to their design, use (actual or intended), their relationship to other streets in the hierarchy and their residential character, in the following categories, defined in Section 2: lane, minor street, collector, arterial.

Residential streets in each category shall meet construction specifications as required in this regulation after inspection and analysis of the soil types, site contours and site considerations deemed necessary by the Planning Board to obtain the objectives of these regulations.

**C. Dwelling Unit Access.**

Dwelling units shall not be given direct driveway access to arterial streets, except:

1. Where existing lots of record abut on arterial streets;
2. In subdivisions which front on an existing arterial street or;
3. In special instances where the configuration of the tract prevents the construction of an access road or an interior roadway, after review and approval by the Planning Board and Highway Department.

Where practical and compatible with the zoning and internal layout of the subdivision, dwelling unit driveway access to collector streets shall be avoided. Lanes and Minor Streets shall not connect two or more streets of higher classification. (Residential streets which connect higher order streets often become shortcuts, thereby increasing the traffic load on purely residential streets and defeating the purpose of the design). Subdivisions over 25 lots shall require two means of access.

The Board may disapprove a plan where it determines that dangerous traffic conditions may result from inadequacy of the proposed access or of the proposed ways within the subdivision or of any of the ways adjacent to or providing access to the subdivision.

**D. Street Location and Alignment**

1. All streets shall be designed so that in the opinion of the Planning Board, they will provide safe vehicular travel. Provision shall be required for access to adjoining land, not yet subdivided.
2. Visibility from centerline of a street shall never be less than 50 feet for lanes 75 feet for minor streets and collector streets and 100 feet for Arterial Streets. Sight distance at street intersection shall not be less than 300 feet in each direction and the Board may require greater sight distances for intersection with heavily travelled, main roads.
3. The length of a dead-end street or cul-de-sac shall not exceed 500 feet, as measured to the back of the cul-de-sac loop, unless a greater length is deemed desirable by the Planning Board, because of topography or other local conditions. 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. A loop road (a road which loops back onto itself) shall, for the purposes of these regulations be deemed to be a cul-de-sac unless such road conforms to the provisions of paragraph #5 below.
4. Dead-end streets shall be provided at the closed end with a turn-around having an outside roadway diameter of at least one hundred feet (100'), and a property line diameter of at least one hundred and twenty feet (120') unless otherwise specified by the Planning Board. The Planning Board may, at its option allow an outside roadway diameter of up to two hundred (200') with the placement of a circular landscaped island with minimum radius of twenty feet (20') at the center of the turn-around, if the dead-end street is not intended to connect with another street at some future point in time. The

unpaved area of all cul-de-sac turnarounds must be landscaped with low maintenance trees and shrubbery.

5. Loop roads may be longer than 500 feet in length provided the following are met:
  - a. The non-loop portion of the loop road is constructed as a two-lane divided arterial street. Each lane shall have a paved width of not less than 17 feet and have one way traffic. The median strip shall be not less than 10 feet in width and shall be landscaped with low maintenance street trees, shrubbery and grass.
  - b. The non-loop portion of the loop road shall be not less than 200 nor more than 500 feet in length.
  - c. No street shall intersect the loop road.
6. Street jogs with centerline offsets of less than 125' should be avoided.
7. Property lines at street intersections shall be rounded or cut back to provide for a radius of not less than thirty (30) feet.
8. The minimum centerline radii of curved streets shall be 100 feet for a lane, 150 feet for a minor street or collector Street and 300 feet for an Arterial street.
9. No streets shall intersect at less than 60° angle.
10. Except where no other alternative is practicable, no two streets may intersect with any other street on the same side at a distance of less than 400 feet measured from centerline to centerline of the intersecting street. When the intersected street is an arterial street, the distance between intersecting streets shall be at least 1,000 feet.
11. Streets shall be related appropriately to the topography. In particular, streets shall be designed to facilitate the drainage objectives set forth in Section 7.10. Street grades shall conform as closely as practicable to the original topography and must be within the parameters listed below. Under no circumstances shall any street have a grade of more than 4% within 50 feet of an intersection.

	<u>Maximum</u>	<u>Minimum</u>
Lane	9%	0.5%
Minor Street	7%	0.5%
Collector	6%	0.5%
Arterial	5%	0.5%

**E. Street Width**

The required width for two-way, paved residential streets shall be as follows:

Lane	18 feet
Minor Street	22 feet
Collector	30 feet
Arterial	34 feet

Reductions of width which are a part of an overall drainage plan to reduce the impervious surface in the subdivision and reduce runoff from the parcel shall be permitted if plans for safety, parking, pedestrian

circulation and other factors are deemed superior by the Planning Board to accommodate the requested reductions.

#### **F. Rights-of-way**

The minimum width of street rights of way shall not be less than the following:

Lane	40 feet
Minor Street	50 feet
Collector	60 feet
Arterial	75 feet

Rights of Way for pedestrian access adjacent to paved streets shall be obtained where sidewalks, bikeways, or other structures are necessary.

Slopes adjacent to roadways, natural or man-made, may be placed within easements on individuals properties rather than acquired as rights-of-way.

#### **G. Curbing**

Curbing, where required by the Planning Board, shall be installed on all arterial streets and collector streets. In addition, curbing may be required in the following locations:

1. Along the entire perimeter of all cul-de-sacs turnarounds.
2. Along all curves of street intersections.
3. All curves having a radius of sixty (60) feet or less at the street line or a central angle of thirty (30) degrees or more shall have the gutter line curbed with curbing both circular and straight to fit the curve, and the ends of the curve shall be extended by a straight section of curbing not less than five (5) feet long.
4. All sections of a street having a grade of five (5) percent or more shall have curbing. This curbing shall be continued from the ending of the five (5) percent grade to the location of the next set of catch basins on the downhill side of such grade.
5. Along any other street where, in the opinion of the Planning Board, curbs are necessary to handle run-off for that section of roadway or curbs are necessary for the maintenance of the pavement and the prevention of pavement edge raveling.

Curbing shall be constructed of granite, sloped or block, unless, in the opinion of the Planning Board, other material will be satisfactory. Slanted curbing shall be provided on sidewalks at pedestrian crosswalks. Curbing shall be sealed to the road pavement.

The need for curbing may be eliminated along certain roadways, when drainage is provided in swales, which are designed to reduce the rate of runoff, and restore or supply needed water to vegetation in the street right of way.

#### **H. Common Driveways**

Common Driveways will be allowed if it is determined by the Planning Board that the lot or lots to be served have the requisite frontage on an approved way, and therefore are not being used to satisfy zoning frontage requirements. Common Driveways shall be limited to serving no more than six lots and shall be built to the standards of a Lane, unless conditions are amended by said Board.

#### **I. Pedestrian and Bicycle Paths**

Sidewalks, where required by the Planning Board, shall be placed parallel to roadways as follows:

1. On both sides of all streets within one-half (1/2) mile of any public school.

2. On both sides of arterial or collector streets.
3. On one side of a minor street.

Where sidewalks are required on both sides of a street, one of the sidewalks may be eliminated where, in the opinion of the Planning Board, one sidewalk will provide adequate pedestrian circulation.

Sidewalk design shall be varied in horizontal layout and location to enhance aesthetic value. When located within the street right of way, sidewalks shall be located at or near the outside of the layout, when possible, with a maximum of Pedestrian-Vehicular separation. This separation may be achieved by either distance or plantings. Where sidewalks are located outside of the right of way, the developer shall reserve suitable easement therefor.

Public bicycle paths may be required by the Board to provide circulation or access to schools, recreational areas, retail facilities, transportation and community facilities, or where in the opinion of the Planning Board, bicycle travel in the streets would be dangerous. These paths may, or may not, be part of the normal sidewalk provisions.

Bicycle paths shall be designed with a minimum ten foot right of way, 4-6 feet paved width and a maximum gradient of 5% except for segments of less than 200 feet, where a maximum gradient of 10% will be allowed, and a minimum centerline radius of 25 feet.

#### **J. Trees and Shrubs**

Street trees of nursery stock conforming to the Standards of the American Association of Nurserymen, of a species approved by the Planning Board, after consultation with the Tree Warden, shall be planted on each side of each street in a subdivision, except where the Definitive Plan shows trees along the ways which are healthy and adequate, shall be retained. Street trees shall be located outside of the right-of-way or at the discretion of the Board within the unpaved portion of the right-of-way at approximately forty foot (40') intervals; two inches (2") in caliper measured four feet (4') above the approved grade (dbh); shall be planted each in at least one-half (1/2) cubic yard of topsoil, and be not closer than five feet (5') nor more than twenty feet (20') from said right-of-way line unless otherwise approved by the Board. Trees shall be properly planted, wrapped, and guyed to insure their survival.

The developer will be responsible for all trees so planted as to their erectness and good health after planting and until the release of all guarantees.

Except as otherwise provided, all cut bankings shall be planted with a low growing shrub or vine and wood chips or bark mulch to a minimum depth of six inches (6") or seeded with a deep-rooted perennial grass to prevent erosion, or other accepted low-maintenance slope stabilization methods.

Other landscaping along ways may be required by the Board.

### **7.09 DRAINAGE**

#### **A. General Approach**

Storm drains, culverts, and related facilities shall be designed to permit the unimpeded flow of all natural water courses, to ensure adequate drainage at all low points along streets, to control erosion, and to intercept storm water run-off along streets at intervals reasonably related to the extent and grade of the area being drained. To the maximum extent feasible, storm water must be recharged utilizing structures designed to prevent water quality degradation, rather than piped to surface water. In areas identified as high yielding, aquifer and aquifer recharge areas, recharge is especially critical. Peak stream and channel flows and overland runoff at the boundaries of the development in the ten (10) and one hundred (100) year frequency storm shall be no higher following development than prior to development.

Where the water table is not too high and where the soil is reasonably permeable to adequate depths, drainage shall feature swales, detention/retention ponds and multi-use areas. Open drainage systems may be required for recharge of aquifers and recharge areas provided that runoff is not seriously polluted. Open drainage featuring grassed areas will be preferred as providing better filtration than pits and shafts.

#### **B. Design Basis**

Storm sewers shall be designed to convey peak discharge of the 10 year frequency storm, and culverts shall be designed to convey the peak discharge of the 100 year frequency storm. Detention ponds, when utilized, shall be designed to provide no increase in peak discharge to any off-site area in both the 10 year and 100 year storms. Retention ponds, when utilized, shall be designed such that the combined storage and 24-hour recharge volumes are greater than the inflowing runoff volume.

#### **C. Design Method**

Storm Drainage calculations shall be based upon the modified soil cover complex method with Storm Drainage design based upon the objectives, principles and design considerations set forth in Urban Hydrology for Small Watersheds, published by the USDA, Soil Conservation Service, Technical Release 55, 2nd Edition, June, 1986. This publication is hereby incorporated as a part of these regulations.

Water velocities in pipes and gutters shall be between two (2) and ten (10) feet per second, and not more than five (5) feet per second without scour protection.

For determination of the extent of development, all undeveloped off-site tributary areas shall be assumed to be fully developed in accordance with the Sheffield Zoning Bylaw.

#### **D. Connections**

Proper connections shall be made with any existing drains in adjacent streets or easements which must be proven, by the developer, to be adequate to accommodate the drainage flow from the subdivision. In the absence of such facilities, or inadequacy of the same, it shall be the responsibility of the developer to extend drains from the subdivision as required to properly dispose of all drainage from said subdivision in a manner determined to be proper by the Board. Should any such outlet extend onto adjoining privately owned property, the developer should obtain all necessary easements running to the Town of Sheffield in a manner approved by the Board. Any connection to existing facilities shall also meet the requirements of the Highway Superintendent.

#### **E. Flood Hazard Avoidance**

Any subdivision located partially or wholly within the Zone A of the Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (FEMA) shall comply with the following:

1. Subdivision design shall be consistent with the need to minimize flood damage within the flood-prone area, through use of clustering, open space reservation, street profile design, and drainage.
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.
3. Drainage systems shall be designed in consideration of possible flooding to the Base Flood Elevation.

#### **7.10 STONE MONUMENTS**

Granite monuments 6" x 6" x 4' with a 3/8 inch drill hole in the center are to be furnished and set on both sidelines of all points of change of direction or curvature of streets, and points of tangency. They shall also be set at the intersections of lot lines and street rights of way, and in no case shall be spaced any more than 1000 feet apart.

Monuments shall not be set until all street and utility construction which might destroy or disturb their location has been completed. Monuments shall be accurately set in the ground with the top flush with the finish grade of the surface of the ground adjacent to the location in which they are to be placed, unless otherwise specified by the Board. The developer shall excavate a hole sufficiently large to properly place these stones and thoroughly

tamp around them sufficient material to hold them securely in position. If the material is not satisfactory for backfill, in the opinion of the Planning Board, then said holes shall be filled with gravel.

#### **7.11 ROAD NAMES AND STREET SIGNS**

Road names shall be determined by the Board of Selectmen at the time of approval of the Definitive Plan. Street name signs shall be furnished and erected, conforming with street signs used by the Town at all street intersections. Other road signs, i.e. "private street", shall be furnished and erected, as the Board determines is necessary.

#### **7.12 STREET LIGHTING**

Street and pedestrian/bicycle path lighting shall be installed by the developer, except on lanes and cul-de-sacs along all roadways where sidewalks are required. Lighting shall be cast downward to prevent light from shining into residences or the eyes of pedestrians or drivers. Lighting fixtures shall be placed a maximum of 300 feet apart, except on curves or other hazardous locations, as determined by the Planning Board, where less separation will be required. Lighting fixtures shall have a maximum height of twenty (20) feet. All lighting fixtures must be compatible with Massachusetts Electric Co. owned equipment and be in accordance with Massachusetts Electric Co. specifications, so as to assure equipment eligibility for Massachusetts Electric Co. service under Street Lighting Rate S-23, Option B (M.D.P.U. No. 423, Effective June 8, 1978) or the most recently effective equivalent rate. Other types of luminaires and/or poles desired by the developer may be used if approved by the Planning Board.

#### **7.13 FIRE PROTECTION**

Where a public water supply will be installed within the subdivision, hydrants shall be placed at intervals not exceeding five hundred feet (500'). There shall be gates at leads to hydrants. All gates, valves and hydrants shall be as specified and approved by the Fire Chief.

Where no public water supply is to be installed, fire holes and "dry hydrants" shall be installed as specified and approved by the Fire Chief as to number, water volume and design.

#### **7.14 EARTH REMOVAL**

- A. The tentative or final approval of a subdivision plan by the Planning Board shall not be construed as authorizing the removal of material from the premises, except in connection with the construction of streets shown on the plan.
- B. All other earth removal within subdivisions shall be in accordance with the Rules and Regulations Governing Earth Removal for the Town of Sheffield, Massachusetts.

#### **7.15 TOWN ACCEPTANCE**

Completed utilities and roads are required to satisfactorily pass one complete winter prior to presentation to the Town for acceptance.

### **SECTION 8 CONSTRUCTION STANDARDS**

#### **8.01 GENERAL**

All streets within a subdivision shall be constructed in conformity with the current edition of the Massachusetts Department of Public Works, "Standard Specifications for Highways, Bridges and Waterways", as most recently amended.

Each street or portion thereof necessary to serve each lot in a subdivision shall be constructed and brought to finish grade as indicated on the approved Definitive Plan and in accordance with these regulations.

The subdivider or his contractor shall furnish and maintain all stakes and such temporary structures as may be necessary or required by the Planning Board, or its agent, for marking and maintaining points and lines for the installation of the roadway and related utilities throughout the period of construction of the subdivision.

## 8.02 PROCEDURE

It is assumed that under normal conditions work will proceed in accordance with the following construction schedule and site inspections will occur as indicated. Major shifts in the schedule must be approved by the Planning Board.

1. Establish Construction Control
2. Clearing and grubbing; including excavating or stripping poor material.
4. Preparation of sub-base; including necessary cuts and fills.
- SITE INSPECTION
4. Installation of drainage pipes.
5. Installation of other underground utilities.
- SITE INSPECTION
6. Application of material for sub-base.
7. Application of gravel in or above sub-base.
8. Application of gravel in sidewalks.
- SITE INSPECTION
9. Installation of granite curbing.
10. Application of oil or other binding material where needed as determined by the Planning Board.
11. Application of bituminous concrete base course.
- SITE INSPECTION
12. Application of and installation of concrete sidewalks.
13. Removal or application of material for slopes.
14. Application of bituminous concrete base course.
15. Application of loam for lawns and slopes.
16. Installation of bounds.
17. Clean up.
- SITE INSPECTION

## 8.03 PREPARATION AND SURFACING OF ROADWAY

- A. The right of way shall be cleared of all stumps, brush, roots, boulders, like material and trees, prior to any other work except that trees of aesthetic value and over four (4) inch caliper may be allowed to remain provided they are located at least four (4) feet from the proposed side line of the finished roadway for Arterial, Collector, and Minor Street and at least two (2) feet from the proposed side line of the finished roadway for a Lane and such trees are approved by the Tree Warden and the Planning Board. If fill is to be placed around trees, a tree well shall be constructed prior to placement of the fill.
- B. Grade stakes shall be set and maintained at 50 foot intervals on each side of the right of way.
- C. All loam and other yielding material not suitable for foundation material shall be stripped from the roadway area of each street or way to a depth of at least 15 inches below the finished surface as shown on the profile, where paving is to be applied; or to a depth of at least 12 inches below the finished surface as shown in the profile where the surface will be gravel. No loam, peat, silt, organic matter, or other soft material shall be used below sub-grade and the sub-grade shall be thoroughly compacted before applying the gravel surface. Ledge and large boulders occurring anywhere in the full cross-section of the roadway

must be cleared to a minimum depth of eighteen inches (18) below the finish surface. No loam or gravel shall be removed from the area shown on the definitive plan except in accordance with the approved plan.

- D. The roadway shall be provided with a gravel base which shall consist of two layers. The first layer shall be eight inches thick, after compaction, and shall contain no stones larger than four inches in dimension, and shall meet the gradations of subsection M 1.03.0 in the Massachusetts Department of Public Works "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES," 1973 Edition. the top layer shall be four inches thick, after compaction, and shall be processed gravel meeting the specifications of Subsection M 1.03.1 of the DPW's "STANDARD SPECIFICATIONS" aforementioned.

Before the gravel is spread, the roadbed shall be shaped to a true surface conforming to the proposed cross-section of the road. Rolling shall be with an approved three wheel roller or equivalent, weighing not less than ten (10) tons. All layers shall be compacted to not less than ninety-five (95) percent of the maximum dry density of the material as determined by the Standard A.A.S.H.O. Test Designation T99 compaction test Method C. at optimum moisture content. Any depressions that occur, either during or after rolling, must be filled with additional gravel and re-rolled until the surface is true and even. When required by the Planing Board or the Highway Superintendent, samples of the gravel to be used shall be tested for gradation by a sieve analysis and the compacted gravel shall be tested for compaction. All tests are at the expense of the developer. The Planning Board may require streets to be re-excavated if the gravel base is placed prior to plan approval or prior to an inspection and approval of the base.

The grading shall conform to the following requirements:

<u>SIEVE</u>	<u>PERCENT PASSING</u>
1/2 inch	50% - 85%
3/8 inch	45% - 80%
No. 4	40% - 75%
No. 10	30% - 60%
No. 40	10% - 35%
No. 200	0% - 10%

- E. The completed gravel base shall be treated the full pavement width as specified by the Highway Superintendent.
- F. The wearing surface of roadways and driveways within the right of way shall be a two course "Type-I" Bituminous concrete pavement, applied with a base course as per the below table, after compaction, and a 1 1/2 inch finish course, after compaction, in accordance with the Massachusetts Department of Public Works (DPW) Standard Specifications for Highways and Bridges Section 460. A two percent (2%) cross-slope shall be maintained for drainage.

<u>Pavement Base Course Thickness</u>	
Lane	1 1/2"
Minor Street	2"
Collector Street	2"
Arterial Street	2 1/2"
Industrial-Commercial Street	3"

The base course shall be applied after the treated roadway has been sufficiently compacted, as approved by the Highway Superintendent. No pavement shall be laid if frost is present in the ground. The finish course shall be applied only after the base course has weathered through at least one winter.

**8.04 DRAINAGE**

**A. Storm Drainage Structures****1. Catch basin, Manholes and Piping**

A catch basin to manhole drain configuration shall be used. All drain pipes shall be at least twelve (12) inches inside diameter, made of reinforced concrete conforming to Massachusetts DPW specifications for Class III pipe, or such higher class as may be required by depth of cover, which shall be not less than thirty-six (36) inches. Generally, catch basins will be required on both sides of the roadway at every low point of the roadway and on continuous grades at intervals of not more than 400 feet. Any catch basins and manholes used shall be at least six (6) feet deep and four (4) feet diameter (inside measurements), with a thirty (30) inch or greater sump below pipe invert and shall be constructed of concrete blocks or precast concrete units. Manhole covers and grates shall be in conformance with Massachusetts DPW specifications, designed and placed so as to cause no hazard to bicycles.

**2. Security Bar**

Security bars shall be provided at the entrance to all culverts or open pipe drains over 18 inches in diameter. The grate shall be constructed of steel bars not less than 1/2 inch diameter welded together to provide a grate not smaller than the pipe opening. The vertical bars shall be placed with 2 inch clear openings between them, and the horizontal bars shall be placed 12 inches on center. The grate shall be installed not closer than one pipe diameter upstream from the entrance in a manner approved by the Planning Board or its agent. A suitable sketch of the grate and method of installation shall be submitted for approval with the plans for the drains and appurtenances.

**3. Headwalls**

Concrete or Field Stone masonry headwalls shall be provided at both ends of culverts and the discharge ends of storm drains, and be placed a distance of not less than 65 feet from the edge of pavement, unless site conditions require a shorter distance.

**B. Scour Protection**

The discharge ends of all drains with flowing full velocities of 4 feet per second or more shall be protected with a rip-rap apron of a width not less than three times the nominal diameter of the pipe. The rip-rap apron shall extend for a distance of not less than 10 times the nominal pipe diameter from the end of the discharge pipe. The rip-rap for exit velocities of 10 feet per second or less shall be composed of a layer of stones 12 inches in thickness or more, placed upon a bed of sand and gravel 6 inches in thickness. The stones shall be sized so that not less than 60 percent shall have one dimension 12 inches or more. The stones after being laid shall be carefully chinked by hand to make a reasonably smooth and shaped surface. Where exit velocities are greater than 10 feet per second, the thickness of stones and the dimensions of the individual pieces shall be sized to prevent displacement by the flow. In this case, details shall be submitted to the Board for approval.

**8.05 SIDEWALKS**

- A. Sidewalks shall be installed pursuant to Section 7.08 (I) of these regulations.
- B. Preparation of the base shall be accomplished by removing material to a depth of 10 inches below finished grade. Any organic or yielding material shall be removed and replaced with eight (8) inches compacted thickness of binding gravel of the same specifications as that to be used for the gravel base on the roadway.
- C. Forms shall be set to grade, and one two inch (2") Bituminous Concrete (Type-I) Finish Course or one four inch (4") layer of Portland Cement Concrete Pavement shall be placed.
- D. The driveway area within the street right-of-way shall have either two 1 1/2" layers of Class I Bituminous Concrete Pavement or one 4" layer of Portland Cement Concrete Pavement.

**8.06 SHOULDERS**

All disturbed areas between the exterior street right-of-way line and the curb line of the paved roadway which are not occupied by sidewalks or driveways shall be graded, loamed and sodded or seeded with a high quality perennial grass seed.

#### **8.07 GRADING OF SLOPES**

All slopes resulting from grading of street and sidewalks shall not exceed 1 foot vertical to 3 feet horizontal in fill; 1 foot to 2 feet in cut; and 1 foot to 3/4 foot in ledge. Slope easements or retaining walls shall be employed where slopes cannot be contained within street sidelines.

#### **8.08 EROSION AND SEDIMENT CONTROL**

The developer shall control erosion and sedimentation during construction according to the objectives, principles and design considerations set forth in RESIDENTIAL EROSION AND SEDIMENT CONTROL, published jointly by the Urban Land Institute, the American Society of Civil Engineers and the National Association of Home Builders, 1978 and according to the guidelines for SOIL AND WATER CONSERVATION IN URBANIZED AREAS OF MASSACHUSETTS published by the USDA, Soil Conservation Service, Amherst, 1975. These publications are hereby incorporated as a part of these regulations.

In addition to the requirements and objectives stated therein, the following must also be achieved:

- 1) An absolute minimum of existing vegetative cover shall be disturbed during the construction period.
- 2) Only the smallest practical area of land shall be exposed at any one time during development.
- 3) When land is exposed during development, the exposure shall be kept to the shortest practical period of time.
- 4) Where necessary, as determined by Planning Board, temporary vegetation and/or mulching shall be used to protect areas exposed during development.
- 5) All disturbed areas shall be properly and neatly graded and shaped as soon as possible. Final grading shall include removal of all large rocks, stumps, debris, and all other deleterious materials from the finished surface.
- 6) At the toe of all cut and fill slopes in excess of ten (10) feet in height, staked baled hay or straw erosion checks shall be installed.
- 7) All disturbed areas shall be protected from potentially erosive runoff from up-slope areas by means of Diversions, Benches, and/or other acceptable means.
- 8) Cut and fills shall not endanger adjoining property.
- 9) Fill shall be placed and compacted so as to minimize sliding or erosion of the soil.
- 10) Grading shall not be done in such a way so as to divert water onto or impound water on the property of another landowner without the written consent of that landowner.
- 11) Fills shall not encroach on natural watercourses or constructed channels.
- 12) During construction, necessary measures for dust control shall be exercised.

#### **8.09 SUPERVISION**

The developer shall provide competent supervision during the construction of the subdivision. If at any time it becomes apparent that the supervision is not satisfactory, the Board may order, in writing, the suspension of construction until such time as competent supervision is provided. This shall include necessary supervision to

ensure that all temporary drainage controls, erosion and sedimentation control and such other measures as are contained in the approved definitive plan are adequately and properly maintained.

#### **8.10 SAFETY**

All precautions should be taken by the developer and his sub-contractors to observe all applicable safety requirements (ie. OSHA) and other common sense safety practices. The Board designates the Building Inspector-Zoning Agent to report all unsafe activities during the construction of the subdivision to the Planning Board.

Holes greater than five (5) feet in depth and uncovered soil piles or materials stacked in an unsafe manner shall not be allowed unless the area is adequately protected. Covered soil piles shall not be higher than five (5) feet in height.

#### **8.11 CLEANING UP**

Before the sale of any lot and a Certificate of Occupancy is issued, the entire subdivision area must be cleaned up so as to maintain a neat and orderly appearance, free from debris, excessive slopes, deep holes and other objectionable materials. All trees removed to allow for construction shall be disposed of outside of the subdivision. All stumps and boulders shall be buried within designated areas approved by the Planning Board or their agent. Such designated area, if not located off-site, shall be shown on the definitive plan. Upon completion of the work all temporary structures, surplus material and rubbish shall be removed by the developer. All areas within the street lines and areas which drain into the street lines shall be restored to permanent vegetation satisfactory to the Planning Board or agent.