

CITY OF METHUEN



SUBDIVISION RULES AND REGULATIONS

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RULES AND REGULATIONS
OF THE
COMMUNITY DEVELOPMENT BOARD
GOVERNING THE SUBDIVISION OF LAND
AND THE LAYING OUT OF WAYS
IN METHUEN, MASSACHUSETTS

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RULES AND REGULATIONS OF THE COMMUNITY DEVELOPMENT BOARD
OF
METHUEN, MASSACHUSETTS
GOVERNING THE SUBDIVISION OF LAND
AND THE LAYING OUT OF WAYS

SECTION 1.0 **PURPOSE AND AUTHORITY**

The following rules and regulations shall, from and after the effective date thereof, govern the subdivision of land and the laying out of ways within the Town of Methuen and no person shall subdivide land or layout a way for eventual acceptance as a public way in the Town of Methuen after such effective date without first obtaining from the Community Development Board approval of the plan of the proposed subdivision or endorsement upon such plan "Approval Under the Subdivision Control Law Not Required".

1.1 **PURPOSE**

The General Laws of the Commonwealth of Massachusetts, Chapter 41, Section 81M, as amended, provide as follows:

"These subdivision regulations have been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the Town by regulating the laying out and construction of ways in subdivisions providing access to the several lots therein, but which have not become public ways, and insuring sanitary conditions in subdivisions and in proper cases, parks and open areas. The power of the Community Development Board and the Board of Appeals under these regulations shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in 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, sewage, underground utilities and services, drainage, protection of natural water sources, flood control, preservation of wetland areas, and other requirements where necessary in a subdivision for protecting, promoting and enhancing the natural beauty and amenities of the Town; and for coordinating the ways in a subdivision with each other and with the public ways in the Town and with ways in neighboring subdivisions. It is the intent of the Subdivision Control law that any subdivision plan filed with the Community Development Board shall the approval of such Board if said plan conforms to the recommendation of the Board of Health and to the reasonable Rules and Regulations of the Community Development Board pertaining to subdivision of land; provided, however, that such Board may, when appropriate, waive, as provided for in Section Eighty-One R, such portions of the Rules and Regulations as is deemed advisable".

1.2 AUTHORITY

Under the authority vested in the Community Development Board of the Town of Methuen by Section 81-Q of Chapter 41 of the General Laws, said Board hereby adopts these Rules and Regulations governing the subdivision of land in the Town of Methuen. Such Rules and Regulations governing the subdivision of land in the Town of Methuen shall be effective on and after the 23rd day of February 1954 and as amended on April 8th, 1963, January 8th, 1968, July 20th, 1970, August 14th, 1970, revised May 13th, 1974, January 12th, 1976, September 24th, 1979, April 28th, 1980, April 25th, 1983, July 10th, 1985 June 1st, 1986 and June 27th, 1988.

1.3 VARIATION

Strict compliance with the requirements of these Rules and Regulations may be waived when, in the judgment of the Board, such action is in the public interest and not inconsistent with the Subdivision Control Law.

1.4 REFERENCE

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

1.5 CONFORMITY

These regulations shall be considered as revised to conform to any amendment of Chapter 41 of the General Laws made after January 1st, 1960.

1.6 SEVERABILITY

If any provision of the Subdivision Regulations is held invalid, the other provisions of the Subdivision Regulations shall not be affected thereby. If the application of these regulations or any of their provisions to any person or circumstances is held invalid, the application of the Subdivision Regulations and their provisions to other persons and circumstances shall not be affected thereby.

SECTION 2.0 **PROCEDURES FOR THE SUBDIVISION OF LAND AND THE LAYING OUT OF WAYS**

2.1 **DEFINITIONS**

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

BOARD – The Community Development Board of the Town of Methuen.

DIRECTOR OF PUBLIC WORKS – The Director of Public Works or other employee of the Director in charge of streets and roadways of the Town of Methuen.

TOWN ENGINEER – The person who is in charge of plans, specifications, and other engineering data of the Town of Methuen.

SUBDIVISION – A division of land into two or more lots in such a manner as to constitute a “subdivision” as defined in General Laws, Chapter 41, Section 81-L as it reads upon the effective date of these Rules and Regulations, and as may hereafter be amended.

APPLICANT – The person who applies for the approval of a plan of a proposed subdivision or construction of a way. An applicant or applicants must be the owner or owners of all of the land included in the proposed subdivision. An agent, representative or his assigns may act for an owner.

STANDARD SPECIFICATIONS – Town of Methuen Standard Specifications.

TOWN – The Town of Methuen.

2.2 **PLAN BELIEVED NOT TO REQUIRE APPROVAL**

2.2.1 **SUBMISSION, NOTICE AND APPLICATION FEE**

Any person who wishes to cause to be recorded in the Registry of Deeds, or to be filed in the Land Court a plan of land, and who believed that his plan does not require approval under the Subdivision Control Law, may submit his/her plan and application (Form A) along with the filing fee. Plans are submitted to the Board accompanied by the necessary evidence to show that the plan does not require approval.

2.2.2 ENDORSEMENT BY BOARD OF PLAN NOT REQUIRING APPROVAL

If the Board determines that the plan does not require approval, it shall, without a public hearing and within **twenty-one** days of submission, endorse on the plan the words "This plan does not require the approval of the Community Development Board of the Town of Methuen, Mass." A copy shall be returned to the applicant.

2.2.3 DETERMINATION BY BOARD THAT PLAN REQUIRES APPROVAL

If the Board determines that the plan does require approval under the Subdivision Control Law, it shall, within **twenty-one** days of submission of said plan, so inform the applicant and return the plan. The Board shall also notify the Town Clerk of its determination. Such applicant may then submit his/her plan for approval as provided by law and these Rules and Regulations, or, he/she may appeal from such of General Laws, Chapter 41, Section 81-AA, as amended.

2.2.4 FAILURE OF BOARD TO ACT

If the Board fails to act upon a plan submitted under this section within **twenty-one** days after its submission, it shall be deemed to have determined that approval of such plan under the Subdivision Control Law is not required and it shall forthwith make such endorsement on said plan and on its failure to do so, forthwith, the Town Clerk shall issue a certificate to the same effect. The plan shall be delivered by the Board, and the certificate by the Town Clerk, to the applicant.

2.3 BASIC REQUIREMENTS

2.3.1 UNAPPROVED SUBDIVISIONS AND WAYS PROHIBITED

No person shall make a subdivision within the meaning of the Subdivision Control Law of any land within the Town, or proceed with the improvement or sale of lots in a subdivision, or the construction of ways, or the installation of municipal services therein, unless and until a Definitive Plan of such subdivision has been submitted to and approved by the Community Development Board as hereinafter provided.

2.3.2 COMPLIANCE WITH THESE RULES AND REGULATIONS

All plans and all procedures relating thereto shall, in all respects, comply with the provisions of these Rules and Regulations, unless the Board authorizes a variation therefrom in specified instances.

2.3.3 COMPLIANCE WITH ZONING ORDINANCES

The Community Development Board will not approve or modify any plan of a subdivision of land unless all buildings, structures, and lots shown on the said plan comply with the Zoning Ordinance of the City of Methuen or unless a variance from the term thereof has been properly granted and further that said plan does not fall within the definition of a “Subdivision” as provided under Chapter 41 Section 81L of the General Laws. For the purpose of this regulation the term “frontage” shall mean actual, physical frontage.

2.3.3.1 FRONTAGE WAIVER

A plan showing a lot having less than the required frontage under Zoning is not entitled to FORM A (ANR) endorsement and will require a Frontage Waiver from the Board. Any plan depicting a lot with inadequate frontage, even if the lot has received a variance from the Zoning Board of Appeals shall be filed as a definitive plan under these rules and regulations. A request for a waiver of compliance under M.G.L. Ch. 4 Section 81-R shall be submitted in writing by the Applicant at the time when the plan is filed with the Board. The request for the waiver must state fully the grounds for the request and the facts relied upon by the petitioner. The Community Development Board shall consider whether the proposed reduced frontage:

1. Maintains the integrity and economic health of the neighborhood
2. Results in the location and siting of a structure in manner consistent with the surrounding neighborhood
3. Acquires some abutting property as preferable alternative
4. Maximizes available frontage on a public way without causing any other lot be in non-compliance
5. Complements other lots in the neighborhood which may have insufficient frontage
6. Provides adequate actual access to the buildable portion of the lot
7. Is in the public interest and not inconsistent with the intent and purpose of the subdivision control law.

A notation that a frontage waiver has been granted by the Community Development Board must be shown on the plan.

2.3.3 CRITERIA FOR BOARD ACTION

The Board, in considering a proposed subdivision plan, will be concerned with the requirements of the community and the best use of the land being subdivided. Particular attention will be given to width, arrangement and location of streets, sanitation, drainage, sizes and arrangements of lots, open areas and parks. Adequate street connections will be required whenever feasible to ensure access to adjoining subdivisions and lands.

2.3.4 ONE DWELLING PER LOT

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

2.4 SUITABILITY OF THE LAND

2.4.1 INCLUSION OF WETLAND

Flood plain, marshes, ponds, water course, or seasonal wet areas, as identified by Massachusetts General Laws, Chapter 131, Section 40, as amended, and regulations promulgated as of April 1st, 1983, may be included as part of a lot subject to the approval of the Board of Health as hereinafter provided.

2.4.2 A TECHNICALLY ADEQUATE PLAN SHALL ACCOMPANY ANY REQUEST FOR BOARD APPROVAL UNDER 2.4.1

2.5 STEPS IN SECURING APPROVAL OF SUBDIVISION PLAN

- (1) Secure information on zoning and application forms from the Community Development Department.
- (2) Discuss intentions with Board, Director of Public Works, Conservation Commission, and Board of Health.

- (3) File sixteen (16) copies of the preliminary plan with the Community Development Board with notice thereof and one additional plan print to the Town Clerk (Sec. 3.1). In the case of a subdivision showing lots in a residential zone, submission of a preliminary plan is optional. In the case of nonresidential subdivision, submission of a preliminary plan is mandatory.
- (4) Discuss preliminary plan with Board, providing for site staking and inspection where required.
- (5) Within forty-five (45) days of the applicant's filing of the preliminary plan and application with the Town Clerk, the Community Development Board shall decide upon approval, disapproval or modification of the preliminary plan.
- (6) Review definitive plan and accompanying statements with Community Development staff. An incomplete application failing to contain all required information and materials listed in Section 3.2.2, Contents, and Section 3.2.3, Accompanying Statements and Data, will not be accepted for submission to the Community Development Board.
- (7) File definitive plan and sixteen (16) copies for reference, together with application, fee, accompanying statements and engineering data, etc., with the Community Development Board. File one additional copy and notice of application with the Town Clerk. See Section 3.2 below.
- (8) Review by Board of Health and report to Community Development Board within forty-five (45) days after filing of the definitive plan.
- (9) Public Hearing before Community Development Board after notification of parties in interest, posting public hearing notice in the Municipal Building, and advertisement in local newspaper at expense of applicant in each of two successive weeks, the first advertising date being not less than fourteen (14) days before the day of the hearing.
- (10) (a) In the case of a residential subdivision where a preliminary plan has been acted upon, or, forty-five (45) days have elapsed since the preliminary plan submission, the Community Development Board shall act on the definitive plan within ninety (90) days after the applicant's filing of the definitive plan with the Town Clerk.

(b) In the case of a residential subdivision where no preliminary plan has been submitted, or, where forty-five (45) days have not elapsed since submission of a preliminary plan, the Community Development Board shall act on the definitive plan within one hundred thirty-five (135) days after the applicant's filing of the definitive plan with the Town Clerk.

(c) In the case of a non-residential subdivision where a preliminary plan has been duly submitted and acted upon, or, where forty-five (45) days have elapsed since the preliminary plan submission, the Community Development Board shall act on the definitive plan within ninety (90) days after the applicant's filing of the definitive plan with the Town Clerk.

- (11) Certification and recording of approved definitive plan and restrictive covenant in Registry of Deeds. Recording of plan and covenant at Registry to be done by applicant and at applicant's expense with notice of recording forwarded to Community Development Department.
- (12) Prepare and submit bonds or other performance guarantees for proposed improvements.
- (13) Completion of improvements and release of bonds, or other performance guarantees.

SECTION 3.0 SUBMISSION AND ACTION

3.1 PRELIMINARY PLAN

3.1.1 SUBMISSION

A preliminary plan of a subdivision of a proposed way may be submitted by the applicant to the Board, Board of Health and Department of Public Works for discussion and tentative approval, modification, or disapproval by the Board. The submission of such a preliminary plan will enable the applicant, the Board, the Board of Health, the Department of Public Works, other Town agencies and owners of property abutting the subdivision to discuss and clarify the subdivision proposal before a definitive plan is prepared. Therefore, it is recommended that a preliminary plan be filed in every case, allowing the Board at least forty-five (45) days in which to study the plan and make recommendations toward the preparation of the definitive plan. In the case of a non-residential subdivision, filing of a preliminary plan is required. The applicant shall give written notice to the Town Clerk by delivery or by registered mail that he has submitted such preliminary plan, stating the date of such submission. A properly executed application Form "B", see Appendix, and ten (10) contact prints of the preliminary plan, in addition to the plan print to be kept on file with the Town Clerk, should be submitted for examination by the Community Development Board and other appropriate Town officials.

3.1.2 CONTENTS

The preliminary plan may be drawn on tracing paper with pencil at a scale of one (1) inch equals forty (40') feet, and shall be clearly designated as "preliminary plan". This plan shall show:

- (1) Key plan that includes but is not limited to: the subdivision name, boundaries, north point, date and scale.
- (2) Name and address of record owner, and designer, engineer or surveyor.
- (3) Names of all abutters, as determined from most recent tax list.
- (4) Existing and proposed lines of streets, ways, easements, and public areas within the subdivision.
- (5) Location, names and present width of streets bounding, approaching or near the subdivision.
- (6) Topography of the land including the designation of all wet areas and other such contours as may be required by the Board.
- (7) Proposed system of drainage, including existing waterways, in a general manner, both within and adjacent to the subdivision.

- (8) Approximate boundary lines of proposed lots, with approximate areas and dimensions; each lot shall be numbered as directed by the Board of Assessors.
- (9) Proposed water system. A fire flow test may be required by the Methuen Fire Department only with consent of the Water Division of the Department of Public Works, to be taken at the developer's expense.

The preliminary plan should be accompanied by a statement of any easements, covenants or restrictions applying to the area proposed to be subdivided.

During discussion of the preliminary plan, the complete information required for the definitive plan (Section 3.2.2, Contents) and the financial arrangements (Section 3.2.6, Performance Guarantee) will be developed.

3.1.3 APPROVAL/DISAPPROVAL

The Community Development Board may give such preliminary plan its disapproval or approval, with modification. One copy of the preliminary plan will be returned to the sub-divider. Such approval does not constitute approval of a subdivision, but does facilitate the procedure in securing final approval of the definitive plan.

The submission of the preliminary plan for examination by the Board shall not be deemed a submission of a definitive plan of a subdivision of land for approval by the Board under Section 81-0 of Chapter 41 of the General Laws, and the action of the Board on such preliminary plan shall not prejudice its action on the definitive plan.

3.2 DEFINITIVE PLAN

3.2.1 SUBMISSION

Any person who submits a definitive plan of a subdivision to the Board for approval shall file with the Board the following:

- (1) An original drawing of the definitive plan in black India ink on Mylar, and ten (10) contact prints thereof, dark line on white background. Prints will be referred by Community Development to the Board of Health, Director of Public Works, Conservation Commission, Police, Fire and other Town Officials for review. The original drawing, after approval, will be recorded at applicant's expense in the Northern Essex Registry of Deeds and if disapproved will be returned to the applicant.
- (2) A properly executed application Form C. (See Appendix)
- (3) Accompanying statements re: zoning, easements, etc., specifications and profiles, etc. for water supply, sewerage and drainage as required in paragraph 3.2.3.

3.2.1.1 FEE

Filing fee will be as described in the Community Development Board Regulations governing fees and fee schedules.

3.2.1.2 NOTICE

The applicant shall file, by delivery or registered mail, a notice with the Town Clerk stating the date of submission for such approval, and accompanied by a copy of the completed application (Form C).

3.2.2 CONTENTS

The definitive plan shall be prepared, stamped, and signed by a Massachusetts registered professional civil engineer, and a Massachusetts registered land surveyor, if surveyed and legibly drawn in black India ink on Mylar. The plan shall be at a scale of one-inch equals forty feet, or such other scale as the Board may accept to show details clearly and adequately. Sheet sizes shall be 24" by 36". If multiple sheets are used, they shall be accompanied by an index sheet showing the entire subdivision. The definitive plan shall contain the following information:

- (1) Subdivision name, boundaries, north point, date and scale. A statement shall be made on each plan as to whether the bearings shown are magnetic, grid or true on a north point arrow and shall be shown on each plan and clearly labeled as to which system it indicates. The relative error of closure of the perimeter survey shall conform to the requirements of the 1971 Land Court Manual of Instructions as amended.
- (2) Key Map – a location of the subdivision, at a scale of 800 feet to the inch, showing exterior lines of all proposed streets in the subdivision and their location in relation to one or more existing streets, or portions thereof, shown and readily identifiable as to locus on the Zoning Map of Methuen, Massachusetts, as most recently amended.
- (3) Name and address of record owner, applicant, and engineer or surveyor.
- (4) Boundary lines of contiguous and adjacent land and names of owners as determined from most recent tax list.
- (5) Existing and proposed lines of streets, ways, easements, and any public or common areas within the subdivision. The proposed names of proposed streets will be shown in pencil until they have been approved by the Board.
- (6) Location, direction, name and present width and grade of each street and public or private way bounding, approaching or within reasonable proximity of the subdivision.

- (7) Sufficient data to determine readily the location, direction and length of every street and way line, lot line and boundary line, and to establish these lines on the ground.
- (8) Locations and outlines of all existing buildings and site features, such as stone walls, fences, large trees or wooded areas, rock ridges and outcroppings, swamps and water bodies within or adjacent to the proposed subdivision
- (9) Topography with two-foot contours of existing and proposed grades to include the demarcation of wetlands and flood plain areas. All elevations to be U.S.C. & G.S. Datum.
- (10) Area of each lot in square feet, and lot lines with bearings and lines thereof; each lot to be numbered.
- (11) Locations of existing buildings, monuments, hydrants, public utility facilities, water pipes and walls within the subdivision with the distance and bearing to the nearest town, county or state monument on an accepted way.
- (12) Park or open areas suitably located for playground recreation purposes within a subdivision, if any.
- (13) Proposed storm drainage of land, including existing waterways and the proposed disposition of water from the proposed subdivision to existing subsurface drainage systems having sufficient capacity to dispose of the storm flows.
- (14) Easements at least twenty (20) feet wide over adjoining property for the maintenance of utility lines where necessary.
- (15) Locations and species of proposed street trees and/or individual trees or wooded areas to be retained within the sidelines of each street.
- (16) Street plans and profiles must show the percent slope of each grade, and the radius, length, point of curvature and point of tangency of each curve.
- (17) Street plans and profiles must show, in addition to the proposed centerline grades, existing ground grades of the centerline and both edges of each proposed street at fifty (50') foot stations. All existing and proposed elevations shall be based on the U.S.C. & G.S. Datum.
- (18) Minimum building setback lines where deemed necessary after setback line on all lots and in sketch plan showing all water courses and flood plain markers and seasonal wet areas.

- (19) Proposed grading where deemed necessary after proposed grading of the entire subdivision, including all roadways, house lots and building sites within the perimeter property line of the subdivision. See Section 4.3.2 of the Rules and Regulations.
- (20) Location of all of the following improvements unless specifically waived, in writing, by the Board: proposed monuments, street paving, sidewalks, street signs, all utilities above and below ground, curbs, gutters, street trees, storm drainage and all easements. (On a separate sheet.)
- (21) Suitable space to record the action of the Board and the signatures of the members of the Board, including, where appropriate, a reference to the covenant between the applicant and the Board.

3.2.3 ACCOMPANYING STATEMENTS AND DATA

The applicant shall submit with the definitive plan four (4) copies each of the following statements:

- (1) Any easements, covenants and restrictions applying to the area proposed to be subdivided.
- (2) Proposed arrangements for water supply, with supporting data, as required by the applicable rules and regulations of the Water Division of the Department of Public Works.
- (3) Proposed arrangements for storm and surface drainage, with supporting data and design analysis, including plans and profiles, showing location and size of drain lines and culverts, design of catch basins and manholes, and such other information as may be required to define the drainage provisions.

3.2.3.1 ADDITIONAL PROFESSIONAL SERVICES

The Board may require the applicant to obtain at his expense such additional professional engineering advice, as it deems necessary or desirable in order for it to determine to approve, to modify and approve, or to disapprove the definitive plan.

3.2.4 BOARD OF HEALTH

At the time the definitive plan is submitted, the Board shall file two (2) contact prints thereof with the Board of Health. If the Board of Health disapproves the plan, it shall specify in writing within forty-five (45) days of the filing which of the lots shown cannot be used for building sites without injury to the public health because of unsuitable drainage conditions, and include the reasons therefore in its report and shall make recommendations for adjustment thereof, where possible. Any lot so located that it cannot be served by a connection to a sewer system shall be provided with a septic tank and leaching field or other disposal that is satisfactory to the Board of Health.

3.2.4.1 OTHER TOWN BOARDS

Before approving the definitive plan, the Board will refer it to the following departments or boards for their review, and will obtain written statements from each as to the adequacy of the proposed improvements.

- (1) Town Engineer, as to the design of the street system, the drainage system, the sewer system, if any, and the water distribution system, the location of easements, and the provisions for the safety of the future inhabitants and the public;
- (2) The Conservation Commission, as to the impact of the subdivision on any wetland areas or floodplains on the Town's open space program, and any other pertinent matters;
- (3) The Fire Chief, as to impact on fire protection and other matters of public safety;
- (4) The Police Chief, as to impact on police protection and other matters of public safety.

3.2.4.2 ENGINEERING REVIEW

The Board will obtain appropriate review of the engineering and survey information shown on the plan.

3.2.5 PUBLIC HEARING

Before approval, modification and approval, or disapproval of the definitive plan is given, a public hearing shall be held by the Board. Notice of such hearing shall be given by the Board at least fourteen (14) days prior thereto by advertisement in an official publication of the Town, or by publication once in each of two successive weeks in a newspaper of general circulation in the Town. The first such advertisement shall be at least fourteen (14) days before the hearing. Such notice shall describe the subject matter sufficiently for identification. A copy of said notice shall appear in the most recent tax list.

3.2.6 PERFORMANCE GUARANTEE

Before approval or conditional approval of a definitive plan of a subdivision, the sub-divider shall agree to meet the conditions and to complete the required improvements specified in Section 5.0 for all lots in the subdivision. Such construction and installation shall be secured by one, or partly by the other, of the following methods, which may, from time to time, be varied at the option of the sub-divider, with approval from the Community Development Board.

3.2.6.1 FINAL APPROVAL WITH BONDS OR SURETY

The sub-divider shall file either a performance bond or a deposit of money or negotiable securities in an amount determined by the Community Development Board to be sufficient to cover the cost of all or any part of the improvements specified in Section 5.0 not covered by a covenant under Section 3.2.6.2 hereof. Such bond or security may be approved as to form and manner of execution by the Town Solicitor and as to sureties, by the Town Treasurer. Release of the bond or deposit shall be contingent on the completion of such improvements within one year of the date of the bond.

3.2.6.2 FINAL APPROVAL WITH COVENANT

The sub-divider may file a covenant acceptable to the Community Development Board, executed by the owner of record and duly recorded, running with the land, whereby conditions specified in the certificate of approval are met, and whereby such ways and services as specified in Section 5.0 shall be provided to service any lot before such lot may be built upon or conveyed other than by mortgage deed.

3.2.7 CERTIFICATE OF APPROVAL

The action of the Board in respect to any definitive plan shall be by vote; copies of which shall be certified and filed with the Town Clerk and sent by registered mail to the applicant. If the Board modifies and approves or disapproves such plan, it shall state in its vote the reasons for its action. Final approval, if granted, shall be endorsed on the original drawing of the definitive plan by the signatures of a majority of the Board (or by the signature of the person officially authorized by the Board), but endorsement shall not occur until the statutory twenty (20) day appeal period following the filing of the certificate of the action of the Board with the Town Clerk has elapsed and the Clerk has notified the Board that no appeal has been filed. After the appeal period is over, the definitive plan, if approved, will be sent to the Building Inspector.

Final approval of the definitive plan does not constitute the laying out or acceptance by the Town of streets or ways within a subdivision.

3.2.8 EVIDENCE OF SATISFACTORY PERFORMANCE

Before the Board will release the interest of the Town in a performance bond or deposit (or, in the case of approval with covenant, issue a release of covenant), the applicant shall:

- (1) File with, the Director at Public Works a certified copy of the layout plan of each street in the subdivision (or, in the case of approval with covenant, of the street or streets serving the lots for which a release is desired). Certification shall be by Registered Civil Engineer or Land Surveyor (3.2.2) and shall indicate that streets, storm drains, sewers, water mains and their appurtenances

have been constructed, and monuments have been installed in accordance with said plan and are accurately located as shown thereon.

- (2) Ten percent (10%) of the deposit of money or negotiable securities will not be released unless a final plan, showing the precise location of water valves, shutoffs, manholes, sewer elevations, etc., as constructed, is presented to the Director of Public Works.

3.2.8.1 ADDITIONAL PROFESSIONAL ADVICE

Before the Board release the interest of the Town in any performance bond or deposit (in the case of approval with covenant, issues a release of covenant), the Board may, at its discretion, require the applicant to obtain, at his own expense, additional professional engineering advice as to the satisfactory completion of the construction of each street or way in the subdivision, storm drains, water mains and their appurtenances, and installation of all other services required according to the definitive plan.

3.2.9 RELEASE OF PERFORMANCE GUARANTEE

Upon completion of the improvements, the applicant shall send to the Community Development Board, by registered mail, a written statement, in duplicate, that the construction or installation in connection with which a bond, deposit or covenant has been given meets the requirements of Section 5.0; this statement should contain the address of the applicant. The Clerk shall furnish a copy of the statement to the Board forthwith. If the Board determines that the construction or installation has been completed, it shall release the interest of the Town in the bond, deposit or Covenant, and return the bond or deposit to the person who furnished it, or issue a release of covenant in a form for recording. If the Board determines that the construction or installation has not been completed, it shall specify to the applicant, in writing, wherein the construction and installation fails to comply with the requirements of Section 5.0.

3.3 RECORDING OF PLANS

Plans will be recorded by the applicant after which the plan numbers must be filed with the Community Development Department. Definitive Plans and Approval Not Required (Form A) Plans shall be recorded at the North Essex District Registry of Deeds no later than sixty (60) days after the date of Community Development Board endorsement. Three (3) recorded plans shall be submitted to the Community Development Department no more than five (5) days after recording with the Registry of Deeds. Failure of the applicant to comply with this section shall result in the Community Development Board taking action in consideration of recession of its approval.

3.4 EASEMENT RESTRICTION

The applicant further agrees that any and all instruments of transfer of interest in property from the applicant or any successor or assignee in title shall include a reservation of easements, where applicable, to the Town of Methuen, and that no transfer shall be made unless said easement reservations are included in said deeds, where applicable.

SECTION 4.0 DESIGN STANDARDS

4.1 CLASSIFICATION OF STREETS

Subdivision streets shall be classified, for the purpose of establishing the applicable design and construction standards, according to the definitions below. The Board shall determine the classification in all doubtful cases.

4.1.1 PRINCIPAL STREET

A principal street is any street that carries or is designed to carry through traffic between parts of Methuen, other principal streets in Methuen, or between Methuen and other towns. (Usually seventy-five (75) dwellings or structures, or more.)

4.1.2 SECONDARY STREET

A secondary street is any street used solely for access to the abutting lots. (Two (2) to seventy-five (75) dwellings.)

4.1.3.1 COVENANT

Before the Board shall approve any definitive plan of a subdivision whereon there is shown any street or way classified as less than a secondary street, it shall have first obtained from the sub-divider a covenant or agreement that such street shall remain a private way unless it shall be redesigned and improved in accordance with the minimum standards hereinafter prescribed for a secondary street.

In the event water mains are installed in a private street, the covenant or agreement in regard to the street shall provide that in the event of the failure of the owner or owners of the street to maintain the water installation in accordance with the rules and regulations of the Water Division of the Department of Public Works, the Department of Public Works may enter and perform, at the expense of the owner or owners, any repairs or other work necessary to maintain the integrity of the water installation.

4.2 STREET DESIGN

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

All streets shall be designed as through streets where feasible, unless waived by the Board.

Typical sections for principal roads and secondary roads shall conform to Town of Methuen standards.

4.2.1 DESIGN SPEEDS

Radius of curves and lengths of vertical curves should be selected to provide safe sight distances (either passing or stopping) for the design speed of the road. The design speed for principal streets shall be forty miles per hour and for secondary streets, twenty-five miles per hour.

4.2.2 LOCATION AND ALIGNMENT

4.2.2.1 MASTER PLAN

The proposed streets and off-street footpaths shall conform, so far as practicable, to the Master or Study plan as adopted, in whole or in part, by the Town of Methuen.

4.2.2.2 PROJECTIONS

Provision satisfactory to the Community Development Board shall be made for the proper projection of streets for access to adjoining property that is not yet subdivided, or for connection with future streets.

4.2.2.3 RESERVE STRIPE

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

4.2.2.4 JOGS

Street jogs with centerline offsets of less than one hundred and twenty-five (125') feet shall not be allowed.

4.2.2.5 CURVES

The minimum centerline radii of curved streets shall conform to the design speeds for principal and secondary streets.

4.2.2.6 INTERSECTIONS

Streets shall be laid out so as to intersect as nearly as possible at right angles.

4.2.2.7 STREET CORNER RADIOUS

Property lines at intersections shall be rounded or cut back to provide for a minimum curb radius at the edge of the pavement of forty (40') feet. The distance between the edge of the pavement and the property line shall not be less than ten (10') feet.

4.2.2.8 DEAD ENDS

Dead ends, defined as a street or way with only one access/egress point, shall not be permitted, except where, in the opinion of the Board, such dead ends are deemed necessary and in the public interest.

4.2.3 WIDTH

The minimum width of street rights of way shall be fifty (50') feet for principal streets and forty (40') feet for secondary streets. Greater width shall be required by the Board where deemed necessary for present and future vehicular movement.

4.2.3.2 DEAD ENDS

Where the Board has waived the dead end restriction, the following criteria shall be followed: Dead end streets shall not be longer than five hundred (500') feet, unless, in the opinion of the Board, a greater length is necessitated by topography or other local conditions, and in that case, shall be cul-de-sacs.

Principal streets having temporary dead ends shall terminate in circles having a right of way diameter of not less than one hundred twenty (120') feet, and dead end secondary streets of not less than one hundred twenty (120') feet. Where a future street is projected beyond the circle, the circle shall be designed in such a relation to the projection to the right of way that the additional land used for the circle may be relinquished to the adjacent properties at the time the road is constructed over the projected route.

The ownership of the fee in land lying within the projection of any road shall remain with the adjacent properties until the road is constructed over the projected route. Any such fee shall not be included in determining the conformity of the area of any lot to the minimum requirements under the Zoning Ordinance of the Town.

Where a circle is laid out as a permanent termination of road, the entire area of the circle shall be a permanent part of the right of way. Where a circle is laid out over a projected right of way, the lot liens shall be laid out to the lines of the future projected route, but the additional areas used for the circle may not be included in the areas of the adjacent lots for the purpose of determining their conformity to the minimum requirements under the Zoning Ordinance of the Town.

4.2.4 GRADES

4.2.4.1 CENTERLINE GRADES

Centerline grades of streets shall not be less than 0.5%. Grades of principal streets shall not exceed 6% on straight-aways or 5% on curves, and secondary and minor streets shall not exceed 8% on both straight-aways or curves. Where changes in grade exceed (1%), vertical curves, as required by the Board, shall be provided.

4.2.4.2 SUPERELEVATION

Where curves and grades combine to create potentially dangerous driving conditions, the Board may require super-elevation of the curves or other protection.

4.2.4.3 INTERSECTIONS

Where streets intersect within a subdivision or at the juncture of a subdivision street with an existing street, the Board will require that a minimum length of seventy-five (75') feet of each street outside the roadway of the crossing street shall be substantially level.

4.2.4.4 DRIVEWAYS

Driveways shall be constructed as per typical driveway section in the Construction Standards.

4.3 DRAINAGE DESIGN

4.3.1 GENERAL

4.3.2 DRAINAGE CALCULATIONS

To substantiate the proposed subdivision drainage system, drainage calculations shall be prepared and signed by a Massachusetts Registered Professional Engineer and filed as a part of the Definitive plan. A drainage run-off plan within the perimeter of the proposed subdivision shall be drawn to a scale of 1" = 40' and shall show the incremental areas contributing run-off to each catch basin, ditch or water course. The run-off plan shall also show existing and proposed contours at two (2) foot intervals. The contributing watershed areas outside the perimeter of the subdivision shall be drawn to a scale of 1" = 200' and shall be included in the drainage calculations.

4.3.3 DESIGN CRITERIA

- (1) Hydraulic and hydrologic calculations using the Rational Method, the MoCoSoCo formula, U.S. Sol Cons. Service T.R. No. 55, Urban Hydrology for Small Watersheds and Section 4 of the U.S. Soil Cons. Service National Engineering Handbook and prepared by a Massachusetts Registered Professional Engineer, or other professional competent in such matters. Calculations must show existing and proposed runoff conditions for the rate, volume and velocity.
- (2) The proposed subdivision drainage system shall be based on a 10-year design storm.

- (3) Culverts designed to carry existing drainage, ditches, brooks, streams or other water courses shall be based on a 100 year design storm. Culverts shall be designed with proper inlet and outlet control in accordance with standard engineering practice.
- (4) A weighted coefficient of run-off "C" or curve numbers is to be determined for each incremental drainage area based on the following minimum values:

paved or roofed areas	0.90
steep grassed areas	0.70
residential areas (with lawns & buildings)	0.45
cultivated or natural areas	0.30

If using the SCS method, curve numbers can be obtained using the Soil Conservation Services, Urban Hydrology for Small Watershed, technical release #55; table 2-2.

- (5) In no case shall a drainage line of less than twelve (12") inches in diameter be used.
- (6) All drains shall be sloped to provide for a minimum velocity of three (3') feet per second. The maximum design velocity shall be ten (10') feet per second.
- (7) Storm sewer systems shall be designed to flow full by gravity, using the Manning Formula to determine the sizes of pipes required. Submerged outlets during periods of storm flow or during dry periods will not be permitted.
- (8) Where it appears that any street may be extended so as to connect with an existing or proposed street on land adjoining the subdivision, the Board may require that provision be made for extension of the drainage system to a point at or near the subdivision property line at such size and grade as will allow for such extension.
- (9) Rainfall intensities shall be obtained from the Town of Methuen Rainfall Intensity Curves.
- (10) The drainage design of a subdivision shall be such that post development peak flows do not increase from predevelopment peak flows up to and including the 100 year storm.
- (11) Unless waived as an emergency by the Community Development Board on the recommendation of the Town D.P.W. and Conservation Commission, detention or retention areas created to contain drainage runoff from a proposed development shall be located at the development site locus in such area on the site as is approved by the Board.

4.4 SANITARY SEWER DESIGN

4.4.1 GENERAL

The Definitive plan shall provide adequate sanitary sewer facilities to collect and convey sewage to the nearest available manhole on the Town of Methuen sanitary sewer system. In accordance with the wastewater facilities planning report for the Town of Methuen, Massachusetts - December, 1976 Volume I and II - developed by Coffin & Richardson, Inc. Architects and Engineers, Boston, Mass. and the Recommended System, shown on Plate II, the Community Development Agent shall require the installation of sanitary sewer facilities including sewer connections to each lot even if the subdivision cannot be served at present by the Town of Methuen's sanitary sewer system.

4.4.2 DESIGN CRITERIA

- (1) The minimum pipe size shall be eight (8") inches in diameter.
- (2) The minimum slope of the pipe shall be 0.4%.
- (3) The minimum design velocity shall be 2-½ feet per second. The maximum design velocity shall be fifteen (15') feet per second.
- (4) Manholes shall be spaced at intervals not to exceed three hundred (300') feet and at all changes in slope and/or direction. Where required because of velocities greater than the allowable maximum, drop manholes shall be used to reduce the slope of the pipe.
- (5) Where it appears that any street may be extended so as to connect with an existing or proposed street on land adjoining the subdivision, the Board may require that provision be made for extension of the sanitary sewer system to a point at or near the subdivision property line.

4.5 EASEMENTS

4.5.1 UTILITY EASEMENTS

Easements for utilities across lots or parallel to rear or side lot lines shall be provided where necessary and shall be at least twenty (20') feet wide.

4.5.2 DRAINAGE EASEMENTS

Where a subdivision is traversed by a water course, drainage way, channel or stream, the Community Development Board may require that there be provided a storm water easement or drainage right of way of adequate width to conform substantially to the lines of such water course, drainage way, channel or stream, and to provide for construction or other necessary purposes. The minimum width of

any such easement shall be twenty (20') feet. Where necessary, drainage easements on adjoining property shall be secured, if obtainable, for the benefit of the Town.

4.5.3 ACCESS EASEMENTS

Access easements to park and conservation land shall be secured for the benefit of the Town and shall be forty (40') feet width.

4.5.4 FOOTPATH EASEMENTS

Unless otherwise required, easements for off-street footpath shall be twenty (20') feet in width.

4.6 OPEN SPACES

Before approval of a plan the Community Development Board may also in proper cases require the plan to show usable open space, as defined in Methuen's Comprehensive Zoning Ordinance, suitably located for playground or recreation purposes or for providing light and air. The park or parks shall not be unreasonable in area in relation to the land being subdivided and to the prospective use of such land. The Board may by appropriate endorsement on the plan, require that no building be erected upon such park or parks.

4.7 PROTECTION OF NATIONAL FEATURES

The sub-divider shall make every effort consistent with sound planning to preserve natural features such as large trees marked to be preserved, water courses, scenic points, historic spots, and similar community assets, which, if preserved, will add attractiveness and value to the subdivision.

4.7.1 TREE PLANTING

The Community Development Board requires that trees will be planted along all new streets at intervals of no greater than seventy-five (75') feet. Applicant is required to guarantee the survival of these trees for one year from the date of acceptance of the ways by the Town. The type of tree should be of the shade variety but shall not include any locust, willow, or popular trees; nor shall it include any coniferous trees.

4.7.2 PLANTING OF TREES

Trees shall have a caliber of not less than 2½" and shall not be less than twelve feet tall, planted and guyed in such a manner as to insure their survival. The minimum size hole for the root ball shall be of no smaller diameter than five feet and at least two feet deep. No large rocks, or debris or other such unsuitable material may be used in filling the hole. Good quality earth or loam, mixed with a small amount of sand or other similar material will be acceptable.

4.8 UTILITIES

4.8.1 GENERAL

All utilities, including house connections, shall be placed underground at the time of initial construction. Complete location plans of each utility system shall be filed with and approved by the Board in compliance with Section 3.2.1 prior to installation. All utility pipes and conduits and appurtenant facilities to be located under a roadway or sidewalk shall be installed before placement of the gravel base of such roadway or sidewalk.

4.8.2 INSTALLATION OF ALL SUBDIVISIONS

Electric Power Supply Cables, Telephone Cables and Cable TV Service shall be placed in a trench centered two (2') feet from the edge of the roadway pavement on the side of the street where the sidewalk is to be placed.

All Electric, Telephone and Cable TV service connections to be located under a roadway or sidewalk shall be placed in conduits extending from the electric service transformers and telephone distribution boxes to the right-of-way line on the opposite side of the street. Any other required crossing of the roadway shall also be placed in conduit. All service transformers shall be located in vaults below the finished grade unless specified by the Board. All conduits to be located under the roadway or sidewalk shall be installed prior to be placing of the gravel base and bituminous concrete pavement.

4.8.3 FLOOD PLAIN DISTRICTS

No (sewer/water) system shall be approved in a Flood Plain District unless:

A registered professional engineer in the field of sanitary engineering shall certify that new or replacement water supply and/or sanitary sewerage systems are designed so as to minimize or eliminate infiltration of flood water into the systems and discharges from the systems into flood waters.

4.8.4 FLOOD HAZARDS

In addition to all other requirements of these rules and regulations, the Community Development Board will review all proposed subdivisions and other proposed new developments to determine whether such proposals will be reasonably safe from flooding. If any part of a subdivision proposal or other new development is located within the Flood Plain District established under the Comprehensive Zoning Ordinance it shall be reviewed to assure that:

- a) the proposal is designed consistently with the need to minimum flood damage,
and

- b) all public utilities and facilities, such as sewer, gas, electrical, and water systems shall be located and constructed to minimize or eliminate flood damage, and
- c) adequate drainage systems shall be provided so as to minimize flood hazards, and
- d) base flood elevation (the level of the 100-year flood) data shall be provided for proposals greater than 50 lots or 5 acres, whichever, is the lesser for that portion within the Flood Plain District.

SECTION 5.0 REQUIRED IMPROVEMENTS

5.1 BASIC REQUIREMENTS

The developer shall install all of the improvements required under these Rules and Regulations except those, which may be specifically waived in writing by the Board. No bond or covenant given as security for such work under Section 3.2.8 shall be released until the Board has received (I) a survey plan of the improvements as built in compliance with Section 5.2.2 and (II) a report in writing from the Department of Public Works giving full approval of the work. No work of any nature shall commence until such time as the Community Development Board approves the plans and those plans have been submitted to the Registry.

5.1.1 RESPONSIBILITIES OF APPLICANT

The applicant shall be responsible for providing the following basic services in the subdivision while the same remains subject to the subdivision control law:

- a) snow plowing of all ways;
- b) trash pick-up of all inhabited units;
- c) maintenance of all roadway surfaces drains, sewers and other utilities

The costs of performing the provisions of this section shall be added into the bond or surety provided for in Section 3.2.6.1 or into the covenant provided for in Section 3.2.6.2.

The applicant shall, at the time of sale or transfer of a lot covered hereunder, notify the grantee that it, the applicant, is responsible for providing the basic services as outlined above.

Nothing herein shall be interpreted as requiring the applicant to provide the aforementioned services to ways or utilities once the same has been duly accepted by the Town of Methuen.

5.2 GENERAL

5.2.1 STANDARDS SPECIFICATIONS.

Except as otherwise provided in these Rules and Regulations all work and materials used in the installation of the required improvements shall conform to the requirements of the Town of Methuen, Massachusetts, Standard Specifications and Construction Standards, prepared by the Department of Public Works as amended.

5.2.2 SURVEY OF IMPROVEMENTS AS INSTALLED

- (1) After all street construction is completed and before the release of any bond or covenant, the developer shall file with the Board one (1) reproducible copy and two (2) contact prints of the Definitive plan corrected and certified by a Registered Professional Engineer or Registered Land Surveyor to show the following:
 - a) Centerline elevations at 50-foot intervals of all roadways as built;
 - b) profiles of the drainage and sanitary sewer systems as installed;
 - c) utilities as installed, including but not limited to water, sewer, gas, cable, electric and telephone;
 - d) sideline locations of roadways and sidewalks as built certifying that sidewalk construction meets 5.7.6;
 - e) monuments as installed;
 - f) contour map at two (2') foot intervals;
 - g) finished centerline elevations

The Board may, at its discretion, authorize a bond reduction at the completion of "a" through "c", and then again after "d" through "g" have been completed.

(2) A certificate signed by the engineer and surveyor preparing such as built plan shall be endorsed on the plan in the following form:

Date: _____, 20__

I hereby certify that the within plan shows the actual as built locations, profiles and elevations of the roadways, drainage facilities and utilities based upon a field survey made during the period

from _____ *to* _____

Reg. Land Surveyor

Reg Engineer

5.2.3 ACCEPTANCE OF STREETS BY THE TOWN

- (1) No streets or way through private property shall be accepted unless it has been constructed and completed in accordance with the Typical Roadway Cross Section and the specifications set forth or incorporate in those Rules and Regulations.

- (2) Where a street or way or portion thereof is ready for acceptance by the Town, the developer, in order to facilitate such acceptance, shall cause a Layout and Acceptance plan to be prepared by a Registered Land Surveyor and filed with the Board. Such plan shall be drawn in India ink or Mylar (size 18"x24" or 24"x36") to an appropriate scale and show the following:
- a) Widths, lengths, bearings of all boundary lines of streets and easements and radii, tangents and central angles of all curves in street lines.
 - b) All required monuments with indication that the same have been correctly set.
 - c) Name of each abutting owner appearing on the most recent Assessors' list.
 - d) Certificate signed by the Surveyor preparing the plan shall be endorsed on the plan in the following form:

Date: _____, 20__

I hereby certify that _____ has been laid out and the bounds have been set as shown on the within plan

Registered Land Surveyor

The original of such plan and three (3) copies thereof shall be filed with the Community Development Board along with the fee.

5.3 STREETS AND ROADWAYS

5.3.1 GENERAL

- (1) Each lot in a subdivision shall be constructed and brought to finish grade as indicated on the approved Definitive plan and in accordance with the requirements of this section.
- (2) The sub-divider or his contractor shall furnish and maintain all stakes and such temporary structures as may be necessary or required by the Department of Public Works for marking and maintaining points and lines for the installation of the roadway and related utilities throughout the construction of the subdivision.
- (3) Streets and roadways shall be constructed in accordance with the Typical Roadway Cross Sections attached to these Rules and Regulations.

5.3.1.1 POSTING

The applicant shall, upon beginning construction of a street, which intersects with a public way, post a sign, of a size no smaller than two feet by three feet and with two inch letters in black on a white background, which provides the following:

NOTICE TO THE PUBLIC THIS IS NOT A PUBLIC WAY

OWNEB BY THE TOWN OF METHUEN

Said sign shall further identify the applicant owner of the way and its address.

5.3.2 CLEARING AND GRUBBING

Clearing and grubbing of the roadway and sidewalk locations shall be done according to the width of the typical roadway section proposed, and shall include the removal of all stumps, brush, roots, boulders and similar materials as well as trees which have not been marked for reservation. The contractor shall satisfactorily dispose of all trees, stumps, shrubs, roots, branches, dead wood and other litter, in areas outside the Right of Way or outside the perimeter of the subdivision.

The stumps of all trees, brush and major roots shall be grubbed and removed in all excavation and under all embankments where the original ground level is within 3½ feet below the subgrade or slope of embankments.

All trees, stumps and brush shall be out of within six (6") inches of the ground in embankment areas where the original ground level is greater than 3½ feet below the subgrade or slope of embankments.

5.3.3 EXCAVATION

(1) Earth Excavation: Earth excavation shall consist of the excavation, disposal or compaction of all material not otherwise classified under some other item in accordance with the lines, grades and cross sections shown on the plans or established by the Engineer.

Excavation materials, which are unsuitable for embankment, or surplus material remaining after completing the site work, will be known as waste and shall be disposed of by the contractor outside the Right of Way at his expense, unless otherwise directed. If excavated material is to be removed from the site, a determination of applicability must be made by the Soil Removal Board.

(2) Rock Excavation: Rock Excavation shall consist of:

a) Rock that cannot be excavated without blasting or the use of rippers.

- b) Rock, cemented stonewalls or masonry structures measuring ½ cubic yard or more that require blasting for removal.
- (3) Embankment: This work consists of the formation of embankments with suitable material obtained from excavation and borrow, thoroughly compacted to produce a stabilized embankment, in accordance with the lines and grades shown on the plans and as directed.

When it is determined that there is not sufficient material available from excavation, the Contractor shall obtain additional material from outside the location and this material will be borrow material.

Frozen material shall not be placed in embankments. Earth embankments shall be placed and compacted in uniform layers not exceeding twelve (12") inches in depth, loose measurement, spread on the entire width of the embankment and leveled off by approved equipment.

Each layer of embankment material shall be thoroughly compacted with power rollers or tamping rollers to not less than 95 percent of the maximum dry density of the material.

- (4) Subgrade preparation:
- a) The roadway locations shall be excavated to a depth below the established finished grade as shown on the plans or the Typical Roadway Cross Sections.
 - b) The conditions of the subgrade surface at the bottom of the excavation shall be inspected by the staff representative, and if, in his opinion, such condition are wet or spongy or otherwise unsatisfactory due to the presence of clay or organic materials, the bottom shall be excavated below the subgrade to a depth determined by the representative to be sufficient to insure removal of all such unsuitable material.
 - c) If any portion of the roadway location is required to be excavated below the designed surface of the subgrade, the space so excavated shall be filled with clean, bank gravel or such other suitable material, such as shattered ledge. The top six (6") inches of subgrade shall contain no stones greater than three (3") inches in diameter. The roadway location shall then be graded and rolled so as to form the surface of the subgrade shaped to conform with the proposed roadway section.
 - d) All ledge, boulders and large stones located within the full cross section of the roadway shall be cleared to the minimum depth required below the established finish grade.

- e) All drainage and sewer pipes, culverts, catch basins and manholes and all utility pipes, conduits and appurtenances there to be placed under the roadway and sidewalk locations shall be installed and properly back-filled prior to construction of the roadway and sidewalk.
- f) When required, sub-drains shall be installed at locations directed by the Department of Public Works.

5.3.4 GRAVEL BASE

- (1) Gravel shall consist of hard, durable stone and coarse sand, free from frozen lumps, frost, loam and clay, uniformly graded and containing no stone having any dimension greater than three (3”) inches. The grading of sizes and material shall be such that the gravel may be thoroughly consolidated. The grading shall conform to the following requirements:

<u>Sieve</u>	<u>Percent Passing</u>
3/8 in.	70% maximum
No. 10	50% maximum
No. 200	5% maximum

- (2) After the roadway subgrade has been graded and properly compacted. The gravel for the base shall be spread in two layers of equal thickness, each thoroughly watered and rolled true to lines and grades with a roller weighing not less than twelve (12) tons so as to yield a total depth of ten (10”) inches after compaction. The gravel base shall be formed as shown on the proposed Roadway Cross Section. Any depression that appears during or after rolling shall be filled with gravel and the area re-rolled until the surface is true and even.
- (3) After the gravel base has been compacted and approved a four (4”) inch layer of dense graded crushed stone shall be spread and compacted. Dense spread crushed stone shall conform to Section M2.01.7 of the Mass. Standard Specs.
- (4) When required by the Department of Public Works, samples of the gravel to be used shall be tested for gradation by sieve analysis and the rolled gravel tested for compaction. All such tests shall be made at the expense of the developer.

5.3.5 PAVEMENT

- (1) The pavement of the roadway of each street in a subdivision shall consist of Class I Bituminous Concrete Type 1-1 constructed in two courses; 2” base or binder course and 1” top or finish course. Each course shall be rolled so as to form a final pavement depth of three (3) inches over the gravel base in conformity with the lines, graded and typical cross section shown on the approved Definitive Plan.

- (2) Material and construction methods shall conform to the Standard Specifications.
- (3) No roadway pavement shall be constructed before March 30th or after November 30th of any year without written permission of the Board.

The binder course shall set after application for one full winter before the finish paving is placed.

5.3.6 ROADWAY EMBANKMENTS AND RETAINING WALLS

- (1) Embankments outside of the street right-of-way be evenly graded and pitched at a slope of not greater than two (2) horizontal to one (1) vertical in fill as shown on the Typical Sections.
- (2) Where cuts are made in ledge, other slopes may be permitted upon written approval of the Board. Where terrain is such that greater slopes are essential, retaining walls, terracing or rip-rap shall be used either alone or in combination provided that plans of such proposed grading methods are filed with and approved by the Board prior to the commencement of road construction.
- (3) The Board may require that defined slope easements be shown on the Definitive Survey Plan and that such easements be reserved by the developer for future acquisition by the Town for maintenance purposes.
- (4) All major changes in the grading of land and streets as shown on the approved Definitive Plan shall be completed prior to the installation of the drainage system, utilities and roadways.

5.3.7 CURBS AND BERMS

- (1) Vertical faced granite curb, type VA-4 shall be installed on all principal roads.
- (2) Sloped granite edging shall be installed on all secondary roads.

5.3.8 GRANITE CURB INLETS

Granite curb inlets shall be installed at all catch basin locations on principal and secondary roads.

5.4 STORM AND SURFACE DRAINAGE

5.4.1 GENERAL

A system of storm drains, culverts, ditches and related installations, including catch basins, gutters and manholes, shall be designed and installed to provide adequate disposal of surface water, including control of erosion, flooding and standing water from or in the subdivision and adjacent lands. A catch basin to manhole system of drainage is required.

The drainage system must comply with the provisions of Chapter 818 of the Acts of 1974 (M.G.L. section 40 of Chapter 13) B.L.) – protection of Wetlands, as amended and Chapter 12 of the Municipal Code of Methuen as amended.

5.4.2 PIPES, CULVERTS AND DRAINS

- (1) The size of pipe shall be in accordance with the approved Definitive Plan and in any case shall not be less than twelve (12”) inches in diameter. Where the diameter of pipe increases, the pipes shall be installed such that the tops of the pipe are flush.
- (2) Pipe for the construction of all culverts and drains shall be reinforced concrete. Reinforced concrete pipe (extra strength) may be required where conditions warrant.
- (3) All pipes shall be laid out true to line and grade as shown on the approved Definitive Plan. Each section of pipe shall have a full, firm bearing throughout its length and shall be installed in compliance with the Standard Specifications. All joints shall be made of Portland Cement Mortar unless otherwise directed. No backfilling of pipes or culverts shall be done until the installation has been inspected and approved by the Department of Public Works. As the pipe is installed, the space outside and around the pipe shall be backfilled with suitable material which has been excavated from the trench. The backfill shall be deposited by hand in layers not over six (6”) inches in depth to a point one foot over the pipe and each layer thoroughly compacted mechanically or by other approved methods and tools. Machine backfilling shall not be allowed without approval of the DPW. Minimum covering of all pipe shall be not less than thirty-six (36”) inches.

5.4.3 CATCH BASINS AND MANHOLES

- (1) Catch basins shall be located on both sides of the roadway on continuous grades at intervals of not more than two hundred and fifty (250’) feet, and at all low points and at the corners' low points as may be required. Intervals of less than two hundred and fifty (250’) may be required on steep grades.
- (2) Catch basins and manholes shall consist of cement, brick, masonry, concrete block masonry, pre-cast solid segments or conforming to the Standard Specifications.
- (3) Catch basins and manholes shall have an inside diameter of not less than four (4’) feet at a point two and one-half (2½’) feet below the bottom of the frame.
- (4) Catch basins shall be at least three (3’) feet in depth measured from the invert of the outlet pipe.

- (5) Walls of catch basins and manholes shall be not less than eight (8") inches in thickness and shall be laid in mortar composed of one (1) part Portland Cement and two (2) parts sand and sufficient water to form a workable mixture.
- (6) The base of a catch basin or manhole shall consist of one course of brick or pre-cast concrete pipes laid flat with all joints thoroughly flushed full of mortar with a twelve (12") inch weep hole left in the center.
- (7) Backfill shall not be applied until after inspection or within five (5) days of setting the mortar.
- (8) Frame castings for catch basins and manholes shall be set in full mortar beds at the pavement binder course. Manhole castings shall be set flush with the designed finish grade of the pavement. Catch basin grates shall be set flush with the finished gutter grade.

5.4.4. RESPONSIBILITY FOR SUBDIVISION DRAINAGE

The responsibility for adequate drainage shall rest with the owner. This shall include connection with existing drainage facilities, if any, provided by the Town. When private drains are connected to Town drainage, the Town will not be responsible for any damage.

5.5 SANITARY SEWERS

5.5.1 GENERAL

A system of sanitary sewers shall be designed and installed to provide adequate disposal of sewage.

5.5.2 PIPE

- (1) Pipe shall be vitrified clay, PVC, asbestos cement or reinforced concrete. Where the depth of cover over the pipe is less than three (3') feet, the pipe shall be reinforced concrete, extra strength where conditions warrant.
- (2) All pipes shall be laid straight, true to line and grade as shown on the approved Definitive Plan. Each section of pipe shall be a full, firm bearing throughout its length and shall be installed in compliance with the Standard Specifications.

5.5.3 SEWER SERVICE CONNECTIONS

This item consists of connecting sanitary sewer services to residences, business and industrial establishments to an existing sewer main. All construction methods used for this item shall comply with the applicable sections of these specifications.

All sewer service connections from residential, commercial or industrial establishments shall be connected to the sewer main by means of approved saddles specially manufactured for the purpose. The connection shall be made so that the sewer service pipe centers the top of the sewer main and does not protrude into the sewer main.

5.5.4 FUTURE SERVICE CONNECTIONS

Where new sewers are to be constructed, the Contractor shall furnish and install T fittings or chimneys at locations shown on the plans or designated by the Department of Public Works. Service sewer pipe shall be connected to the main and properly installed out to the sideline or Right-of-Way of the roadway. The Contractor shall permanently locate the ends of the pipe so that a future connection can be made. The end of the service pipe shall be suitably capped or plugged as approved by DPW.

5.5.5 MANHOLES, FRAMES AND COVERS

- (1) Sewer manholes shall be watertight and concrete or cast-in-place concrete in conformity with the construction standards as attached hereto.
- (2) Manhole frames and covers shall conform to the attached construction standards.

5.6 WATER MAINS, VALVES, HYDRANTS & FITTINGS

5.6.1 GENERAL

When new streets are constructed in accordance with the Subdivision Control Laws, the minimum size of the water main, the number of gates and the location of the hydrants to service the proposed area shall be determined by the Department of Public Works. In general, eight (8") inch water mains, or larger, shall be installed on all water main extensions in excess of six hundred (600') feet, or when needed to complete a good distribution grid system. All water main extensions together with all other appurtenances shall be installed under the supervision of the Water Division. All water mains shall connect with two or more existing mains.

5.6.2 MATERIALS

- (1) PIPE: Ductile iron water pipe, with B & S, Tyton or Mechanical joints; cement lined, tar coated, Class 51 to Federal Specifications WW-P-421, Type I for cast iron pipe; ductile iron pipe to be standard USA 21.50 & 21.51 with latest revisions; Tyton or Mechanical joints; nominal length not to exceed eighteen (18') feet.
- (2) TAPPING SLEEVES & GATE VALVES: Standardized on Mueller Tapping Sleeves and Gate Valves, open left.

- (3) GATE VALVES: Standardized on Mueller Gate Valves, open left.
- (4) HYDRANTS: Standardized on Mueller/Centurian Fire Hydrants, open left, two-2½" nozzles with steamer connection. Hydrants to have a four (4") inch valve opening on laterals serviced from six (6") and eight (8") inch mains and a five (5") inch valve opening on laterals serviced from 10" mains and larger.
- (5) FITTINGS: Mechanical Joint Tap, Sleeve, and Gates & Gate Valves are to be iron.

Mech. Joint: Mechanical joint fittings shall have retaining glands on all bends, hydrant gates and all fittings at dead-ends.

5.6.3 ANCHORAGE OF TEES, BENDS, HYDRANTS, ETC.
(for B & S Fittings)

All fittings along with bends, tees, plugs and hydrants shall have cement thrust blocks, or otherwise be tied with steel rods to prevent their being blown off from internal pressure.

5.6.4 CHLORINATION OF NEW MAINS

All new water main extensions shall be thoroughly flushed and disinfected before being placed into service in accordance with American Water Works Association (A.W.W.A.) standards.

5.6.5 HYDROSTATIC TESTS

All new water main extensions shall be tested in accordance with established A.W.W.A. standards.

5.6.6 INSTALLATIONS

- (1) Trenches shall be hand backfilled and tamped to a minimum cover of eighteen (18") inches before further filling by bulldozer or pay loader.
- (2) Where ledge or shall has been removed from the trench, it shall be replaced with suitable back fill.
- (3) No boulders shall be put back into any water trench.
- (4) All water main extensions shall have a five (5') foot minimum cover.

5.7 SIDEWALKS

5.7.1 LOCATION AND WIDTH

Sidewalks five (5') feet in width, unless otherwise specified by the Board, shall be constructed along all roadways as shown on the approved Definitive Plan.

5.7.2 SIDEWALK DRAINAGE

Areas included between the outside line of the sidewalk and the outside line of the sidewalk and the outside line of the paved roadway shall be graded and filled where necessary to insure adequate drainage.

5.7.3 SIDEWALK BASE

The sidewalk base shall consist of not less than six (6") inches of clean gravel after thorough compaction with a five (5) ton roller.

5.7.4 SIDEWALK PAVEMENT

The sidewalk pavement shall consist of Bituminous Concrete Type 1-1, laid in one course two (2") inches thick after rolling or four (4") inch Portland Cement Concrete.

5.7.5 LOAMING AND SEEDING

All areas between the sidewalk and the paved roadway shall be loamed and seeded in accordance with the typical section.

5.7.6 SIDEWALK PAVEMENT AT STREET INTERSECTION

All sidewalk/street intersections are to be made handicapped accessible and must conform to the Commonwealth of Massachusetts, Department of Public Works, Construction Standards as amended, and the Rules and Regulations of the Architectural Barriers Board.

5.8 GUARD RAIL

Guardrails as shown on the Construction Standards shall be installed when required by the Board.

5.9 GRASS STRIPS

All cleared open areas included within the street right-of-way or within slope or drainage easements shall be suitably graded and loamed with not less than six (6") inches of good quality loam after compaction and rolled and seeded with perennial lawn grass seed. Seeding shall be done at appropriate times of the year and in a manner to insure the growth of grass as approved by the Department of Public Works.

5.10 STREET SIGNS

Street signs approved by the Department of Public Works shall be furnished and installed at all street intersections prior to the occupancy of any house on the street. Street signs shall be set in concrete and the location and height of each sign shall be as prescribed by the Department or Public Works.

5.11 BOUNDARY MAKERS AND MONUMENTS

Markers or monuments shall be set on the right-of-way lines of each street at all angle points, at the beginning and end of all curves, at all intersections with the streets and ways and at subdivision boundary lines. All markers or monuments shall be granite stone and shall be not less than four (4') feet in length and not less than six (6") inches in width and breadth and shall have a drill hole in the center. All bounds shall be set flush with the surface of the adjoining ground. Wrought iron rods may be used where the points fall on exposed ledge. The placement and accurate location of these markers shall be certified in writing to the Board by a Registered Land Surveyor.

The entire perimeter of the subdivision shall be located on the ground and marked in accordance with the 1971 Land Court Manual of Instructions, as amended.

5.12 STREET LIGHTING

All the appurtenances for street lighting, i.e. handholes, transformer pads, conduit, etc., with underground wiring shall be installed concurrently with the installation of the underground domestic electric service. Plans showing proposed locations of poles and underground cables, conduits, transformers and related equipment shall be filed with and approved by the Board before installation is commenced.

5.13 FINAL CLEANING UP

Upon completion of the roadways and other required improvements, the developer shall remove from the highway and adjoining property all temporary structures, logs, brush, rubbish, loose stones and boulders, surplus earth, gravel and other materials which may have accumulated during construction and shall leave the subdivision in a neat and sightly condition.

5.14 INSTALLATION OF IMPROVEMENTS (INSPECTION)

5.14.1 GENERAL

- (1) Inspection of the required subdivision improvements shall be made by the Department of Public Works during the work and arrangements therefore shall be made by the developer with the Agent prior to the starting of road construction.

- (2) The Community Development Board Agent will furnish the developer with a copy of a checklist covering all required inspections. The original of such list shall be signed by the Agent after satisfactory completion of each stage of the construction and retained in the Board files.
- (3) Inspection shall be requested at least forty-eight (48) hours in advance of each inspection by written notice to the Community Development Board Agent, a copy of which notice shall be sent to the Board.

5.14.2 REQUIRED INSPECTIONS

- (1) The following scheduled inspections shall be required in all subdivisions during the installation of the required improvements:
 - a) Marking of trees to be preserved in the street right-of-way;
 - b) Satisfactory excavation of roadway and sub-grade preparation;
 - c) Satisfactory installation of drainage pipes conduits, catch basins, manholes and other below-grade drainage facilities;
 - d) Satisfactory installation of utility pipes and conduits located under roadway and sidewalk locations;
 - e) Satisfactory filling, grading and compaction of the roadway and sidewalk subgrades;
 - f) Satisfactory installation of curb and curb inlets at catch basins and at street intersections;
 - g) Satisfactory placement and compaction of gravel base for roadways;
 - h) Satisfactory placement of bituminous binder course on roadways;
 - i) Satisfactory installation of catch basins and manhole frames headwalls and rip-rapping;
 - j) Satisfactory placement of bituminous finish course on roadways;
 - k) Satisfactory construction of sidewalks;
 - l) Satisfactory installation of underground electric and telephone services;
 - m) Satisfactory installation of street lights;
 - n) Satisfactory loaming, grading and seeding of grass strips;
 - o) Satisfactory installation of street signs;

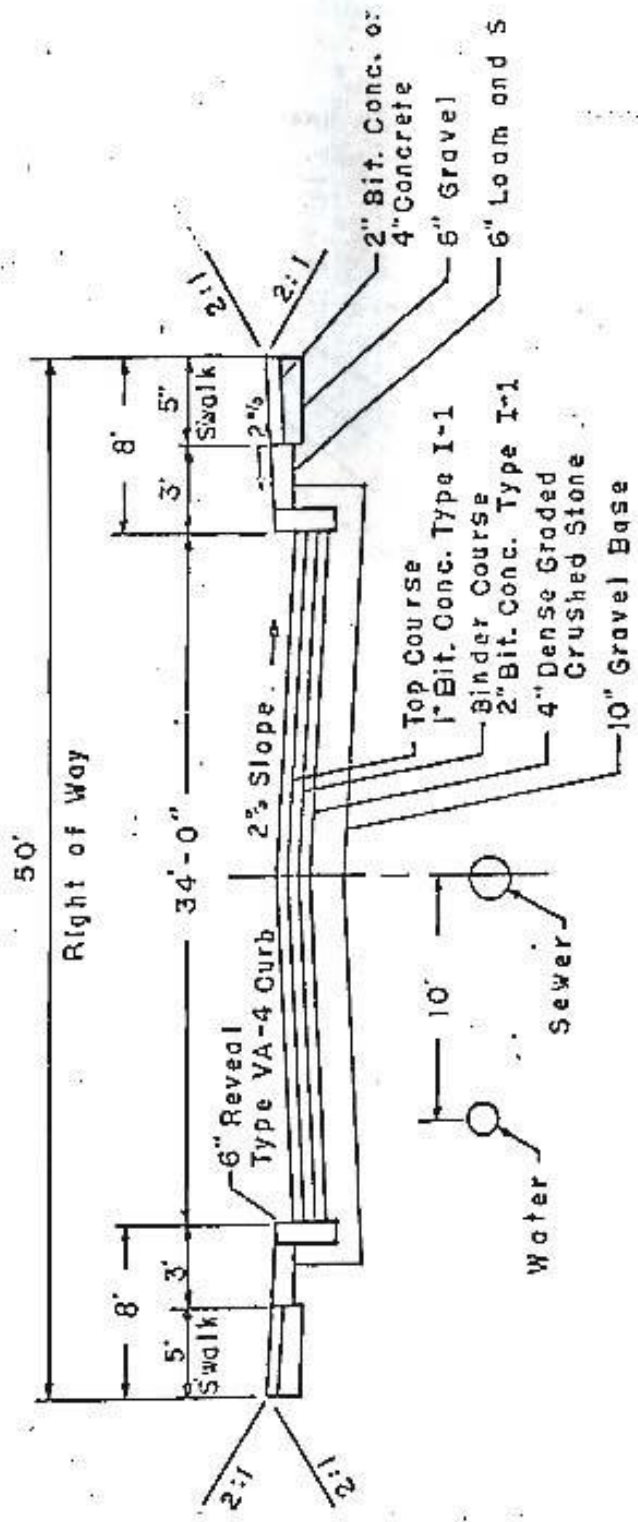
- p) Satisfactory installation of street trees where required;
- q) Satisfactory installation of monuments;
- r) Satisfactory clean-up;
- s) Satisfactory maintenance.

5.15 OFF-SITE IMPROVEMENTS/CONDITIONS OF APPROVAL

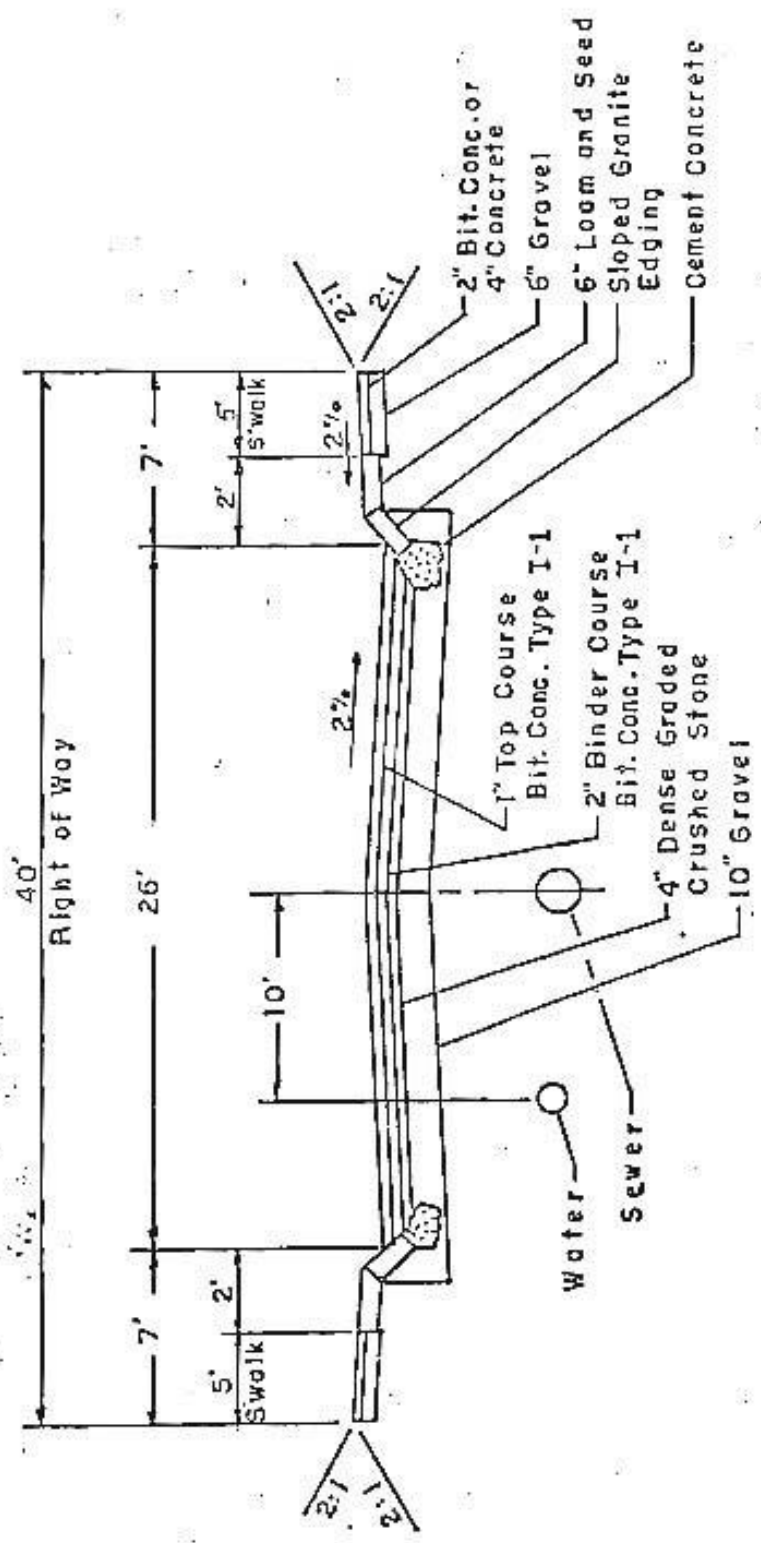
In accordance with the requirements of Chapter 41, Section 81M, Massachusetts General Laws, and for the purpose of protecting the safety, convenience and welfare of the inhabitants of the Town of Methuen, the following regulation shall govern the approval, denial or approval with conditions of subdivision applications; the same being done for the purposes of off-setting any negative impacts off-site which may be occasioned by subdivision construction and the same being under the performance standards as elicited herein.

- (1) Off-Site Street Work – Performance Standards: This regulation is enacted for the purpose consistent with the Subdivision Control Law of lessening congestion in subdivisions and in the adjacent public ways and to provide adequate access from the subdivision and to the public way.
 - a) Where the street system within a subdivision does not connect with or have in the opinion of the Board, adequate access from a town, county or state public way, the Board may require, as a condition of approval of a plan, that such adequate access be provided by the applicant and/or that the applicant make physical improvements to and within said such way of access in accordance with the performance standards for subdivision ways from the boundary of the subdivision to a town, county or state way.
 - b) Where the physical condition or width of a public way from which a subdivision has its access is considered by the Board to be inadequate to carry the traffic expected to be generated by such subdivision, the Board may require the subdivider to dedicate a strip of land for the purposes of widening the abutting the public way to a width at least commensurate with that required within the subdivision and to make physical improvements to and within such public way, to the same standards required within the subdivision. Any such dedication of land for purposes of way and any such work performed within such public way shall be made only with permission of the Department of Public Works or other agency having jurisdiction over such way. All costs of any such widening or construction shall be borne by the sub-divider.
 - (i) Water, Sewer and Drainage – Performance Standards
For the purposes of reducing danger to life and limb, for securing safety in the case of fire, flood, panic and other emergency, for securing adequate provisioning for water, sewerage, drainage and such services as fire, police and other municipal equipment, the following regulation is enacted:

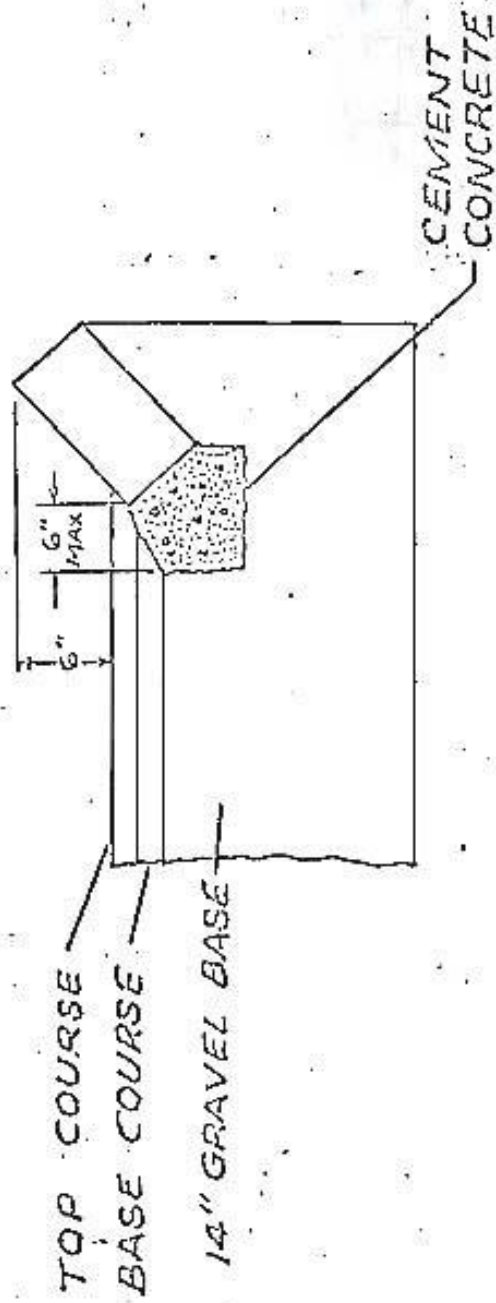
Upon recommendation by the board of Health and/or the Department of Public Works, where the proposed subdivision is within a reasonable distance to presently existing water, sewer and/or drainage systems, the Board may require, as a condition of approval of a subdivision plan, that the applicant connect his subdivision services such as water, sewer and drainage to such presently existing services in such manner and by such means and methods as are required by the Board and as further may be required in accordance with the Department of Public Works specifications. All costs occasioned by the bringing of such water, sewer and/or drainage lines to the subdivision shall be born by the applicant.

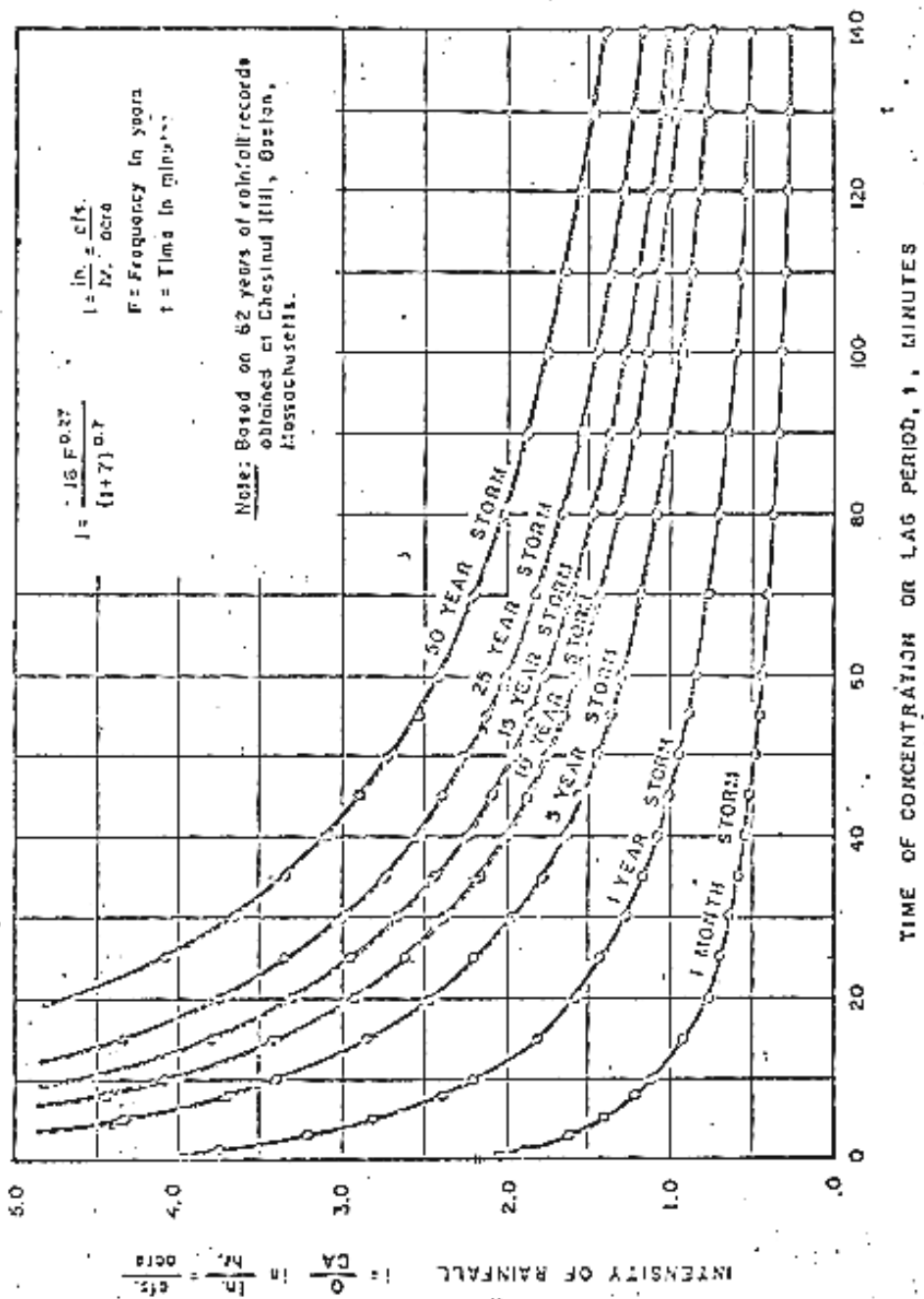


TYPICAL SECTION
PRINCIPAL ROAD
METHUEN, MASS.



TYPICAL SECTION
SECONDARY ROAD
METHUEN, MASS.





RAINFALL INTENSITY CURVE
METHUEN, MASS.

APPENDIX

**AMENDMENTS TO 1985 RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND IN METHUEN, MA**

Date	Section	Title
6-1-86	3.2.1.1	Fee (Definitive Plan)
6-27-88	2.2.2	Endorsement by Board of Plan Not Requiring Approval
6-27-88	2.2.3	Determination by Board that Plan Required Approval
6-27-88	2.2.4	Failure of Board to Act
6-27-88	2.5	Steps in Securing Approval of Subdivision Plan
6-27-88	3.1.1	Submission (Preliminary Plan)
6-27-88	3.2.1	Submission (Definitive Plan)
6-27-88	5.15	Off-Site Improvements/ Conditions of Approval (New Section)
9-12-88	4.3.3 (11)	Drainage Design Criteria
07-13-1994	3.2.1.1	Fees
07-13-1994	3.3	Recording of Plans
07-13-1994	5.2.2	Survey of Improvements as Installed
06/12/2002	2.3.3	Compliance with Zoning Ordinances
02-08-2006	2.3.3	Compliance with Zoning Ordinances