

Town of Barnstable
Planning Board

SUBDIVISION RULES & REGULATIONS

February 2003

TOWN OF BARNSTABLE, MASSACHUSETTS SUBDIVISION RULES AND REGULATIONS

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History

*Subdivision Control Law accepted by the Town 03-06-1962
Regulations went into effect November 20, 1962*

*Adopted 1973
Amended 2/26/79
Amended 6/29/92
Amended 5/17/9
Amended 2/24/03*

SECTION 1

Authority and Purpose

1-1. Authority

Under the authority vested in the Barnstable Planning Board, or its legally constituted successor, 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 Barnstable. Such Rules and Regulations shall supersede and replace any previously adopted Subdivision Control Law Rules and Regulations; and may be amended in accordance with the provisions of Section 81-Q of Chapter 41 of the General Laws.

1-2. Purpose

The Subdivision Control Law has 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 lots therein, and ensuring sanitary conditions in subdivisions and in proper cases parks and open areas.

The powers of the Board under the Subdivision Control Law 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 ensuring compliance with the applicable zoning ordinances; for securing adequate provision for water, sewerage, drainage, underground utility services, fire, police, street lighting, and other similar municipal equipment and other requirements where necessary in a subdivision; 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.

SECTION 2 General Provisions

2-1. Definitions and Abbreviations

For the purposes of these regulations, the following words and phrases shall have the meanings given in the following clauses, unless a contrary intention clearly appears.

AASHO	Latest Revisions of Standard Specifications for Highway Materials and Methods of Sampling Testing adopted by the American Association of State Highway Officials.
ACI	Latest Revisions of the Manuals of Concrete Practice published by the American Concrete Institute.
Applicant	Applicant shall include an owner, agent, representative, or assign so entrusted to propose and/or develop the proposed subdivision.
ASSHTO	Latest revisions of the Policy on Geometric Design of Highways and Streets by the American Association of State Highways and Transportation Officials.
ASTM	Latest Revisions of Standard Specifications published by the American Society for Testing and Materials.
Board	The Planning Board of the Town of Barnstable.
Definitive Plan	The plan of a subdivision as submitted (with appropriate application) to the Board for approval, to be recorded in the Registry of Deeds or filed with the Recorder of the Land Court when approved by the Board, and such plan when approved and recorded or filed. The requirements and content of the Definitive Plan shall be as specified hereinafter.
Department's Specifications	"The Town of Barnstable, Department of Public Works, Construction Specifications" and the "Standard Specifications for Highways and Bridges of the Massachusetts Department of Public Works" as applicable including all revisions thereto. In the case of any conflict, the Town of Barnstable, Department of Public Works Specifications shall govern.
Engineer	A Professional Civil Engineer registered in the Commonwealth of Massachusetts.
Frontage	The distance between the side boundaries of a lot, measured along the exterior line of whatever way or street serves as legal and practical access to the buildable portion of the lot.
General Laws	The Commonwealth of Massachusetts General Laws, with all additions and amendments. In case of a re-arrangement of the General Laws, any citation of particular sections of the General Laws shall be applicable to the corresponding sections in the new codification.
Land Surveyor	A Land Surveyor registered in the Commonwealth of Massachusetts.
Lot	An area of land delineated by lot boundary lines in one ownership and not divided by a public or private way.

Owner	As applied to real estate, the person (as hereinafter defined) holding the ultimate fee simple title to a parcel, tract or lot of land, as shown by the record in the appropriate Land Registration Office, Registry of Deeds or Registry of Probate.
Person	An individual, or two or more individuals or a group or association of individuals, a trust, a partnership or a corporation having common or undivided interests in a tract of land.
Planning Board Engineer	A Registered Professional Engineer so designated by the Board to act as their agent in that capacity.
Preliminary Plan	A plan of a proposed subdivision or a re-subdivision of land submitted for discussion and consideration by the Board prior to the preparation of a Definitive Plan. Requirements and contents shall be as specified hereinafter.
Print	A blue line or black line print.
Roadway	That portion of a way which is designed and prepared for vehicular travel.
Scenic Roads	As designated by the Town of Barnstable pursuant to Chapter 40, Section 15C of Massachusetts General Laws.
Street - Major	A street which, in the opinion of the Board is being used, or will be used as a thoroughfare between different portions of the Town, or which will be the principal access to a business or industrial subdivision.
Street - Secondary	A street intercepting several minor streets and which in the opinion of the Board may carry traffic from such minor streets to a major street or community facility, including the principal access streets or principal circulation streets of residential subdivisions, and including all streets, except those designated as major streets, of a business or industrial subdivision.
Street - Minor A	A street which, in the opinion of the Board, is being used or will be used primarily, to provide access to abutting residential lots, and which is not intended for use by through traffic.
Street - Minor B	A residential street which, in the opinion of the Board, may not be used for access to land as yet undeveloped, is less than five hundred (500) feet in length; is access to four or less single family lots and is not a portion of a piece of land which has been subdivided into ten or more lots within the preceding ten (10) years.
Subdivision	<p>The division or re-subdivision of a tract of land into two or more lots; or to the process of a subdivision; or to the land or territory subdivided.</p> <p>The division of a tract of land into two or more lots shall not constitute a subdivision if, at the time it is made, every lot within said tract has frontage in compliance with the Zoning Ordinance on:</p> <ul style="list-style-type: none"> A. A public way, which the Town Clerk certifies, is maintained and used as a public way; B. A way shown on a plan previously approved and endorsed under Subdivision Control Law which has been fully constructed in compliance with the Subdivision Rules and Regulations in effect at that time; or

- C. A way in existence when the Subdivision Control Law became effective which meets the standards of adequate access established by Section 3-1.3 (2) of these Rules and Regulations.

Subdivision Control Law	Sections 81K through 81GG, inclusive; of Chapter 41, M.G.L. as now in force, and any acts in amendment thereof.
Utilities	Sewers, surface water drains, water pipes, gas pipes, electric lines, telephone lines, fire alarm lines, cablevision lines and their respective appurtenances and other like services.
Vehicle Trip	A single or one-direction vehicle movement.
Way	The full strip of land separate from adjoining lots, designated as a way or street as distinguished from the roadway.
Wetlands	Resource areas subject to regulation under MGL Ch. 131, Sec. 40; 310 CMR 10.00; and to Article 27 of the Town of Barnstable Ordinances.

2-2. Prohibitions

2-2.1 Plan Requirement

No person shall make a subdivision 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 utilities therein, unless and until a Definitive Plan of such Subdivision has been submitted to and approved by the Board.

2-2.2 Clearing

No clearing of vegetation or grading for the development of ways or building sites shall commence until an approved and endorsed Definitive Plan has been recorded and evidence of recordation returned to the Planning Board office. This shall not apply to limited clearing for the purpose of surveying. Selective removal of trees for the purpose of soil testing may be undertaken with written permission of the Planning Board.

2-3. Waivers

2-3.1 Waiver Criteria

1. As provided in Section 81-R of Chapter 41, Massachusetts General Laws, the Board may waive strict compliance with these requirements when, in its judgment, such action is in the public interest and not inconsistent with the intent or purposes of the Subdivision Control Law. In making this determination the Board shall consult with other agencies as the Board may deem necessary.
2. If the development is not consistent with the Subdivision Rules and Regulations, the written waivers granted thereto and the conditions of approval, the applicant shall be responsible for bringing the subdivision into compliance.

2-3.2 Waivers from construction standards to maintain rural character.

In order to maintain the rural character of an area, the Board may grant waivers for a residential subdivision plan which is designed in keeping with the rural character of the surrounding area, based on the following findings by the Board:

1. The granting of the waiver is in the best interest of the citizens of the town.
2. That the plan is well designed, and in keeping with the general design principles set forth in Section 4 of these regulations.

3. That there is adequate access to the lots for the uses intended thereon.
4. That the plan is in keeping with the character of the surrounding area.

In order to apply for waivers under this section, the applicant shall submit a preliminary subdivision plan to the Board.

2-3.3 Waiver Requests

Applicants seeking waivers from the requirements of the Subdivision Control Rules and Regulations of the Law shall submit at the time of filing of an application for approval of a Preliminary or Definitive Subdivision plan, a separate written request for waivers. The written request shall specify by section and paragraph the requirement(s) of the Subdivision Rules and Regulations from which waivers are requested. A waiver request shall provide a concise statement of the nature and extent of the waiver(s) requested and the reason(s) for the request. Such waiver requests are required as part of the submission procedures as outlined in Section 3.5.2 and 3.6.1(1) of the Barnstable Subdivision Rules and Regulations.

2-3.4 Responsibility for maintenance

Where the Board approves waivers from these Regulations pursuant to Section 2-3.2 above, the owners of all the land within the subdivision shall be responsible for the maintenance and repair of the street(s), including snow plowing. The Town will not accept a street as a public way that does not meet the construction standards contained herein. To provide notice to future landowners of responsibility for maintenance and repair, the applicant shall execute the S Form contained in the Appendix at the Registry of Deeds, and return the recorded document to the Planning Board office.

2-4. Inspection

All work required by these Rules and Regulations shall be under the inspection of and with the approval of the respective Town Departments and utility companies involved hereunder. Also see Section 6-4 of these Rules and Regulations regarding inspections by the applicant's engineer.

2-5. Responsibility

2-5.1. Applicant's Responsibility

All work performed under these rules and regulations shall be the responsibility of the owner and/or applicant.

2-5.2. Inspection by Town

The purpose of inspection by the Town is to assure that good practices are followed in constructing the project in accordance with the designs and specifications, and not to establish these practices.

2-5.3. Quality Control

The owner shall employ a quality control program through the services of a Professional Engineer.

2-6. Separability

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

2-7. Amendments

These regulations or any portion thereof may be amended, supplemented or repealed from time to time by the Board after a public hearing on its own motion or by petition.

SECTION 3
Requirements for the Submission and Approval of Plans

3-1. General Requirements for all Plan Applications

3-1.1. Applicant

1. The applicant shall be the owner of all the land shown on the plan application, or be authorized to act upon behalf of the owner. Evidence of such authorization shall be provided to the Board with the application.
2. The applicant shall file with the Planning Board proof of ownership of the land and, if a non-owner applicant, proof in writing of authority to act for the owner. A copy of the most recently recorded deed and the most recent real estate bill or certification of assessment to the owner from the Board of Assessors, shall be submitted with all plan applications. Evidence of payment of all property taxes for each parcel shown on the plan, shall also be submitted.

3-1.2. Certification of Plan

All plans submitted to the Board shall include a certification as to their conformance with these Rules and Regulations and as to the validity of their content executed by a Land Surveyor or Professional Engineer, or both, as required by the Board. The Board suggests that the owner be represented at any meeting with the Board by the person responsible for the design of the subdivision and the preparation of the plans.

3-1.3. Adequacy of Access

1. General

No plan shall be endorsed as not requiring approval under the Subdivision Control Law, and no subdivision plan shall be approved unless each building lot to be created by such plan has adequate access as intended under the Subdivision Control Law, Chapter 41, General Laws, Sections 81-K through 81-GG.

2. Standards of Adequacy

Streets within a subdivision shall have adequate access if they comply with the standards established in Sections 4 and 5 of this regulation. Existing ways providing access to the streets within a subdivision, or providing access to lots said not to be within a subdivision, shall be considered to provide adequate access only if there is assurance that prior to construction on any lots, access will be in compliance with the following:

STANDARDS OF ADEQUACY for EXISTING WAYS					
Total No. of Dwelling Units	1-4**	5-10	11-49	50+	Business District
Min ROW Width	33'	33'	40'	50'	60'
Surface Type****	3" bit. con.	3" bit. con.	4" bit. con.	4" bit. con.	4" bit. con.
Surface Width*	***	18'	22'	24'	24'
Min Sight Distance	250'	250'	250'	350'	250'
Maximum Grade	10%	10%	8%	6%	6%
* Over the entire width of the way, including curbing and berms, if any.					
** No further access, see definition of a street, "Minor B".					
*** For residential lots: 14 feet wide for 2 lots; 16 feet wide for 3 lots; and 18 feet wide for 4 lots.					
**** with adequate road base in the opinion of the Board's Engineer.					

3. Obligations

The Board may require, as a condition of its approval of a subdivision plan, that the applicant dedicate or acquire and dedicate a strip of land for the purpose of widening access ways and/or intersections to

land shown on a subdivision plan, and providing access to that subdivision, to a width as required above, and that the applicant either make physical improvements within such way or compensate the Town for the cost of such improvements in order to meet the standards specified above.

4. Access Roads

The Planning Board may require that ways in a proposed sub-division be connected to more than one access road adjoining the subdivision, depending on the existing or proposed road network, the topography and the size of the subdivision.

5. Conditions

In any case in which the Board deems ways are not adequate, it may approve a subdivision plan with conditions limiting the lots upon which buildings may be erected and the number of buildings that may be erected on particular lots without further consent by the Board to the access provided and in each case such conditions shall be endorsed on the plan to which they relate.

6. Access over road frontage

- A. Access to a lot created by an Approval Not Required Plan or by a Subdivision Plan shall be from the frontage that meets the legal requirements of the Zoning Ordinance unless otherwise authorized by the Planning Board and so notated on the Plan.
- B. Where such frontage and access is located along a private way, the applicant shall submit evidence to the Board, satisfactory to the Board, that the applicant has right of access over the private way.

3-1.4 Sight Distances at Road Intersections

- A. Sight distances at road intersections shall be measured at an eye height of 3.5 feet and an object height of 4.25 feet above the pavement, from the center of the right lane, at the intersection with the pavement of the existing street.
- B. Site Distances shall be measured according to posted speeds as follows:

Posted Speed on Existing Road	Required Site Distance
30 MPH	350 feet
35 MPH	415 feet
40 MPH	475 feet
45 MPH	540 feet
50 MPH	600 feet

Where speeds are not posted, the following standards shall apply:

Area description	Design speed	Required Site Distance
Thickly settled and/or buildings less than 200 feet apart	30 MPH	350 ft.
Outside a thickly settled or business district	40 MPH	475 ft.
On a highway outside a thickly settled or business district	50 MPH	600 ft.

3-1.5 Boundaries of Wetlands

The applicant shall flag the boundaries of any wetlands within a subdivision. The flagged boundary shall be delineated on the plan.

3-1.6 Tree map

In special instances where subdivision construction could result in excessive removal of large trees, the Planning Board may require a tree map showing the size, species and location of all trees over six (6) inches in diameter.

Section 3-1.7 Submission requirements for all plans

1. Plans shall not be deemed to have been submitted until all the requirements of these regulations regarding form, content and procedure have been met.
2. The applicant shall endeavor to ensure that a completed application is made at the time of submission, in order to allow the staff and the public opportunity to review the application in its entirety, prior to the public hearing. The Planning Board may deny incomplete applications and plans that do not meet the requirements of these regulations.
3. Where the Board finds at a duly noticed public meeting that the application is incomplete, the Board may deny approval of the application as the first order of business at the public hearing, without a grant of leave to amend.

Section 3-1.8 Submission Procedure

One copy of the application for plan approval or endorsement shall be submitted to the Planning Board. Notice of the application shall be submitted to the Town Clerk by delivery or registered mail.

3-2 Environmental Analysis Form

3-2.1 When Required

The applicant shall submit an Environmental Analysis (EA) on the EA Form for any subdivision which:

1. Provides access to ten or more dwelling units; and/or
2. Provides access to four (4) or more acres of non-residentially zoned land; and/or
3. Is a multi-family or non-residential subdivision with access to, or located within 500 feet of Route 132, Route 28 or Route 6A.
4. If the Board determines it appropriate in light of special circumstances, based upon recommendations from the Planning Department and/or the Department of Public Works.

3-2.2 Waivers from the Environmental Analysis (EA)

Based upon recommendation(s) from the Planning Department and the Department of Public Works, Engineering Division, the Planning Board may waive any or all sections of the EA upon receipt of a written request by the applicant. It is strongly recommended that the applicant seek the determination prior to the submission of any plans.

3-2.3 Submission

It is recommended that the EA form be submitted providing appropriate detail with the Preliminary Plan in order to avoid errors or extra commitments which waste valuable time and resources. The completed form shall be filed with the Definitive Plan or a waiver obtained. Questions should be directed to the Planning Department.

3-2.4 Mitigation of Impacts

Subdivisions plans shall be designed so as to mitigate impacts upon natural resources and the town's infrastructure.

APPROVAL NOT REQUIRED PLANS

3-3. Plan Believed Not To Require Approval

3-3.1. Applicant Procedure

1. Anyone who seeks endorsement that a plan does not require approval under the Subdivision Control Law shall submit the following to the Planning Board office:
 - A. The original drawing, at a scale of 1" equals twenty feet or other suitable scale acceptable to the Board, and eight (8) prints.
 - B. Title block containing Fire District and location, the owner(s) and applicant(s) name(s), date, scale, bar scale,
 - C. The name and address of the firm responsible for the plan; an original seal on the original plan and all full size copies, with signature and date provided by the responsible professional, registered land surveyor. Revisions shall be clearly noted near the title block with reference number, date, description and initials of the person responsible for the revisions.
 - D. Ten (10) copies of the overall plan at a reduced scale of one (1) inch equals one hundred (100) feet, or other suitable scale for distribution.
 - E. A properly executed Form A, and Form A Checklist, date stamped by the Town Clerk.
 - F. The filing fee.
 - G. A compatible electronic file of the plan shall be submitted in accordance with the file format and coordinate system specifications listed in Appendix A for accurately inputting plan information into the Town's Geographic Information System.
 - H. A copy of the most recently recorded deed and a copy of the most recent tax bill.
 - I. Evidence that all property taxes have been paid on each parcel shown on the plan.
 - J. If the applicant is not the owner, evidence of authorization to apply on behalf of the owner.
 - K. Evidence of right of access over a private way that provides access and frontage.
2. Notice of application to the Planning Board shall be filed by delivery, registered or certified mail, to the Town Clerk. The plan shall not be deemed to have been submitted until all the requirements of these regulations regarding the form, contents and procedure have been met.
3. The Planning Board may deny incomplete applications and/or plans that do not meet requirements of these regulations.

3-3.2 Plan Contents

Plan sheets shall be twenty four inches wide and thirty six inches long with a three-quarter (3/4) inch border and contain the following information:

1. A key map at a scale of one inch equals two thousand (2,000) feet, and beneath the locus, the assessor's map and parcel number, the zoning district, any zoning overlay district, the minimum lot size, frontage, yard and width requirements.
2. A north arrow.

3. The present owner of the land and any remaining adjoining land owned by the present owner or by the authorized applicant. The frontage of any remaining adjoining land.
4. The location of any existing building on the land shown on the plan, including setback and side or rear yard distances and street address.
5. The location and width of any street easement or way, its legal status, name (if any), the width of the traveled way and the nature of its surface. The legal status of a way shall be as determined by the Town Clerk and/or Town Engineer.
6. Wetlands shall be shown on any buildable lot.
7. The size of each lot shall be shown in square feet and acres and on lots which are to be separate building lots, lot shape factor calculations shall be shown. Lots which are created for conveyance purposes and which are not separate building lots shall be so noted on the plan.
8. The Plan shall contain a note: ***"No determination as to compliance with the Zoning Ordinance requirements has been made or intended by the above endorsement"***
9. The plan shall contain a certification clause signed by the preparer that the plan conforms to the requirements of the Registry of Deeds or the Land Court.
10. Except for a plan to be registered with the land court, the plan shall contain a three and one half (3 1/2) inch square labeled "FOR REGISTRY USE".
11. The words "Barnstable Planning Board Approval under the Subdivision Control Law Not Required" and suitable space for the Planning Board's signature and date.
12. Property corners shall be tied into the Massachusetts Planner Coordinate System when required by the Town of Barnstable Engineering Division of the D.P.W.

3-3.3 Board Actions

The Board shall, within twenty-one (21) days from the date of submission, at a meeting, either endorse the plan as one not requiring its approval under the Subdivision Control Law, or find that said plan requires the Board's approval as a subdivision. The Town Clerk shall be notified of the Board's decision in writing. If the Board determines that the plan requires its approval as a subdivision, the applicant shall be notified by certified mail.

SUBDIVISION PLANS

3-4. Informal Review of Subdivision Plans

Before submitting a Preliminary or Definitive Plan, the applicant is encouraged to submit a sketch plan to the Barnstable Planning Department for an informal staff review before formal application is made. This step does not require a formal application, fee or filing of a plan with the Planning Board.

3-5. Preliminary Plan

3-5.1. General Provisions

The purpose of the submission of a Preliminary Plan will be to enable the applicant, the Board and other municipal agencies to discuss and clarify the problems of such subdivision before a Definitive Plan is prepared.

In the case of a subdivision showing lots in a residential zone, any person, before submitting a Definitive Plan for approval, may submit a Preliminary Plan to the Planning Board and to the Board of Health.

In the case of a nonresidential subdivision, any person before submitting a Definitive Plan for approval, shall submit a Preliminary Plan to the Planning Board and the Board of Health.

Prior to submitting a plan, the applicant shall contact the Planning Board office and shall be assigned a subdivision number which shall appear on the plan.

During discussions of the Preliminary Plan, information required for the Definitive Plan will be developed.

3-5.2 Submission Procedure

1. The following materials shall be submitted to the Planning Board office:
 - A. One copy of the properly executed Form B and Form B Checklist
 - B. Copy of the most recently recorded deed and tax bill for each parcel of land. Evidence of payment of all taxes.
 - C. Written authorization to submit the application on behalf of the owner, if the applicant is not the owner of all the land shown on the Subdivision Plan,
 - D. The required filing fee.
 - E. Eight (8) prints of the Preliminary Plan
 - F. Ten copies (10) of the plan at a reduced scale of one inch equals 100 feet, or other suitable scale for distribution.
 - G. If the applicant proposes to seek a waiver of strict compliance with these Rules and Regulations, a written general description of such waiver request(s) shall be submitted with the Preliminary Plan in accordance with Section 2-3.
 - H. It is recommended that nine (9) copies of the completed Environmental Analysis Form be submitted with the Preliminary Plan, if required, or a waiver requested.
2. The Preliminary Plan shall not be deemed to have been submitted to the Board until the application, checklist, plans and filing fee have been delivered to the Planning Board and are fully completed in accordance with these Rules and Regulations. The Planning Board may deny plans that are incomplete and/or do not meet the submission requirements of these regulations.

3. The applicant shall file by delivery or registered mail a copy of the completed application Form B with the Town Clerk stating the date of submission of the Preliminary Plan to the Planning Board.

3-5.3 Contents of Plan

The Preliminary Plan shall be submitted on tracing paper or a print thereof, and shall be drawn at a suitable scale. The plans shall show the following:

1. The subdivision name and number, north arrow, and the words "Preliminary Plan."
2. A key map shall be included on the Preliminary Plan showing the locus of the property with adjacent streets sufficient to determine the actual location of the subdivision, at a scale of 1" = 2000'.
3. A title block containing Fire District and location, the owner(s) and applicant(s) name(s), date, scale, bar scale.
4. The name and address of the firm responsible for the plan; an original seal on the original plan and all full size copies, with signature and date provided by the responsible professional engineer and/or registered land surveyor. Revisions shall be clearly noted near the title block with reference number, date, description and initials of the person responsible for the revisions.
5. The assessor's map and parcel number(s), zoning district(s) and zoning overlay district(s), zoning area, frontage, yard and width requirements. The total area of the subdivision shall be located directly below the key map.
6. The boundaries of the subdivision and intersection of adjoining property lines with the names of all abutters as they appear on the most recent tax list.
7. The existing and proposed lines of streets, ways, and their classification as a major, secondary, minor A or B street, easements, and any public areas, within or adjacent to the subdivision; with ownership status and existing pavement, if any, designated for abutting ways. The legal status of a way shall be as determined by the Town Engineer and/or Town Clerk.
8. The top and toe of proposed slopes adjacent to the roadways.
9. Sight distances at intersections of subdivision roads with existing streets. Sight distances shall be measured in accordance with Section 3-1.4.
10. The approximate boundary lines of lots with approximate areas and divisions. The approximate area of wetlands on each parcel. Lots shall be numbered consecutively.
11. The proposed and existing system of drainage, including adjacent existing natural waterways, in a general manner.
12. The topography of the land shown by contours. If survey information on topography is not available at the Preliminary Plan stage, topographic information shall be utilized from the Town's Information Systems Department, GIS Division, indicating contours at two-foot intervals.
13. Significant site features including:
 - A. Wetlands, waterbodies, flood zone boundaries, kettle holes and natural drainage patterns; and/or
 - B. Existing building structures and stone walls.
14. Wetlands and waterbodies within 200 feet of the perimeter of the subdivision.
15. Slopes in excess of 10%.

16. Existing water mains, sewers and utilities adjoining and within the subdivision. The location of any existing utility poles in or adjacent to the subdivision.
17. A plan showing in a general manner the proposed overall development of all contiguous land, if any, in the same ownership.
18. Location of the proposed subdivision with regard to:
 - A. Historical District or other designation as an Historically Significant property.
 - B. Flood Areas as depicted on the special F.I.A. Flood Insurance Rate maps.
 - C. Areas of Critical Environmental Concern as designated by the Commonwealth of Massachusetts, Executive Office of Environmental Affairs.
 - D. Designated Scenic Roads.
 - E. Districts of Critical Planning Concern as designated by the Cape Cod Commission.
 - F. Location within a critical Habitat as designated by the 1990 APCC publication "Cape Cod Critical Habitats Atlas".

3-5.4 Board Actions

The Board shall, within forty-five (45) days after submission give such Preliminary Plan its approval with or without modification, or shall disapprove such plan stating its reasons. The applicant shall be notified by certified mail of the Board's decision and any conditions of approval. The Town Clerk shall be notified of the Board's decision in writing.

3-6. Definitive Plan

3-6.1. General Provisions

Any person who submits a Definitive Plan of a subdivision to the Planning Board for approval shall file the following:

1. With the Planning Board:
 - A. An original drawing of the Definitive Plan and street plans and profiles and eight contact prints thereof. The original drawings will be returned after approval or disapproval;
 - B. Ten copies of the plan at a reduced scale of one (1) inch equals one hundred (100) feet or other scale suitable for distribution.
 - C. A compatible electronic file of the plan shall be submitted in accordance with the file format and coordinate system specifications listed in Appendix A for accurately inputting plan information into the Town's Geographic Information System.
 - D. One copy of properly executed Application Form C, and the Form C-1 Checklist;
 - E. A copy of the most recently recorded deed and tax bill for each parcel of land within the subdivision, unless submitted with a Preliminary Plan application, and there has been no change in ownership since that submission. Evidence that taxes have been paid on all lots.
 - F. A copy of a purchase and sales agreement or other evidence of authorization to apply on behalf of the owner(s) of all of the land shown on the plan, unless submitted with the Preliminary Plan.

- G. Evidence of right of access from a private way that provides frontage and access to any lot shown on the subdivision plan.
 - H. The filing fee.
 - I. Where no Preliminary Plan has been submitted, the applicant shall contact the Planning Board Office and shall be assigned a subdivision number which shall appear on the plan;
 - J. A list of all abutters to the subdivision as shown on the Definitive Plan, together with the address of each as determined from the most recent tax list;
 - K. If the applicant seeks a waiver of strict compliance with these Rules and Regulations, a written description of such waiver requests as specified in Section 2-3, shall be submitted together with the Definitive Plan;
 - L. The location of all soil test sites and a description of the soil depths, percolation rate, and composition and type of soil for each lot and any open space in the subdivision;
 - M. Boring logs and soil classifications performed by a Registered Professional Engineer shall be taken at intervals sufficient to adequately map soil types and groundwater elevations. In general, borings will be required at the location of each manhole, catch basin, leaching system, retention basin, detention basin, and every 250 feet along the roadway unless otherwise approved by the Board's engineer. Depth to groundwater shall be recorded if encountered;
 - N. Two copies of calculations for the determination of all waterway openings to justify culvert and drain sizes as required by Section 4-3.3. Such calculations shall be prepared by a Registered Professional Engineer;
 - O. A copy of all the drainage calculations;
 - P. Nine (9) copies of the Environmental Analysis report, when required;
 - Q. Engineer's report outlining projected maintenance needed for the subdivision roads and drainage system over the next twenty years (20) years;
 - R. A tree map in accordance with Section 3-1.6; and
 - S. Report from the Cape Cod Commission, if any.
2. With the Town Clerk: The applicant shall file, by delivery or registered mail, a notice stating the date of submission to the Planning Board.
 3. With the Board of Health: Four (4) copies of all the plans and a copy of Application Form C.
 4. With the appropriate Fire Department and public water supply office, if any, one copy of all the plans and a copy of Application Form C.
 5. The Definitive Plan shall not be deemed to have been submitted to the Board until the application, filing fee, and other information required under Section 3 together with the Definitive Plan and prints, have been submitted and are fully complete in accordance with these Rules and Regulations. The Board may deny approval of plan applications that are incomplete and/or do not meet the submission requirements of these Regulations.

3-6.2. Contents of Plan

The Definitive Plan and street plans and profiles shall be prepared by a registered professional Civil Engineer and a registered Land Surveyor. The plan shall be drawn to a scale of one (1) inch equals forty

(40) feet unless an alternative scale is approved by the Planning Board's Engineer. The Definitive Plan shall meet the requirements of the Registry of Deeds or Land Court as applicable depending upon the method of recording. Plans shall also conform to the regulations of the Board of Professional Engineers and Land Surveyors 250 CMR and its latest revisions thereto. Sheet size shall not exceed 24" x 36". If multiple sheets are used, they shall be accompanied by an index sheet showing the entire subdivision.

Sheet(s) A. The Definitive Plan shall show the following:

1. The subdivision name and number, north arrow, legend, Fire District and location, the owner(s) and applicant(s) name(s), date, scale, bar scale and the words "Definitive Plan".
2. A key map with adjacent streets sufficient to determine the actual location of the subdivision, at a scale of 1" = 2,000'. The assessor's map and parcel number(s), total gross area of the subdivision and any wetlands, zoning district(s), zoning overlay district(s), zoning area, width, yard and frontage requirements, shall be located directly below the key map.
3. Title block containing the name and address of the firm responsible for the plan; an original seal on the original plan and all full size copies, with signature and date provided by the responsible professional engineer and/or registered land surveyor. Revisions shall be clearly noted near the title block with reference number, date, description and initials of the person responsible for the revisions.
4. The boundaries of the subdivision and intersection of adjoining property lines with the names of all abutters as they appear on the most recent tax list.
5. Any zoning district, zoning overlay GP and WP districts, or fire district lines which pass through the property.
6. Existing and proposed lines of streets and their classification as a Major, Secondary, Minor A or B street, ways, lots, easements and public or common areas within the subdivision with ownership status and existing pavement, if any. The proposed names of proposed streets shall be shown in pencil until they have been approved by the Board's Engineer.
7. Sufficient data to determine readily the location, direction, and length of every street and way line, easements, lot line and boundary line, and to establish those lines on the ground.
8. Location of all permanent monuments properly identified as to whether existing or proposed.
9. The location of any existing buildings and stone walls.
10. The location of wetlands and surface water bodies.
11. Area of each lot in acres and square feet. Net area of wetlands within each lot or parcel, in square feet. Lot shape factor calculations noted on each lot.
12. Plans to be approved with a covenant shall contain the following note: "Approval of this plan subject to compliance with covenant to be recorded herewith".
13. Suitable space to record the action of the Board and the Town Clerk's certification of no appeal.

Sheet B. Separate Reproducible Copies of the Definitive Plan shall show the following:

1. Beneath the key map, the total number of linear feet, measured along the centerline, for each street proposed on the plan. The gross area of roads and cul-de-sacs in square feet and acres.
2. Lot numbers and street numbers, if issued by the Town Engineer, enclosed in a square.

3. The coordinates of all property corners, lot corners, and street line changes in direction. Coordinates shall be tied into the Massachusetts Planner Coordinate System where required by the Town of Barnstable Engineering Division of the D.P.W.

Sheet C. A separate reproducible copy of the Definitive Plan shall show the following:

1. Location, names, legal status, right-of-way widths and pavement widths of streets bounding, approaching or within reasonable proximity of the subdivision. Legal status of streets shall be as certified by the Town Clerk.
2. The top and toe of proposed slopes adjacent to the proposed roadway.
3. Slopes in excess of 10% and soils classified as having severe slope characteristics for building site development by the U.S.D.A., Soil Conservation Service, latest Soil Survey Report for Barnstable County.
4. Road centerline stationing, referenced to the street plans and profiles. Zero point for centerline stationing shall be the intersection of centerlines.
5. Topography shall be shown by contour lines at a maximum interval of two (2) foot. Existing contours shall be shown as dashed lines and proposed final contours as solid lines. Contours shall extend beyond the boundaries of the property a sufficient distance to indicate the effect of the subdivision on abutting property. A minimum of two benchmarks shall be indicated on the plan.
6. Sight distances at intersections of subdivision roads with existing streets. Sight distances shall be measured in accordance with Section 3-1.4.
7. The complete drainage system including pre-existing drainage patterns, proposed drainage components and the delineation of all watersheds including water entering and leaving the site.
8. Erosion and sediment control plan including temporary drainage facilities for use during construction.
9. Wetlands and surface water bodies within 200 feet of the perimeter of the subdivision.
10. Existing water mains, utilities and sewers adjoining and within the subdivision. The location of any existing utility poles in or adjacent to the subdivision.
11. Location of the proposed subdivision with regard to a:
 - ❖ Historic District or other designation as an Historically Significant property.
 - ❖ Flood Areas as depicted on the special F.I.A. Flood Insurance Rate maps.
 - ❖ Areas of Critical Environmental Concern (ACEC) as designated by the Commonwealth of Massachusetts, Executive Office of Environmental Affairs.
 - ❖ Designated Scenic Roads.
 - ❖ District of Critical Planning Concern as designated by the Cape Cod Commission.
 - ❖ Location within a critical Habitat as designated by the 1990 APCC publication "Cape Cod Critical Habitats Atlas".

Sheet D. A sketch plan showing the approximate layout of streets of any remaining adjoining land owned by the applicant or purchaser of the land, unless a subdivision plan of the remaining land has been filed with the Board.

3-6.3 Road Plans, Profiles and Cross Sections.

Two copies of separate plan and profiles of every street shall be submitted showing the following data:

1. A horizontal scale of one (1) inch equals forty (40) feet. A vertical scale of one (1) inch equals four (4) feet.
2. Existing center line profile to be shown as alternating dotted and dashed black line. Existing center line profile for intersecting streets to be shown for at least one hundred (100) feet each side of the intersection of street center lines. Zero point for centerline stationing shall be the intersection of centerlines.
3. Finished, designed profile to be full black line, with elevations shown every fifty (50) feet, except where there is a vertical curve, the elevations shall be shown every twenty-five (25) feet.
4. Elevations referred to mean sea level datum as established by the U.S. Coast and Geodetic Survey.
5. Plan, profile and cross section of proposed system of drainage including swales, retention basins, catch basins, manholes, and proposed inverts and pipe sizes. The location and dimensions of drainage easements and limits of any surface water body or wetland, and the height of groundwater, corrected to maximum elevation using the Frimpter correction method.
6. All existing walks and driveways.
7. Rates of gradient shown by figures for roadways and drainage.
8. Location of existing and proposed gas, water, sewer, electric, telephone, cable and other utilities, in and adjacent to the subdivision, including utility poles; any conflict between existing utilities and proposed construction shall be shown. Utilities shall be shown in schematic fashion after consultation between the applicant and the utility company involved. Final plans of utilities shall be submitted for approval to the Board's Engineer prior to construction.
9. Two bench marks for each street.
10. Cross-sections of roadway at 50 foot intervals. Cross-sections shall show existing and proposed grades including top and toe of slopes, pavement thickness, pavement width, existing and proposed utilities and gravel base and proposed drainage.
11. Spot elevations on gutters and centerlines of corner roundings at street intersections and at cul-de-sacs.
12. Location and type of proposed traffic signage and markings designed in accordance with the manual on Uniform Traffic Control Devices by the Federal Highway Administration and State laws.

3-6.4 Review by Board of Health as to Suitability of Land

When a Definitive Plan of a subdivision is submitted to the Planning Board four copies thereof shall also be filed with the Board of Health. Such Health Board or officer shall report to the Planning Board in writing approval or disapproval of said plan, and in the event of disapproval shall make certain findings as to which, if any, of the lots shown within the subdivision cannot be used for building sites without injury to the public health, and include such specific findings and reasons therefore in such report, and, where possible, shall make recommendations for the adjustment thereof, provided, however, if a municipal sewerage system will service the proposed subdivision, then failure of the Board to make such a report within forty-five days after the plan is filed with their office shall be deemed approval by such Board or Officer. Such Health Board or Officer shall send a copy of such report, if any, to the person who submitted such plan.

Any lot so located that it cannot be served by a connection to a municipal sewer system shall be provided with on-site sewage disposal facilities satisfactory to the Board of Health and the Planning Board.

3-6.5 Review by Other Officials

Before approval of the Definitive Plan is given, the applicant shall provide certification that the proposed improvements shown on said plan are laid out to the satisfaction of the official and for the facilities listed below:

1. The Department of Public Works as to the design of the street system according to classification as a Major, Secondary, Minor A or B street, location of easements, and design of the drainage system including appurtenances.
2. The Chief of the Fire Department as to the location of the hydrants and the layout of the fire alarm system, including location of boxes if any, and to the adequacy of access for emergency vehicles into the proposed subdivision.
3. The Tree Warden as to the location, size and species of street trees.
4. The Department of Public Works as to the requirements for provision for connections to the sewer system, if available, and if required, the layout and design of the necessary connecting mains, laterals, manholes and stubs for such system.
5. The Manager of the Water Supplier as to the requirements and schematic location of the proposed water supply system.
6. The Manager of the Electric Company as to the requirements for electrical service and schematic location of the electrical services.
7. The Gas Company as to the schematic location for the gas service.
8. The Telephone Company as to the schematic location of the telephone lines.
9. The Cablevision Company as to the schematic location of the cable vision lines.
10. The Police Chief.
11. The Superintendent of Schools.
12. The Conservation Commission.
13. Such other departments or officials deemed necessary.

3-6.6 Public Hearing

Before approval of the Definitive Plan is given, a public hearing shall be held by the Board at the time and place designated by the Board. Notice of the hearing shall be given by the Board in accordance with M.G.L. Ch. 41, the Subdivision Control Law. A copy of said notice will be mailed to the applicant and to all owners of land abutting upon the subdivision as appearing in the most recent tax list.

3-6.7 Payment of Taxes

All property taxes, for all parcels subject to the Subdivision Plan, shall be paid in full prior to approval of a Definitive Plan.

3-6.8 Approval, Modification or Disapproval

1. When a Preliminary Plan has been submitted and acted upon or when forty-five (45) days have elapsed since the submission of a Preliminary Plan, the Planning Board shall take final action, after a public hearing, within ninety (90) days of submission of the completed Definitive Plan application.

2. When no Preliminary Plan has been submitted, the Planning Board shall take final action, after a public hearing, within one hundred thirty-five (135) days of submission of the completed Definitive Plan application.
3. Upon receipt of a written request from the applicant, the time period for action upon a Definitive Plan may be extended. Notice of such extension of time shall be filed with the Town Clerk.
4. The Planning Board may vote to approve, approve with conditions, or disapprove such plan. If the Board disapproves a plan, it shall state in detail wherein the plan does not conform to the Rules and Regulations of the Planning Board, or the recommendations of the Board of Health, and shall so notify the applicant.

3-6.9 Development Agreement

1. Prior to the Planning Board's endorsement of approval of the subdivision plan, the applicant and the Planning Board shall enter into a Development Agreement by the Form "Development Agreement" in the Appendix, together with Exhibits 1 and 2, as required.
2. Exhibit 1 Conditions of Approval: Exhibit 1 shall contain all the Planning Board's conditions of approval of the subdivision plan and special permit for an open space subdivision, if any. Exhibit 1 shall be attached to and made a part thereof the Development Agreement, when applicable.
3. Exhibit 2 Grant of Waivers: In the event that a Definitive Subdivision plan of land is approved with waivers from the Subdivision Control Rules and Regulations, the applicant, as a condition of approval of the plan, shall submit a completed form, Exhibit 2, Grant of Waiver(s) Exhibit 2 shall be attached thereto and made a part thereof the Development Agreement. The Town of Barnstable Planning Board shall be named as the grantor and the owner(s) of the land shown on the subdivision plan shall be designated as the grantees. The grant shall specify the sections and paragraphs of the Subdivision Rules and Regulations being waived, and for each waiver being granted must contain a concise description of the nature and extent of such waiver. The Grant of Waivers shall also contain the following sentence: " The waivers that are specifically described herein are the only waivers that are acknowledged and approved by the Barnstable Planning Board on the date of endorsement of the above-referenced Definitive subdivision plan".
4. The Planning Board shall vote to sign the fully completed Development Agreement together with Exhibits 1 and 2 at a duly advertised meeting of the Planning Board.

The Development Agreement shall be in full force and effect for (twenty) 20 years from the date of execution of the agreement, or until the Planning Board finds that the subdivision is complete and fully executes Form M, the Certificate of Completion.

3-6.10 Performance Guarantee

1. Recordation deposit.

Prior to the Planning Board's endorsement of approval, the applicant shall deposit with the Planning Board, a bond, cash or other negotiable security satisfactory to the Planning Board for one thousand dollars (\$1000). This deposit will be refunded upon receipt of a copy of all recorded documents required in Section 3-6.12 below.

2. Security to ensure the completion of the subdivision

The Planning Board shall require, prior to endorsement of its approval of a Definitive Plan, that the construction of ways and the installation of utilities as outlined and specified in Sections 4 and 5, be secured by one, or in part by one and in part by the other, of the following methods which may from time to time be varied by the applicant:

A. By a Covenant

The applicant shall file a Covenant on Form F, running with the land, whereby such improvements as shown on the Definitive Plan and as specified in Sections 4 and 5 and not covered by bond or other security under Section 3-6.9 (2)(B) below, shall be provided to serve any lot before such lot may be built upon or conveyed, except as specified by Chapter 41, Section 81U of Massachusetts General Laws.

The applicant shall submit to the Planning Board the fully executed Covenant, prepared on Form F and attached thereto and made a part thereof the Development Agreement.

Prior to the Board's approval of the covenant, the applicant's engineer or land surveyor shall place the following note on the plan: "Approval of this plan is subject to compliance with covenant to be recorded herewith".

The Building Commissioner shall not issue any permit for the construction of a building, or a foundation for a building on any lot within a subdivision, without an authorized signature from the office of the Planning Board that the lot(s) are not subject to a covenant.

B. By Bonds, Deposit of Money or Negotiable Securities

The applicant shall either file a proper bond or a deposit of money or negotiable securities in an amount determined by the Board, based upon the recommendation of the Board's Engineer, sufficient to cover the cost of all the requirements of the Subdivision Rules and Regulations, in accordance with the decision of the Planning Board, and as specified under Sections 4 and 5, and not covered under the covenant under Section 3-6.9 (2)(A) above. The amount of the bond or other security shall also include an amount sufficient to cover inflation, and administrative and engineering costs if the Board determines it necessary for the Town to complete the subdivision. The applicant shall complete Form O and submit to the Board attached thereto and made a part thereof the Development Agreement.

Such bond or security, if filed or deposited, shall be approved as to form by the Town Attorney, and as to surety by the Town Treasurer, and shall be contingent on the completion of such improvements within twelve (12) months of the date of the bond or surety.

3. At the discretion of the Board, a time extension for completion of the subdivision may be granted for a period not to exceed twelve (12) months; provided that such an extension may be conditioned upon an increase in the amount of such bond or security as determined by the Board; and provided that a new bond or other security is filed with the Planning Board thirty (30) days before any date of expiration.

A request for a time extension of the bond or other security shall be accompanied by a written statement from the applicant's engineer describing the degree of completion of the improvements and the measures that have been taken to prevent soil and slope erosion and to protect drainage structures from sediments.

4. It shall be the responsibility of the applicant to maintain adequate security at all times, as determined by the Board, to ensure the completion of the subdivision. If at any time security fails, any unsold lots shall be considered to be under covenant, not to be conveyed or built upon; and the Town shall not issue Building Permits for such lots in the subdivision. The Applicant shall forthwith forward to the Planning Board alternative security acceptable to the Planning Board.
5. Prior to the issuance of an occupancy permit, the road providing access to the proposed structure shall be paved with, at a minimum, a binder course of Class 1 bituminous concrete satisfactory to the Town Engineer, and a hydrant shall be in working condition satisfactory to the Fire Chief, within 500 feet of the proposed structure.
6. The applicant shall furnish the Planning Board with an itemized breakdown of the estimated construction costs at the time he requests the setting of the security amount and when he requests a reduction in security.

3-6.11 Certificate of Approval

The action of the Board in respect to said 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. Final approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by Board members, but not until the statutory twenty-day appeal period has elapsed following the filing of the certificate of the action of the Board with the Town Clerk and said Clerk has notified the Board that no appeal has been filed. In any case, approval of the Definitive Plan shall not constitute the laying out or acceptance by the Town of any ways within a subdivision.

3-6.12 Recording of Plan and Documents

After the return to the applicant of the Definitive Plan, as approved and endorsed, the applicant shall cause to be recorded at the Barnstable Registry of Deeds and in the case of registered land, with the recorder of the Land Court, said plan with the following documents listed below, and shall pay all fees and costs related to the registry of the plan and documents:

The fully executed Development Agreement, together with the following documents as required:

- Exhibit 1 Conditions of Approval of the subdivision plan and Special Permit, if any.
- Exhibit 2 Grant of Waivers
- Form F Covenant
- Form O Performance Security
- Form 1 Open Space Restrictions and Easement
- Deed of Open Space to Homeowners/other
- Homeowners Association Documents
- Form S, when required.

The original of the recorded Form 1A and the Planning Board Covenant, and recorded copies of the Development Agreement and other documents required by the Planning Board shall be received by the Planning Board office within 30 days of the final endorsement of the Definitive Plan, or as otherwise extended by the Board. Failure to comply with this requirement shall result in automatic rescission of approval of the subdivision plan. Upon receipt and acceptance by the Board of all the required recorded documents, the Board shall release the recordation deposit.

3-6.13 Revision of Definitive Plan

No revision or change of the Definitive Plan can be made without the prior approval of the Planning Board. This includes any revision of any nature whatsoever of the Definitive Plan. If the applicant desires to make revisions due to field conditions or for any reason whatsoever, the applicant shall submit a print of the Definitive Plan or plans to be revised with a colored pencil representation of the proposed changes. The Board will consider such change in the same manner as consideration of the original plan and approve, disapprove or modify the requested change with or without a public hearing as the Board may determine. The change as approved shall then be incorporated on the original Definitive Plan or a cloth reproduction thereof, and prints shall be filed as required of the original plan. Any request for waivers shall be submitted in accordance with Section 2-3. and Section 3-6.8(3).

3-6.14 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 a covenant, issue a release of covenant:

1. As-built plans

- A. The applicant shall be responsible for filing with the Planning Board two (2) copies of as-built plans of the ways of the subdivision, clearly marked as such. The as-built plan shall include the profile plan and shall meet the requirements as to format and content as given in Sections 3-6.2 through 3-6.3 for Definitive Plans. The as-built plans may be cloth reproductions of the Definitive Plans. The as-built plans shall represent the as-built conditions of all work and appurtenances constructed as a requirement of the subdivision and shall show all utilities installed as part of the subdivision.
- B. The as-built plan shall be prepared by a Registered Professional Land Surveyor and shall meet the requirements of the Registry of Deeds or the Land Court as applicable depending upon the method of

recording. Plans shall conform to the requirements of the Town Engineer and shall be suitable for recording the plan as a taking of the road by the town. The plan shall include the location of the road layout, pavement, storm drain facilities, drainage easements, concrete bounds, driveways, fences, grades, and all other pertinent physical features within the road layout or drainage easements. A separate reproducible copy shall indicate below grade drainage facilities and utilities.

- C. A compatible electronic file of the plan shall be submitted in accordance with the file format and coordinate system specifications listed in Appendix A for accurately inputting plan information into the Town's Geographic Information System.

2. Certified Inspection Reports

The applicant shall furnish to the Board from the applicant's engineer, certified inspection reports in compliance with Section 6, to the effect that all work required by these Rules and Regulations has been completed for each way in the subdivision (or way or ways serving the lots in question), and that the applicant's engineer has approved the methods of construction and the materials used in the performance of such work, at each stage of work.

3. Other reports required

The applicant shall obtain and furnish statements to the Planning Board, that all utilities have been installed in compliance with all the requirements of the following agencies:

- A. From the Chief of the Fire Department a statement that the Chief has approved the installation of the hydrant system for each way in question and that the installation of the fire alarm cable and boxes has been approved by the Fire Chief.
- B. From the Water Superintendent (if any) a statement that the Superintendent has approved the installation of the public water supply system to the development.
- C. From the Tree Warden a statement that he has approved the location, size and species of street trees and that they have been planted.
- D. From the Department of Public Works a statement that they have approved the installation of the sewer system as required by them.
- E. From all other utilities a statement that they have approved the installation of the utilities as required by them.

3-6.15 Release of Performance Guarantee

Upon the completion of the improvements as shown on the Plan and as required herein, security for the performance of which was given by bond, deposit or covenant, or upon the performance of any covenant with respect to any lot, the applicant may request and agree on terms of release with the Board. The applicant shall send by registered mail to the Town Clerk and Planning Board a written statement in duplicate that the said construction or installation in connection with such bond, deposit or covenant has been completed in accordance with the requirements contained in these Rules and Regulations, such statement to contain the address of the applicant and the subdivision name and number.

If the Board determines that said improvements have been completed, and these Rules and Regulations have been complied with, it shall release the interest of the Town in such bond and return the bond or the deposit to the person who furnished the same, or release the covenant by appropriate instrument, duly acknowledged, with a copy to the Building Commissioner. If the Board determines that said improvements have not been completed, and/or these Rules and Regulations have not been complied with, it shall specify in notice sent by certified mail to the applicant and the Town Clerk the details wherein said improvements fail to comply with its Rules and Regulations.

3-6.16 Reduction of Bond or Surety

Upon written application of the applicant stating reasons therefore, the penal sum of any such bond, or the amount of any deposit held hereunder may, from time to time, be reduced at the discretion of the

Board, and the obligations of the parties thereto released by said Board in part. If release is by reason or covenant, a new plan of the portion to be subject to the covenant may be required.

3-6.17 One Year Retainage Period to insure Adequate Work

At the time of the Board's release of the bond or the deposit to the person who furnished the same, the Board shall retain an amount not to exceed 10% (ten percent) of the total cost of the improvements to insure adequate construction and installation of the streets and utilities for twelve months, or until the streets are accepted by the Town, whichever comes first. The total cost of improvements shall be calculated by the Board's Engineer. If the required improvements were secured by a covenant, at the time of the Board's release of the covenant the applicant shall post surety not to exceed ten (10) percent of the cost of improvements to insure adequate construction and installation of the streets and municipal services for the time period specified above.

Approximately sixty (60) days before the expiration of the twelve months, the Planning Board's Engineer shall inspect said streets and municipal services to determine whether or not it should recommend the release of the final ten (10) percent.

3-6.18 Time of Completion

1. Every applicant shall state in the application and in the Development Agreement, the time within which the applicant agrees to complete the proposed ways, and to install the drainage system, water pipes, gas pipes and electric lines, and all other utilities as required by the Board. The Board shall decline to approve any plan unless the applicant agrees to complete the ways shown thereon and install the utilities aforesaid within eight (8) years of the date of approval of the application, unless a phased development schedule is approved by the Planning Board and incorporated into the Development Agreement. For the purposes of this Section only, the one-year retainage period to ensure adequate work shall not be included in the eight year completion time requirement.
2. The subdivision shall be completed and the as-built plans submitted within one (1) year from the date of commencement of construction, unless a phased development schedule is approved by the Planning Board and incorporated into the Development Agreement. Construction is deemed to commence when clearing of vegetation within the proposed road layout begins.
3. In the event the work is not completed within the time set forth, or as extended, the Subdivision Plan approval shall be considered null and void.

3-6.19 Completion of the subdivision

The applicant shall maintain all the roads and utilities in the subdivision until the Planning Board finds that the subdivision is complete and executes Form M, the Certificate of Completion

SECTION 4

Design Standards

4-1. General Provisions

Existing contours shall be preserved insofar as it is practical. In any event no change shall be made in existing contours that adversely affects land abutting the proposed subdivision. Due consideration shall be given to the attractiveness of the layout and the preservation of natural features. Roads shall be located so as to minimize the amount of grading required. All work on the ground hereinafter specified shall be performed by the applicant in accordance with these Rules and Regulations, in conformity with approved Definitive Plans and specifications and other construction requirements of the Town Agencies concerned, and the satisfaction of such agencies.

4-2. Streets

4-2.1. Location of Streets

1. The streets shall be designed and located so as, in the opinion of the Board, to be continuous and in alignment with existing streets; to provide adequate access to all lots in the subdivision; by streets that are safe and convenient for travel; to lessen congestion in such streets and adjacent public streets; to reduce danger from the operation of motor vehicles; to secure safety in case of fire, flood, panic and other emergency; to insure compliance with applicable Zoning Ordinance; to secure adequate provision for proper drainage and water, sewers and other utilities; and to coordinate the streets in the subdivision with each other and with the existing street system of the Town, and the streets in neighboring subdivisions.
2. The proposed streets shall be designed and located so as to conform to the Master Plan, if any, as adopted in whole or in part by the Board.
3. Provision satisfactory to the Board shall be made for the proper projection of streets, or for access to adjoining property that is not yet subdivided.
4. Due consideration will be given by the Board to the attractiveness of the layout and to the conformance of the ways to the topography. Streets shall be laid out with curvilinear lines wherever possible.
5. 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.
6. Where ways are extended to the property line forming stub streets for future tie, that way shall be paved to the property line.
7. Subdivisions shall be designed so as to minimize the length of roads.
8. Road layouts shall be located and designed so as to create easily accessed lots at or near grade level.
9. Subdivisions shall be designed so as to avoid creating lots with double frontage, except when one frontage is on a Major Street.
10. Where a subdivision borders on a major street, access to lots shall be provided from a parallel local street and access to the major road shall be minimized.

11. No road, with or without fill, shall be located within a velocity zone or within the 100-year flood plain, as shown on the special Flood Insurance Rate Maps, and as further defined by the topographic information shown on the plan.
12. Where access to a subdivision crosses land in another municipality, the Board may require certification, from appropriate authorities, that such access is in accordance with the Master Plan and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic.

4-2.2. Width, Alignment and Grades of Streets

1. The criteria contained in the Appendix, Design Standards, Typical Road Cross Section, and Guard Rail Warrant, shall be observed in the design of streets.
2. Streets shall intersect with minimum centerline offsets of one hundred and fifty (150) feet unless otherwise specified by the Board.
3. Streets shall be laid out so as to intersect as nearly as possible at right angles. No street shall intersect any other street at less than seventy-five (75) degrees.
4. Where the angle of intersection between two streets varies more than ten degrees (10) from a right angle, the radius of the curve at the curb line at the obtuse angle shall be less and at the acute angle shall be correspondingly greater than the radius specified in the Appendix to the extent approved or required by the Board.
5. All changes in grade exceeding two (2%) percent shall be connected by vertical curves of the length indicated in the Design Standards table in these regulations.
6. No center line gradient is to exceed six (6) percent on any curve except when the curve is super elevated and the design is acceptable to the Board's Engineer. All curves on a major road shall be super elevated in conformance with AASHTO Guidelines unless otherwise approved by the Planning Board's Engineer. Super elevations shall not exceed $E=0.06$.
7. No centerline gradient is to exceed six (6) percent within 500 feet of a dead end.
8. No street shall intersect another street at a gradient in excess of two (2) percent for a distance of at least (40) feet from the intersection as measured from the edge of the right of way.
9. Way lines shall be parallel unless otherwise specified by the Planning Board.
10. Streets shall be designed in accordance with AASHTO Standards unless otherwise specified.

4-2.3. Dead End Streets

1. Dead end streets shall be not less than one hundred (100) feet long nor more than seven hundred and fifty feet (750) feet. The length of the dead end street shall be measured from the intersection with a street providing alternative access, to the beginning of the cul-de-sac or turn-around T. The Board may grant a waiver from the maximum length of the dead end street if the Board determines that there is a reasonable expectation that the street will become an additional means of access or egress to a future street connection on adjacent, undeveloped land. No extension of a cul de sac or turnaround T to adjacent land shall be permitted where such extension will lengthen a dead end street beyond the 750 foot maximum length.
2. Minor and Secondary dead end residential streets shall be provided at the closed end with a turn-around having an outside paved roadway diameter of 90 feet and a right of way diameter of 105 feet.
3. No Major dead end street and Secondary non-residential dead end street shall be permitted, unless the Fire Department, DPW, and/or Police Department provide the Board with written determination that there will be no compromise to public safety of both pedestrian and vehicular traffic. Where the Board grants a waiver to allow a dead end street, the street shall be provided at the closed end with a

turn-around having an outside paved roadway diameter of not less than ninety four (94) feet, thirty (30) feet of the pavement width on the cul-de-sac and with a right of way diameter of at least one hundred and ten (110) feet. Cul-de-sacs shall be shaped in accordance with ASHTO standards for circular and circular offset cul-de-sacs for single unit trucks.

4. Dead end streets shall be constructed all the way to the property line and shall be designed and located so as to allow them to continue to abutting property.
5. A minor road serving less than 10 lots may be constructed with a turn-around T or Y in lieu of a cul-de-sac at the discretion of the Planning Board. The turn-around T shall be designed according to the drawings in the appendix entitled "Paved Turnaround T", or shall be an alternative design approved by the Planning Board.
6. Natural vegetation shall be retained in the center of the turn-around. Damaged areas shall be replanted with a combination of ground cover, shrubs and/or trees common to the Cape such as: Bearberry, Bayberry, Inkberry, American Holly, Beach Grape; Rugosa Rose, Beach Gum, Red Cedar, Juniper, Red Oak, Thornless Honey Locust, American Red Maple, Checkerberry, Shore Juniper or Sargeant Juniper, unless otherwise approved by the Planning Board.
7. Upon construction of an extension of a dead end street, the easement for the existing turn-around shall terminate in accordance with the provisions of Chapter 41 of the General Laws. The paved surface of the turn-around shall be removed so as to create a roadway of a uniform width. Drainage, road surface and road shoulders shall be repaired, and/or reconstructed and re-vegetated in accordance with all the requirements of the Subdivision Rules and Regulations.

4-2.4 Clearance above roads

Overhanging vegetation shall be cleared to a height of 15 feet above roads, to provide clearance for trucks including fire department ladder trucks.

4-3. Drainage

4-3.1. General Provisions

1. The subdivision shall be designed so that all drainage shall be contained and disposed of within the subdivision; no drainage shall be discharged on to adjoining property or on to the public right-of-way at a rate greater than existed prior to the construction of the subdivision. The applicant shall submit information as to pre and post development run-off volumes and peak flows during the 10 year and 100 year storm. No drainage shall be discharged directly into any wetland or surface water body, or into any drain, ditch, culvert or retention pond that leads into wetlands or surface waterbodies.
2. All drainage systems within the subdivision shall be designed in accordance with the soil conservation service method or an alternative system acceptable to the Board's Engineer. Calculations shall be made from the source of drainage runoff using topographic maps for the entire drainage area, including those areas outside the subdivision. Copies of all drainage calculations shall be submitted with the Definitive Plan. Percolation tests may be required at the discretion of the Board.
3. Drainage systems shall be designed and installed so as to prevent stormwater runoff from becoming a hazard or a nuisance to the subdivision residents or the public at large. The applicant is ultimately responsible for the adequacy of the drainage system in reaching this end. Should the system not adequately achieve the goal, the applicant shall make whatever modifications are needed to ensure that the drainage system performs adequately in the opinion of the Planning Board. All modifications shall be acceptable to the Board's Engineer.

4-3.2. Subsurface Drains or Subdrains

In areas where the finished grade of the roadway is less than four (4) feet above the water table or in areas where less than four (4) feet of fill is placed above water in swampy places or any standing water, or in other areas, where in the opinion of the Board the subgrade must be drained, a system of subdrains

shall be designed for such areas. The subdrain shall consist of a minimum of one longitudinal drain for each forty (40) foot width of roadway or fraction thereof.

In addition, laterals shall be required as directed by the Board in areas in which an undue amount of water could accumulate in the subgrade. The system of subdrains shall be discharged into the storm drainage system or otherwise disposed of in a manner satisfactory to the Board.

Subdrains shall also be required where test borings show an impervious layer of soil above a permeable layer of soil which is located at or above one (1) foot below the proposed basement floor elevation.

4-3.3. Storm Drains

1. A complete storm drain system shall be designed for each street of the subdivision and, to the satisfaction of the Board, shall be so laid out to provide adequate drainage of all portions of the street system so that water does not accumulate thereon, to intercept storm water run-off from the adjacent lots of the subdivision, and to eliminate undesirable or unnatural accumulation of water on any portion of the subdivision or surrounding property. Those conditions which result from a ten (10), twenty-five (25) or fifty (50) year storm as required shall be assumed as a basis for design of the street drains. The storm drain system shall include gutters, catch basins, manholes, culverts, drain lines, headwalls, vegetated swales, detention ponds and such other items as may be required to complete the system to the satisfaction of the Board. Information regarding a procedure which may be utilized in drainage designs is available from the Town Engineering office.
2. The Soil Conservation Service drainage calculation methodology or an alternative systematic method acceptable to the Board's Engineer, shall be used in the design of the drainage systems.
3. Best management practices (BMPs) shall be utilized to treat the first one (1) inch of rainfall, or one-half (1/2) inch of run-off, whichever is greater. BMPs shall consist of grass-lined swales, grass-lined retention basins, or other treatment facilities acceptable to the Board's Engineer.
4. Side slopes on BMPs shall not be steeper than four (4) to one (1) and generally should be much flatter. BMPs shall be distributed throughout a subdivision and not concentrated in any one location to better dilute the effects of any pollutants left untreated. For this reason, the use of swales in areas with relatively level terrain is desirable. The bottom of the BMPs should be four (4) feet above the probable high groundwater. All BMPs shall be located within drainage easements or the road right of way.
5. Catch Basins shall be located in pairs, one on each side of the roadway, at all low points or sag curves in the roadway, at intervals of not more than three hundred (300) feet on continuous grades of the roadway, and at or near the corners of the roadway at intersecting streets.
6. Manholes shall be located at all changes in direction, either horizontally or vertically, of a drain line or at the intersection of two (2) or more drain lines, or so located that no drain line greater than three hundred (300) feet in length would exist without either a catch basin or manhole.
7. Culverts shall be designed on the assumption that the entire drainage area is built up to that density and in the manner which the applicable section of the Zoning Ordinance allows. The calculations (or a copy thereof) necessary to determine the size of any culvert which carries a brook, stream, river or other natural waterway shall be submitted to the Board for review. All culverts shall have a headwall at each end and any culvert over thirty-six (36) inches in diameter shall include at the upstream end additional protection, as approved by the Board, for the roadway side slopes.
8. All drains shall be a minimum of twelve (12) inches in diameter and shall be laid on a slope of not less than one-half of one (0.5) percent. The minimum design velocity shall be three (3) feet per second and maximum design velocity shall be ten (10) feet per second. If the system is designed as a self-cleaning system, the Board may accept a lesser minimum slope for the drain lines. Pipe shall have a capacity 25 percent greater than required by the calculations. In such cases as it is deemed necessary and acceptable by the Board and its Engineer, surface water may be disposed of by a

leaching system of the proper size and design. Calculations for the design of such system shall be submitted with other drainage calculations for the subdivision and under the same provisions. Provision shall be made for the disposal of surface water intercepted or collected by the system in such a manner that no flow is conducted over Town ways, or over the land of others unless a drainage easement is obtained or unless such flow, in essentially the same quantity, previously existed in the same location. Where adjacent property is not subdivided, provision shall be made for extensions of the system by continuing appropriate drains to the boundary of the subdivision at such size and grade as will allow their proper projection.

9. All recharge systems shall be designed with a fail-safe feature which will provide a safe, legal off-the-road overflow area for the run-off in the event that the catch basins overflow. The overflow areas shall be sized to accommodate a 100 year storm. The overflow areas shall preferably be located in naturally vegetated shallow kettle holes or other depressions; however, if there are not any naturally-occurring areas, then the shallow areas with gently sloping sides shall be excavated for storm water storage. Overflow areas shall be located within drainage easements. Separate drainage lots are discouraged and will not be permitted without the permission of the Planning Board.
10. A headwall shall be provided at the outfall end of all drains where required.
11. All recharge infiltration type drainage systems shall be designed by the applicant's engineer to prevent stormwater from breaking out of any slopes. Breakout calculations shall be provided by the applicant's engineer.

4-4. Easements

4-4.1. Easements for Utilities

Easements for utilities shall be provided and recorded as required and centered on lot lines where practical.

4-4.2. Storm Water and Drainage Easements

Where a subdivision is traversed by a water course, drainage way, channel or stream, the 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 courses, drainage way, channel or stream, and to provide for construction, maintenance, or other necessary purposes.

4-4.3. Access Easements

Access Easements may be required where deemed necessary.

4-4.4. Slope Easements

Slope Easements may be required where deemed necessary.

4-4.5. Sight and Scenic Easements

Sight and/or Scenic Easements may be required where deemed necessary.

4-5. Sidewalks

4-5.1 Where required.

Sidewalks shall be installed on both sides of Major Streets

4-5.2 Sidewalks Conditionally Required

1. Sidewalks shall be installed on one or both sides of a Secondary Street and a Minor A Street, unless in the opinion of the Planning Board, pedestrian safety would not be substantially served by their construction. Where sidewalks are not required, the Board may require that the grading of the right of way be so executed as to make possible later additions of sidewalks without major regrading.

4-5.3 Location of Paved Road Surface

In order to accommodate a sidewalk and/or bicycle path, the Planning Board may require that the paved surface of the roadway be offset to one side of the right of way.

4-5.4 Green Strips

Sidewalks and/or bicycle paths shall be separated from the roadway by a strip of land loamed and seeded to the specifications of Section 5-12 "Grass Plots". Sidewalks and/or bicycle paths shall be located as close as possible to the outside line of the right-of-way. Street trees shall be planted in the green strip.

4-5.5 Sidewalk Length

Sidewalks shall extend the full length of each side of the street.

4-5.6 Sidewalk Width

Sidewalks shall have a minimum width of five (5) feet along Major and Secondary roads. All sidewalks shall conform to American Disabilities Act requirements and Massachusetts Architectural Access Board standards, 521 CMR, and as may be amended.

4-6. Curbing and Berms

All streets shall have bituminous concrete "Cape Cod Berms," vertical granite or sloped granite curbing at the discretion of the Board. In the case where granite is used, the curbing shall extend along the entire circumference of curves plus six (6) feet at all intersections. Vertical inlet curbing shall be used for all catch basins when vertical granite curbing is used.

As a general guide bituminous concrete "Cape Cod" type berms placed at the time of paving are required on all roads regardless of slope. Roads located in or near urbanized village centers, commercial areas, industrial areas and other areas designated by the Planning Board, will require the installation of granite curbing at the discretion of the Planning Board.

4-7. Lots

All lots within the subdivision shall comply with the Zoning Ordinance of the Town, or with terms of any variance from such requirements which may have been specifically granted by the Board of Appeals. Percolation tests may be required on each lot at the discretion of the Board. Lot numbers as shown on the approved plan shall be conspicuously displayed with a suitable marker which shall be visible from the road layout.

Lots shall be located and designed so as to provide building sites with positive drainage away from buildings.

4-8. Open Spaces

Before approval of a plan, the Board may also in proper cases, require the plan to show a park or parks suitably located for playground or recreation purposes or for providing light and air. The Board may, by appropriate endorsement of the plan, require that no building be erected upon such park or parks for a period of not more than three (3) years without its approval. These parks shall be offered for just compensation to the Town in the form of a deed, with the Town having the option of accepting or releasing these areas within the three (3) year period.

4-9. Protection of Natural Features

Regard shall be shown for all natural features, such as large trees, water courses, scenic points, historic spots, and similar community assets, which, if preserved, will add attractiveness and value to the subdivision.

4-10. Retaining Walls

Wherever retaining walls may be required, design and type of wall construction shall be submitted to the Board for approval prior to installation.

4-11. Utilities

4-11.1. General Requirements

The Board may require that the plan show utilities of the kinds existing in the public ways nearest to the subdivision, or which in the opinion of the Board are likely to be laid in such public ways within the reasonably near future and which will be necessary for the health, safety, or convenience of the prospective occupants of the subdivision.

4-11.2. Location

The utilities and sleeves for house connections shall be located as shown on the "Typical Road Cross-Sections." The number and type of sleeves for house connections will be directed by the Board.

4-11.3. Sewer System Design

The design of the sewer system, if required, shall be as directed and approved by the Department of Public Works. A functional sewer collection system complete with service connection to the property line shall be required in areas that now have service or are scheduled for such service within three (3) years.

4-11.4. Public Supply Standards

The applicant shall work with the Fire District or Water Company and provide the Board with documentation of compliance with their water supply standards. Wherever feasible, water supply shall be provided from a public water supply system. Where any part of any lot is at elevation 100 feet (msl) or higher, the applicant shall submit calculations documenting supply adequacy.

4-11.5 Private Supply Standards

Where connection to an adequate public water supply is infeasible, the Planning Board shall approve a subdivision only upon its determination, following consultation with the Fire Department, that reserved access to a fire pond or other provisions for water supply will adequately provide for fire safety.

4-11.6. Design of Water System.

The design of the water system and provision for hydrant service shall be as directed or approved by the Fire District or Water Company in accordance with "Typical Road Cross-Sections." In the case where sidewalks are to be constructed on one side of the roadway, the water and hydrants shall be on the opposite side of the roadway.

4-11.7. Location of Hydrants.

The location and type of hydrants and size of pipe serving the hydrants shall be as directed or approved by the Fire District or Water Company, if required.

4-11.8. Fire Alarm Boxes.

The location and type of the fire alarm boxes and point of entry into the subdivision of the connecting fire alarm cable shall be as directed by the Fire Chief. The applicant shall furnish and install the necessary ducts, fire alarm boxes, and electric cable.

4-11.9. Electric Power System.

The design and location of the electric power system shall be as directed by the Electric Company. The system shall be constructed to a standard which will enable the Electric Company to accept it as part of their system upon completion.

4-11.10. Gas Service.

The applicant shall consult the Gas Company relative to coordination of the installation of gas pipes, if gas service is to be installed.

4-11.11. Telephone Service.

The applicant shall consult with the Telephone Company relative to the installation of telephone service.

4-11.12. Location of Wires.

All electrical, telephone, and other utility wires shall be placed below ground in every subdivision, unless the Board determines that such placement is not feasible or is not in the best interest of the Town.

4-11.13. Utility Service Connections.

All service connections for utilities shall be clearly marked at the lot line and shall be installed so that electric, telephone, sewer, and water services are located on the lot line perpendicular to the street and the gas service is located on the alternate lot line and said service connection shall be installed prior to the completion of the fill.

SECTION 5 Specifications for Construction of Required Improvements

5-1. General Provisions

All improvements specified or implied on the Definitive Plan shall be constructed or installed by the applicant in accordance with the provisions of this Section of the Rules and Regulations or as directed by the Board. The applicant shall furnish all necessary materials, labor, and equipment which may be required to complete the work called for or implied on the Definitive Plan, including all related expenses. Items not specifically mentioned herein shall be constructed in accordance with the latest revision of the Standard Specification for Highways and Bridges of the Massachusetts Department of Public Works (hereinafter referred to as the Department's Specifications); unless specifically directed otherwise by the Board.

All work performed by the applicant as a consequence of these Rules and Regulations will be subject to the review and acceptance or approval of the Board. Therefore, the Board may employ a Registered Professional Engineer to act as its agent for the inspection of the work. In order that the Board's Engineer may properly inspect the work as it progresses, the applicant will keep the Engineer informed of the progress of the work, and shall at any time, provide safe and convenient access to all parts of the work for inspection by members of the Board or its Engineer or such persons as the Board may designate. No work will be approved which has been covered prior to inspection by subsequent work. Reference should be made to Section 6 for inspections required by the Board.

5-1.1. Construction Details and Standards

Construction details and specifications shall comply with the standards contained in the construction specifications and standards volume which is available from the Engineering Section of the Barnstable Department of Public Works for a nominal fee.

5-2. Subdivision Layout

The subdivision, including all way and lot lines and all drain lines and utilities shall be laid out as to line and grade by a Registered Land Surveyor and a certificate filed with the Board to this effect. Stakes for line and grade, clearly marked with the proper station shall be maintained throughout construction.

Any work which, in the opinion of the Board, has not been properly laid out or does not conform to the Plans may be checked by a Registered Land Surveyor employed by the Board. If the Board determines that such work does not conform to the Plan, the applicant shall pay all costs which the Board incurs as a consequence of checking the work. The Board may require the removal and correct replacement of any work which has been incorrectly laid out.

5-3. Clearing, Grubbing and Excavation

The entire area to be occupied by the roadway plus an additional four (4) feet or extending outward to the toe of slopes in fill areas, whichever is greater, shall be excavated a minimum of fifteen (15) inches below finished grade in cut sections or as necessary to remove the topsoil in fill sections or such greater depth as may be required by the Board's Engineer if soft or yielding material, clay, peat, silt, sand pockets, boulders or rocks, organic materials, or other material detrimental to the subgrade is encountered. All fill or undisturbed material shall be non-frost susceptible and shall contain not more than three (3) percent passing the No. 200 sieve for a minimum depth of three (3) feet below the finished roadway grade.

Trees intended to be preserved shall be protected from injury by suitable boxes, or fenders, or wells if in fill.

The Board's Engineer will make an inspection when this phase of the work is completed.

5-4. Erosion Control Measures

The erosion control plan shall include the use of erosion control measures recommended by the Soil Conservation Service for use during and after construction.

5-4.1. Erosion Minimalization

Stripping of vegetation, soil removal and regrading shall be accomplished so as to minimize erosion.

5-4.2. Duration of Exposure

The duration of exposure of disturbed area shall be kept to a practical minimum.

5-4.3. Temporary Erosion Control

Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.

5-4.4. Permanent Erosion Control Installation

Permanent (final) vegetation and mechanical measures to stabilize the land surface and control erosion shall be installed as soon as practicable after construction ends.

5-4.5. Protection of Permanent Drainage Facilities

Until a disturbed area is stabilized, permanent drainage facilities including, but not limited to, catch basins, pipes, retention basins, grass swales and infiltration devices, shall be protected from sediment in run-off water by the use of temporary drainage facilities such as debris basins, sediment basins, silt traps or other acceptable methods.

5-4.6. Dust Control

During grading operations, methods of dust control shall be employed wherever practicable.

5-5. Drainage System

5-5.1 Conformance to Department's Specifications

The construction of the drainage system, including methods of construction and quality of materials shall conform to the applicable sections of the Department of Public Works Specifications except as modified hereafter or as directed by the Board's Engineer.

5-5.2 Storm Drains

Storm drains shall be constructed of reinforced Class V concrete pipe with removable rubber gasket joints and of a strength or class adequate to withstand the H-20 live loads and dead loads which the pipe will be subjected. All joints shall be securely mortared or clamped. The pipe shall be a minimum of twelve (12) inches in diameter and shall be laid at a minimum pitch so as to maintain a velocity of three feet per second when flowing full.

5-5.3 Catch Basins

All catch basins shall be constructed of air entrained cement concrete, and a standard square frame and grate, with square holes, and a granite mouth frame shall be furnished and set. All catch basins shall have an inside diameter of at least four (4) feet, shall be constructed with a minimum depth of four (4) feet below the invert of the outflow pipe, or the bottom of the pipe trap whichever is lower, and as otherwise shown in accordance with the latest revisions of the construction Standards of the Department of Public Works.

5-5.4 Manholes

All manholes shall be constructed of the same materials as permitted herein for catch basins except that a standard heavy twenty-six (26) inch diameter cover and frame shall be furnished and set and all other details shall be as shown in the Department' of Public Works Standards for manholes.

5-5.5 Subsurface Drainage System

The subsurface drainage system as shown on the Definitive Plan or as ordered by the Board during construction shall be constructed of not less than 6 inch diameter perforated polyvinyl chloride (Schedule 40) pipe with perforations turned up, and laid to line and grade.

5-5.6 Headwalls

All drainage pipe shall end in an air entrained cement concrete or air entrained cement masonry headwall having dimensions as specified in the Department of Public Work's Standards and constructed in accordance with the Department's Specifications.

5-5.7 Compressive Strength of Concrete

The air entrained cement concrete shall have a minimum compressive strength of 3,000 pounds per square inch after twenty-eight (28) days curing.

5-5.8 Tide Gates

All tide gates shall be of standard manufacture, of the same size as the outfall pipe, elastomer synthetic fabric type and subject to the approval of the Engineer.

5-5.9 Inspection Required Prior to Backfilling

The Engineer will inspect the completed drainage system or sections thereof prior to placing any backfill.

5-5.10 Backfill Specifications

All trench backfill for the storm and subsurface drains and other backfill within the limits of the way shall conform to the base course requirements and shall be deposited to required subgrade in not more than six (6) inch layers and compacted to 95 percent of the maximum dry density as determined by modified Proctor Test, in accordance with ASTM C-1557, Method "D".

5-6. Utilities

5-6.1. Responsibility

The applicant shall provide and install all necessary materials, appurtenances and equipment to complete the utilities as may be required by the Definitive Plan in a manner acceptable to the officials or agency having jurisdiction of each service as previously mentioned herein. All costs incurred by the applicant as a consequence of installing and maintaining such utilities as the Board required shall be paid by the applicant, including all costs which may be incurred for any reasons whatsoever. The Board will not take any action to have the applicant reimbursed for any costs so incurred.

5-6.2. Submission of finalized utility plans. Prior to the beginning of construction of the road, the applicant shall submit to the Board's Engineer for his approval finalized plans of the various utilities including: water, sewer, electric, telephone, gas and cablevision. The finalized plans shall be approved in writing by an authorized representative of the utility company involved.

5-6.3. Fire Alarm System Specifications

The fire alarm system connection will be made by the Fire District using materials which shall be furnished by the applicant as specified by the Fire District.

5-6.4. Hydrant Specifications

The type of hydrants and type and size of pipe serving the hydrants shall be as directed or approved by the Fire District.

5-6.5. Water System Specifications

The type and size of pipe, fittings and appurtenances for the water system shall be as directed or approved by the Fire District or Water Company.

5-6.6. Sewer System Specifications

All materials and work in connection with the sewer system shall be as directed and approved by the Department of Public Works.

5-6.7. Electric Power Installation

All materials and work in connection with electric power service shall be as directed and approved by the Manager of the Electric Company.

5-6.8. Notification of Backfill and Paving

All work in connection with the utilities shall be left uncovered until such time as the Board's Engineer permits the backfill to be placed.

The applicant shall notify all companies with utilities installed or to be installed within the ways as to the date and time the applicant intends to place the gravel base course and the paving so that such utility company may properly record the location of pertinent features of the system so that they will not be covered or lost as a result of the paving operation.

5-6.9. Backfill Specifications

All trench backfill material for the utilities within the way limits shall conform to the base course requirements and shall be deposited to required subgrade in not more than six (6) inch layers and thoroughly tamped, not puddled, to 95 percent of the maximum dry density as determined by modified Proctor Test, in accordance with ASTM-D-1557, Method "D".

5-7. Fill

All fill material which may be required within the exterior lines of the way up to the twelve (12) inch gravel foundation shall be of clean gravel or other suitable material as approved by the Engineer and compacted to 95 percent of the maximum dry density as determined by modified Proctor Test, in accordance with ASTM-1557, Method "D". All utilities including but not limited to storm drains, subdrains and drainage structures and sewers if required within the way lines shall be installed prior to the completion of the fill. This shall include the installation of each service pipe, sleeve or conduit to the front lot line of each lot in the subdivision. Upon completion of the fill and the backfill of all service trenches, the work will be inspected by the Board's Engineer. Subsequent work shall not commence until the Engineer has approved the fill as acceptable for the application of the roadway foundation material.

5-8. Roadway Foundation

1. A minimum of twelve (12) inches of clean gravel, as approved by the Engineer, shall be deposited in not more than six (6) inch layers for the full width of the way so as to form a roadway foundation which shall be at all points parallel to the finished grade of the roadway surface. The gravel shall be compacted to 95 percent of the maximum dry density as determined by the Modified Proctor Test, in accordance with ASTM-D-1557, Method "D". The gravel shall consist of processed gravel for sub-base meeting the Massachusetts DPW Specification Number M1.03.1 to the following gradation:

Sieve Size	% Passing By Weight
3"	100
1½"	70-100
¾"	50-85
No. 4	30-60
No. 200	0-5

2. The Engineer will inspect the roadway foundation after the compaction of each six (6) inch layer, and, after the approval of the completed foundation.
3. Where it is acceptable to both the applicant's engineer and the Planning Board's Engineer, an alternate roadway foundation may be utilized consisting of minimum of six twelve (12) inches of dense graded crushed stone reclaimed pavement borrow material (reclaimed asphalt) for the base

course in conformance with the Massachusetts D.P.W. specification M 1.11.0. In general the use of dense graded crushed stone will only be permitted where the underlying material is suitable, well draining, and structurally sound. The dense graded crushed stone shall conform to the following gradation:

Reclaimed pavement borrow material

Sieve Size	% Passing By Weight
2"	100
1 1/2"	70-100
3/4"	50-85
No. 4	30-55
No. 50	8-24
No. 200	3-10

- The sub-grade and each six (6) inch layer of gravel shall each be compacted with a minimum of three (3) passes of a vibratory roller. Additional passes shall be made as required to achieve the 95% density required.

5-9. Roadway Surface

5-9.1. General Provisions

All roadways shall be paved to conform with the finished grade and width as specified with Class I Bituminous Concrete Paving Mass. Type I-1 in accordance with the Department's Specifications and subject to the approval of the Engineer. The applicant shall submit a specification job-mix formula to the Engineer for approval prior to starting the work, and a test report verifying that the minimum temperature of each load is 350 degrees Fahrenheit.

5-9.2. Binder and Finish Course requirements

- Minimum Depth Requirements After Compaction:

Type of Street	Binder Course	Finish Course
Major	4.0 inches	2 inches
Secondary	3.5 inches	1.5 inches
Minor	2.5 inches	1.5 inches

- If the binder course is to be left without a top coat over a winter when access is needed to properties along the road, then all utility castings shall be no higher than the level of the binder course of mix to facilitate snow plowing. The castings shall then be raised to the grade of the finished topcoat just prior to placement of the topcoat.

5-10. Sidewalks

- Sidewalks shall have a finished grade in relation to the roadway as shown on the "Typical Road Cross-Sections" and shall be constructed of Bituminous or Portland Cement Concrete. The gravel foundation shall be a minimum of six (6) inches in thickness and shall otherwise conform to the requirements of the Roadway Foundation.
- Sidewalks shall have transverse slopes or crowns of three-eighths (3/8) of an inch per foot.
- Bituminous concrete sidewalks shall consist of one (1) inch of Type I-1 binder course and one (1) inch of Type I-1 surface course after compaction.
- Portland Cement concrete sidewalks shall be 4 (four) inches thick and constructed in accordance with the Department's specifications.

- Sidewalks constructed of all-weather materials other than bituminous concrete may be approved if they are deemed appropriate by the Planning Board.

5-11. Curbing and Berms

5-11.1 Requirements

Cape Cod type bituminous concrete berm shall be provided on all roadways unless otherwise approved by the Planning Board. In the following situations, vertical or sloped granite curbing shall be provided in place of bituminous concrete berms:

- In or adjacent to urbanized village centers.
- Along the side of the traveled way to protect sidewalks where there is less than a four (4) foot grass strip separating the traveled way from the sidewalk.
- Where adjacent streets have granite curbing and the Planning Board determines that the granite curbing shall be extended into the subdivision.
- To delineate traffic islands or where otherwise needed to improve traffic control.
- In commercial or industrial subdivisions where the Planning Board determines they are necessary to adequately channelize traffic.

5.11.2 Specifications

Curbing and berm shall be of the following dimensions and types. Curbing and berm materials and installation shall conform to the applicable "Department's Specifications."

Description	Type	Width	Heights	Length
Bituminous Concrete	Cape Cod	1'	3"	Continuous
Vertical Granite	VB	5"	15"-17"	3' – 10'
Sloped Granite	SB	11" – 13"	3" – 6"	2' – 6'

5-11.3 Cape Cod Berms

Cape Cod bituminous concrete berms shall be constructed monolithically with the bituminous binder and top courses. Berms shall be one foot in width. The berm shall be even with the gutter on the road side and 3 inches higher than the gutter on the shoulder side of the berm.

5-12. Grass Plots

5-12.1. Requirements

A grass plot shall be provided on each side of all roadways according to "Typical Road Cross-Sections". (See Appendix). The finished grade of the grass plot in relation to the finished grade of the roadway shall be as shown on the "Typical Roadway-Cross Section."

5-12.2. Specifications

The top six (6) inches of grass plots and side slopes (cut or fill) shall be good quality loam as approved by the Engineer and shall be screened, raked and rolled with a hand roller to finished grade. The loam shall be of good quality that will support the growth of grass without requiring heavy use of pesticides or fertilizers. After installation of loam, the applicant's Engineer shall submit test results of the organic content, PH and nutrient content of the loam. The loam shall be seeded with lawn grass seed applied in sufficient quantity to assure adequate coverage and establish growth. Grass seed shall consist of a seed mixture suitable for the location and containing a substantial proportion of fescue and perennial ryegrass.

The applicant shall perform sufficient cuttings and maintain the grass plot until such time as the street is accepted by the Town, or the Board finds that the subdivision is complete.

5-13. Street Trees

Street trees, with a caliper of not less than two and one half (2 1/2) inches in diameter, and of a species approved by the Tree Warden, shall be planted on each side of every street in the subdivision wherever, in the opinion of the Planning Board, existing woodlands or individual trees are absent or not retained. Trees shall be located outside the exterior roadway lines unless located in Green Strips (see Section 4-5.4), at 30 foot intervals unless otherwise specified by the Tree Warden in accordance with general practice in the Town. At the discretion of the Board, an easement, of such width as requested, outside the exterior way lines may be required for the planting of trees.

5-14. Side Slopes

The area outside the traveled way in cut areas shall be sloped at a rate not steeper than three (3) to one (1) until it intersects the finished grade of the abutting lots, except as may be required for sidewalks. All such slopes shall be loamed and seeded as previously required for grass plots.

5-15. Guard Rails

Guard rails shall be installed where warranted as indicated on the figure in the Appendix and where required by the Board. Guard rails on Major and Secondary roads shall be steel beam highway guard rail Type SS in accordance with the Massachusetts Highway Department standards. On minor roads and in historic districts, steel backed wood rail in accordance with the National Park Service either/or ASHTO standards, may be used in the place of steel beam guard rails where permitted by the Board.

5-16. Monuments

Granite or Reinforced Concrete Bounds shall be set at all street intersections at all points of change in direction or curvature of streets, at all front corners and at other points where, in the opinion of the Board permanent monuments are necessary, but in no case more than (500) five hundred feet apart. Monuments shall be at least five (5") inches by five (5") inches by thirty (30") inches. The cap shall be as specified by the Board. The bounds shall otherwise conform to the Department's Specifications and shall not be set until all construction which could disturb the monument is completed. After setting, the location of the bounds shall be certified by a licensed land surveyor.

5-17. Street Signs

Street signs of the reflecting type specified by the Department of Public Works and bearing the names of the intersecting streets, as indicated on the Definitive Plan shall be erected at all intersections of streets in the subdivision. Such signs shall be subject to the approval of the Board. Temporary wood signs with black letters stenciled on to a white background shall be installed on all roads in the subdivision at the beginning of clearing for construction of the road. Temporary signs shall be maintained and replaced as necessary until the permanent signs are installed. Permanent street signs must be installed after the road shoulders are loamed and seeded, and an acceptable stand of grass has grown.

5-18. Cleaning Up

The entire area of the subdivision shall be cleaned up so as to leave, in the opinion of the Board, a neat and orderly appearance free from debris and other objectionable materials. All catch basins and manholes shall be cleaned out. Following the completion of this and other items of work as required herein, a final inspection will be made.

5-19. Maintenance

If released from restrictions with regard to sale of lots or buildings on lots by the posting of a performance bond or other security, the applicant shall maintain the roadway for vehicular traffic in a manner satisfactory to the Board. Further, the applicant shall maintain the roadway in a subdivision in a condition which meets all the above requirements to the satisfaction of the Board either until acceptance of the way by vote of the Town, or for a period of one (1) year from the date of release of the security. A retainage fee is required to cover this period of time, see Section 3-6.16.

SECTION 6

Inspection

6-1. General Provisions

6-1.1. Responsibility

All work performed as a consequence of these Rules and Regulations shall be subject to the review of the Board which shall approve or reject each phase or portion of such work and at completion shall recommend the acceptance of all work or disapproval of the work with reasons therefore. The Board will employ a Registered Professional Engineer to act as its agent in the inspection of the work to insure compliance with those Rules and Regulations and to report to the Board recommendations as to approval or disapproval of the work. The Applicant will engage the services of a Professional Engineer throughout both the design and construction phases of the work who will act as agent with the Planning Board Engineer or the Town Engineer and who will submit to the Planning Board a certified inspection report. Such Engineer may make certain inspections as prescribed herein in order to check the adequacy of the work at various stages prior to such work being covered by subsequent work. However, the Board, its Engineer, and such other persons as the Board may designate shall have the right to inspect the work at anytime. Therefore, the applicant shall at any time provide safe and convenient access to all parts of the work for inspection by the Board or its authorized agents.

6-1.2. Compliance

All work which has been disapproved or is not acceptable to the Board shall be removed and replaced or otherwise corrected to the point of complying with the requirements of the Board for acceptance. Any work which has been covered by subsequent work prior to acceptance or is otherwise not available or obscured to the point of rendering inspection of the work difficult shall be considered to be not acceptable to the Board. Such subsequent work shall be removed as directed by the Board's Engineer to insure availability of the work to be inspected as required herein. The release of the performance guarantee shall depend upon the acceptance of all work prescribed herein and on the Definitive Plan and as directed by the Board.

6-1.3. Engineer's Inspection

1. At points indicated in Section 5 and as further described hereinafter, the construction of the required improvements may be inspected by the Board's Engineer or authorized agent, and unless approval of the work completed, including approval of materials used, to each such point has been given in writing, no further work shall be commenced. Such inspections may include the taking of certain samples for laboratory analysis or testing, in such cases, the applicant shall insure that the Board's Engineer is in no way hindered or obstructed in the course of obtaining such samples. Where such samples are removed from the completed work, the applicant shall replace and restore such work, to the satisfaction of the Board's Engineer, to its condition prior to the taking of the sample.
2. The Board's Engineer may require certified copies of delivery receipt or bills of lading or other certification as to the description of materials used or incorporated in the work. The Board's Engineer may also require a sample of any materials or supplies which may be incorporated in work; such samples shall be furnished at the expense of the applicant, and the applicant shall be liable for all costs and fees insured by the Board as a result of transporting and testing such materials.

6-2. Notification to the Applicant's Engineer

6-2.I. Applicant's Procedure

After the approval of the Definitive Plan and subsequent to the receipt by the Board of the fees required in Section 7, the Board will notify the applicant of the name and address of the Engineer, if other than the Board's Engineer, designated as its representative to perform the inspections as required herein and

otherwise act as the Board's agent to insure compliance with these Rules and Regulations. The applicant shall notify the Planning Board as to the Engineer who will act as agent, and keep the Board's Engineer fully informed as to the status and progress of the work and shall notify the Board's Engineer directly in writing at least forty-eight (48) hours in advance, that the work has progressed to a stage that an inspection is required. The applicant shall also submit samples for testing one (1) week in advance of the date the test results are needed.

6-2.2. Designation of Alternate Inspector

In the event that the Board's Engineer is unable, for forty-eight (48) hours after the work is ready, to make such inspection or examination the applicant shall notify the Chairman or Clerk of the Board to such effect, who will designate an alternate to make such inspection and shall notify the applicant.

6-2.3. Engineer's Procedure

In the event the Board's Engineer makes an inspection of the work at the time designated and finds that such work is not at the proper state of completion or that the work has been covered or otherwise obscured; the Board's Engineer shall notify the applicant and the Board as to the additional steps the applicant shall take to complete the work to the point required or to the extent the work shall be uncovered or exposed to full view. The applicant shall notify the Board's Engineer again when the work is ready as prescribed in Section 6-2.1.

6-2.4. Liability

The applicant shall be liable for all costs and fees incurred by the Board as a result of requests by the applicant for an inspection of the work which, in the opinion of the Board, was not at an acceptable stage of completion for such inspection, said costs and fees to be in addition to those specified in Section 7.

6-3. Lines and Grades

6-3.1. Deviation from Definitive Plan

The applicant's Engineer will advise the Board at any time during the construction if, in the applicant's Engineer's opinion, the work has not been laid out to the lines and grades as shown on the Definitive Plan. In such cases, the Board will proceed as described in Section 5-2.

6-3.2. Responsibility

Any costs which, in the opinion of the Board, are the responsibility of the applicant as noted in Section 5-2 shall be in addition to the fees required elsewhere herein.

6-4. Inspection of Required Improvements

The following inspections of the required improvements will be made by the Applicant's Engineer and may be verified by the Board's Engineer. These inspections may be in addition to any other inspection the Board may make or cause to be made. All sampling and testing of materials shall be performed by qualified personnel acceptable to the Town and shall be at the applicant's expense. At the discretion of the Board's Engineer or the applicant's engineer, additional sampling may be required.

6-4.1 First Inspection.

An inspection will be made of the work upon completion of all clearing, grubbing and excavation and all work incidental thereto as may be required or implied in Section 5-3. No fill shall have been placed at the time of this inspection.

6-4.2 Second Inspection.

1. An inspection will be made of the completed drainage system (without backfill) as required or implied herein or on the Definitive Plan. At the same time, or such other time as the work may be available, an inspection will be made of the completed utilities (without backfill) as required on the Definitive Plan. The inspection of the required utilities will be made by the agency responsible for the particular service as well as by the applicant's Engineer. The Board's Engineer shall also be notified so that he

or she may inspect the utilities prior to backfill. Each agency so involved will notify the Board's Engineer of the approval of such work.

2. Backfill of any portion of the drainage system or utilities shall not be made until after receipt of notification of approval or acceptance by the applicant's Engineer or agency responsible.
3. The inspection of the construction of the ways shall include the inspection of the back-filling and compaction of all utility trenches as may be installed by utility companies, and such work shall be performed in the manner as required by these Rules and Regulations. It shall be the applicant's responsibility to insure compliance with these requirements. If, in the opinion of the Planning Board, the backfilling and compaction of utility trenches and the patching of the pavement, if required, has not been performed in accordance with these Rules and Regulations, the Board's Engineer may require compaction tests and the Planning Board may not release the bond or covenant applicable until such work has been performed to the satisfaction of the Planning Board.

6-4.3 Third Inspection.

An inspection will be made of the compacted fill as specified in Section 5-7 and as may be required to bring the roadways to their proposed grades. The applicant shall notify the Town and the applicant's Engineer as to the source of gravel for fill as soon as such information is known, so that samples may be taken and analyzed by the Town and the applicant's Engineer. The applicant is hereby advised not to proceed with the filling operation until such time as the Town and the applicant's Engineer notifies the applicant that the gravel proposed for the fill is acceptable, if the applicant proceeds with the fill prior to such notice this act shall be at the applicant's own risk. The applicant shall not use a gravel source other than the one designated without prior notice to the Board and the applicant's Engineer. Compaction tests shall be required and submitted to the Board's Engineer.

6-4.4 Fourth Inspection.

An inspection will be made of the first six (6) inch layer of compacted roadway foundation as specified in Section 5-8. A gravel sample or samples may be taken at the option of the applicant's Engineer, in the same manner as prescribed for the Third Inspection. Compaction tests shall be required and submitted to the Board's Engineer.

6-4.5 Fifth Inspection.

An inspection will be made of the final six (6) inch layer of compacted roadway foundation (prior to the application of the asphalt penetration) as specified in Section 5-8 and gravel samples may be taken by the Board's Engineer. Compaction tests shall be required and submitted to the Board's Engineer.

6-4.6. Sixth Inspection.

An inspection of the binder course of mix during placement and following completion. If required, samples of the mix shall be taken by the applicant's Engineer or the Board's Engineer for the purposes of performing extraction tests, compaction tests or pavement thickness tests. Core drill samples may be required at the applicant's expense. Certified paving slips indicating bituminous concrete quantities shall be submitted to the applicant's Engineer who will tabulate the quantities and check the correlation with the anticipated qualities and then forward the slips and a report to the Board's Engineer.

6-4.7. Seventh Inspection.

An inspection of the top course of mix before, during and following the placement of the mix shall be performed. A tack coat shall be applied to the binder course of mix prior to placement of the top coat where required by the applicant's Engineer or the Board's Engineer. The requirements regarding sampling, testing and quantity slips indicated in Section 6.4.6 for binder course shall also apply to the top course.

6-4.8. Eighth Inspection.

An inspection will be made of all work as required on sidewalks, curbing, grass plots, side slopes, monuments, bounds and street signs.

6-4.9. Ninth Inspection.

A final inspection will be made of all subsequent work as required herein or on the Definitive Plan to include the final clean-up.

6-5. Engineer's Report

6-5.1. Certified Report to Board

The applicant's Engineer will submit a completed certified report to the Board for each way in a subdivision. Such report will be similar to that given herein and will be augmented by such additional information as the Board may require to describe any special problems or situations which may arise during the construction of the required improvements.

6-5.2. Compliance with Rules and Regulations

The applicant's Engineer will report to the Board that the work has been performed in accordance with these Rules and Regulations and the Definitive Plan, or the applicant's Engineer will advise the Board that the work is not acceptable with the reasons therefore.

6-5.3. Progress Reports

At any time during the progress of the work, the applicant's Engineer will advise the Board, immediately, of any factors which may adversely affect the progress of the work.

SECTION 7 FEES

7.1 Fee Schedule

The following fee schedule applies to submissions or requests to the Planning Board:

- 1. **Approval Not Required (ANR) plans:**
\$150

- 2. **Preliminary plans**
\$400, plus \$30 per lot

\$400 of the Subdivision Plan costs will be credited to the Definitive Plan at the time of Definitive Plan application.

- 3. **Definitive Plans**

Application fees: \$475, plus \$55 per lot

Inspection fees: (Due prior to endorsement of the Definitive Plan)

Gravel roads, 4 lots or less, \$400

All other roads: \$960 plus \$210 per lot.

- 4. **Lot releases, reduction in security, security administration:** \$225

Duplicate lot release: \$65

- 5. **Rescission of plan:** \$200

- 6. **Modification of Subdivision Plan or Special Permit:** \$220

- 7. **Road name change:** \$200

SCENIC ROAD FEES

“Voted by the Planning Board 5-17-99”

- Stone Wall removal: \$25

- Tree removal, 3 trees or less \$25

4-10 trees in the same general area \$100 Separate locations shall require separate applications and fees.

APPENDIX A

PLAN ELECTRONIC FILE REQUIREMENTS

File Format

Acceptable electronic file formats include AutoCad .dwg, AutoCad .dxf, or Microstation .dgn format. Acceptable media formats include 3.5" floppy disks, CD-ROM, or Iomega Zip disks.

Coordinate System

For the purpose of accurately inputting the plan into the Town's Geographic Information System, the plan should be tied into the Massachusetts State Plane Coordinate System through bounds with published coordinates (i.e. National Geodetic Survey, Mass Highway, etc.) where feasible. The datum and units used shall be clearly shown. In cases where there are no suitable geodetic bounds in the vicinity, the plan shall be tied into existing physical features such as catch basins, manholes, utility poles, etc. In such cases, tie-ins to two or more physical features shall be made for at least two different identifiable points on the plan (i.e. property corners).

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Design Standards										
Type of Street	Width of Way (ft)	Width of Traveled Way (ft)	Design Speed (MPH)	Minimum Centerline Radii (ft)	Maximum Centerline Grade (%)	Minimum Centerline Grade (%)	Minimum Curb Radius at Street Intersect (ft)	Minimum Length or Tangent between Reverse Curves (ft)	Storm Frequency for Drainage Calculations (yr)	Stopping Site Distance** (ft)
Major	60	28	50	600' Minimum 800' Desirable	5%	1%	50	300 *	50	475
Secondary	50	24	45	400' Minimum 500' Desirable	8%	1%	40	150	25	400
Minor A	50	20	35	150' Minimum 200' Desirable	10%	1%	30	100	25	250
Minor B	40	16	25	100	10%	1%	30	100	25	250

* or minimum needed for superelevation

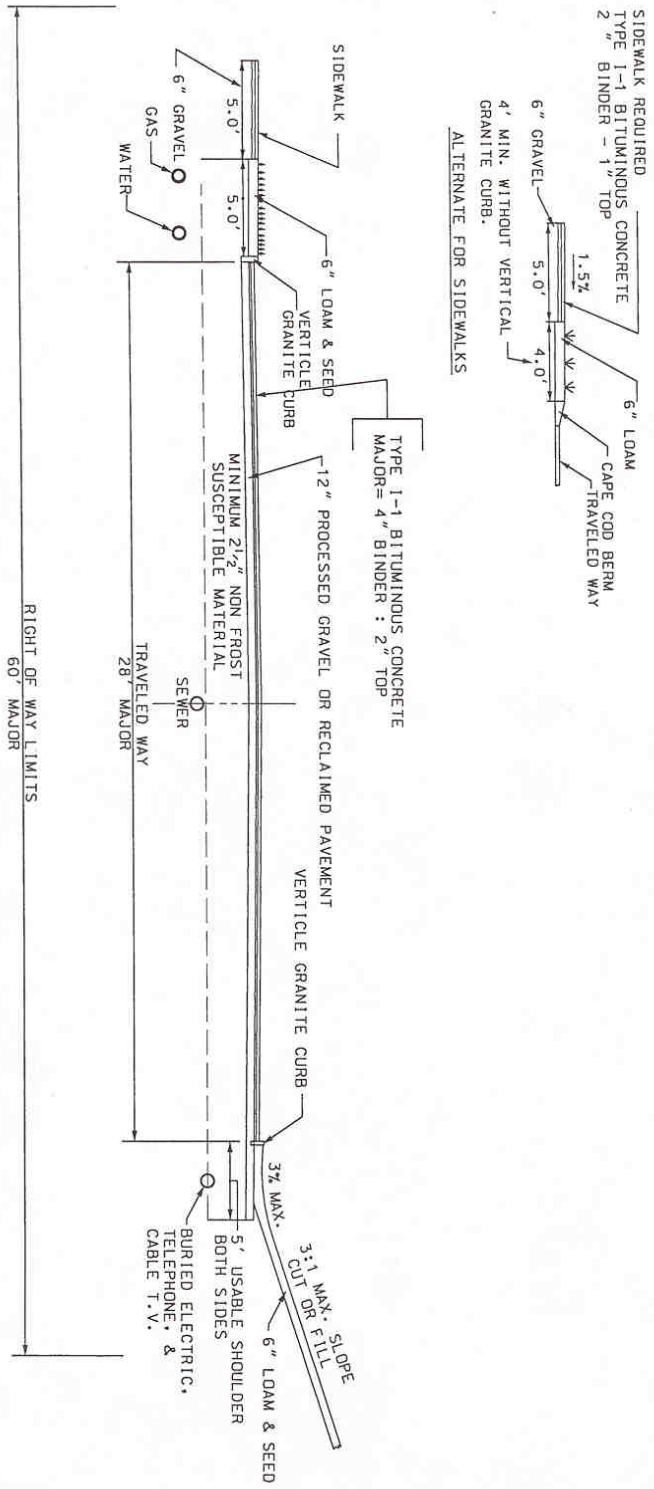
** Sight distance shall be measured with an eye height of 3.5 feet and an object height of 0.5 feet above the pavement.
Also see Section 3-1.4 for site distance required at intersections.

* transition

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MAJOR ROADS

TYPICAL ROAD CROSS SECTION DESIGN SPEED = 50 MPH

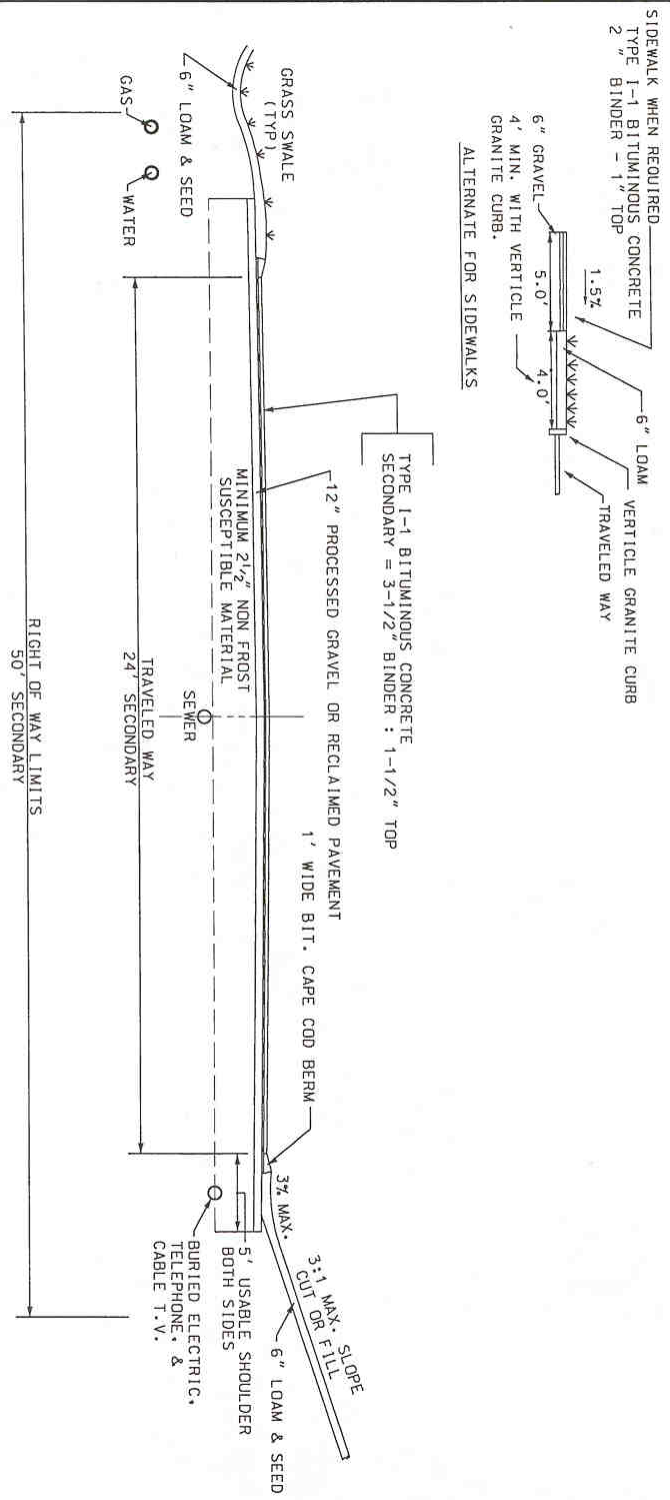


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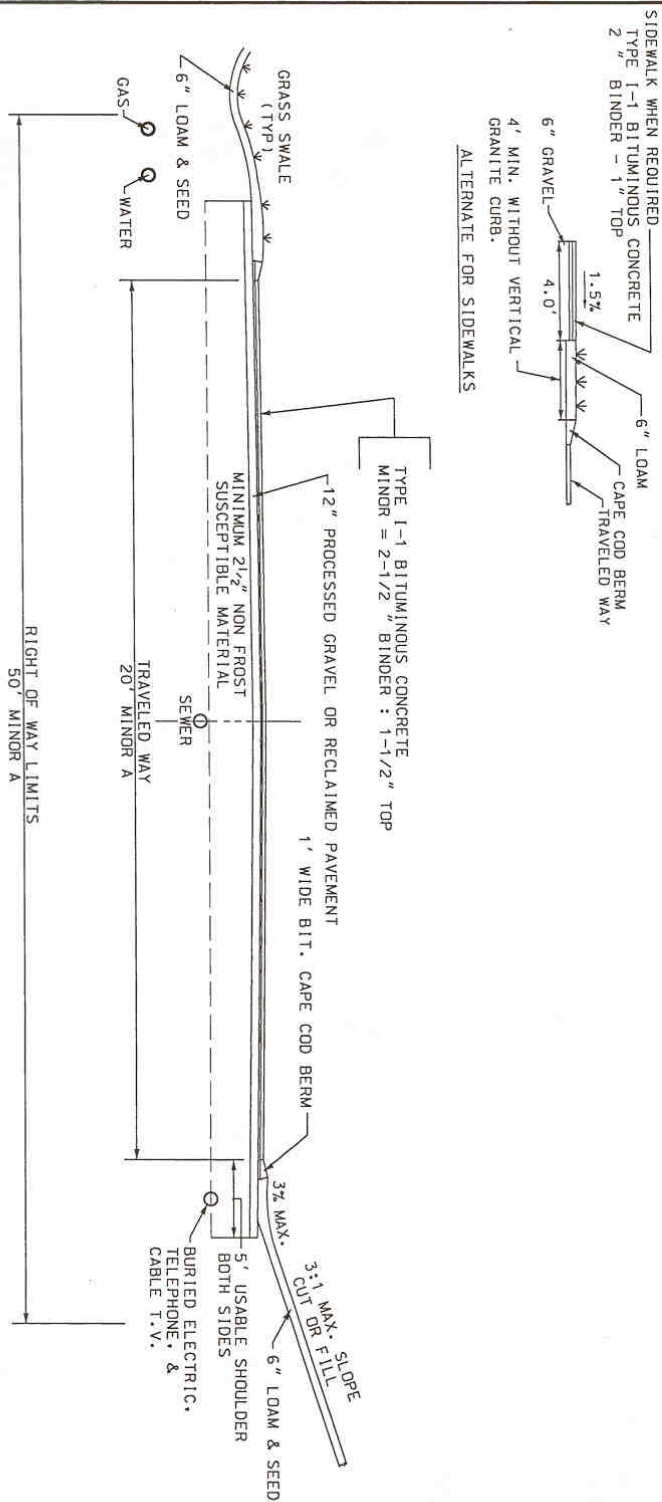
SECONDARY ROADS

TYPICAL ROAD CROSS SECTION DESIGN SPEED = 45 MPH



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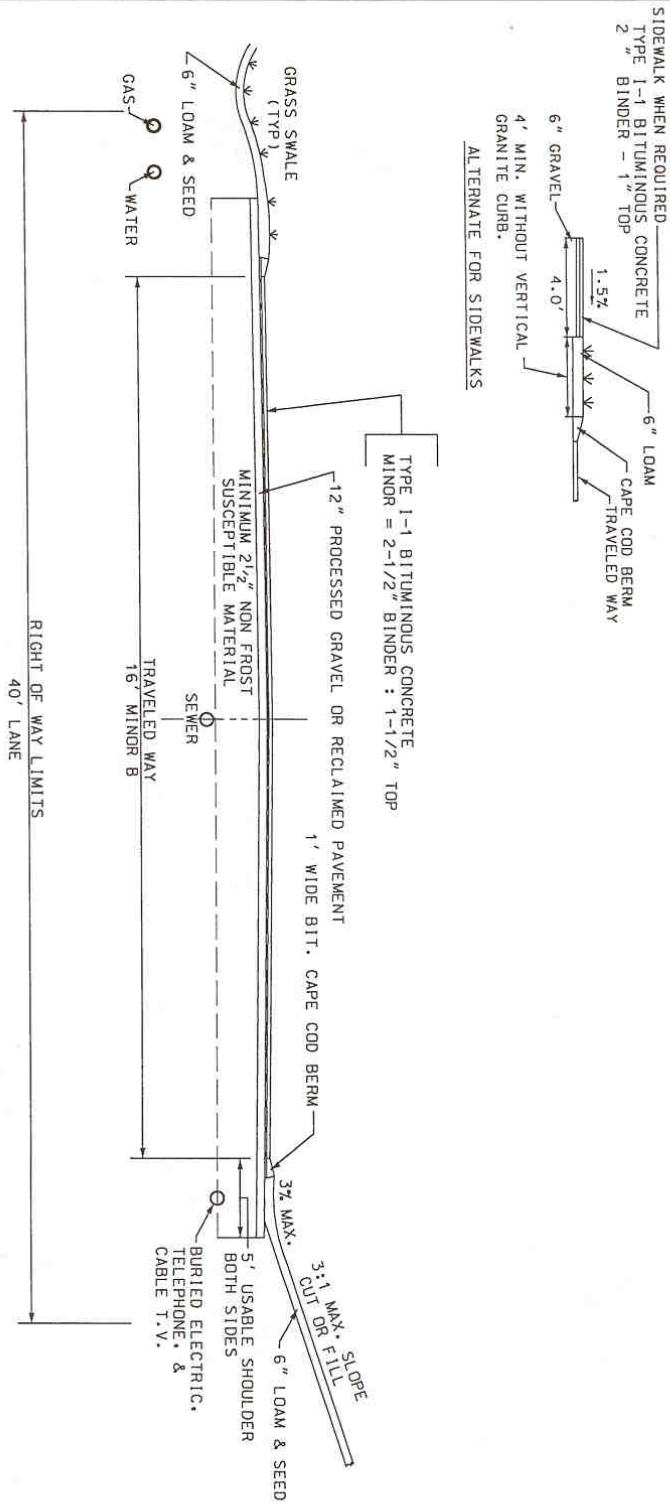


TYPICAL ROAD CROSS SECTION
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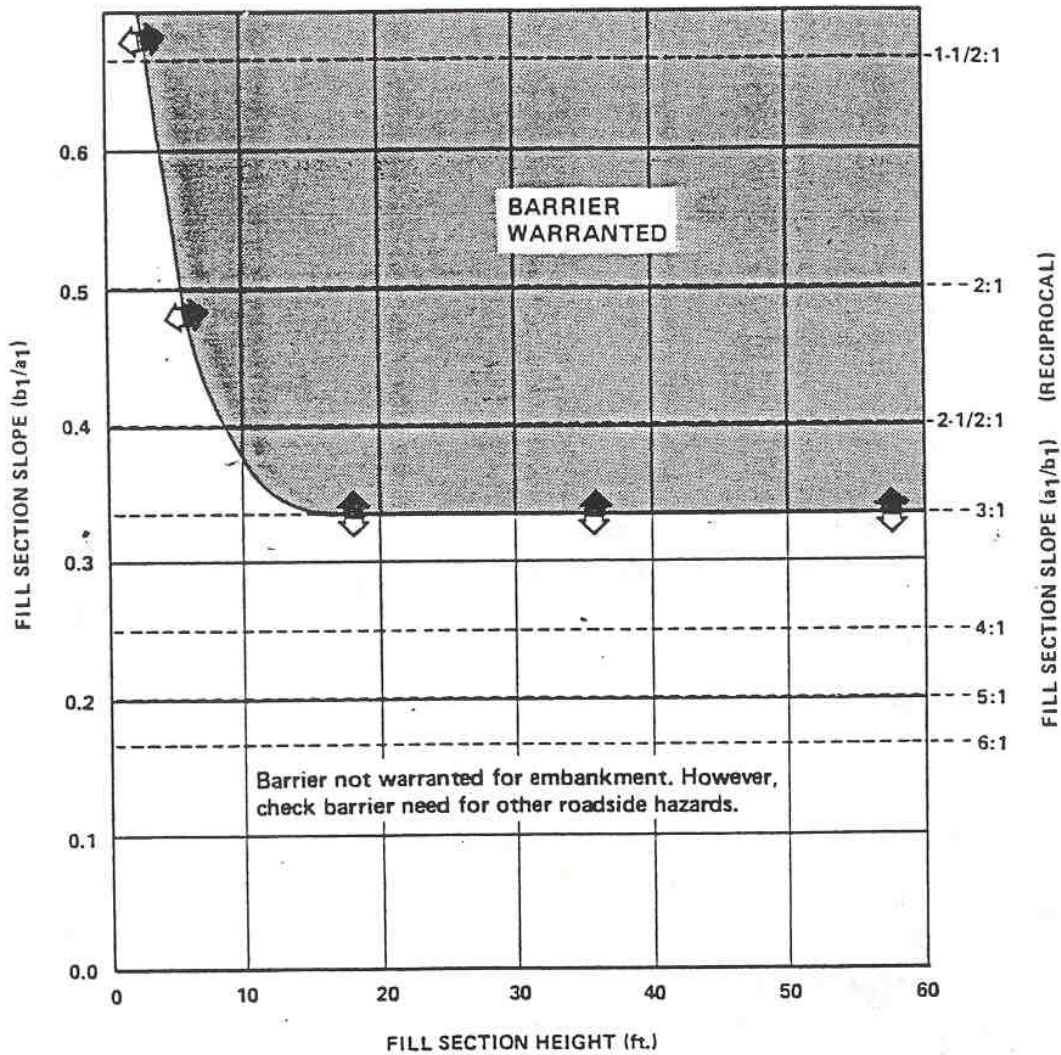
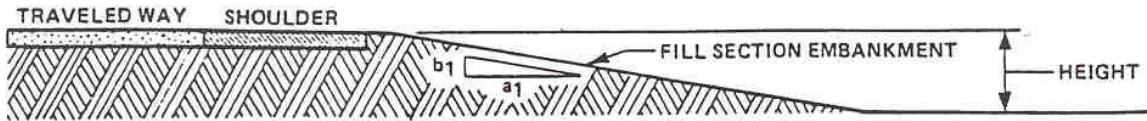
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MINOR "B" ROADS



TYPICAL ROAD CROSS SECTION
 DESIGN SPEED = 25 MPH

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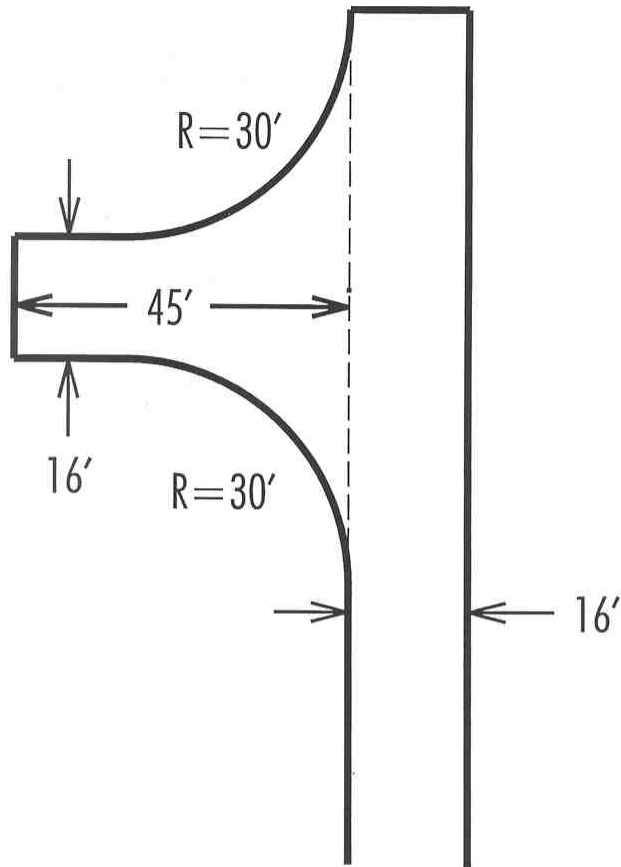


Reference: Guide for Selecting, Locating and Designing Traffic Barriers, AASHTO, 1977.

Note: 1. Use guardrail when roadside dimensions fall on the line (e.g., is 3:1 and height is 20 ft.)

Note: 2. Guardrail maybe required for other roadside hazards.

GUARDRAIL WARRANT



PAVED TURNAROUND "T"

16' WIDE MINOR "B" ROAD

BY: SGS SCALE: 1" = 20' SEPT. 2000 FILE: SUB/TURN TEE

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