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**PLANNING BOARD  
TOWN OF WESTWOOD, MASSACHUSETTS**

**SUBDIVISION REGULATIONS  
GOVERNING THE SUBDIVISION OF LAND**

Effective Date of Subdivision Control Law in Westwood: March 11, 1940

Adopted on September 22, 1960  
Revised by vote: September 28, 1965  
Revised by vote: June 11, 1968  
Revised by vote: July 9, 1969  
Revised by vote: January 8, 1975  
Revised by vote: June 17, 1980  
Revised by vote: September 20, 1985  
Revised by vote: September 18, 1989  
Revised by vote: December 15, 1998  
Revised by vote: July 10, 2012  
Revised by vote: April 25, 2016

**Westwood Planning Board**  
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## **SECTION 1.0 PURPOSE AND AUTHORITY**

### **I.1 PURPOSE**

The subdivision control law has been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the cities and towns in which it is, or may hereafter be, put in effect by regulating the laying out and construction of ways in subdivisions providing access to the several lots therein, but which have not become public ways, and ensuring sanitary conditions in subdivisions and in proper cases parks and open spaces. The powers of a planning board and a board of appeals 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 all travel; for lessening congestion in such ways and in the adjacent public ways; for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for insuring compliance with the applicable zoning ordinances or bylaws; for securing adequate provisions for water, sewerage, drainage 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 city or town in which it is located and with the ways in neighboring subdivisions. It is in the intent of the subdivision control law that any subdivision plan filed with the planning board shall receive the approval of such board if said plan conforms to the recommendation of the board of health and to the reasonable rules and regulations of the planning board pertaining to subdivision of land; provided, however, that such board may, when appropriate, waive, as provided for in Section 81R, such portions of the rules and regulations as is deemed advisable (M.G.L. Chapter 41, § 81M).

### **I.2 AUTHORITY**

These Rules and Regulations as revised shall be effective on and after the 25 day of April 2016, and are adopted under the authority vested in the Planning Board of the Town of Westwood by M.G.L. Chapter 41, § 81Q, as now existing or hereafter amended. For matters not covered herein reference is made to M.G.L. Chapter 41, § 81K to 81GG, inclusive (hereinafter referred to as the Subdivision Control Law).

## SECTION 2.0 GENERAL PROVISIONS

### 2.1 DEFINITIONS

In construing these Rules and Regulations, unless a contrary intention clearly appears, the words and phrases defined in the Subdivision Control Law shall have the meaning therein set forth. The following other words and phrases shall have the following meanings:

- 2.1.1 AASHO Standard Specifications for Highway Materials and Methods of Sampling Testing adopted by the American Association of State Highway Officials, as amended.
- 2.1.2 Abutter The owners of land sharing a common property line with the property subject to the application and the owners of land directly opposite of any public or private street or way, and abutters to the abutters within three hundred (300) feet of the property line of land referred to in the application as they appear on the most recent applicable tax list, notwithstanding that the land of any such owner is located in another city or town.
- 2.1.3 Applicant Shall include all property owners of record included in the proposed subdivision. An agent, representative or assign may represent the owner, provided that written authorization is submitted as part of the application.
- 2.1.4 Approval (or Acceptance) The approval or acceptance of a plan shall be the affirmative vote of a minimum of three (3) members of the Board.
- 2.1.5 ASSHTO Policy on Geometric Design of Highways and Streets adopted by the American Association of State Highways and Transportation Officials.
- 2.1.6 ASTM Standard Specifications adopted by the American Society for Testing and Materials.
- 2.1.7 Board The Planning Board of the Town of Westwood.
- 2.1.8 Certified (or Endorsed) Shall mean a plan that has been signed in its entirety by a majority of the Board in order to permit said plan to be recorded.
- 2.1.9 Department of Public Works The Department of Public Works of the Town of Westwood.
- 2.1.10 Easement A right in the land acquired by a public authority or other person to use or control property for a utility or other purpose.
- 2.1.11 Engineer A Professional Engineer registered in the Commonwealth of Massachusetts.

- 2.1.12 General Laws The General Laws of the Commonwealth of Massachusetts, with all additions thereto and amendments thereof.
- 2.1.13 Land Surveyor A Professional Land Surveyor registered in the Commonwealth of Massachusetts.
- 2.1.14 Limit of Disturbance (or Limit of Work) The demarcation beyond which there shall be no excavation, construction or disturbance of the property.
- 2.1.15 Lot A single parcel of land held in identical ownership throughout, and defined by metes, bounds or boundary lines in a recorded deed or on a recorded plan.
- 2.1.16 Lot Area The total horizontal area within the boundary lines of a lot.
- 2.1.17 Lot, Frontage of The length of common boundary between a lot and a way legally qualifying to provide frontage for the division of land, pursuant to M.G.L. Chapter 41, § 81L, to be measured continuously along the street layout between side lot lines and their intersection with the street line, which is capable of providing safe and adequate vehicular access from said way to the principal use of the lot.
- 2.1.18 Lot Line A line dividing one lot from another, or from a street or any public place.
- 2.1.19 MassDOT Specs. “The Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, 1988 Edition”, latest revision.
- 2.1.20 Municipal Services Sewers, stormwater drains, water mains, gas pipes, electrical lines, telephone, television and all other communication lines, fire alarm systems, street lights and similar service installations and appurtenances thereof.
- 2.1.21 Owner The owner of record as shown by the records at the Norfolk County Registry of Deeds or the Registry District of the Land Court.
- 2.1.22 Person An individual, two or more individuals, partnership, corporation, association or any entity recognized by the General Laws, having common or undivided interests in a tract of land.
- 2.1.23 Recorded Shall mean recorded at the Norfolk County Registry of Deeds, except that as affecting registered land it shall mean filed at the Registry District of the Land Court.
- 2.1.24 Registered Mail Shall mean registered or certified mail.
- 2.1.25 Right-of-Way The full strip of land designated as a way, consisting of the roadway, shoulders, sidewalks and planting strips. A way so designated shall be available only for such uses as are customary for ways in the Town and shall not be available for any

private construction such as buildings, fuel tanks, septic tanks, fences or walls. Also referred to as a street layout.

2.1.26 Roadway The portion of the right-of-way which has been prepared and constructed for vehicular traffic. Also known as a road or traveled way.

2.1.27 Rules and Regulations The Rules and Regulations Governing the Subdivision of Land in the Town of Westwood, Massachusetts as set forth herein.

2.1.28 Street A street shall be:

2.1.28.1 an improved public way laid out and maintained by the Town of Westwood or the Norfolk County Commissioners or the Commonwealth of Massachusetts; or

2.1.28.2 a way which the Town Clerk certifies is maintained by public authority and used as a public way; or

2.1.28.3 a way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law; or

2.1.28.4 a way shown on a plan endorsed after March 11, 1940, as not requiring approval under the Subdivision Control Law; or

2.1.28.5 a way in existence as of March 11, 1940 having in the opinion of the Planning Board sufficient width, suitable grades and adequate construction to accommodate the vehicular traffic anticipated by reason of the proposed use of the land abutting thereon or served thereby and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon. A public or private way shall not be deemed to be a street as to any lot of land that does not have access to and passage over said way.

2.1.29 Street Categories Street categories are as follows:

2.1.29.1 Dead-End Street A street having only one terminus onto an existing through street.

2.1.29.2 Emergency Access Way A public or private way designed for secondary access for emergency vehicles and is not generally available for public vehicular travel. Emergency Access Ways do not provide frontage for lots.

2.1.29.3 Local Street, Major A street having an Average Daily Traffic volume of over one thousand five hundred (1,500) vehicles per day, which in the Board's opinion is primarily being used or will be used as a thoroughfare



between different areas of Town. For proposed streets, the projected Average Daily Traffic volume shall be based on maximum potential build-out of all lots being accessed by said street, in addition to projected future through traffic volumes as deemed reasonable and realistic by the Board.

- 2.1.29.4 Local Street, Minor A street having an Average Daily Traffic volume of less than four hundred (400) vehicles per day, which in the Board's opinion is primarily being used or will be used to provide access to abutting lots and is designed to discourage its use by through traffic. For proposed streets, the projected Average Daily Traffic volume shall be based on maximum potential build-out of all lots being accessed by said street, in addition to projected future through traffic volumes as deemed reasonable and realistic by the Board.
- 2.1.29.5 Local Street, Secondary A street having an Average Daily Traffic volume of between four hundred (400) and one thousand five hundred (1,500) vehicles per day, which in the Board's opinion is primarily being used or will be used as a thoroughfare between different areas of Town or to carry traffic from local minor street to local major street or to a community facility, and usually includes the principal entrance street of a large subdivision or group of subdivisions. For proposed streets, the projected Average Daily Traffic volume shall be based on maximum potential build-out of all lots being accessed by said street, in addition to projected future through traffic volumes as deemed reasonable and realistic by the Board.
- 2.1.29.6 Paper Street Any way or right-of-way shown on a plan or sketch but which has not been constructed or otherwise prepared for vehicular traffic.
- 2.1.29.7 Through Street A street having, by itself or by means of other streets, a connection at both ends to the overall street system of the Town of Westwood or of neighboring towns, so that each location on such street can be accessed through a minimum of two alternative streets or combination of streets.
- 2.1.30 Subdivision The division of a tract of land into two or more lots and shall include resubdivision and, when appropriate to the context, shall relate to the process of subdivision or the land or territory subdivided; provided, however, that the division of a tract of land into two or more lots shall not be deemed to constitute a "subdivision" within the meaning of the Subdivision Control Law if, at the time when it is made, every lot within the tract so divided has frontage on a public way or a way which the Clerk of the city or town certifies is maintained and used as a public way, or a way shown on a plan theretofore approved and endorsed in accordance with the Subdivision Control Law, or a way in existence when the Subdivision Control Law

became effective in the city or town in which the land lies, having, in the opinion of the Planning Board, sufficient width, suitable grades and adequate construction to provide for the needs of vehicular traffic in relation to the proposed use of the land abutting thereon or served thereby and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon. Such frontage shall be of at least such distance as is then required by the zoning or other ordinance or bylaw, if any, of said city or town for erection of a building on such lot, and, if no distance is so required, such frontage shall be of at least twenty (20) feet. Conveyances or other instruments adding to, taking away from or changing the size and shape of lots in such a manner as not to leave any lot so affected without the frontage above set forth, or the division of a tract of land on which two or more buildings were standing when the Subdivision Control Law went into effect in the city or town in which the land lies into separate lots on each of which one of such buildings remains standing, shall not constitute a “subdivision” (M.G.L. Chapter 41, § 81L).

2.1.31 Subdivision Control Law M.G.L. Chapter 41, § 81K to 81GG inclusive, and any amendments thereof, additions thereto or substitutions thereof.

2.1.32 Town The Town of Westwood.

2.1.33 Town Clerk The Town Clerk of the Town of Westwood.

2.1.34 Utilities Private and municipal services, which include, but are not limited to, sanitary sewers, stormwater drainage systems, water supply piping, fire alarm conduits, natural gas, electric, telephone and cable television lines and appurtenances thereof.

2.1.35 Way Any street which has been accepted as a public way pursuant to M.G.L. Chapter 82, or any way established by court decree to be a public way by dedication, prescription or otherwise.

## 2.2 **APPLICABILITY**

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 municipal services therein, unless and until a Definitive Plan and covenant of such subdivision has been submitted to and approved by the Planning Board, as hereinafter provided.

## 2.3 **SUBMISSION OF APPLICATION**

No application shall be deemed to have been submitted to the Board until said plan, together with all required accompanying applications, forms, fees and other items has been delivered, in person, to the Town Planner or to the Board at a meeting thereof by the owner of the land involved or his duly authorized agent, or sent by certified mail to the Board, and is properly executed and fully completed in accordance with these Rules and Regulations.

## **2.4 COMPLIANCE WITH ZONING BYLAW**

All proposed lots within a subdivision shall comply with the Zoning Bylaw of the Town of Westwood, Massachusetts, as amended.

## **2.5 ONE DWELLING PER LOT**

No more than one building designed or available for use for dwelling purposes shall be erected or placed or converted to use as such on any lot in a subdivision, or elsewhere in Town, without the consent of the Board, and that consent may be conditional upon the providing of adequate ways furnishing access to each site for such building, in the same manner as otherwise required for lots within a subdivision.

## **2.6 WAIVER OF COMPLIANCE**

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

## **2.7 AMENDMENTS**

These Rules and Regulations may be adopted and from time to time amended by majority vote of the Board. Prior to any revisions or amendments, the Board shall hold a public hearing of which notice shall be given by publication in a newspaper of general circulation in the Town of Westwood once in each of two successive weeks, the first publication being not less than fourteen (14) days before the date of the public hearing, and by posting such notice in a conspicuous place in the Town Hall for a period of not less than fourteen (14) days prior to the public hearing.

## **2.8 REQUEST FOR WAIVERS**

All requests for waivers from the requirements of these Rules and Regulations must be submitted in writing to the Board at the time of filing of the Definitive Plan application.

## **2.9 FAILURE TO COMPLY**

Failure to comply with the procedural and other requirements of these Rules and Regulations may result in rescission of the approval given hereunder by the Board.

## **2.10 MODIFICATIONS TO APPROVAL**

No changes or alterations shall be made to any aspect of an approved Definitive Plan without submission for approval of the Planning Board in accordance with M.G.L. Chapter 41, § 81W.

## **2.11 NOT DEEMED TO BE ACCEPTANCE OF STREETS**

In all cases, approval of a Definitive Plan shall not be deemed to constitute the laying out or acceptance by the Town of any streets within a subdivision.

## **2.12 SEVERABILITY OF PROVISIONS**

If any section or provision of these Rules and Regulations is held invalid, it shall not invalidate any other section or provision hereof. If the application of any section or provision of these Rules and Regulations to any person or circumstances is held invalid, it shall not invalidate the application of these Rules and Regulations to other persons and circumstances hereof.

## **2.13 INVALIDATION BY STATUTE**

Any section or provision of these Rules and Regulations subsequently invalidated by a new state statute or modification of an existing state statute shall automatically be brought into compliance with the new statute or amendment and shall be deemed to be effective immediately without recourse to the customary procedures for amendment or repeal of these Rules and Regulations.

## **2.14 SUBDIVISION CONTROL LAW**

For matters not covered by these Rules and Regulations, reference is made to M.G.L. Chapter 41, §§ 81K through 81GG inclusive, as amended.

## **SECTION 3.0 PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS**

### **3.1 PLAN BELIEVED NOT TO REQUIRE APPROVAL**

#### **3.1.1 Submission Requirements**

Any person who wishes to cause to be recorded at the Norfolk County Registry of Deeds or to be filed at the Registry District of the Land Court a plan of land and who believes that said plan does not require approval under the Subdivision Control Law pursuant to M.G.L. Chapter 41, § 81P may submit to the Board the following:

- 3.1.1.1 One (1) properly executed original application in a form approved by the Board accompanied by adequate evidence to show that the plan does not require approval;
- 3.1.1.2 One (1) original plan of reproducible mylar or linen;
- 3.1.1.3 Two (2) complete paper copies and one (1) complete electronic copy of the application and plan;
- 3.1.1.4 Non-refundable filing fee of one hundred dollars (\$100.00).

#### **3.1.2 Notice to Town Clerk**

The Applicant shall file, by delivery or first-class mail, postage prepaid, notice to the Town Clerk that a plan believed not to require approval has been submitted. If notice is given by delivery, the Town Clerk shall, if requested, provide a written receipt.

#### **3.1.3 Number of Copies**

At the time of application, the Applicant shall file the original and a minimum of two (2) complete paper copies and one (1) complete electronic copy of the application and all plans, exhibits, analyses and any other information and/or attachments with the Board. The original plan shall be 24 x 36 inches printed on mylar. Two (2) paper copies of the plan shall be 24 x 36 inches, any additional paper copies may be 11 x 17 inches.

#### **3.1.4 Preparation of Plan Sheets**

The 24 x 36 inch plan shall be drawn at a scale of one (1) inch equals forty (40) feet (1"=40'), with proper margins for filing. Any 11 x 17 inch copies of the plan shall be produced by reducing the 24 x 36 plan to fit the smaller paper size. Sheets requiring engineering design shall bear the stamp of a Registered Professional Engineer, Registered Landscape Architect and/or Registered Professional Land Surveyor responsible for the preparation of the plan.

- 3.1.5 Information Required on an Approval Not Required Plan (on all sheets)
- 3.1.5.1 Title block containing the name of the project.
  - 3.1.5.2 Applicant name and property owner of record.
  - 3.1.5.3 Name, address, stamp and signature of the Registered Professional Engineer, Registered Landscape Architect and/or Registered Professional Land Surveyor responsible for the preparation of the plan.
  - 3.1.5.4 Date of plan and the date of any subsequent revision. All sheets in a plan set shall exhibit the same latest date of revision.
  - 3.1.5.5 Sheet number and the total number of sheets (example: sheet 1 of 7 sheets).
  - 3.1.5.6 Scale and arrow oriented to true north.
  - 3.1.5.7 Boundaries of the property subject to the application in relation to the boundaries of all public and private streets and ways and adjoining properties.
  - 3.1.5.8 Boundary lines of bordering adjacent land or of land across an adjoining street from the proposed project and the names of abutters thereof from the most recent applicable tax list from the Westwood Board of Assessors.
  - 3.1.5.9 Location of all existing principal and accessory buildings and structures, including setback and side and rear yard designation and location of any easements.
  - 3.1.5.10 Board of Assessors' map and parcel number.
  - 3.1.5.11 Locus map showing the boundaries of the property subject to the application in relation to the boundaries of all adjoining properties, public and private streets and ways and significant water bodies within a minimum distance of one thousand (1,000) feet.
  - 3.1.5.12 The statement "Approval Under Subdivision Control Law Not Required" and a block for the date and the signatures of the Planning Board.
  - 3.1.5.13 In the case of the creation of a new lot or lots, the total area and total frontage of each new lot and the remaining land area and frontage of the land in single ownership.

- 3.1.5.14 Legend denoting any signs or symbols not otherwise explained.
- 3.1.5.15 All zoning district classification(s) that apply including overlay districts.
- 3.1.5.16 A statement above or below the Board's signature lines as follows:  
*"Planning Board endorsement does not constitute a determination of compliance with the current Westwood Zoning Bylaw"*.

### 3.1.6 Planning Board Action

#### 3.1.6.1 Determination to Not Require Approval

If a majority of the Board determines that the plan does not require approval, it shall, without public hearing and within twenty-one (21) days of submission, endorse on the plan the words "Planning Board approval under Subdivision Control Law not required" or words of similar import, and shall give written notice of its determination to the Applicant and the Town Clerk. Such endorsement shall not be deemed to constitute any determination of compliance with the requirements of the Zoning Bylaw or imply that any parcel of land shown thereon is a buildable lot under the Zoning Bylaw.

#### 3.1.6.2 Determination to Require Approval

If a majority of the Board determines that the plan does require approval under the Subdivision Control Law, it shall forthwith give written notice of its determination to the Applicant and the Town Clerk.

## 3.2 PRELIMINARY SUBDIVISION PLAN

### 3.2.1 Preliminary Staff Consultation

It is recommended that an Applicant consult with the Town Planner prior to the formal application filing to prevent serious delays in the review of the application due to procedural or substantive issues. It is the sole responsibility of the Applicant to ensure that the application as filed is complete and accurate according to these Rules and Regulations and the Zoning Bylaw. If any other approvals or special permits are required from the Board for the project, then these should be discussed with the staff at this time. Any information exchanged as part of this preliminary staff consultation shall be considered as advisory and shall not be binding on the part of the Applicant or Board.

### 3.2.2 Land Use Committee

The Applicant may request the Land Use Committee to perform a preliminary staff review of the proposed application in an effort to identify salient issues and the regulatory framework applicable to the proposed project. The Land Use Committee is comprised of the Town Planner, Director of Community and Economic Development, Building Commissioner, Health Director, Water District Director, Public Works Director, Town Engineer, Deputy Fire Chief, Public Safety Officer, Conservation Commission Agent, Land Use Specialist, and Zoning Board of Appeals Administrator and meets on a monthly basis. Any information exchanged as part of this meeting shall be considered as advisory and shall not be binding on the part of the Applicant or Board.

### 3.2.3 Planning Board Pre-Application Review

If warranted by the complexity of an application, the Chair may appoint a subcommittee of one or two Board members to participate in a pre-application conference with the Applicant and the Board's staff. Preliminary plans or sketches may be submitted for discussion purposes and to assist in the identification of the nature of information necessary to meet the requirements of these Rules and Regulations and the Zoning Bylaw and to address issues of concern to the Town and abutters. If any other approvals or special permits are required from the Board for the project, then these should be discussed with the subcommittee members and staff at this time. Information exchanged as part of any pre-application conference shall be considered as advisory and shall not be binding on the part of the Applicant or the Board.

### 3.2.4 Submission Requirements

The Applicant who submits a Preliminary Plan to the Planning Board shall file with the Board the following at the time of filing:

- 3.2.4.1 One (1) properly executed original application in a form approved by the Board;
- 3.2.4.2 Ten (10) complete paper copies and one (1) complete electronic copy of the application and plan;
- 3.2.4.3 Filing fee of five hundred dollars (\$500.00) plus fifty dollars (\$50.00) for each proposed buildable and non-buildable lot within the subdivision and one dollar (\$1.00) for each linear foot of proposed roadways within the subdivision.
- 3.2.4.4 A subsequent Definitive Plan filing fee for the same development shall be reduced by the amount of the Preliminary Plan filing fee (Section 3.3.4.4).
- 3.2.4.5 The Applicant shall provide a detailed calculation of these fees for the review and approval of the Board. Said fees shall be non-refundable, and no application shall be deemed complete until such fees are received.



### 3.2.5 Submission to Board of Health

At the time of filing of the Preliminary Plan, the Applicant shall file with the Board of Health two (2) complete copies of the application and plan.

### 3.2.6 Additional Reviews

At the time of filing, the Applicant shall also file two (2) complete copies of the application and Preliminary Plan with the following:

- 3.2.6.1 Sewer Commission, to review the suitability of the proposed sanitary sewer system design;
- 3.2.6.2 Fire Chief, to review the location of hydrants and other required fire-fighting appurtenances;
- 3.2.6.3 Dedham-Westwood Water District, to review the suitability of the water distribution system.

### 3.2.7 Notice to Town Clerk

The Applicant shall file, by delivery or first-class mail, postage prepaid, notice to the Town Clerk that a Preliminary Plan has been submitted. If notice is given by delivery, the Town Clerk shall, if requested, provide a written receipt.

### 3.2.8 Number of Copies

At the time of application, the Applicant shall file the original and a minimum of ten (10) complete paper copies and one (1) complete electronic copy of the application and all plans, exhibits, analyses and any other information and/or attachments with the Board. Three (3) paper copies of the plan sheets shall be 24 x 36 inches and seven (7) paper copies of the plan sheets shall be 11 x 17 inches.

### 3.2.9 Preparation of Plan Sheets

The plan shall be drawn at a scale of one (1) inch equals forty (40) feet (1":40'), with proper margins for filing. The 11 x 17 inch copies of the plan shall be produced by reducing the 24 x 36 plan to fit the smaller paper size. Plan sheets shall bear the stamp and signature of a Registered Professional Engineer, Registered Landscape Architect and/or Registered Professional Land Surveyor responsible for the preparation of the plan.

### 3.2.10 Information Required on a Preliminary Plan

- 3.2.10.1 Title block containing the name of the subdivision, which shall include the designation "Preliminary Plan".

- 3.2.10.2 Applicant name and property owner of record.
- 3.2.10.3 Name, address, stamp and signature of the Registered Landscape Architect, Registered Professional Land Surveyor and/or Registered Professional Engineer responsible for the preparation of the plan.
- 3.2.10.4 Date of plan and the date of any subsequent revision. All sheets in a plan set shall exhibit the same latest date of revision.
- 3.2.10.5 Sheet number and the total number of sheets (example: sheet 1 of 7 sheets).
- 3.2.10.6 Index of Preliminary Plan sheets on the Title Sheet, which shall include the sheet number and title of sheet (example: Sheet 4: Topographic and Grading Plans).
- 3.2.10.7 Scale and arrow oriented to true north on each sheet.
- 3.2.10.8 Boundary lines of bordering adjacent land or of land across an adjoining street from the proposed subdivision and names of abutters thereof as determined from the Board of Assessors.
- 3.2.10.9 Location of all existing principal and accessory buildings and structures, including setback and side and rear yard designation and location of any easements.
- 3.2.10.10 Board of Assessors' map and parcel number.
- 3.2.10.11 Locus map showing the boundaries of the property subject to the application in relation to the boundaries of all adjoining properties, public and private streets and ways and significant water bodies within a minimum distance of one thousand (1,000) feet.
- 3.2.10.12 Existing and proposed lines of streets, ways, easements and public areas within the subdivision.
- 3.2.10.13 Location, names and present widths of all public and private streets bounding, approaching or within six hundred (600) feet of the subdivision.
- 3.2.10.14 Existing topography of the land in five (5)-foot contours or less. These may be taken from the Town's Geographic Information System (GIS).
- 3.2.10.15 A proposed system of drainage, including existing natural waterways, in a general manner both within and adjacent to the subdivision.

- 3.2.10.16 A proposed system of sanitary sewer disposal, including any points of connection with existing systems.
- 3.2.10.17 Approximate boundary lines of proposed lots, with approximate lot areas and dimensions.
- 3.2.10.18 Proposed grades and profiles of proposed streets.
- 3.2.10.19 Major site features such as existing stone walls, fences, buildings, trees with a caliper of ten (10) inches or larger, significant wooded areas, rock ridges and outcroppings, wetlands, certified vernal pools, floodplains, water bodies and significant archeological features and sites within and a minimum of six hundred (600) feet adjacent to the proposed subdivision.
- 3.2.10.20 Proposed names of subdivision streets. In the absence of a name, the streets should be designated by a letter. Lots are to be designated by sequential number.
- 3.2.10.21 Legend denoting any signs or symbols not otherwise explained.

### 3.2.11 Public Meeting

There shall be notification of the public meeting in which the Preliminary Plan is initially presented to the Board. Notice of the public meeting shall be sent by first-class mail, postage prepaid, to the abutters of the property subject to the application. Notification of the public meeting shall be the responsibility of the Board.

### 3.2.12 Planning Board Action

The Planning Board and Board of Health shall act on the Preliminary Plan within forty-five (45) days after submission. The Planning Board shall give written notice of its determination to the Applicant by certified mail either that the preliminary plan has been approved; or that the preliminary plan has been approved with modifications suggested by the Board or agreed upon by the Applicant; or that the Preliminary Plan has been disapproved and in the case of disapproval, the Board shall state in detail its reasons therefor. The Board shall also give written notice of its determination to the Town Clerk.

### 3.2.13 Not Deemed a Submittal of a Definitive Plan

The submission of a Preliminary Plan for examination by the Board shall not be deemed a submission of a Definitive Plan for approval by the Board under M.G.L. Chapter 41, § 81L, and the action of the Board on such Preliminary Plan shall not prejudice its action on the Definitive Plan.

### 3.2.14 Recording Prohibited

Except as is otherwise provided, the provisions of the Subdivision Control Law relating to a plan shall not be applicable to a Preliminary Plan, and no register of deeds shall record a Preliminary Plan.

### **3.3 DEFINITIVE SUBDIVISION PLAN**

#### **3.3.1 Preliminary Staff Consultation**

It is recommended that an Applicant consult with the Town Planner prior to the formal application filing to prevent serious delays in the review of the application due to procedural or substantive issues. It is the sole responsibility of the Applicant to ensure that the application as filed is complete and accurate according to these Rules and Regulations and the Zoning Bylaw. If any other approvals or special permits are required from the Board for the project, then these should be discussed with the staff at this time. Any information exchanged as part of this preliminary staff consultation shall be considered as advisory and shall not be binding on the part of the Applicant or Board.

#### **3.3.2 Land Use Committee**

The Applicant may request the Land Use Committee to perform a preliminary staff review of the proposed application in an effort to identify salient issues and the regulatory framework applicable to the proposed project. The Land Use Committee is comprised of the Town Planner, Director of Community and Economic Development, Building Commissioner, Health Director, Water District Director, Public Works Director, Town Engineer, Deputy Fire Chief, Public Safety Officer, Conservation Commission Agent, Land Use Specialist, and Zoning Board of Appeals Administrator and meets on a monthly basis. Any information exchanged as part of this meeting shall be considered as advisory and shall not be binding on the part of the Applicant or Board.

#### **3.3.3 Planning Board Pre-Application Review**

If warranted by the complexity of an application, the Chair may appoint a subcommittee of one or two Board members to participate in a pre-application conference with the Applicant and the Board's staff. Preliminary plans or sketches may be submitted for discussion purposes and to assist in the identification of the nature of information necessary to meet the requirements of these Rules and Regulations and the Zoning Bylaw and to address issues of concern to the Town and abutters. If any other approvals or special permits are required from the Board for the project, then these should be discussed with the subcommittee members and staff at this time. Information exchanged as part of any pre-application conference shall be considered as advisory and shall not be binding on the part of the Applicant or the Board.

#### **3.3.4 Submission Requirements**

The Applicant who submits a Definitive Plan to the Planning Board shall file with the Board the following at the time of filing:

- 3.3.4.1 One (1) properly executed original application in a form approved by the Board;
- 3.3.4.2 Ten (10) complete paper copies and one (1) complete electronic copy of the application and plan;
- 3.3.4.3 Filing fee of two thousand five hundred dollars (\$2,500.00) plus the following:
  - 3.3.4.3.1 Two hundred dollars (\$200.00) for each proposed buildable and non-buildable lot within the subdivision, and;
  - 3.3.4.3.2 Three dollars (\$3.00) per linear foot of proposed ways within the subdivision;
- 3.3.4.4 If a Preliminary Plan was filed, the Definitive Plan filing fee shall be reduced by the amount of the Preliminary Plan filing fee.
- 3.3.4.5 The Applicant shall provide a detailed calculation of these fees for the review and approval of the Board. Said fees shall be non-refundable, and no application shall be deemed complete until such fees are received.
- 3.3.4.6 A narrative request for all waivers from the submission requirements and/or design standards of these Rules and Regulations.

### 3.3.5 Project Review Fee

- 3.3.5.1 The Board shall impose a Project Review Fee on those applications which require, in the judgment of the Board, review by outside consultants due to the size, scale or complexity of a proposed project, the project's potential impacts, or because the Town lacks the necessary expertise to perform the necessary review. In hiring outside consultants, the Board may engage engineers, planners, attorneys, designers, and/or other appropriate professionals able to assist the Board and to ensure compliance with all relevant laws, ordinances, bylaws and regulations. Such assistance may include, but shall not be limited to, analyzing an application, monitoring or inspecting a project or site for compliance with the Board's decisions or regulations, or inspecting a project during construction or implementation.
- 3.3.5.2 The Board shall determine if a Project Review Fee is required to assist in the review of an application before the close of the second continuation

of the public hearing for the application. If it is determined that a Project Review Fee is required, then the Board shall notify the Applicant of the amount of said fee. The required fee must be received by the Town within fourteen (14) days after the receipt of the notification; if the fee is not received the application shall be deemed incomplete, the required time limits for action upon an application by the Board shall be extended by the duration of the non-payment, and no review work shall commence until the fee has been paid in full. The Project Review Fee shall be deposited in an account established pursuant to M.G.L. Chapter 44, Section 53G ("53G Account").

- 3.3.5.3 Excess fees in the 53G Account, including any accumulated interest, shall be returned to the Applicant or the Applicant's successor in interest, with the final inspection of the approved project or at the time of final disapproval of the application. For the purpose of this Section, any person or entity claiming to be an Applicant's successor in interest shall provide the Board with documentation establishing such succession in interest.
- 3.3.5.4 The Board shall notify the Applicant of the Board's selection of a consultant for the review of an application. The Board's selection of a consultant may be appealed in writing to the Board of Selectman by the Applicant, provided that said appeal is filed in the Office of the Town Clerk within fourteen (14) days after the Applicant's receipt of the notification of the initial selection.
- 3.3.5.5 The following two circumstances shall constitute the only valid grounds for appeal and possible disqualification of the selected consultant:
  - 3.3.5.5.1 Conflict of Interest: The selected consultant shall not have a financial interest in the project under review, or be in a position to financially benefit in some way from the outcome of the pending review process. The selected consultant must be in compliance with the M.G.L. Chapter 268A (Conflict of Interest Law).
  - 3.3.5.5.2 Lack of Appropriate Qualifications: The selected consultant shall possess the minimum required qualifications for the position, which shall consist of either an educational degree in the field at issue or a related field, or a minimum of three years of practice in the field at issue or a related field.
- 3.3.5.5 The Board of Selectmen shall convene a formal hearing within twenty (20) days after the date of filing of a written appeal of the Board's selection of a consultant for the review of an application. If no decision is rendered by the Board of Selectmen within forty-five (45) days following

the filing of a written appeal, the selection made by the Board shall stand. The required time limits for action upon an application by the Board shall be extended by the entire duration of any such appeal.

### 3.3.6 Inspection Fees

- 3.3.6.1 The Applicant shall be responsible for all costs associated with inspections as required by these Rules and Regulations. At the time of formal application, the Applicant shall submit a non-refundable Initial Inspection Fee in the amount of two thousand dollars (\$2,000.00) per one thousand (1,000) feet of proposed ways (and at the same rate for any fraction thereof).
- 3.3.6.2 The Planning Board, in consultation with the Town Engineer or designee, shall determine the amount of any Supplemental Inspection Fee required based on the nature of the project. This additional Inspection Fee shall equal the hourly rate of the Town Engineer or designee plus ten percent (10%), multiplied by the number of anticipated inspection hours.
- 3.3.6.3 If it is determined that a Supplemental Inspection Fee is required, then the Board shall notify the Applicant of such decision. The required fee must be received by the Town within fourteen (14) days after the receipt of the notification.
- 3.3.6.4 The Planning Board, in consultation with the Town Engineer or designee, shall determine the amount of any additional Inspection Fee funds required should the Initial Inspection Fee and/or Supplemental Inspection Fee funds approach depletion. Notification and payment of any such additional Inspection Fee funds shall be in accordance with Section 3.3.4.3.
- 3.3.6.5 Excess Inspection Fees shall be returned to the Applicant or the Applicant's successor in interest, following the final inspection of the approved project or at the time of final disapproval of the application.

### 3.3.7 Transcription Costs

If the Board so requires, the Applicant shall be responsible for all costs associated with the transcription of the public hearing for the application.

### 3.3.8 Delinquent Fees

- 3.3.8.1 All fees which remain unpaid one month from the date of payment request shall be subject to a monthly interest charge not to exceed an annual interest rate of eighteen percent (18%).

3.3.8.2 All costs of collection associated with past due accounts shall be borne by the Applicant.

3.3.9 Notice to Town Clerk

The Applicant shall file, by delivery or certified mail, postage prepaid, notice to the Town Clerk that a Definitive Plan has been submitted. If notice is given by delivery, the Town Clerk shall, if requested, provide a written receipt.

3.3.10 Number of Copies

At the time of application, the Applicant shall file the original and a minimum of ten (10) complete paper copies and one (1) complete electronic copy of the application and all plans, exhibits, analyses and any other information and/or attachments with the Board. Three (3) paper copies of the plan sheets shall be 24 x 36 inches and seven (7) paper copies of the plan sheets shall be 11 x 17 inches.

3.3.11 Preparation of Plan Sheets

The plan shall be drawn at a scale of one (1) inch equals forty (40) feet (1":40'), with proper margins for filing. The 11 x 17 inch copies of the plan shall be produced by reducing the 24 x 36 plan to fit the smaller paper size. Plan sheets shall bear the stamp and signature of a Registered Professional Engineer, Registered Landscape Architect and/or Registered Professional Land Surveyor responsible for the preparation of the plan.

3.3.12 Information Required on a Definitive Plan

3.3.12.1 Title block containing the name of the subdivision, which shall include the designation "Definitive Plan".

3.3.12.2 Applicant name and property owner of record.

3.3.12.3 Name, address, stamp and signature of the Registered Landscape Architect, Registered Professional Land Surveyor and/or Registered Professional Engineer responsible for the preparation of the plan.

3.3.12.4 Date of plan and the date of any subsequent revision. All sheets in a plan set shall exhibit the same latest date of revision.

3.3.12.5 Sheet number and the number of sheets (example: sheet 1 of 7 sheets).

3.3.12.6 Index of Definitive Plan sheets on the Title Sheet, which shall include the sheet number and title of sheet (example: Sheet 4: Topographic and Grading Plans).



- 3.3.12.7 Scale and arrow oriented to true north on each sheet.
- 3.3.12.8 The zoning district classification(s) of land shown on the plan and the location of any zoning district boundaries that fall within the locus of the plan.
- 3.3.12.9 Boundary lines of bordering adjacent land or of land across an adjoining street from the proposed subdivision and names of abutters thereof as determined from the Board of Assessors.
- 3.3.12.10 Location of all existing principal and accessory buildings and structures, including setback and side and rear yard designation and location of any easements.
- 3.3.12.11 Board of Assessors' map and parcel number.
- 3.3.12.12 A list of all waiver requests. The list will appear on the cover sheet of the first submittal of the proposed Definitive Subdivision Plan and shall be modified to conform to the final action taken by the Board, if any, prior to endorsement by the Board.
- 3.3.12.13 Locus map showing the boundaries of the property subject to the application in relation to the boundaries of all adjoining properties, public and private streets and ways and significant water bodies within a minimum distance of one thousand (1,000) feet.
- 3.3.12.14 Existing and proposed exterior lines of streets, ways, sidewalks, lots, easements, flood plain boundaries, zoning districts and any public or common areas within a minimum of six hundred (600) feet adjacent to the proposed subdivision at a scale of one (1) inch equals two hundred (200) feet (1:200).
- 3.3.12.15 Proposed names of subdivision streets. In the absence of a name, the streets should be designated by a letter. Lots are to be designated by sequential number.
- 3.3.12.16 Closed traverse for the boundaries of the subdivision and for each street and easement within the subdivision. The error of the closure on the perimeter shall be 1:15,000 or better. Closure calculations shall be submitted on a separate sheet.
- 3.3.12.17 Sufficient data to determine readily the location, direction, width and length of every street and way line, lot line and boundary line and to establish these lines on the ground. Curve data shall include length, tangent, central angle and radius data.

- 3.3.12.18 Boundary lines, areas and dimensions for all lots within the proposed subdivision. Size and calculation of area of contiguous non-wetland area to be denoted in acres and square feet. Each lot in its entirety shall be shown on one sheet and be designated by sequential number.
- 3.3.12.19 Location, names and present widths of streets and public or private ways bounding, approaching or within six hundred (600) feet of the boundaries of the subdivision.
- 3.3.12.20 Major site features such as existing stone walls, fences, buildings, trees with a caliper of ten (10) inches or larger, significant wooded areas, rock ridges and outcroppings, wetlands, certified vernal pools, floodplains, water bodies and significant archeological features and sites within and a minimum of six hundred (600) feet adjacent to the proposed subdivision.
- 3.3.12.21 Where the Applicant owns or controls unsubdivided land adjacent to or across the street from that shown on the Definitive Plan, the Applicant shall submit a sketch plan showing a possible or prospective street layout.
- 3.3.12.22 Existing and proposed topography, with two (2)-foot contours based on mean sea level datum or at a suitable interval as required by the Board, and those contour lines shown on the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM) as bounding the one hundred (100)-year floodplain within or immediately adjacent to the proposed subdivision.
- 3.3.12.23 Location of permanent monuments, properly identified as existing or proposed.
- 3.3.12.24 Park or open areas suitably located for conservation, playground or recreation purposes within a subdivision, if any.
- 3.3.12.25 Proposed layout of storm drainage system, water supply system, fire hydrants, sewer mains and all other utilities. The locations, inverts, slopes, grades, stations, sizes and types of pipe and materials to be used on all utilities and appurtenances shall be clearly shown.
- 3.3.12.26 Location, purpose, granters and grantees of all existing and proposed easements with sufficient data, including lengths, bearings and curve data, necessary to determine their exact location.
- 3.3.12.27 Landscape plan showing the existing trees to be retained with the location, size and species, and locations of where new trees are to be planted including the location, size and species. Plan shall include a planting table depicting the size and species of proposed street trees and any other proposed plantings. Planting plan shall include the botanical

and common name; whether native or non-native species; height and size at planting; height and size at maturity; rate of growth; quantity to be planted; and symbols used to represent the plantings on the Landscape Plan.

- 3.3.12.28 Location of existing utilities, underground or overhead, including rim/gate/grate and invert elevations, pole number, size, type and any easements.
- 3.3.12.29 Bridges, box culverts, deep manholes, retaining walls, headwalls and other special structures.
- 3.3.12.30 Locations and detail specification of required streetlights. Lighting shall be dark sky compliant and comply with current Department of Public Works standards.
- 3.3.12.31 Sidewalk, driveway, and driveway apron locations. Sidewalks over driveway crossing shall maintain the height of the sidewalks. The driveway apron shall slope down to meet the grade of the street.
- 3.3.12.32 Areas subject to protection under the Wetlands Protection Act, M.G.L. Chapter 131, § 40, and a description of the method used to make that determination.
- 3.3.12.33 For each proposed street in the subdivision, there shall be a separate layout plan at a horizontal scale of one (1) inch equals forty (40) feet (1":40') showing the proposed exterior lines, centerline, points of tangency, length of tangents, length of curves, intersection angles, radii of curves and the location of permanent monuments for each street. The layout plan shall also show the proposed storm drainage system, water supply system, fire hydrants, sewer mains and all other utilities and their appurtenances within each proposed street. Lot lines, buildings and other major site features within forty (40) feet of the exterior lines of each proposed street shall also be shown.
- 3.3.12.34 For each proposed street in the subdivision, there shall be a profile drawn at a horizontal scale of one (1) inch equals forty (40) feet (1":40') and a vertical scale of one (1) inch equals four (4) feet (1":4'), showing existing centerline grades in fine solid lines, existing exterior line grades in fine dash lines, and proposed centerline grades in heavy solid lines. Proposed grade elevations shall be shown by figures at fifty (50) foot stations, except on vertical curves where they shall be shown at twenty-five (25) foot stations. Rates of gradient in percentage shall also be shown. Profiles shall also indicate the location of any intersecting public or private ways, and the location of existing and proposed storm drains, water mains and sewers and their appurtenances. The profile plan of

each proposed street shall be shown either directly above or below its corresponding layout plan.

- 3.3.12.35 For each proposed street in the subdivision, there shall be a cross-section plan, properly located and identified by station number at such intervals along the street as will adequately indicate any variations in its section, supplemented, where necessary, by lines on the layout plan showing the width and location of proposed roadways, grass plots, curbs, sidewalks and similar physical site features. The cross-section plan for each proposed street shall be located on the same sheet as its corresponding layout plan.
- 3.3.12.36 If the required side-sloping will extend beyond the street right-of-way into an abutting lot, the cross-section plan shall show the grade and extent of such side-slope beyond the street right-of-way and the area affected by such side-slope shall be depicted as a slope easement within the lot lines of the abutting lot.
- 3.3.12.37 The location of the proposed house, driveway and proposed lot grading shall be shown for each lot within the subdivision. The proposed lot grading shall be shown on the plan so that the proposed stormwater management system can be properly evaluated.
- 3.3.12.38 A proposed building envelope for each buildable lot and line showing the limit of disturbance.
- 3.3.12.39 The following notation: “The Town of Westwood is not required to plow snow on a street that has not been accepted by Town Meeting.”
- 3.3.12.40 The following shall be included on each sheet of the Definitive Plan to be recorded:
  - 3.3.12.40.1 Signature blocks for the Planning Board endorsement of the Definitive Plan and the date of such endorsement.
  - 3.3.12.40.2 Signature blocks for the Sewer Commission endorsement of the Definitive Plan and the date of such endorsement.
  - 3.3.12.40.3 Where the Applicant elects to secure the construction of ways and the installation of municipal services by a covenant, there shall be the following notation above the space for the Planning Board endorsement signatures: “Approved (date), subject to the conditions set forth in a covenant, executed by (name), dated (date), to be recorded (registered) herewith.” In the same space on the remainder of the sheets comprising the Definitive Plan, there shall be the notation: “Approved (date) subject to the conditions set

forth in a covenant described on Sheet I.”

- 3.3.12.40.4 The following notation: "I hereby certify that the notice of approval of this plan by the Westwood Planning Board has been received and recorded by this office and no appeal was received within the twenty (20) days after such receipt and recording of said notice. Dated: (date); Westwood Town Clerk (signature of Town Clerk)."
- 3.3.12.40.5 The following notation: “The Town of Westwood is not required to provide non-emergency municipal services, including snow plowing and trash removal, on a street that has not been accepted by Town Meeting.”
- 3.3.12.40.6 The following notation: “No construction shall commence prior to endorsement by the Planning Board and evidence of recording the Definitive Plan and covenant at the Registry of Deeds is submitted to the Planning Board.”
- 3.3.12.40.7 Legend denoting any signs or symbols not otherwise explained.

### 3.3.13 Additional Information Required for Application for a Definitive Plan

- 3.3.13.1 Stormwater drainage runoff calculations used for the drainage system design must be prepared by a Registered Professional Engineer and must support the sizing of all drainage structures and pipes. The calculations must contain a written summary explaining the rationale of the design so that the Board can understand the basic design approach and its validity for the site in question. Furthermore, the calculations should be fully documented including copies of charts or other reference sources. The pre- and post- development runoff rates must be provided.
- 3.3.13.2 A traffic impact study describing the effect of traffic generated by the proposed subdivision on other streets within the Town, including intersections. The Applicant should consult with the Board and Town Engineer to determine the scope of the study prior to the formal submission of the application. In general, a traffic impact study shall include the following information:
  - 3.3.13.2.1 Existing traffic conditions including roadway geometries, traffic volumes, safety, delays and levels of service for roads and intersections affected by the proposed development project.
  - 3.3.13.2.2 Accurate traffic generation estimates of future traffic conditions including trip generation, trip distribution, volume

to capacity ratios and levels of service for existing roads and intersections (whether in Westwood or another town) affected by the proposed development at the time of anticipated completion and five (5) years beyond the anticipated completion. Impacts of other previously approved projects and of projects pending approval shall be taken into consideration. Approach and departure route assignments shall be based on existing traffic patterns, minimum time paths, journey to work data, market studies, or a combination thereof. All traffic information shall include data for morning and afternoon peak hours, weekend peak hours and average daily data. Sight distances for turning movements to and from the project as well as within the project must be analyzed using AASHTO standards. The adequacy of vehicular queuing storage at the project entrances shall also be demonstrated. The impact of any planned phasing of the project shall be also incorporated into the traffic impact study.

- 3.3.13.3 Calculation of the amount of earth material required to be exported, imported and/or regraded on the site.
- 3.3.13.4 Stormwater Management Plan in accordance with Westwood's Stormwater Management Bylaw and Stormwater Regulations.
- 3.3.13.5 An Erosion and Sedimentation Control Plan in accordance with Westwood's Stormwater Management Bylaw and Stormwater Management Regulations.
- 3.3.13.6 A Stormwater management Operation and Maintenance Plan in accordance with the Stormwater Management Bylaw and Stormwater Management Regulations.

#### 3.3.14 Site Visit

Pursuant to M.G.L. Chapter 41, § 81CC, the Board may require a site visit to the proposed subdivision site. The date and time for such visit shall be satisfactory to both the Board and Applicant. In order to facilitate field inspection and review of the site of the proposed subdivision, temporary staking will be required along the center line of all proposed roads in the subdivision in time for such site visit or, if impractical, the Board shall permit a suitable alternative procedure.

#### 3.3.15 Review by Board of Health as to Suitability of the Land

At the time of filing of the Definitive Plan, the Applicant shall also file with the Board of Health two (2) complete copies of the application and Definitive Plan. The Board of

Health shall, within forty-five (45) days after filing of the Plan, report to the Board in writing its approval or disapproval of said Plan. If the Board of Health disapproves said Plan, it shall make specific findings as to which, if any, of the lots shown on such plan cannot be used for building sites without injury to the public health or is unsuitable because of drainage conditions, and include such specific findings and reasons therefor in such report and, where possible, shall make recommendations for the adjustment thereof. Failure of the Board of Health to report shall be deemed approval thereof. If the report of the Board of Health so requires, the approval of the Board shall be on condition that no building or structure shall be built or placed upon the areas designated without consent by the Board of Health. In the event that approval by the Board of Health is by failure to make a report, the Board shall note on the Definitive Plan that health approval is by failure to report.

### 3.3.16 Additional Reviews

At the time of filing, the Applicant shall also file two (2) complete copies of the application and Definitive Plan with the following:

- 3.3.16.1 Sewer Commission, to review the suitability of the proposed sanitary sewer system design;
- 3.3.16.2 Fire Chief, to review the location of hydrants and other required fire-fighting appurtenances;
- 3.3.16.3 Dedham-Westwood Water District, to review the suitability of the water distribution system.

### 3.3.17 Public Hearing

Before approval, modification and approval, or disapproval of the Definitive Plan is given, a public hearing shall be held by the Board at a time and place designated by the Board. Notice of such hearing shall be given by the Board at the expense of the Applicant by advertisement in a newspaper of general circulation in the Town once in each of two (2) successive weeks, the first publication being not less than fourteen (14) days before the day of such hearing, and by mailing a copy of such advertisement to all land owners abutting upon the land included in such plan as appearing on the most recent tax list.

### 3.3.18 Transcription Costs

The Applicant shall be required to procure the services of a professional transcriptionist to transcribe the public hearing and will be responsible for all costs associated with the transcription, if the Board so requires.

### 3.3.19 Planning Board Action

### 3.3.19.1 Nonresidential Subdivision

Where the required Preliminary Plan has been duly submitted and acted upon or where forty-five (45) days has elapsed since submission of said Preliminary Plan, and then a Definitive Plan is submitted, the Board shall take action within ninety (90) days after such submission or such further time as may be agreed upon at the written request of the Applicant. The failure of the Board either to take final action or to file with the Town Clerk a certificate of such action regarding the Definitive Plan submitted by the Applicant within ninety (90) days after such submission, or such further time as may be agreed upon at the written request of the Applicant, shall be deemed to be an approval thereof. Notice of such extension of time shall be filed forthwith by the Board with the Town Clerk.

### 3.3.19.2 Residential Subdivision with Preliminary Plan

Where a Preliminary Plan has been acted upon by the Board or where at least forty-five (45) days have elapsed since submission of said Preliminary Plan, an Applicant may file a Definitive Plan. The Board shall take action within ninety (90) days after such submission or such further time as may be agreed upon at the written request of the Applicant. The failure of the Board either to take final action or to file with the Town Clerk a certificate of such action regarding the Definitive Plan submitted by the Applicant within ninety (90) days after such submission, or such further time as may be agreed upon at the written request of the Applicant, shall be deemed to be an approval thereof. Notice of such extension of time shall be filed forthwith by the Board with the Town Clerk.

### 3.3.19.3 Residential Subdivision with No Preliminary Plan

Where no Preliminary Plan has been submitted and acted upon or where at least forty-five (45) days has not elapsed since submission of said Preliminary Plan, and a Definitive Plan is submitted, the Board shall take action within one hundred thirty-five (135) days after such submission or such further time as may be agreed upon at the written request of the Applicant. The failure of the Board either to take final action or to file with the Town Clerk a certificate of such action regarding the Definitive Plan submitted by the Applicant within one hundred thirty-five (135) days after such submission, or such further time as may be agreed upon at the written request of the Applicant, shall be deemed to be an approval thereof. Notice of such extension of time shall be filed forthwith by the Board with the Town Clerk.

### 3.3.19.4 In each case the Board may approve, or if the Definitive Plan does not comply with the Subdivision Control Law or these Rules and Regulations,



or the recommendations of the Board of Health, shall modify and approve or shall disapprove said Definitive Plan.

### 3.3.20 Planning Board Vote

The action of the Board in respect to any Definitive Plan shall be by vote, copies of which shall be filed with the Town Clerk and sent by registered mail to the Applicant at the address stated on the application. If the Board modifies or disapproves said Definitive Plan, it shall state in its vote the reasons for its action. The conditions of approval of the Definitive Plan, including any waivers granted by the Board and the conditions of any special permits or variances shall be recorded at the same time as the endorsed Definitive Plan.

Final approval, if granted, shall be endorsed on the final drawing of the Definitive Plan by the signatures of a majority of the Board but not until the statutory twenty (20) 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.

### 3.3.21 Recording of a Definitive Plan

Within thirty (30) days after endorsement of the Definitive Plan, the Board shall record said Definitive Plan and conditions of approval, covenant, executed easements, bylaws, covenants and restrictions, if any, at the Norfolk County Registry of Deeds. The cost of such recording shall be the responsibility of the Applicant and shall be transmitted forthwith to the Board. In the case of registered land, the Applicant shall record said Definitive Plan and conditions of approval, covenant, executed easements, bylaws, covenants and restrictions, if any, at the Registry District of the Land Court and shall submit proof of said recording. In all cases, the Applicant shall provide three (3) full copies of said Definitive Plan, showing final endorsement and recording.

### 3.3.22 Submission of Recorded Definitive Plan to Building Inspector

After the recording of the Definitive Plan at the Norfolk County Registry of Deeds or the Registry District of the Land Court, the Board shall file one (1) copy of the Definitive Plan with the Building Inspector. In accordance with the Subdivision Control Law, where approval with covenant is noted thereon, the Building Inspector shall not issue a permit for the construction of a building on any lot within the subdivision except upon receipt from the Board of a copy of the certificate of performance releasing the lot in question.

## 3.4 PERFORMANCE GUARANTEE

Before final endorsement of a Definitive Plan, the Board shall require provision for the completion of construction or installation of ways, municipal services and any other required improvements in accordance with these Rules and Regulations and any other

conditions specified in the certificate of approval. The Applicant shall file any executed easements, bylaws, covenants and restrictions as required before the Board will release any lot to be built upon or conveyed other than by mortgage deed. The construction or installation of ways, municipal services and any other improvements required by the Board shall 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:

#### 3.4.1 Secured with a Bond

The Applicant shall file a performance bond in an amount determined by the Board to be sufficient to cover the cost of the completion of the construction or installation of ways and municipal services in accordance with these Rules and Regulations and any conditions specified in the certificate of approval. Such bond or security, if filed or deposited, shall be approved as to form and manner of execution by the Town Counsel and as to sureties by the Town Treasurer and shall be contingent on the completion of such improvements within two (2) years of the date of the bond. The status of the bond may be reviewed by the Board every six (6) months, and may be increased to reflect increases in the estimated costs for completion of construction.

#### 3.4.2 Secured with a Deposit of Money or Negotiable Securities

The Applicant shall make a deposit of money or negotiable securities in an amount determined by the Board to be sufficient to cover the cost of the completion of the construction or installation of ways and municipal services in accordance with the Rules and Regulations of the Board and any other conditions specified in the certificate of approval. Such deposit of money or security shall be approved as to form and manner of execution by the Town Counsel and as to sureties by the Town Treasurer and shall be contingent on the completion of such improvements within two (2) years of the date of the deposit. The status of the deposit of money or negotiable securities may be reviewed by the Board every six (6) months, and may be increased to reflect increases in the estimated costs for completion of construction.

#### 3.4.3 Secured with a Covenant

The Applicant shall file a covenant acceptable to the Board, executed and duly recorded by the owner of record, running with the land, whereby the construction and installation of ways and municipal services are provided in accordance with these Rules and Regulations and any other conditions specified in the certificate of approval are met to serve any lot before such lot may be built upon or conveyed other than by mortgage deed; provided, that a mortgagee who acquires title to the mortgaged premises by foreclosure or otherwise and any succeeding owner of such premises or part thereof may sell any such lot, subject to that portion of the covenant which provides that no lot shall be built upon until such ways and services and any other conditions specified in the certificate of approval have been provided to serve such lot; and provided, further, that nothing herein shall be deemed to prohibit a conveyance by

a single deed subject to such covenant, of either the entire parcel of land shown on the Definitive Plan or of all lots not previously released by the Board. A deed of any part of the subdivision in violation hereof shall be voidable by the grantee prior to the release of the covenant but not later than three (3) years from the date of such deed.

#### 3.4.4 Secured with a Tri-partite Agreement

The Applicant shall deliver to the Board an agreement executed after recording of a first mortgage covering the premises shown on the Definitive Plan or a portion thereof given as security for advances to be made to the Applicant by the lender, which agreement shall be executed by the Applicant and the lender and shall provide for the retention by the lender of funds sufficient in the opinion of the Board and otherwise due the Applicant, to secure the completion of the construction of ways and the installation of municipal services in accordance with these Rules and Regulations and any other conditions specified in the certificate of approval. Said agreement shall also provide for a schedule of disbursements which may be made to the Applicant upon completion of various stages of the work and shall further provide that in the event the work is not completed within the time set forth by the Applicant or within two (2) years, whichever is shorter, any funds remaining undisbursed shall be available for completion. The Board may require assurances for the lender, including the posting of a bond or other security, in order to ensure the proper outcome of the purposes of this subparagraph.

#### 3.4.5 Reduction of a Bond or Surety

The penal sum of any required bond, or the amount of any deposit held hereunder may, from time to time, be reduced by the Board and the obligations of the parties thereto released by said Board in whole or in part. The Board may act on an Applicant's request for a reduction of any required bond or surety only after receipt of a written request.

#### 3.4.6 Release of Performance Guarantee

3.4.6.1 Upon the completion of the construction and installation of the ways and municipal services in accordance with these Rules and Regulations and any other conditions specified in the certificate of approval, 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 shall send by certified mail to the Town Clerk a written statement in duplicate that the said construction and installation in connection with which such bond, deposit or covenant has been given has been completed in accordance with the requirements of these Rules and Regulations and any other conditions specified in the certificate of approval, such statement to contain the address of the Applicant, and the Town Clerk shall forthwith furnish a copy of said statement to the Board.

- 3.4.6.2 If the Board determines that said construction or installation has been completed, 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 issue a release of covenant in a form for recording. If the Board determines that said construction or installation has not been completed, it shall specify to the Applicant in writing the details wherein said construction and installation fails to comply with the requirements of these Rules and Regulations and any other conditions specified in the certificate of approval, and, upon failure to so specify within forty-five (45) days after the receipt by the Town Clerk of said statement, all obligations under the bond shall cease and terminate by operation of law, any deposit shall be returned and any such covenant shall become void. In the event that said forty-five (45) day period expires without such specification, or without the release and return of the bond or the return of the deposit or release of the covenant as aforesaid, the Town Clerk shall issue a certificate to such effect, duly acknowledged, which may be recorded.
- 3.4.6.3 The Board will release from such covenants only those lots for which construction and installation of ways and municipal services have been completed in accordance with these Rules and Regulations and any other conditions specified in the certificate of approval.

### 3.4.7 Evidence of Satisfactory Performance

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

- 3.4.7.1 A certified copy of the layout plan of each street in the subdivision (with accompanying cross-section and profile plans) or, in the case of approval with covenant, of the street or street serving the lots for which a release is desired. Certification shall be by a Registered Professional Engineer and/or Registered Professional Land Surveyor and shall indicate that all streets, sidewalks, storm drains, sewer mains and water mains and their appurtenances, have been constructed in accordance with said Definitive Plan and are accurately located as shown thereon. The Registered Professional Engineer and/or Registered Professional Land Surveyor shall also certify that the grades of all the lots have been established as shown on the grading plan and that said grades have been established so as not to create adverse drainage patterns onto adjoining lots or streets.
- 3.4.7.2 Where variations of the approved lines, grades and/or locations have been authorized by the Board or its Engineer in the course of construction and installation of the ways, municipal services and/or any other conditions specified in the certificate of approval, said variation

shall be depicted upon the required certified copy so that said copy will constitute an as-built plan. This as-built plan shall be delivered to the Board in a digital format compatible with the Town's current Geographic Information System (GIS), unless otherwise waived by the Board.

#### 3.4.8 Maintenance Guarantee

A maintenance guarantee providing surety equal to ten percent (10%) of the total value of work within the subdivision which has been subject to either a surety bond and/or covenant, to be held in the same manner as the performance guarantee required herein. Such maintenance guarantee shall be held by the Town for the maintenance of ways, municipal services and any other conditions specified in the certificate of approval for eighteen (18) months after the satisfactory completion of said ways, municipal services and any other conditions or until the ways and municipal streets are accepted by the Town, whichever comes first, after which date the Town shall return the remainder of the surety.

#### 3.4.9 Conveyance of Utilities and Easements to the Town

Prior to the release of a surety bond or deposit by the Board, or the release of the covenant, the Applicant shall execute an instrument in a form approved by the Board, transferring to the Town, without cost, valid unencumbered title to all common sewers, street lights, detention basins, storm drains and water mains, and appurtenances thereto, constructed and installed in the subdivision or portion thereof to be approved, and conveying to the Town without cost and free of all liens and encumbrances, perpetual rights and easements to construct, inspect, repair, renew, replace, operate and forever maintain the aforesaid underground utilities, with any manholes, pipes, conduits and other appurtenances, and to do all acts incidental thereto, in, through and under the whole of all ways in the subdivision or portion thereof to be approved, and if any such utilities have been constructed and installed in land not within such ways, then in, through and under an easement as shown on the Definitive Plan.

## **SECTION 4.0 DESIGN STANDARDS**

### **4.1 GENERAL DESIGN CRITERIA**

Subdivisions shall be designed so as to provide safe and convenient travel for vehicular, pedestrian and bicycle traffic. The design shall give due regard to the prospective character of different subdivisions, the nature of the terrain, the prospective amount of travel upon the various ways and footpaths therein, the prospective extension of such streets if the adjoining property has not been subdivided and other relevant factors. The design shall give due regard to all natural features, such as large trees, water courses, scenic points, historic areas and similar community assets, which, if preserved, will add attractiveness and value to the subdivision and to the Town.

### **4.2 MINIMUM DESIGN STANDARDS**

In addition to the General Design Criteria cited in Section 4.1, subdivisions shall be designed in accordance with the specific standards described in this Section. These standards shall be considered minimum standards. The Board may waive any design requirement or impose additional design requirements if the Board finds, based upon the conditions of the site, such waivers or additional requirements are necessary or desirable to meet the requirements described in said Section 4.1.

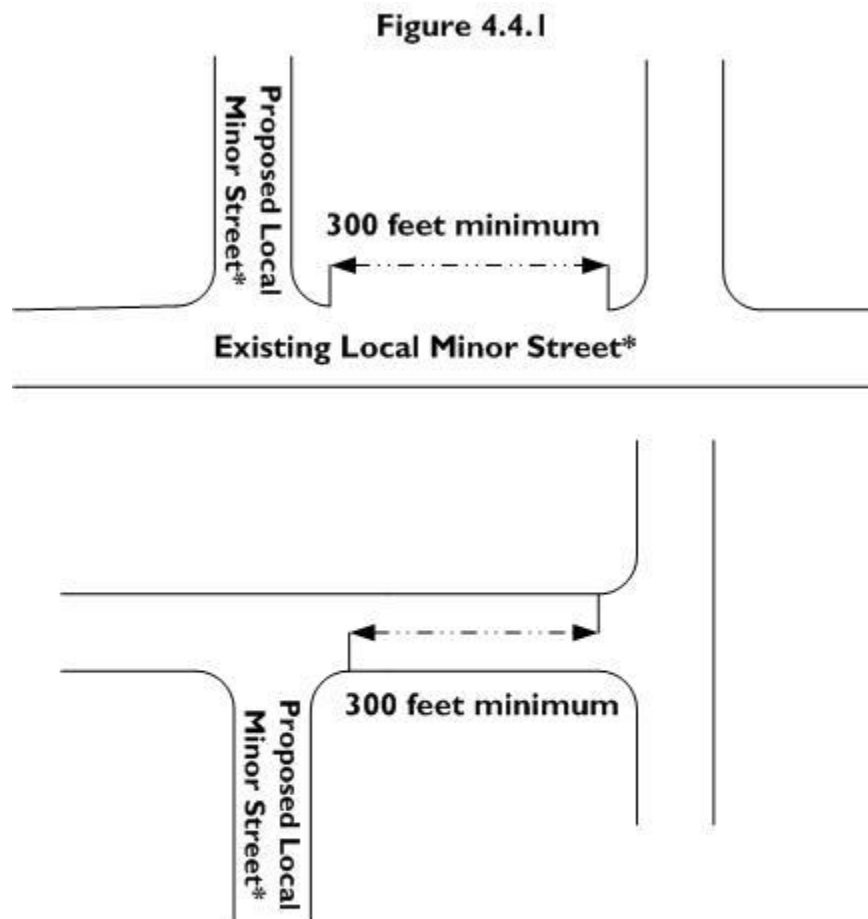
### **4.3 STREET DESIGN**

- 4.3.1 Streets in the subdivision shall be coordinated with each other and with the existing street system in a manner satisfactory to the Board, with due regard to securing safety and convenience in travel. Due consideration shall also be given by the Applicant to the attractiveness of the street layout in order to obtain the maximum livability and amenity of the subdivision.
- 4.3.2 Whenever possible, streets shall be laid out to minimize cutting and filling. If the construction of a street will require the alteration of a wetland or resource area, such alteration shall be in compliance with the Wetlands Protection Act, M.G.L. Chapter 131, § 40 and Town of Westwood General Bylaws, Chapter 392, Wetlands Protection Bylaw.
- 4.3.3 Provisions, in a manner satisfactory to the Board, shall be made for the proper projection of streets, or for future access to adjoining property which is not yet subdivided.
- 4.3.4 Reserve strips prohibiting access to streets or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.

4.3.5 The installation of bikeways and/or pedestrian ways to provide access within a subdivision or between a subdivision and adjoining properties may be required at the discretion of the Board.

#### 4.4 STREET LOCATION AND ALIGNMENT

4.4.1 The minimum right-of-way offset of a proposed street to an adjacent existing street shall be a minimum of three hundred (300) feet if the proposed street, the adjacent street and the street being intersected are Local Minor streets. The right-of-way offset shall be measured between points where the street right-of-ways intersect (Figure 4.4.1).

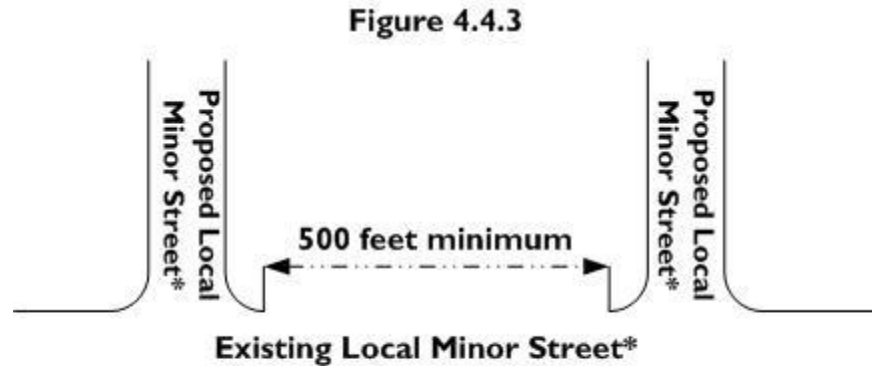


**\* If any of these streets are a Local Major or Local Secondary street, then the minimum distance is 600 feet (Section 4.4.2)  
Not to Scale**

4.4.2 The minimum right-of-way offset of a proposed street to an adjacent existing street shall be a minimum of six hundred (600) feet if the proposed street, the adjacent street or the street being intersected is a Local Major or Local Secondary street. The right-

of-way offset shall be measured between points where the street right-of-ways intersect.

- 4.4.3 The minimum right-of-way offset between two proposed streets, or two ends of the same proposed street, shall be a minimum of five hundred (500) feet if the proposed intersections are on the same side of the existing street and the proposed street(s) and existing street are Local Minor streets. The right-of-way offset shall be measured between points where the street right-of-ways intersect (Figure 4.4.3).

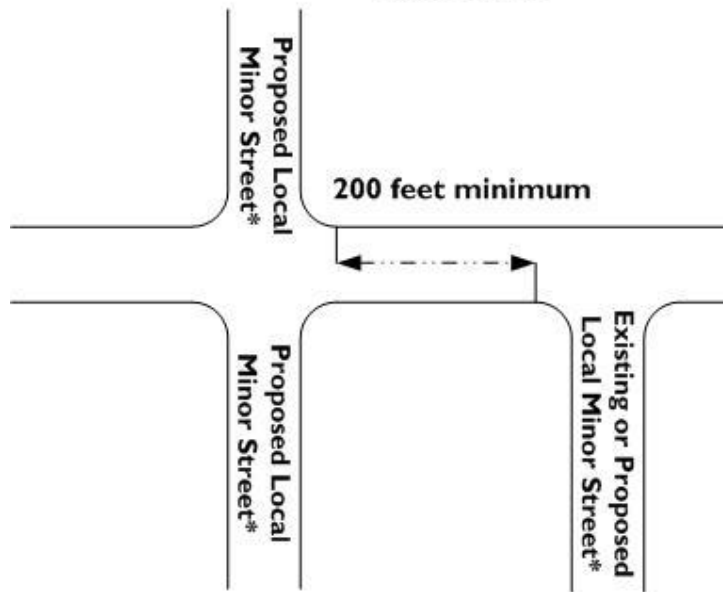


**\* If any of these streets are a Local Major or Local Secondary street, then the minimum distance is 1,000 feet (Section 4.4.4)  
Not to Scale**

- 4.4.4 The minimum right-of-way offset between two proposed streets, or two ends of the same proposed street, shall be a minimum of one thousand (1,000) feet if the proposed intersections are on the same side of the existing street and the proposed street(s) and/or existing street is a Local Major or Local Secondary street. The right-of-way offset shall be measured between points where the street right-of-ways intersect.
- 4.4.5 The minimum right-of-way offset between a proposed street and another proposed or existing street, being on opposite sides of the street being intersected, shall be zero (0) feet if the streets are laid out directly opposite of one another or have a minimum right-of-way offset of two hundred (200) feet if both of the streets and the existing intersecting street are Local Minor streets. The right-of-way offset shall be measured between points where the street right-of-ways intersect (Figure 4.4.5).



Figure 4.4.5



\* If any of these streets are a Local Major or Local Secondary street, then the minimum distance is 400 feet (Section 4.4.6)  
 Not to Scale

4.4.6 The minimum right-of-way offset between a proposed street and another proposed or existing street, being on opposite sides of the street being intersected, shall be zero (0) feet if the streets are laid out directly opposite of one another or have a minimum right-of-way offset of four hundred (400) feet if one of the streets or the existing intersecting street is a Local Major or Local Secondary street. The right-of-way offset shall be measured between points where the street right-of-ways intersect.

4.4.7 No ways created pursuant to the Subdivision Control Law shall be closer than forty (40) feet to any lot line of any lot situated outside the subdivision.

**4.5 SIGHT DISTANCE**

4.5.1 At all intersections with existing or proposed streets, an unobstructed line of sight measured four (4) feet above the centerline of the roadway pavement shall not be less than the following distances based on the highest design speed for proposed roadway(s) and 85<sup>th</sup> percentile for existing roadways.

**Stopping Sight Distance Summary Table**

<u>Design Speed (MPH)</u>	<u>Stopping Sight Distance (ft.)</u>
30	200
35	250
40	305
45	360
50	425

4.5.2 No structures, fencing or planting shall be maintained within 30 feet of any corner street line intersection above a height of three feet above curb level or so as to interfere with traffic visibility and sight lines across the corner.

**4.6 STREET WIDTH AND CURVATURES**

4.6.1 The minimum width of street right-of-ways shall be as follows:

Street Classification	Residential Subdivision	Business and Industrial Subdivision
Local Minor Street	50 feet	60 feet
Local Secondary Street	50 feet	70 feet
Local Major Street	60 feet	80 feet

4.6.2 The minimum centerline radii of curved streets shall be as follows:

Street Classification	Residential Subdivision	Business and Industrial Subdivision
Local Minor Street	150 feet	150 feet
Local Secondary Street	300 feet	300 feet
Local Major Street	500 feet	500 feet

4.6.3 Streets shall be laid out so as to intersect as nearly as possible at ninety (90) degree right angles. No street shall intersect any other street at less than sixty (60) degrees.

4.6.4 Property lines at a street intersection in which one of the intersecting streets is a Local Secondary Street and/or Local Major Street shall be rounded or cut back to provide for a curb radius of not less than forty (40) feet.

4.6.5 Property lines at a street intersection in which all of the intersecting streets are Minor Streets shall be rounded or cut back to provide for a curb radius of not less than twenty five (25) feet.

**4.7 GRADE**

4.7.1 The centerline grade of any street shall not be less than seven-tenths of one percent (0.7%).

The maximum centerline grades shall be as follows:

Street Classification	Residential Subdivision	Business and Industrial Subdivision
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Local Minor Street	Eight percent (8%)	Eight percent (8%)
Local Secondary Street	Seven percent (7%)	Seven percent (7%)
Local Major Street	Six percent (6%)	Five percent (5%)

4.7.2 Where the grade of any street at the approach to an intersection exceeds five percent (5%) within two hundred (200) feet of the intersection, a leveling area shall be provided having not greater than three percent (3%) grades for a distance of fifty (50) feet, measured from the nearest right-of-way line of the intersecting street.

**4.8 ROADWAY CENTERLINE**

4.8.1 Roadways shall be constructed for the full length of all streets within the subdivision. The centerline of the roadway shall coincide with the centerline of the street right-of-way, unless a minor variance is granted by the Board.

**4.9 PAVEMENT WIDTH**

4.9.1 The minimum pavement width of roadways shall be as follows:

Street Classification	Residential Subdivision	Business and Industrial Subdivision
Local Minor Street	22 feet	24 feet
Local Secondary Street	24 feet	32 feet
Local Major Street	32 feet	36 feet

**4.10 DEAD-END STREETS**

4.10.1 Dead-end streets shall not be longer than five hundred (500) feet as measured along the centerline from the edge of the right-of-way of the intersecting street to the most distant point of the dead-end street.

4.10.2 No new dead-end street shall originate from an existing or proposed dead-end street unless the total length of the combined streets is less than five hundred (500) feet, as measured along the centerline from the edge of the right-of-way of the intersecting street to the most distant point of the dead-end street.

4.10.3 Dead-end streets shall be provided at the closed end with a turnaround having an outside street line diameter of at least eighty four (84) feet, and an inside street line diameter of at most thirty-six (36) feet. Such turnaround shall incorporate a landscaped circle, which may include a rain garden or similar low impact design feature.

4.10.4 When a proposed street of a subdivision will connect to an existing dead-end street, any pavement over the turnaround must be removed and any pavement, sidewalks,

grass plots and trees must be installed in accordance with the requirements stated herein.

#### **4.11 FIRE HYDRANTS**

4.11.1 Hydrant service shall be installed within the subdivision to provide adequate fire protection to all lots therein. Hydrants shall be provided within five hundred (500) feet of each existing or potential dwelling unit unless a greater distance is approved by the Fire Chief. The type, spacing and locations of hydrants and the type and size of pipe serving the hydrants shall be approved by the Fire Chief.

#### **4.12 BIKEWAYS/WALKWAYS**

4.12.1 Public bikeways or pedestrian walkways may be required by the Board to provide circulation or access to schools, playgrounds, parks, shopping, transportation, open spaces and/or community facilities or for such other reason as the Board may determine. These bikeways or walkways may or may not be part of the required provision of sidewalks, but they shall not be a part of any lot in the subdivision except where located in a walkway easement or an easement provided for the potential projection of a street or way.

#### **4.13 EASEMENTS**

4.13.1 Utility easements across lots or centered on rear or side lot lines shall be provided where necessary and shall be at least thirty (30) feet wide.

4.13.2 Sewer easements centered on rear or side lot lines shall be provided where necessary and shall be at least twenty (20) feet wide. Site specific circumstances may require a wider easement at the request of the Department of Public Works or specific utility.

4.13.3 Where a subdivision is traversed by a water course, drainage way, channel or stream, a stormwater easement of adequate width to conform substantially to the lines of such water course, drainage way, channel or stream, and to provide for construction or other necessary purposes, shall be provided.

4.13.4 All lines of all easements shall be described with a bearing and distance on the Definitive Plan.

4.13.5 A 10 (ten)-foot wide utility, construction and slope easement shall be provided along each side of all streets where site conditions and design requires, including along each side of any street projections to adjoining land.

#### **4.14 LOTS**

4.14.1 All lots within the subdivision shall comply with the area, frontage and width requirements of the Westwood Zoning Bylaw, or with the terms of any special permit

and/or variance from such requirements which may have been specifically granted by the Planning Board and/or Board of Appeals.

- 4.14.2 In accordance with the requirements of the Board of Health, percolation tests are required on each lot unless connection is made to the public sewer system.

#### **4.15 OPEN SPACE**

- 4.15.1 Before approval of a Definitive Plan, the Board in proper cases shall require said Plan to show a park or parks suitably located for playground or recreation purposes or for providing light and air and not unreasonable in area in relation to the area of the land being subdivided and the prospective uses of such land, and if so determined, the Board shall by appropriate endorsement on the Definitive 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.

- 4.15.2 In the event of a subdivision showing three (3) or more lots that does not make provision for a park or parks suitably located for playground or recreation purposes or for providing light and air and constituting an area equal to at least four percent (4%) of the total area of the subdivision, the Applicant shall explain in his application the reason(s) for deeming it inappropriate to so provide for such park or parks.

#### **4.16 PROTECTION OF NATURAL FEATURES**

- 4.16.1 Every effort shall be made to preserve significant natural features within the subdivision, such as large trees, wooded areas, open meadows of historic and/or scenic significance, stone walls, water courses, scenic and historic points and similar community assets, which, if preserved, will add attractiveness and value to the subdivision and to the Town.
- 4.16.2 Wherever feasible, existing stone walls and shade trees twelve (12) inches in diameter or greater shall be incorporated in the design of the subdivision and shall not be removed, except that the Board may request that existing stone walls be moved if they can be better used in new locations within the subdivision.
- 4.16.3 In order to reduce opportunities for soil erosion and sedimentation, street layouts shall be designed to minimize disturbance of natural topography by minimizing horizontal and vertical extents of cuts and fills, with streets generally laid out parallel to existing contours, with straight or angular cuts which interrupt natural topography not normally allowed. No change shall be made to topography which adversely affects any land abutting a proposed subdivision. In order to protect natural drainage patterns, the Board reserves the right to limit excessive areas of cuts and fills in a subdivision.

#### **4.17 SITE CLEARING PRIOR TO SUBMISSION OF PLAN**

4.17.1 In order to preserve natural vegetation which provides areas of high run-off absorption on the site, site preparation, tree cutting, filling, grading and other work done in anticipation of subdivision approval should not be performed prior to submission and approval of a Definitive Plan. The Board reserves the right to disapprove any such work, and to order restoration of the site, upon filing of a Definitive Plan application. If, in the opinion of the Board, excessive vegetation is removed prior to the filing of a Definitive Plan, a Restoration Plan showing proposed replacement vegetation shall be submitted as part of the Definitive Plan application and shall require approval by the Board.

#### **4.18 STORMWATER MANAGEMENT**

4.18.1 Stormwater management design shall be developed in accordance with the Town of Westwood Stormwater Management Bylaw and Regulations and with the stormwater management standards adopted and amended from time to time by the Massachusetts department of Environmental Protection. These standards shall apply to all residential and non-residential subdivisions, irrespective of the number of buildable and non-buildable lots. Specifications for the construction of the strowmater management system shall comply with the standards set forth in these Rules and Regulations.

#### **4.19 SANITARY SEWERS**

4.19.1 Sanitary sewers shall be typically located in the center of the street pavement and shall be located and designed in accordance with the requirements of the Department of Public Works. Specifications for the construction of sanitary sewers shall comply with the standards set forth in these Rules and Regulations.

#### **4.20 UNDERGROUND UTILITIES**

4.20.1 All utilities, with the exception of street light poles and fixtures, shall be installed underground and shall have their above-ground appurtenances, if any, so designed, located or elevated as to avoid damage in the event of flooding.

#### **4.21 FLOOD AREA OVERLAY DISTRICT (FAOD)**

4.21.1 For land within the FAOD as designated in Section 9.2 of the Westwood Zoning Bylaw, base flood elevation data shall be shown on the Definitive Plan in two (2)-foot contour intervals for all portions of the property located within the Special Flood Hazard Areas shown on current Flood Insurance Rate Maps (FIRMs).

4.2.1.2 All subdivision proposals involving land within a FAOD shall be designed to minimize flood damage.

- 4.2.1.3 All public utilities and facilities proposed for construction within a FAOD shall be designed, located, and constructed in such a manner as to minimize or eliminate flood damage.
- 4.2.1.4 All subdivision proposals involving land within a FAOD shall incorporate provisions for adequate drainage to reduce exposure to flood hazards.

#### **4.22 IMPROVEMENTS OUTSIDE THE SUBDIVISION**

- 4.22.1 When existing streets, as defined in the Westwood Zoning Bylaw, and utilities to service a new subdivision are deemed inadequate to handle the impact of the development, the Applicant may be required to complete, at the Applicant's expense, improvements outside the boundaries of the subdivision to insure adequate access that is safe and convenient to travel and for securing adequate provisions for drainage and other requirements as may be necessary. Said roadway and utility improvements outside the boundaries of the subdivision shall not exceed fifty percent (50%) of the total cost of the roadway and utility costs within the subdivision and shall be limited to a distance of one thousand (1,000) feet from any entrance to the subdivision unless otherwise agreed upon by the Town and Applicant.

## **SECTION 5.0 ROADWAY IMPROVEMENTS AND CONSTRUCTION SPECIFICATIONS**

### **ROADWAY CONSTRUCTION**

#### **5.1 RIGHT-OF-WAY CLEARING**

- 5.1.1 Trees with a caliper of ten (10) inches or larger shall be preserved, unless located within roadway or sidewalk pavement areas, or unless significant grade changes required for roadway and/or sidewalk construction render the preservation of such trees unfeasible.
- 5.1.2. All other vegetation and debris shall be removed from within the street right-of-way unless specified to remain by the Board or the Department of Public Works. All muck (peat) and topsoil shall then be entirely removed from the street right-of-way. All material that does not conform to special borrow standards in the MassDOT Specs. Section MI.02.0, or latest revision shall be removed to a depth of seventeen (17) inches below the finish grade.
- 5.1.3 Soils compacted by construction shall be rototilled to reestablish permeability.
- 5.1.4 The right-of-way clearing shall be inspected by the Department of Public Works prior to any further roadway construction. No utilities shall be installed until this inspection is completed.

#### **5.2 UNDERGROUND SERVICES**

- 5.2.1 All water mains and laterals within the exterior lines of the street shall be installed at least five (5) feet below the finish grade.
- 5.2.2 In rock excavation, trenches shall be excavated to a depth of eight (8) inches below the bottom of any water pipe, storm drain or sewer line and filled with suitable base materials.
- 5.2.3 All water pipes, storm drains, sewer lines, gas mains and underground light and power conduits shall be installed in the street prior to completion of the roadway foundation. This includes the installation of service pipes and conduits to the front lot line of each residential lot within the subdivision. Underground lighting conduits shall be provided to appropriate locations and concrete bases installed.
- 5.2.4 All storm drains, sewer lines, culverts, manholes, water mains and laterals, shut-off valves and hydrants shall be inspected prior to any back-filling of trenches or other covering of structures. Following such inspection, the fill material shall be carefully placed around the structures and rammed and compacted to a depth of one (1) foot before completion of the filling.



- 5.2.5 Where an existing roadway is excavated for installation of water mains, gas mains or storm drains, repairs to the existing roadway shall be made as follows:
- 5.2.5.1 Backfill the trench in accordance with the requirements in Section 5.0 of these Rules and Regulations to within four (4) inches of the existing surface or to a depth of the existing pavement, whichever is greater;
  - 5.2.5.2 Apply two and one-half (2½) inches of Class I bituminous concrete Type I-1, and if required by the Department of Public Works, apply a leveling course;
  - 5.2.5.3 Overlay the entire surface within the length of the excavation, curb to curb, with a minimum of one and one-half (1½) inch wearing surface (two (2) inches at the trench). The final surfacing shall be feathered to the existing surface over a minimum distance of ten (10) feet at each end.

## **ROADWAY MATERIALS**

### **5.3 ROADWAY SUB-BASE**

- 5.3.1 All fill areas within four (4) feet of the sub-base shall be filled with special borrow (MassDOT Specs. MI.02.0, or latest revision) that does not contain stones with dimensions greater than six (6) inches. This special borrow fill shall be placed and compacted in layers not exceeding eight (8) inches in depth, compacted measurement. All cut areas shall be excavated seventeen (17) inches below finish grade unless the material meets the standard for sub-base (MassDOT Specs. MI.03.1, or latest revision). The fill in an area, with a depth of four (4) feet or greater, shall conform to the standards of ordinary borrow (MassDOT Specs. MI.01.0, or latest revision). Compaction of all filled areas shall be rough graded and compacted to not less than ninety-five percent (95%) of the maximum dry density of the material as determined by the Standard AASHO Test Designation T-99, Compaction Test Method C at optimum moisture content. The sub-base shall be shaped to a true surface conforming to the proposed cross-section of the roadway and compacted in accordance with the above procedure. All depressions and high spots shall be filled with suitable material or removed and compacted until smooth and satisfactorily compacted. A tolerance of one-half (½) inch above or below the finish sub-base will be allowed provided that one-half (½) inch above or below grade is not maintained for a distance of more than fifty (50) feet and that the required grade is maintained in the sub-base. Any portion of the sub-base which is not accessible to a roller shall be compacted with mechanical tampers.
- 5.3.2 The roadway sub-base shall be inspected by the Department of Public Works prior to any further roadway construction. In no case shall any bituminous concrete pavement be laid until the sub-base has been inspected and approved. This inspection may be combined with the inspection of underground services, if requested.

## **5.4 ROADWAY BINDER COURSE**

- 5.4.1 The binder course of bituminous concrete pavement shall be three (3) inches when compacted and shall be applied to the prepared base with a three-eighths (3/8) inch pitch per foot from crown to gutter line. If a bituminous berm is required, it shall be installed at this point so that it will be locked into place when the top course is applied. A tack coat of Bitumen may be required between the binder course and the top course when deemed appropriate by the Department of Public Works. A joint sealer (ASTM D-3405) may also be required between asphalt joints when deemed appropriate by the Department of Public Works.
- 5.4.2 The binder course shall be inspected by the Department of Public Works prior to any further roadway construction.
- 5.4.3 The binder course shall not be laid on frozen materials or when weather conditions predict freezing temperatures. When the binder course is exposed during the winter months, all castings shall be set to grade of the base course of the bituminous concrete pavement during these winter months and then reset before the top course is applied.
- 5.4.4 The binder course of bituminous concrete pavement will not be permitted to be laid after December 1st.

## **5.5 ROADWAY TOP COURSE**

- 5.5.1 The top course of bituminous concrete pavement shall be two (2) inches when compacted and shall conform to MassDOTSpecs. (see Detail No. A). The placement of the bituminous concrete pavement shall conform to procedures in MassDOT Specs., Section 460, or latest revision.
- 5.5.2 The top course of bituminous concrete pavement will not be permitted to be laid before April 15<sup>th</sup> or after November 1<sup>st</sup>.

## **5.6 ROADWAY BASE MATERIALS**

- 5.6.1 The sub-base gravel borrow material shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials. The coarse aggregate shall have a percentage of wear of not more than fifty (50) by the Los Angeles Abrasion Test. The gradation shall meet the requirements of MassDOT Specs. MI.03.1, or latest revision.
- 5.6.2 Gravel borrow shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials. The gradation requirements shall be determined by AASHO-T11 and T27 and shall conform to MassDOT Specs. MI.03.0, or latest revision (Type b., no dimension larger than three (3) inches).

5.6.3 Riprap stone to be used for pipe ends shall consist of durable rock which is angular in shape. Rounded stones, boulders, sandstone or similar stone or relatively thin slabs are not acceptable. Each stone shall weigh not less than fifty (50) pounds or more than one hundred twenty-five (125) pounds and at least seventy-five percent (75%) of the volume shall consist of stones not weighing less than seventy-five (75) pounds each. The remainder of the stones shall be graded so that when placed with the larger stones the entire mass will be compact.

5.6.4 Washed crush stone shall range in size from three-fourths ( $\frac{3}{4}$ ) of an inch to one and one-half ( $1\frac{1}{2}$ ) inches per MassDOT Specs. M2.01.2, or latest revision and shall be hard, durable and reasonably free from flat or laminated particles so as to furnish free draining material.

## **5.7 BITUMINOUS MATERIALS**

5.7.1 Roadway binder course mix shall be Class I bituminous concrete, Type I-I composed of mineral aggregate and bituminous material and mixed to conform to the composition by weight as tabulated in MassDOT Specs. M3.11.03, or latest revision for binder mix.

5.7.2 Roadway top course shall be Class I bituminous concrete, Type I-I composed of mineral aggregate and bituminous material and mixed to conform to the composition by weight as tabulated in MassDOT Specs M3.11.03, or latest revision for top course.

5.7.3 Emulsified asphalt (joint sealer) to shall be equal to RS-I or RC-70. These materials shall consist of asphalt products from an asphaltic base petroleum and shall be homogeneous and free from water.

5.7.4 Bituminous berms shall consist of Class I bituminous concrete, Type I-I and the mix shall conform to the relative requirements of MassDOT Specs. M3.11.00, or latest revision for either top course or dense mix.

## **5.8 SIDEWALKS**

5.8.1 Sidewalks shall have a width of not less than five (5) feet and shall be constructed on both sides of each roadway.

5.8.2 Sidewalks shall have a finish grade higher in elevation of six (6) inches or more in relation to the finish grade of the roadway. When unusual topographical conditions require, the Board may approve the placement of a sidewalk at a greater distance from the roadway or at a higher or lower elevation in relation thereto, provided such variation is indicated on the Definitive Plan. Sidewalks crossing driveways shall maintain the elevation of the sidewalks and shall be depicted on the Definitive Plan.

- 5.8.3 Sidewalks shall be gently sloped to direct stormwater to an adjacent grass plot or property for recharge to the maximum extent possible and for country drainage where LID techniques are appropriate.
- 5.8.4 The sidewalk sub-base shall be inspected by the Department of Public Works prior to any further roadway construction. Testing of grade shall be done with a ten (10) foot straight edge placed parallel to the center line of the course. There shall be no deviation from a true surface five (5) feet long, in excess of one-quarter ( $\frac{1}{4}$ ) of an inch. In no case shall any bituminous concrete pavement be laid until the sub-base has been inspected and approved.
- 5.8.5 Sidewalks shall be installed on a twelve (12) inch gravel base course, prepared in the same manner as the roadway. Where walls, curbing or other permanent supports are not present, satisfactory forms shall be installed to assist in securing proper alignment and adequate compaction of the binder and top courses of bituminous concrete.
- 5.8.6 Sidewalks shall be laid in two (2) courses to a depth after rolling of four (4) inches. The bottom course shall be a binder course, two and one-half ( $2\frac{1}{2}$ ) inches thick after rolling, and parallel to the proposed grade of the finish surface. The finish course shall be one and one-half ( $1\frac{1}{2}$ ) inches thick after rolling. Unless otherwise directed, the sidewalk shall have a pitch three-sixteenths ( $\frac{3}{16}$ ) of an inch per foot of width to provide proper drainage. Compaction shall be done with a self-propelled tandem roller weighing not less than one and one-half ( $1\frac{1}{2}$ ) tons and not more than five (5) tons. The courses shall be constructed in accordance with MassDOT Specs., Section 472, or latest revision.
- 5.8.7 Permeable bituminous pavement may be used for sidewalks where approved by the Board, provided such variation is indicated on the Definitive Plan.
- 5.8.8 Driveway aprons shall be constructed to the same specifications as sidewalks and meet the proposed sidewalk grades.
- 5.8.9 Handicapped accessible sidewalk ramps designed and constructed in accordance with the Rules and Regulations of the Massachusetts Architectural Access Board (521 CMR 21) shall be provided at all intersections and where sidewalks end.
- 5.8.10 Sidewalks shall be installed with their binder course when the roadway's binder course is laid, unless another timeline is approved by the Planning Board. The sidewalk's top course shall be laid when the roadway's top course is laid, unless another timeline is approved by the Planning Board.
- 5.8.11 The Board may grant a waiver from the requirement to provide sidewalks on both sides of the street if the Applicant provides a sidewalk on one side of the street and provides either a sidewalk, multi-use path, trail, or other pedestrian/bicycle facility elsewhere of equivalent length and/or cost, or if the Applicant contributes a monetary amount into the Town's sidewalk fund. The amount shall be equivalent to the amount

it would cost the Town to construct that length of sidewalk based upon the Town Engineer's current cost estimates.

## **5.9 GRASS PLOTS**

- 5.9.1 One (1) grass plot shall be provided on each side of the roadway, immediately adjacent to the curbing. Grass plots shall be a minimum of six (6) feet.
- 5.9.2 The location and finish grade of the grass plots in relation to the finish grade of the roadway shall be as shown on the applicable roadway cross-section plan.
- 5.9.3 The loam in the grass plots shall be six (6) inches thick and shall consist of a fertile, friable, natural topsoil typical of the locality, without admixture of subsoil, refuse or other foreign material, and shall be obtained from a well-drained arable site. The loam shall be such a mixture of sand, silt and clay particles as to exhibit sandy and clay-like properties in and about equal proportions. It shall be reasonably free of stumps, roots, heavy or stiff clay, stones larger than one (1) inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter. It shall conform to MassDOT Specs. MI.05.0, or latest revision with a pH factor between 5.5 and 7.0.
- 5.9.4 The grass seed shall be spread at eight (8) pounds per one hundred (100) square yards and shall consist of sixty percent (60%) Red Fescue, twenty percent (20%) Red Top and twenty percent (20%) Kentucky Blue. The seed shall be of the previous year's crop and in no case shall the weed seed content exceed one percent (1%) by weight, or as approved by the Department of Public Works.
- 5.9.5 Fertilizer shall be applied to layer of loam at a rate of 0.2 pounds per square yard and worked into the seed bed with an application of lime. The fertilizer shall be of a 10-6-4 composition or as specified by a landscape professional.
- 5.9.6 As soon as the seed is sown it shall be covered with a thin layer of loam, rolled and watered. Grass will have to germinate to a satisfactory cover and mowed a minimum of four (4) times before being accepted by the Town.
- 5.9.7 Utilities shall be located under the street or sidewalk and not located under the grass plot to avoid interference with tree plantings.

## **5.10 STREET TREES**

- 5.10.1 Trees shall be planted along all streets within the subdivision at intervals of approximately thirty (30) feet and located within the six (6) foot grass plot. Existing trees at similar intervals and of a size and species acceptable to the Board may be substituted if approved by the Board.
- 5.10.2 The minimum caliper size of street trees in a residential and non-residential subdivision shall be three (3) inches, measured four (4) feet from ground level.

- 5.10.3 At least three (3) species shall be planted in every subdivision and staggered so that no one species shall be planted to like species. The species of street trees selected shall be of licensed nursery stock and must be approved by the Board, in consultation with the Tree Warden.
- 5.10.4 The street trees shall be planted in holes the depth of the root ball and three (3) times the width of the root ball. Trees shall be planted in good quality topsoil and be securely staked. The timing of the plantings shall be approved by the Board, in consultation with the Tree Warden.
- 5.10.5 All street trees must be guaranteed for a minimum of one (1) year or until the acceptance of the street by Town Meeting as a public way, whichever is longer. If the Tree Warden determines that a tree is dead or dying, it shall be replaced immediately by a comparable tree at the Applicant's expense.
- 5.10.6 Required street trees and other landscaping must be planted at the time the road's binder course is laid, unless another time frame is approved by the Planning Board.

**5.11 GRANITE CURBS**

- 5.11.1 Vertical granite curbing (Type VA4) shall be installed in the gutter line of all streets. A trench eighteen (18) inches in width and a depth of six (6) inches in addition to the depth of the curbstone shall be excavated. The foundation of the curb shall consist of sub-base gravel thoroughly compacted to a depth of at least six (6) inches. The curbing shall then be set in concrete along the front face. All curbs shall be fitted together as closely as possible. The joints between pieces of the granite curbstones shall be grouted with a cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones shall be cleaned of all excess mortar.
- 5.11.2 The granite curbstones shall conform to MassDOT Specs. M9.04.1, or latest revision for Type VA4:

Minimum length:	6 feet
Width at top:	6 inches
Width at bottom:	4 inches (for 2/3 length)
Depth:	17-19 inch minimum

The front face of the curbing shall be at right angles to the plane of the top and ends shall be smooth quarry split, free from drill holes and with no projections of more than one (1) inch and no depressions of more than one-half (1/2) inch measured from the vertical plane of the face through the arris or pitch line for a downward distance of eight (8) inches from the top. For the remaining distance there shall be no projection or depression greater than one (1) inch measured in the same manner. The ends of

the curbstones shall be square with the planes of the top and face so that when the curbstones are placed end to end as closely as possible, no space shall show in the joint at the top and face of more than one-half ( $\frac{1}{2}$ ) inch for the full width of the top and for eight (8) inches down on the face.

- 5.11.3 Where approved by the Board, perforated or open-section curbing may be employed to direct stormwater to vegetated roadside swales for recharge, provided such variation is indicated on the Definitive Plan.
- 5.11.4 As part of a Low Impact Development (LID) strategy, the Board may approve other curbing types. Where approved by the Board, alternative roadway edging, including invisible curb, perforated curb, permeable pavement and monolithic curb may be employed to incorporate LID techniques, provided such variation is indicated on the Definitive Plan. LID techniques are preferred for subdivisions with less than five (5) lots.

## **5.12 GRANITE CURB INLETS**

- 5.12.1 Granite curb inlets shall be installed at the gutter lines of all catch basins and shall conform to MassDOT Specs. M9.04.0, or latest revision. The granite curb inlet shall be six (6) feet in length, plus or minus one-half ( $\frac{1}{2}$ ) inch from seventeen (17) to nineteen (19) inches in depth, six (6) inches wide at the top and at least six (6) inches wide at the bottom. Curb inlets set on a radius of one hundred sixty (160) feet or less shall be cut to that radius. (See MassDOT Construction Standards Detail No. 106.4.0, or latest revision).
- 5.12.2 The gutter mouth of the granite curb inlet shall be at least three (3) inches in depth and at least two (2) feet in length which shall be cut in the front face of the stone. The back face, for a distance of three (3) inches down from the top, shall have no projections greater than one (1) inch. The front shall be straight split, free from drill holes, and shall have no projection greater than one (1) inch, or depression greater than one-half ( $\frac{1}{2}$ ) inch, for a distance of ten (10) inches downward from the top. For the remaining distance there shall be no depression or projection greater than one (1) inch. The ends shall be squared with the top for the depth of the face finish. The granite curb inlet shall be six (6) feet in length, plus or minus one-half ( $\frac{1}{2}$ ) inch from seventeen (17) to nineteen (19) inches in depth, six (6) inches wide at the top and at least six (6) inches wide at the bottom. Curb inlets set on a radius of one hundred sixty (160) feet or less shall be cut to that radius. (See MassDOT Construction Standards Detail No. 106.4.0, or latest revision).

## **5.13 BITUMINOUS CONCRETE BERMS AND/OR CURBS**

- 5.13.1 Where bituminous concrete berms and/or curbs are permitted, the bituminous concrete mixture shall be placed and compacted with a machine acceptable and approved by the Department of Public Works. The machine shall be capable of spreading the mixture true to line and grade and to the required shape. The

bituminous concrete berm and/or curb shall be placed on a bituminous concrete binder course and shall be consistent with the design approved by the Department of Public Works. The composition of the mix shall conform to the applicable requirements for dense mix. (See MassDOT Specs. M3.11.03, Table A, or latest revision).

## **5.14 RETAINING WALLS**

5.14.1 Retaining walls shall be required in locations designated by the Department of Public Works and/or the Board, if in their opinion, such retaining walls are necessary for the protection and safety of abutting properties and the general public. All retaining walls shall be constructed outside the street right-of-way and shall not interfere with the sight distance of the roadway.

5.14.2 Retaining walls shall be constructed of pre-cast, reinforced concrete or stone and mortar. Retaining walls shall conform to all dimensional requirements of MassDOT Construction Standards Detail No. 302.2.0, or latest revision. Methods of concrete construction shall conform to MassDOT Specs. Section 901, or latest revision. The cement shall be Portland Cement which shall meet the requirements of the most recent issue of Federal Spec. SS-C-192, Type I, II, IA, or IIA or ASTM C150, or latest revision. Steel reinforcement shall meet ASTM A15-39 or A16-35, whichever is applicable and shall be free of rust and dirt. The aggregate shall be crushed stone or screened gravel, and clean hard sand, and shall conform to the most recent issue of Federal Specs. SS-A-2816, Class 1 and 2 or ASTM 33-46. The water used to mix the concrete shall be clean and free from injurious amounts of mineral and organic substances.

5.14.3 Retaining walls over four (4) feet in height shall be designed by a Licensed Professional Engineer.

## **5.15 SIDE SLOPES**

5.15.1 Slopes shall be constructed at a maximum rate of three (3) feet horizontally to one (1) foot vertically (3:1 slope) to a point where they precisely coincide with the surrounding ground. If the slope extends into an abutting property, slope easements shall be shown on the Definitive Plan indicating that the Town maintains an interest in the area. Slopes shall be loamed and seeded, following the same specifications as described in Section 5.8, Grass Plots. Appropriate measures shall be taken to control erosion.

## **5.16 MONUMENTS AND MARKERS**

5.16.1 Monuments shall be installed at all street intersections, at all points of change in direction or curvature of streets and at other points where, in the opinion of the Board, permanent monuments are necessary.



- 5.16.2 Monuments shall be of sound granite, with a perpendicular top and face and straight split front and back. They shall be four (4) feet in length. The top shall be six (6) inches square and shall have a drill hole in the center one and one-half (1½) inches in depth and one-half (½) inch in diameter, with the bottom somewhat flared.
- 5.16.3 A pipe marker shall be installed at each front corner of each lot.
- 5.16.4 No permanent monuments shall be installed until all construction which could destroy or disturb the monument is completed.
- 5.16.5 Where a portion of one or more lots is in the 100-year flood zone as designated on the Flood Insurance Rate Map effective as of June 17, 2002, a benchmark referenced to the Geodetic Base shall be established. This benchmark must be approved by the Department of Public Works.

## **5.17 STREET SIGNS**

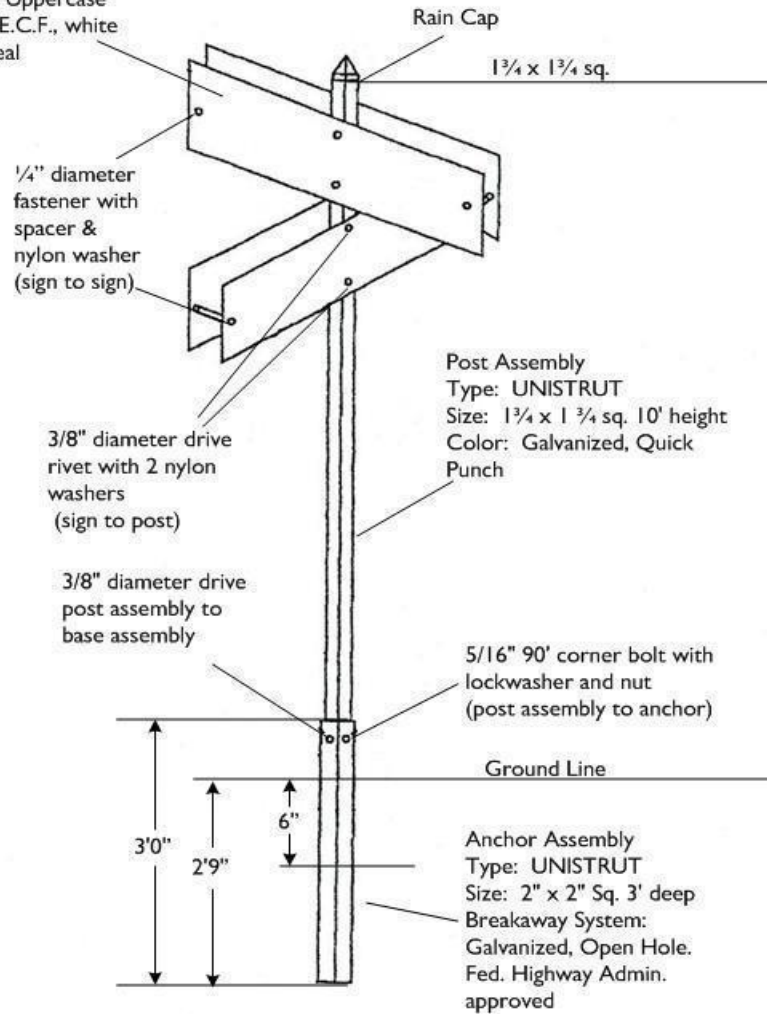
- 5.17.1 Street signs shall be installed at locations approved by the Street Commissioners, and shall be installed within thirty (30) days of application of the street's top course. Temporary street signs shall be installed at the start of the construction of any building foundation.
- 5.17.2 Street signs shall be 9" x 24" x .80" in size and consist of extruded aluminum sign blank with a green engineering grade reflective sheeting, heat activated background, and six (6) inch Silver Series "B" heat activated letters and a four (4) inch Town seal of the same material and shall be install in accordance with Figure 5.20.2.

Figure 5.17.2

## Town of Westwood Street Sign Standards

### Sign Assembly

Size: 9" Aluminum 6" letters  
Material: Type 9" V.I.P.  
Font: Highway Uppercase  
Color: Green E.C.F., white  
letters, town seal



Manufacturer:  
Atlantic Highway Sign Co.  
1605 Hyde Park Avenue  
Hyde Park, MA 02136  
PH: 617-361-8600  
FAX: 617-361-2284

## **5.18 DRIVEWAYS**

- 5.18.1 Driveways shall drain stormwater away from the street and into private property, unless otherwise approved by the stormwater management authority. The sidewalk elevation at driveways shall not be depressed. Sidewalk grades shall be continuous across driveway openings.

## **5.19 STREET LIGHTS**

- 5.19.1 The Planning Board shall approve the quantity, sizing, placement, and detail specification of street lights and must be shown on the Definitive Plan.
- 5.19.2 Lighting shall be dark sky compliant and meet current Department of Public Works and Board of Selectmen standards.
- 5.19.3 The Applicant is responsible for installing the pole, wiring and arranging the installation of the light fixtures.
- 5.19.4 The Applicant is responsible for paying the cost of electricity and maintenance until such time as the road is accepted as a public way by Town Meeting.
- 5.19.5 Street lights shall be installed at the time the road's binder course is laid and prior to the issuance of the certificate of occupancy for the first dwelling within the subdivision.

## **5.20 CONSTRUCTION STANDARDS**

- 5.20.1 All roadway construction shall adhere to the construction standards in place at the time of the actual construction.
- 5.20.2 All roadway construction shall conform to the latest revisions of *The Commonwealth of Massachusetts, Standard Specifications For Highways and Bridges* and *The Commonwealth Of Massachusetts, Construction and Traffic Standard Details*.

## **SECTION 6.0 STORMWATER MANAGEMENT IMPROVEMENTS AND CONSTRUCTION SPECIFICATIONS**

### **STORMWATER MANAGEMENT CONSTRUCTION**

#### **6.1 STORMWATER MANAGEMENT SYSTEM DESIGN AND CONSTRUCTION**

6.1.1 Stormwater management system components including catch basins, manholes, culverts, BMPs, LIDs, etc. shall be designed, installed, and maintained to provide adequate disposal of surface water from all streets within the subdivision and adjacent land as shown on the Definitive Plans in accordance with the Town of Westwood Stormwater Management Bylaw and Regulations and with the stormwater management standards adopted and amended from time to time by the Massachusetts Department of Environmental Protection.

#### **6.3 OTHER GRADES**

6.3.1 A plot plan prepared by a Professional Registered Engineer showing the proposed elevation of sewer, drain, water, driveway entrance and related grades must be submitted to and approved by the Department of Public Works.

6.3.2 When the drainage installation is completed, an as built plan showing the ties to utilities shall be submitted to the Department of Public Works.

#### **6.4 LOT DRAINAGE**

6.4.1 When deemed necessary by the Board to accept a private drainage system into the Town's public drainage system, the design and construction of the private system shall meet all requirements as set forth in these Rules and Regulations and the Town's Stormwater Regulations.

#### **6.5 PIPE LAYING**

6.5.1 Pipe shall be carefully laid to the lines and grades as shown on the Definitive Plan. When possible, the contractor shall utilize laser beam aligning equipment.

6.5.2 All pipe shall be laid on a good foundation and quality construction methods shall be followed. Should the material at grade prove unsatisfactory for a suitable foundation, additional depth must be excavated and refilled with acceptable material (sub-base gravel) and compacted. Filter fabric may be required when deemed necessary by the Department of Public Works in conjunction with below grade excavation and refill to provide a stable base for pipe installation.

6.5.3 The bottom of the trench shall be excavated to a flat grade four (4) inches below the pipe invert for trenches in suitable earth and twelve (12) inches below the pipe invert

for trenches in rock. When rock or ledge is encountered it shall also be removed to such widths as will give a clearance of at least twelve (12) inches on each side of the pipe or other structure. A sand cushion shall be used.

- 6.5.4 The width of the trenches shall be sufficient to allow thorough compacting of the refill adjacent to the lower quarters of the pipe. At pipe joints such additional width and depth shall be excavated as is necessary to give ample room for properly making and inspecting the pipe joints.
- 6.5.5 Cement grout should be placed carefully in the pipe joints around its entire perimeter and mixed relatively dry, in the ratio of one (1) part cement to two (2) parts sand. When the line is laid in ground water the pipe joints shall be dry, with the pipe bedded with three-fourths ( $\frac{3}{4}$ ) of an inch to one and one-half ( $1\frac{1}{2}$ ) inches washed stone six (6) inches over top of the pipe.
- 6.5.6 Pipe bedding material shall meet the specifications of sub-base gravel (see Section 5.6.1 of these Rules and Regulations). This bedding material shall be carefully and lightly tamped under the pipe to provide uniform support, filled to a minimum depth of twelve (12) inches above the top of the pipe, placed in six (6) inch layers and compacted by hand tamping. No stones larger than three (3) inches across the largest dimension will be allowed in this stratum of backfill.
- 6.5.7 Material for backfilling the rest of the trench, except for the top seventeen (17) inches of the sub-base shall be obtained from excavated trench material, approved by the Department of Public Works, with no stones larger than fifty (50) pounds. The compaction process will be gravel placed in twelve (12) inch layers and thoroughly compacted by mechanical rammers, vibrators and a jetting process.
- 6.5.8 No pipe shall be laid in water and water must not be permitted to rise in the trench until all pipes have been securely bedded, jointed and inspected by the Department of Public Works and until backfilling has progressed to an elevation at least one (1) foot above the top of the pipe. Temporary plugs shall be installed in open ends of the pipe to prevent silt from washing into the pipe during construction. These open ends shall be closed with suitable plugs upon suspension of the work for any reason.

## **6.6 MANHOLES AND CATCH BASINS**

- 6.6.1 The contractor shall excavate to a depth of twelve (12) inches below the bottom of the manhole or catch basin base, and then compact, fine grade and install washed screened gravel as a sub-base material.
- 6.6.2 Pipes shall extend no more than three (3) inches inside the interior wall and all openings around pipe entrances and lift holes shall be thoroughly grouted with non-shrink grout prior to backfilling. The compaction process shall be the same manner as compaction around pipe.

- 6.6.3 When groundwater is encountered in manholes, three-fourths ( $\frac{3}{4}$ ) of an inch to one and one-half ( $1\frac{1}{2}$ ) inches washed stone shall be placed two (2) feet all around the structure, to a distance of at least half way up the barrel of the highest pipe. When groundwater is encountered in catch basins, three-fourths ( $\frac{3}{4}$ ) of an inch to one and one-half ( $1\frac{1}{2}$ ) inches washed stone shall be placed two (2) feet all around the structure to a distance of the high ground water elevation.
- 6.6.4 Live load design of a manhole shall be H-20 loading.
- 6.6.5 All catch basins shall be built with a granite curb inlet.
- 6.6.6 Double catch basins may be required at certain locations as deemed appropriate by the Department of Public Works.
- 6.6.7 All pipes to catch basins and manholes will have at least three and one-half ( $3\frac{1}{2}$ ) feet of cover over the pipes.
- 6.6.8 All catch basins will have a sump of at least forty-eight (48) inches below the invert of the outlet pipe.
- 6.6.9 The distance between manholes shall not be greater than two hundred fifty (250) feet.

## **6.7 HEADWALLS**

- 6.7.1 Headwalls shall be constructed at open ends of any drainage pipes where they serve as outlets or inlets to the drainage system (see MassDOT Construction Standards Detail Nos. 206.4.0, 206.5.0, 206.6.0, or latest revision).

## **6.8 RETENTION OR DETENTION AREAS**

- 6.8.1 If brooks, tributary, swales, retention areas or detention areas are left open they shall be shaped to a cross section acceptable to the Department of Public Works with a side slope no greater than three to one (3:1).

## ***DRAINAGE MATERIALS***

### **6.9 REINFORCED CONCRETE PIPE**

The pipe shall conform to the requirements of AASHO M170 for Standard-Strength Reinforced Concrete Culvert Pipe for Class III Pipe, Wall B. All pipe twenty-four (24) inches in diameter or smaller shall be the bell and spigot type. All pipe larger than twenty-four (24) inches in diameter shall be the tongue and groove or bell and spigot type.

## **6.10 ALTERNATIVE PIPE MATERIAL**

6.10.1 The use of alternative materials for pipes shall be evaluated by the Town and if deemed acceptable shall be permitted

## **6.11 PRECAST MANHOLES** (see MassDOT Construction Standards Detail No. 202.4.0, or latest revision).

6.11.1 Manholes shall be constructed of reinforced precast concrete, with the monolithic base section, barrel section and dome section meeting the latest applicable requirements ASTM C478-I, or latest revision.

6.11.2 Manholes twelve (12) feet or less in depth shall have a minimum inside diameter of four (4) feet. Manholes over twelve (12) feet in depth shall have a minimum inside diameter of five (5) feet.

6.11.3 Manholes shall have a sump of at least thirty (30) inches below the invert of the outlet pipe.

6.11.4 Manhole steps are required for manholes over four (4) feet in height. The steps shall be aluminum alloy 6061 T6, twelve (12) inches on center, cast in place at the point of the manhole manufacture. The portion of the step embedded in concrete plus two (2) inches shall be coated with aluminum oxide (see sewer detail plans).

6.11.5 Tongue and groove sections between barrel sections shall be mortared or sealed with a butyl rubber sealant.

6.11.6 Live load design shall be of H-20 loading.

6.11.7 A twenty-six (26) inch opening shall be cast in the top section to accept a cast iron frame and cover.

6.11.8 When drop manholes are used the drop shall not be more than three and one-half (3½) feet.

## **6.12 ON-SITE CONSTRUCTED MANHOLES** (See MassDOT Construction Standards Detail No. 202.2.0 and 202.3.0, or latest revision)

6.12.1 Manholes shall be constructed of eight (8) inches concrete blocks and four (4) inches (pie) plates with an inside diameter of four (4) feet.

6.12.2 Manholes shall have a sump of at least thirty (30) inches below the invert of the outlet pipe.

6.12.3 Cement concrete blocks shall conform to ASTM C139, or latest revision.

- 6.12.4 Live load design shall be of H-20 loading.
- 6.12.5 Before it is laid, the brick and block shall be soaked in water. When the circular concrete block walls are laid up, the horizontal joints and key ways shall be flushed full with mortar. As rectangular blocks are laid up, all horizontal and vertical joints shall be flushed full with mortar.
- 6.12.6 When the floors of structures are made of concrete sectional plates the openings in the floor shall be filled with cement concrete.
- 6.13 PRECAST CATCH BASINS** (see MassDOT Construction Standards Detail No. 201.4.0, or latest revision)
- 6.13.1 Precast catch basins shall conform to ASTM C478, or latest revision.
- 6.13.2 Catch basins shall have a sump of at least forty-eight (48) inches below the invert of the outlet pipe.
- 6.13.3 Catch basins shall have an inside diameter of four (4) feet.
- 6.13.4 Live load design shall be H-20 loading.
- 6.13.5 Catch basins which are limited by height shall be installed with a flat top slab designed for H-20 loading and a cast iron frame and grate.
- 6.13.6 All other catch basins not limited by height shall be installed with a precast concrete cone that will accept a frame and grate. There shall be two (2) full courses of brick for frame adjustment.
- 6.14 ON-SITE CONSTRUCTED CATCH BASINS** (see MassDOT Construction Standards Detail No. 201.3.0, or latest revision)
- 6.14.1 All catch basins shall be constructed of eight (8) inch cement block and four (4) inch (pie) plates that conform to ASTM C139, or latest revision.
- 6.14.2 Catch basins shall have a sump of at least forty-eight (48) inches below the invert of the outlet pipe.
- 6.14.3 Catch basins shall have an inside diameter of four (4) feet.
- 6.14.4 Before it is laid, the brick and block shall be soaked in water. Circular concrete block walls are laid up horizontally and the key ways flushed full with mortar above the outlet invert. The dome or cone section shall be constructed in the same manner.
- 6.14.5 The opening between the pie plates shall be filled with cement concrete. A twenty-four (24) inch opening shall be left open at the top for a frame and grate.



## **6.15 FRAMES AND COVERS**

- 6.15.1 Frames and covers shall be cast iron that conforms to the ASTM Specifications for Grey Cast Iron, Cast Iron Class 20, or latest revision.
- 6.15.2 All castings shall be clean and without blow holes, sand holes or defects of any kind.
- 6.15.3 Cast iron frames and covers shall be clean of all rust, dirt and scale and while free and clean shall be given a full coat of coal-tar pitch varnish applied hot.
- 6.15.4 The manhole frame shall have a twenty-six (26) inch opening and be eight (8) inches in height. The manhole cover shall have the word "Drain" cast in the center and shall be heavy duty (see MassDOT Construction Standards Detail Nos. 202.6.0, 202.7.0, and 202.8.0, or latest revision).
- 6.15.5 Catch basins shall be fitted with a twenty-four (24) inch square grate with an eight (8) inch heavy duty frame that conforms to the Massachusetts Cascade Frame and Grate or an approved equivalent (see MassDOT Construction Standards Detail Nos. 201.7.0, 201.8.0, 201.9.0, or latest revision).
- 6.15.6 Frames shall be set in a full bed of mortar and the mortar shall be brought up along the side of the frame to provide a water tight joint. The double grated design shall consist of one piece frame with two (2) separate grates.

## **6.16 GRANITE CURB INLETS (See Section 5.12)**

## **6.17 RETAINING WALLS (See Section 5.14)**

## **6.18 CONSTRUCTION STANDARDS**

- 6.18.1 All drainage construction shall adhere to the construction standards in place at the time of the actual construction.
- 6.18.2 All drainage construction shall conform to *The Commonwealth of Massachusetts, Standard Specifications For Highways and Bridges, 1988*, as amended and *The Commonwealth Of Massachusetts, Department Of Public Works, Construction Standards, 1977*, as amended.

## **SECTION 7.0 SEWER IMPROVEMENTS AND CONSTRUCTION SPECIFICATIONS**

### **SEWER CONSTRUCTION**

#### **7.1 SEWER DESIGN AND CONSTRUCTION**

- 7.1.1 The size and location of existing sewer facilities which the proposed system will tie into shall be shown on the Preliminary and/or Definitive Plans with calculations using a recognized engineering formula showing that the existing system will support the new addition to the system.
- 7.1.2 Sewer lines and appurtenances thereof shall be constructed to serve all lots on each street in the subdivision, regardless whether there will be a building thereon.
- 7.1.3 At the recommendation of the Board and/or Department of Public Works, an Applicant may be required to extend the sewer service to the property line to serve a lot(s) abutting the subdivision.
- 7.1.4 Where adjacent property is not subdivided, provision shall be made for proper projection of the system, by continuing appropriate sewer mains to the exterior boundaries of the subdivision at such size and grade as will allow for such projection.

#### **7.2 PIPE LAYING**

- 7.2.1 Pipe shall be carefully laid to the lines and grades as shown on the approved Definitive Plan. The contractor shall provide laser beam alignment equipment for use in pipe laying.
- 7.2.2 All pipe shall be laid bell end toward flow on a good foundation of crushed stone and quality construction methods shall be followed. Should the material at grade prove unsatisfactory for a suitable foundation, additional depth must be excavated and refilled with acceptable material of sub-base crushed stone and compacted. Filter fabric may be required when deemed necessary by the Department of Public Works in conjunction with below grade excavation and refill to provide a stable base for pipe installation.
- 7.2.3 The bottom of the trench shall be excavated to a flat grade four (4) inches below the pipe invert for a trench in suitable earth and twelve (12) inches below the pipe invert for a trench in rock. When rock or ledge is encountered it shall be also removed to such width as will give a clearance of at least twelve (12) inches on each side of the pipe or other structure. A sand cushion shall be used.
- 7.2.4 The width of the trench shall be sufficient to allow thorough compacting of the refill adjacent to the lower quarters of the pipe. At pipe joints such additional width and

depth shall be excavated as is necessary to give ample room for properly making and inspecting the pipe joints.

- 7.2.5 A bed of six (6) inches of washed crush stone shall be required for all gravity mains and laterals. This material shall be placed below the pipe and extend over up the pipe barrel on both sides and thoroughly tamped by light tampers. Sand borrow material approved by the Department of Public Works shall be used to fill to a minimum depth of twelve (12) inches above the top of the pipe, placed in six (6) inch layers and compacted by hand tamping.
- 7.2.6 Material for backfilling the rest of the trench, except for the sub-base (top seventeen (17) inches) shall be obtained from excavated trench material approved by the Department of Public Works, with stones no larger than fifty (50) pounds. The compaction process will be gravel placed in twelve (12) inch layers and thoroughly compacted by mechanical rammers, vibrators and a jetting process. Filter fabric may be required when deemed necessary by the Department of Public Works in conjunction with below grade excavation and refill to provide a stable base for pipe installation.
- 7.2.7 No pipe shall be laid in water and water must not be permitted to rise in the trench until all pipes have been securely bedded, jointed and inspected by the Department of Public Works and until backfilling has progressed to an elevation at least one (1) foot above the top of the pipe. Temporary plugs shall be installed in open ends of the pipe to prevent silt from washing into the pipe during construction. These open ends shall be closed with suitable plugs upon suspension of the work for any reason.
- 7.2.8 A metallic identification tape shall be buried one (1) foot below finish grade along the length of the sewer main.

### **7.3 MANHOLES**

- 7.3.1 The contractor shall excavate to a depth of six (6) inches below the bottom of the manhole base, then fill and compact crushed stone to grade. The base section shall be placed to grade.
- 7.3.2 Pipes shall extend approximately one (1) inch inside the interior wall. The clamps on the connector shall be tightened or gasket seal embedded and then hydraulic cement applied to inside of manhole to pipe connection joint.
- 7.3.3 Pipe sections that enter and exit manholes shall be three (3) feet long with factory joints on outside ends.
- 7.3.4 The distance between manholes shall not be greater than two hundred fifty (250) feet.

## **7.4 BUILDING SERVICE CONNECTIONS**

- 7.4.1 Whenever possible, the sewer connection shall be made with a wye made by the same manufacturer as the main pipe and of the same class or when approved by the Department of Public Works, a cast iron branching saddle or an approved Polyvinyl Chloride Pipe (P.V.C.) saddle. Openings for saddles shall be clean cut and smooth.
- 7.4.2 Otherwise, connections to the main sewer pipe shall be made into a manhole.
- 7.4.3 Building service connection pipe shall be six (6) inch P.V.C. class SDR-35, brought to the building at an elevation below the basement floor.
- 7.4.4 When a wye is used, a forty-five degree (45°) P.V.C. elbow shall be inserted into it and the pipe shall continue on a straight line to the foundation of the building. (All services will be at a ninety degree (90°) angle to the main sewer line). A wye shall be installed outside the building foundation with an elbow to bring it up straight and a riser installed with a threaded clean-out cap above with an opening of six (6) inches or more and one (1) foot above the proposed finish grade.
- 7.4.5 Any service with a distance over one hundred twenty-five (125) feet shall have a manhole constructed midway of its length for maintenance purposes. The minimum grade for the service shall be two percent (2%) or one-fourth (1/4) inch per lineal foot. The maximum grade shall be ten percent (10%).
- 7.4.6 Service connection from the main sewer line to the street line of all lots shall be installed regardless whether there will be a building thereon.
- 7.4.7 Trench specifications shall be the same as the main sewer line trench specifications.
- 7.4.8 Tie cards shall be furnished to the Department of Public Works showing the as-built measurements of the existing sewer service and the distance from the street manhole to the house service wye.

## **7.5 LOCATION OF TIES**

- 7.5.1 Before any fitting or manhole is backfilled, ties from three (3) different and permanent points, (i.e. house corners) shall be recorded and filed with the Department of Public Works.

## **SEWER MATERIALS**

### **7.6 POLYVINYL CHLORIDE PIPE - GRAVITY**

Polyvinyl Chloride Pipe (P.V.C.) gravity lines shall be made by a manufacturer of established reputation meeting the requirements of ASTM D3034, or latest revision with a pipe diameter to wall thickness ratio (SDR) of thirty-five (35). The elastomeric

ring, bell and spigot style joint shall meet the requirements of ASTM D2241-76, or latest revision. The jointing process shall not allow pullers or other types of mechanical equipment to be used. Pipe installed in cuts over twenty (20) feet shall have a rating of SDR 26.

#### **7.7 POLYVINYL CHLORIDE PIPE - FORCE MAIN**

Design for this pipe shall be submitted to the Department of Public Works for review and approval. The cost of this review will be at the Applicant's expense.

#### **7.8 DUCTILE IRON SEWER PIPE (CEMENT-LINED)**

This pipe shall be used in brook crossings, force mains and in other locations as designated by the Sewer Commission. Ductile iron sewer pipe shall conform to ANSI specifications A21.51 and A21.11, or latest revision for mechanical joint or push-on joint. Ductile iron pipe with cement lining shall conform to ANSI A21.4, or latest revision. The pipe shall be thickness Class 52 with interior cement lining and exterior bituminous coating.

#### **7.9 SEWER FITTINGS**

All fittings shall be of the same manufacturer as the main sewer line and shall meet all the classifications of the main sewer line pipe. All bolts and straps for connections shall be stainless steel or an approved equivalent.

#### **7.10 CAST IRON WALL SLEEVES**

When required, cast iron wall sleeves shall be installed at openings in concrete culvert walls at brook crossings. Wall sleeves shall be furnished with integral water stops secured to the outside of the wall sleeves at the center of the sleeve, midway between the ends of the sleeve. Sleeves shall be caulked type wall sleeves such as Clow FI430 or FI435 or an approved equivalent.

#### **7.11 PRECAST MANHOLES** (see MassDOT Construction Standards Detail No. 202.4.0, or latest revision).

7.11.1 Manholes shall be constructed of reinforced precast concrete, with the monolithic base section, barrel section and dome section meeting the latest applicable requirements of ASTM C478-I, or latest revision.

7.11.2 Manholes twelve (12) feet or less in depth shall have a minimum inside diameter of four (4) feet. Manholes over twelve (12) feet in depth shall have a minimum inside diameter of five (5) feet.

- 7.11.3 Manhole steps are required for manholes over four (4) feet in height. The steps shall be steel reinforced copolymer polypropylene plastic meeting the latest applicable requirements of ASTM C-478, paragraph 11, or latest revision and shall be twelve (12) inches on center, cast in place at the point of the manhole manufacture. The portion of the step embedded in concrete plus two (2) inches shall be coated with aluminum oxide (see sewer detail plans).
- 7.11.4 Pipe to manhole connection shall be made with a flexible rubber boot and stainless steel clamp type connector or integral rubber ring, A-lok type.
- 7.11.5 The joint between the manhole sections shall be made with a butyl rubber compound.
- 7.11.6 Red clay brick for table and invert shall be hard burned of uniform Grade B.
- 7.11.7 A twenty-six (26) inch opening shall be cast in the top section to accept a cast iron frame and cover.
- 7.11.8 All lift holes and exterior manhole joints shall be filled with non-shrink grout and smoothed.
- 7.11.9 The exterior of manholes shall be waterproofed by heavy application of emulsified asphalt moisture repellent compound.

## **7.12 DROP MANHOLES**

- 7.12.1 The drop shall be installed inside the manhole.
- 7.12.2 The inside diameter of the drop manhole shall be five (5) feet with a depth less than twelve (12) feet (see MassDOT Construction Standards Detail No. 45, or latest revision).
- 7.12.2 A detail of the proposed inside drop showing the pipe, its distance from the wall, manner of fastening to the wall of the structure, and any other pertinent information shall be submitted to the Department of Public Works for review and approval prior to construction.

## **7.13 INVERTS AND TABLE**

- 7.13.1 The inverts and table shall be constructed of hard burned, Grade B red clay brick with Portland cement joints.
- 7.13.2 The table, at the structure wall, shall be constructed at an elevation even with the top of the pipe, and shall slope up toward the side walls.

7.13.3 Inverts shall be constructed in a manner to provide smooth flow through manholes, with no sharp turns or projecting portions of brick. Bricks for inverts shall be placed on edge and laid flat for table.

#### **7.14 FRAMES AND COVERS**

7.14.1 Frames and covers shall be cast iron that conforms to the ASTM Specifications for Grey Cast Iron, Cast Iron Class 20, or latest revision and manufactured in the United States of America.

7.14.2 All castings shall be clean and without blow holes, sand holes or defects of any kind.

7.14.3 Cast iron frames and covers will be clean of all rust, dirt and scale and while free and clean shall be given a full coat of coal-tar pitch varnish applied hot.

7.14.4 The manhole frame shall have a twenty-six (26) inch opening and be eight (8) inch in height. The manhole cover shall have the word "Sewer" cast in the center and shall be heavy duty (see Town of Westwood Sewer Rules & Regulations, Detail S-13, S-14, latest revision).

7.14.5 Frames shall be set in a full bed of mortar and the mortar shall be brought up along the side of the frame to provide a water tight joint.

#### **7.15 CONSTRUCTION STANDARDS**

7.15.1 All sewer construction shall adhere to the construction standards in place at the time of the actual construction.

7.15.2 All sewer construction shall conform to *The Commonwealth of Massachusetts, Standard Specifications For Highways and Bridges, 1988*, as amended and *The Commonwealth Of Massachusetts, Department Of Public Works, Construction Standards, 1977*.

## **SECTION 8.0 TESTING AND CLEANING**

### **8.1 AIR TESTING**

- 8.1.1 An air test shall be conducted by a private and licensed testing company for each section of main laid, from manhole to manhole, before existing building services are tied into the main. The test shall be conducted only after the backfilling and compaction have been completed and the test shall be made under the observation of the Department of Public Works.
- 8.1.2 The requirements for testing equipment are as follows:
- 8.1.2.1 Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.
  - 8.1.2.2 Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.
  - 8.1.2.3 All air used shall pass through a single control panel.
  - 8.1.2.4 Three individual hoses shall be used for the following connections:
    - 8.1.2.4.1 From panel to pneumatic plugs for inflation;
    - 8.1.2.4.2 From panel to sealed line for introducing the low air pressure;
    - 8.1.2.4.3 From sealed line to panel for continually monitoring the air.
  - 8.1.2.5 Other types of air testing equipment will be permitted subject to approval by the Department of Public Works and upon demonstration by the contractor that such method can be employed safely and without damage to pipe or fittings.
- 8.1.3 The pipe shall be tested between manholes by installing pneumatic plugs in each end and inflating the plugs to 25 psig. Low air pressure shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure of the groundwater. A period of two (2) minutes shall be required for stabilization (3.5 psig minimum pressure in the pipe) at which time the air supply shall be disconnected. The portion of line being tested shall be termed acceptable if the time required, in minutes, for the pressure to decrease from 3.5 psig to 2.5 psig greater than the average back pressure of any groundwater that may be over the pipe shall not be less than five (5) minutes.



- 8.1.4 The contractor and the Department of Public Works shall determine the average height of the groundwater above the invert of the main pipe at the time of testing. The groundwater height dimension shall then be divided by 2.3 to establish the pounds of pressure that must be added to all readings (example:  $N=11.5 \text{ feet}/2.3 = 5 \text{ psig}$ ). This increases the 3.5 psig reading to 8.5 psig and the 2.5 psig reading to 7.5 psig). The allowable drop in pressure and time remain the same. The contractor shall block all end caps to withstand an internal pressure of 5 psig (for example given). If the Department of Public Works determines that the test failed, the contractor shall determine the source of leakage and repair or replace all defective materials or workmanship and retest until a satisfactory test has been completed.
- 8.1.5 The cost of all required tests and inspection services shall be the sole responsibility of the Applicant.

## **8.2 SEWER MANHOLE TESTING**

- 8.2.1 Sewer manholes shall be vacuum tested by a private and licensed testing company. All lift holes shall be plugged with non-shrink grout before testing. No joint shall be filled with grout before testing and all pipes shall be plugged.
- 8.2.2 The test head on the vacuum testing unit shall be placed just inside the cone of the manhole and inflated in accordance with the manufacturer's recommendations. A vacuum of ten (10) inches of mercury shall be drawn and the pump shut off. Acceptable time for pressure drop of one (1) inch of mercury is as follows:
- 8.2.2.1 For a manhole size of forty-eight (48) inches, said pressure drop shall take not less than sixty (60) seconds.
- 8.2.2.2 For a manhole size of sixty (60) inches, said pressure drop shall take not less than seventy-five (75) seconds.
- 8.2.2.3 For a manhole size of seventy-two (72) inches, said pressure drop take not less than ninety (90) seconds.
- 8.2.3 Modifications to this test may only be made as permitted by the Department of Public Works. If the Department of Public Works determines that the test failed, the contractor shall determine the source of leakage and repair or replace all defective materials or workmanship and retest until a satisfactory test has been completed.
- 8.2.4 The cost of all required tests and inspection services shall be the sole responsibility of the Applicant.

## **8.3 SEWER LINE CLEANING**

- 8.3.1 After the laying of the pipe is completed, the interior of the sewer pipe line shall be thoroughly cleaned of construction debris. The pipe line shall be flushed to remove

any foreign matter, with bulkheads placed at strategic locations to prevent wash of undesirable material through completed sections of the system. When deemed necessary by the Department of Public Works, a television inspection of the sewer line may be required.

#### **8.4 SEWER LINE WATER TESTING**

- 8.4.1 The contractor shall install water tight plugs in the manholes and pipes and then fill the test section with water to the top of the manhole dome section. The drop in water level is observed after a three (3) hour period.
- 8.4.2 The acceptable loss is computed as a rate of one-fourth ( $\frac{1}{4}$ ) gallon per foot of depth for each manhole and one hundred fifty (150) gallons per day, per inch diameter, per mile of sewer pipe. If the loss is less than the sum of the acceptable losses for the manholes plus the pipe connecting those manholes, then the tested section shall be deemed acceptable. This test shall be performed after manholes and sewer lines are completed and before brick inverts are installed.
- 8.4.3 Plugs shall be installed to isolate each section of sewer line so that at least two (2) manholes and the sections of the sewer line between those manholes are tested as a unit. This test shall be performed in the presence of a representative from the Department of Public Works.
- 8.4.4 In testing a single manhole, the rate of leakage shall not exceed 0.9 gallons per twenty-four (24) hours per foot of manhole height tested.
- 8.4.5 Written notification shall be filed with the Town to certify acceptance of the sewer line.
- 8.4.6 The cost of all required tests and inspection services shall be the sole responsibility of the Applicant.

#### **8.5 SEWER LINE DEFLECTION**

- 8.5.1 The pipe shall be checked for deflection after backfilling and compaction is completed. The pipe line to be checked shall be thoroughly cleaned and plugged.
- 8.5.2 A mandrel shall be pulled through the pipe to check overall deflection and any pipe through which a mandrel cannot be pulled without extreme force shall be considered unacceptable.
- 8.5.3 The mandrel shall have an outside diameter five percent (5%) less than the pipe inside diameter and shall be supplied by the pipe manufacturer for this purpose. Pipe with a deflection of more than five percent (5%) shall be removed and aligned properly.

## **8.6 SEWER LIFT STATIONS**

- 8.6.1 Sewer lift stations shall be used only when absolutely necessary.
- 8.6.2 The design for a sewer lift station shall be reviewed and approved by the Sewer Commission in consultation with the Department of Public Works and consultant engineer, if any.
- 8.6.2 The force main shall be tested by the contractor, in the presence of the Department of Public Works and consultant engineer, by water equal to two (2) times the total dynamic head of the pump to which the force main is attached, unless the pressure is greater than the working pressure of the pipe. In that case, the pipe shall be tested to the working pressure of the pipe. The pressure shall be held for a period of at least fifteen (15) minutes, allowing a maximum pressure drop of 5 psi. If the Department of Public Works determines that the test failed, the contractor shall determine the source of leakage and repair or replace all defective materials or workmanship and retest until a satisfactory test has been completed.
- 8.6.3 A permanent generator sufficiently sized to run the station shall be supplied to the Town at the time of the acceptance of the sewer lift station.
- 8.6.4 All costs incurred by the Town in the design, review and testing of the sewer lift station, including the consultant engineer's fees, shall be the sole responsibility of the Applicant.
- 8.6.5 The cost of all required tests and inspection services shall be the sole responsibility of the Applicant.

## **8.7 FILTER FABRIC**

- 8.7.1 Filter fabric shall be constructed of two (2) types of continuous-filament fibers: one shall be wholly polypropylene and the other shall be a heterofilament comprised of a polypropylene core covered with a nylon sheath. The filaments shall be heat bonded and stored covered by black plastic.

## **8.8 ACCEPTANCE**

- 8.8.1 All tests shall be done in accordance with this Section before any pipe line will be accepted by the Town.

## **SECTION 9.0 INSPECTIONS**

### **9.1 PRE-CONSTRUCTION MEETING**

9.1.1 Prior to the initiation of any work within the subdivision, there shall be a pre-construction conference to be attended by the Applicant and a designee of the Department of Public Works, Police, Fire, Building, and Planning Departments at which time a work schedule outlining all steps within the development process shall be submitted by the Applicant. Following the approval of the work schedule by the Department of Public Works, the Applicant shall be required to notify the Department of Public Works, in writing, of any deviations from the proposed work schedule.

### **9.2 INSPECTION SCHEDULE**

9.2.1 The Applicant shall notify the Department of Public Works at least forty-eight (48) hours prior to the anticipated commencement of any of the following work so that an inspection may be scheduled. Inspection approvals do not constitute acceptance for such roadways and utilities by the Town:

- 9.2.1.1 Cutting of trees for roadway construction
- 9.2.1.2 Clearing and grubbing of roadway
- 9.2.1.3 Installation of storm drainage facilities
- 9.2.1.4 Installation of water and sewer facilities
- 9.2.1.5 Laying of material for sub-base
- 9.2.1.6 Excavation for underground utilities
- 9.2.1.7 Application of gravel in or above sub-base
- 9.2.1.8 Laying of bituminous concrete bottom course
- 9.2.1.9 Laying of bituminous concrete top course
- 9.2.1.10 Installation of curbing and curb inlets
- 9.2.1.11 Spreading of gravel in sidewalks
- 9.2.1.12 Laying of bituminous concrete for sidewalks and aprons
- 9.2.1.13 Spreading of loam for grass plots
- 9.2.1.14 Grading of slopes
- 9.2.1.15 Construction of retaining walls
- 9.2.1.16 Setting of bounds

## **SECTION 10 TYPICAL SECTIONS**

10.1 See the enclosed typical road cross sections.

### **CONSTRUCTION DETAILS**

The standard construction details are included as separate documents from these Rules and Regulations and may be amended from time to time with Planning Board approval. Contact the Planning Board or Department of Public Works for the construction details.

PAVEMENT NOTES

TYPICAL ROADWAY

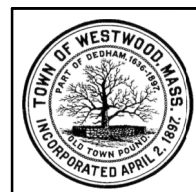
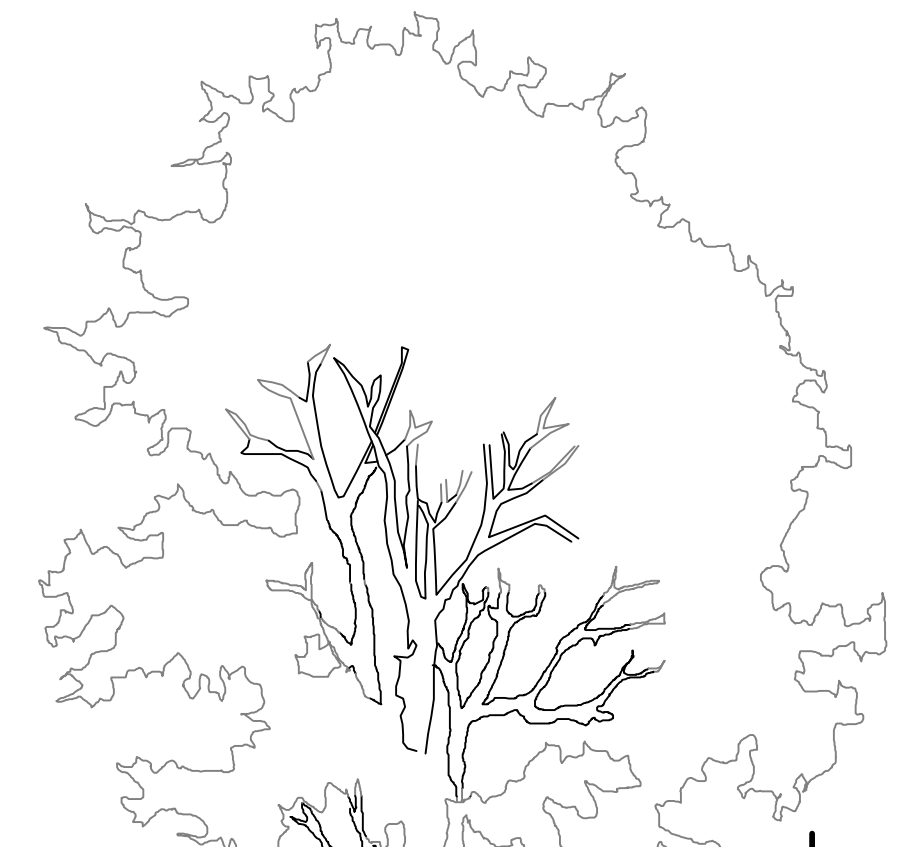
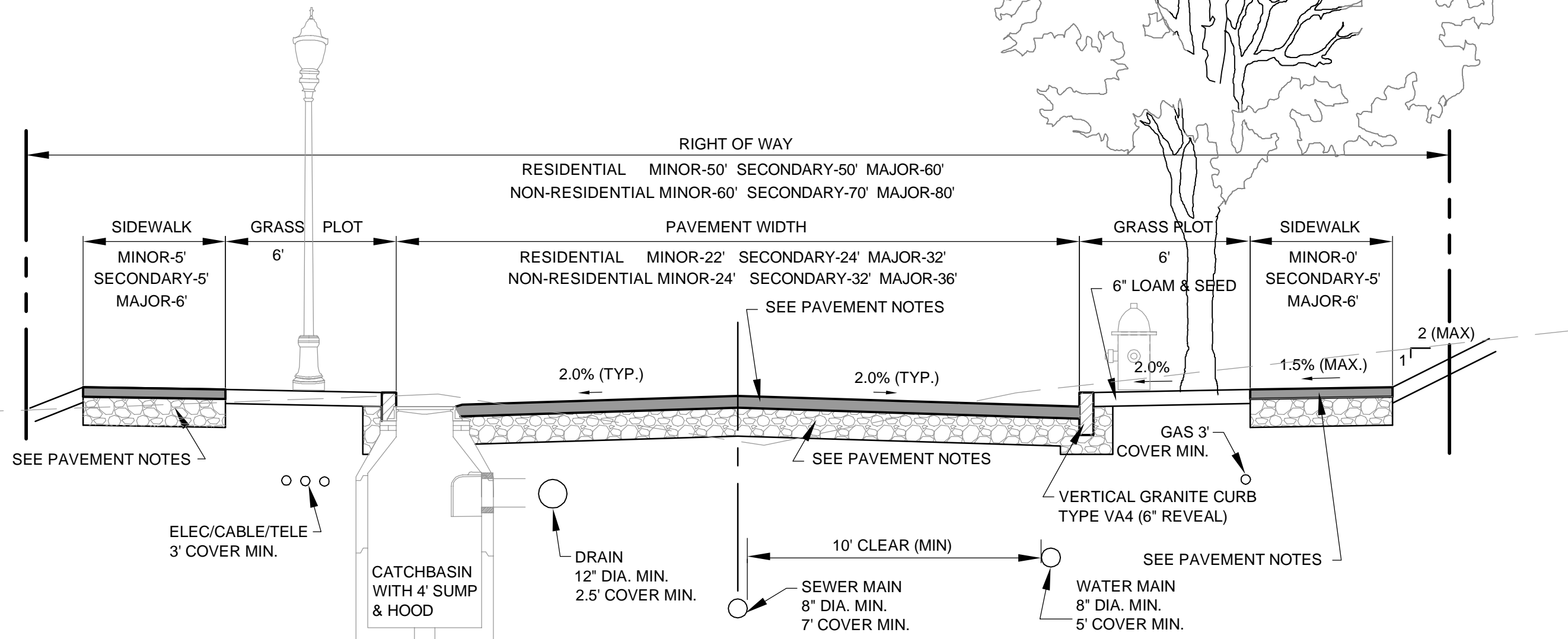
5" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 2" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 3" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

SIDEWALK AND DRIVEWAY

4" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 1.5" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 2.5" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

WHEELCHAIR RAMPS

4" CEMENT CONCRETE, 4000 PSI, 3/4" 610 AIR ENTRAINED SURFACE COURSE OVER 8" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE



TOWN OF WESTWOOD  
CONSTRUCTION DETAILS  
TYPICAL SECTION - CONVENTIONAL

DATE OF ISSUE:  
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DETAIL NUMBER:  
TS-1

PAVEMENT NOTES

TYPICAL ROADWAY

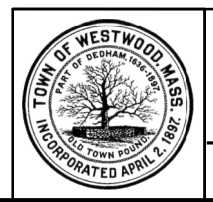
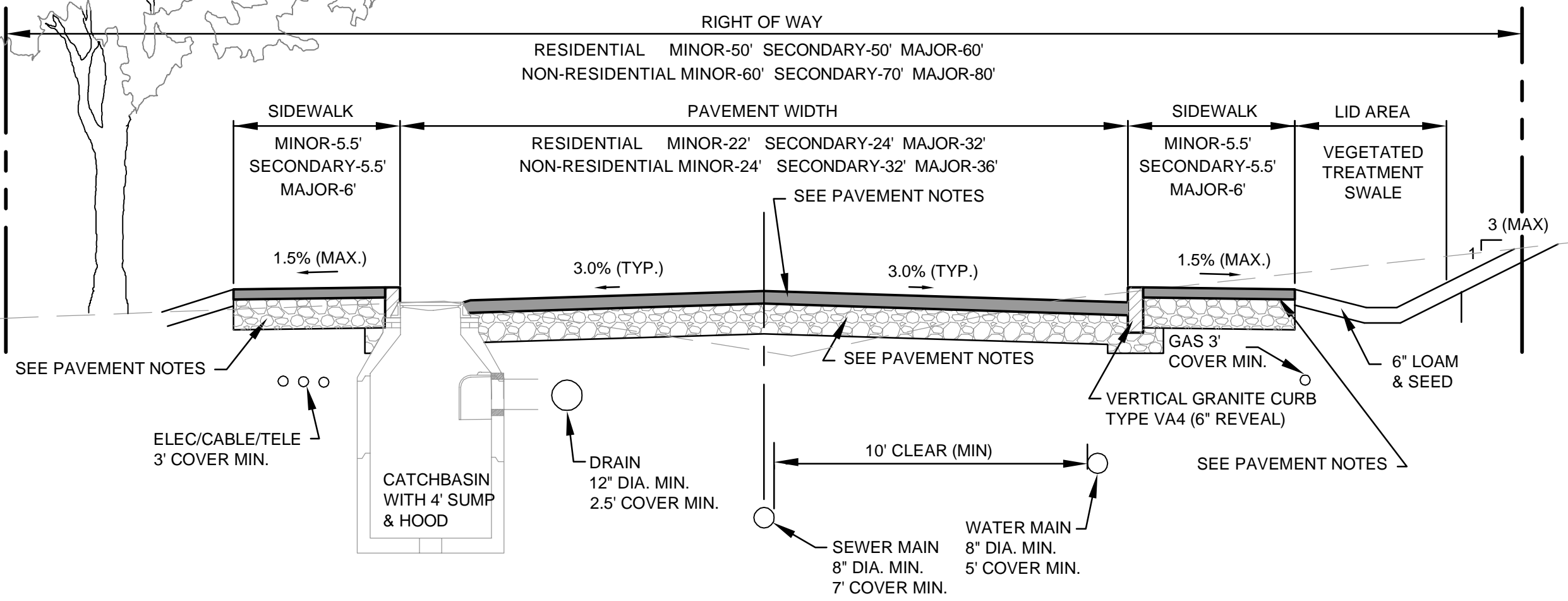
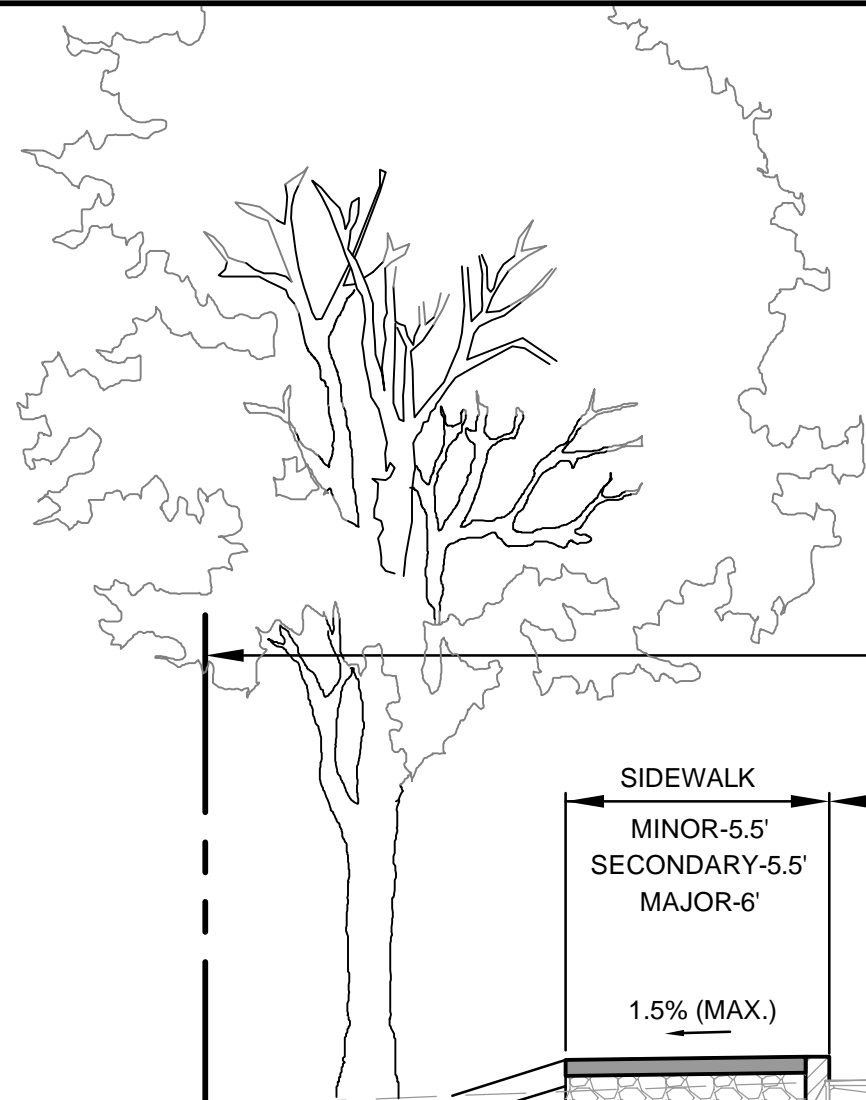
5" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 2" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 3" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

SIDEWALK AND DRIVEWAY

4" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 1.5" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 2.5" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

WHEELCHAIR RAMPS

4" CEMENT CONCRETE, 4000 PSI, 3/4" 610 AIR ENTRAINED SURFACE COURSE OVER 8" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE



TOWN OF WESTWOOD  
 CONSTRUCTION DETAILS  
 TYPICAL SECTION - CONVENTIONAL (ALTERNATIVE)

DATE OF ISSUE:  
 March 2014  
 DETAIL NUMBER:  
 TS-2

PAVEMENT NOTES

TYPICAL ROADWAY

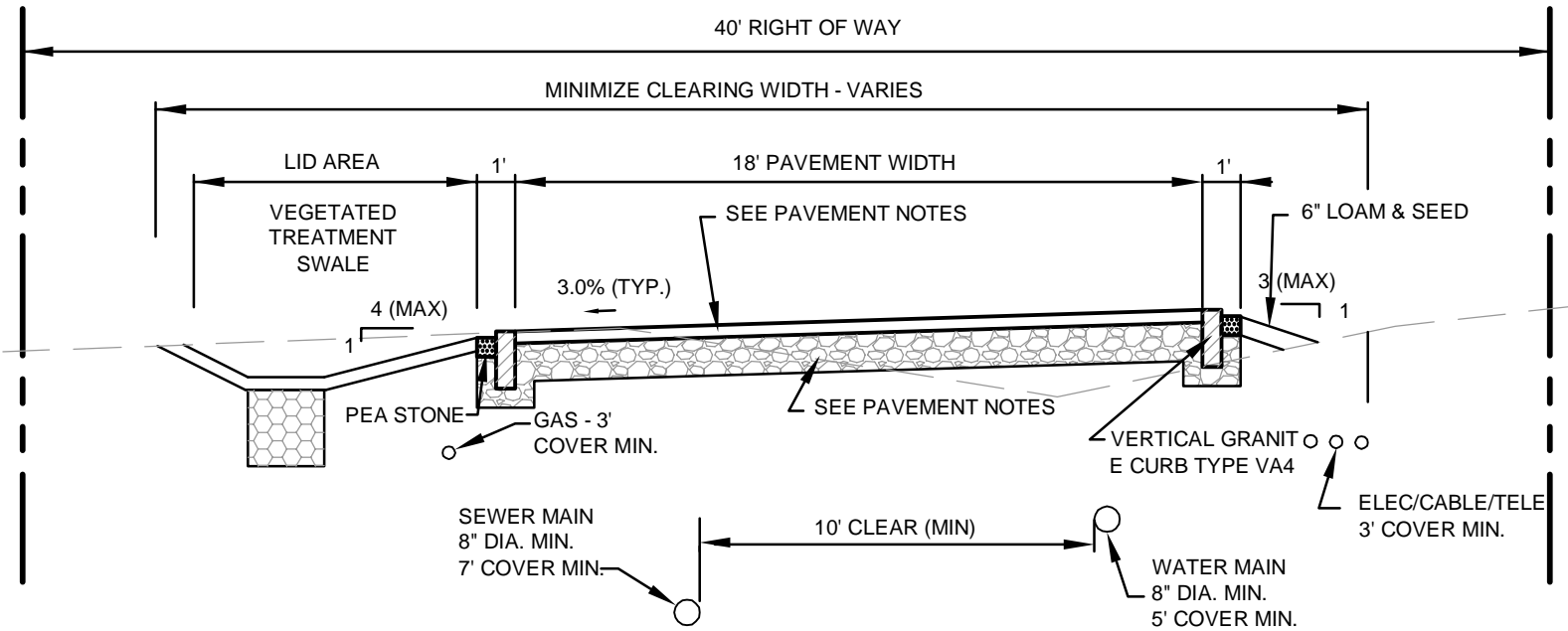
5" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 2" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 3" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

SIDEWALK AND DRIVEWAY

4" HOT MIX ASPHALT (M3.11.00) PLACED IN 2 LAYERS, 1.5" HOT MIX ASPHALT (HMA) MODIFIED TOP COURSE OVER 2.5" INTERMEDIATE DENSE BINDER COURSE AND 12" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE

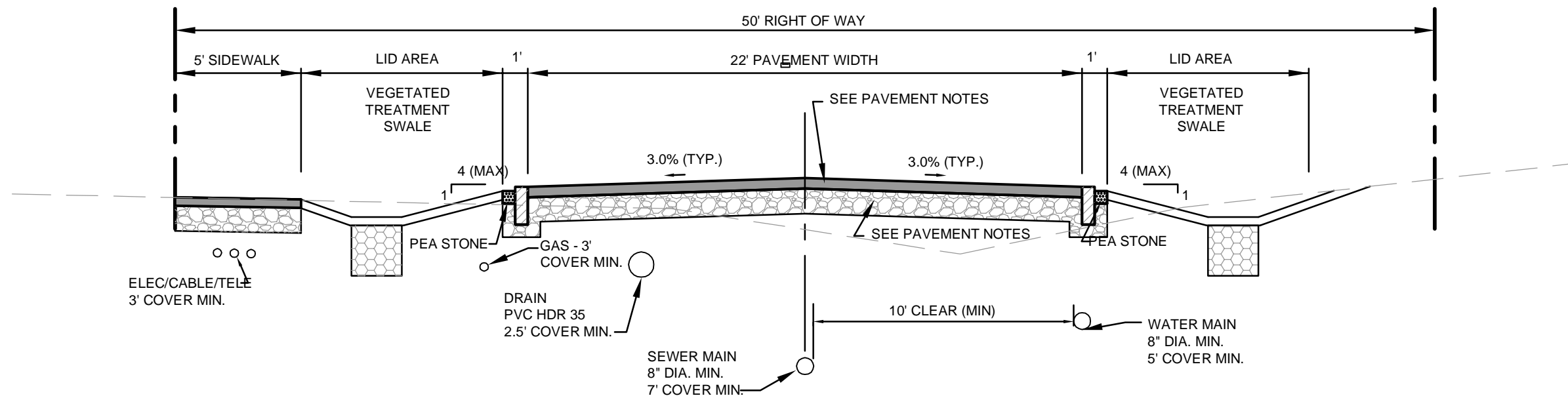
WHEELCHAIR RAMPS

4" CEMENT CONCRETE, 4000 PSI, 3/4" 610 AIR ENTRAINED SURFACE COURSE OVER 8" GRAVEL BORROW TYPE B (M1.03.0) SUB-BASE



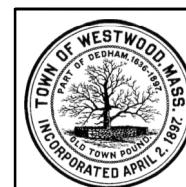
**TYPICAL SECTION - LANE - LID**

NOT TO SCALE



**TYPICAL SECTION - RESIDENTIAL MINOR - LID**

NOT TO SCALE



TOWN OF WESTWOOD  
CONSTRUCTION DETAILS  
TYPICAL SECTION - LID ALTERNATIVES

DATE OF ISSUE:  
March 2014

DETAIL NUMBER:  
TS-3