

# Town of Berlin

## Subdivision Regulations



Adopted September 22, 1949  
With Amendments though: May 12, 2016



## APPENDIX A

### SUBDIVISIONS\*

#### Article I. Definitions

10:00. [Definitions.]

#### ARTICLE II. GENERAL PROVISIONS

20:01. Authority.  
20:02. Jurisdiction.  
20:03. Policies.  
20:04. Enactment.  
20:05. Conflict with town law.  
20:06. Plats straddling municipal boundaries.  
20:07. Conformance to zoning regulations.  
20:08. Resubdivision.  
20:09. Public hearing.

#### Article III. Procedure for Making Application

30:00. General procedure.  
30:01. Initial conference on sketch layout.  
30:02. Requirements for subdivision of land.  
30:03. Sketch maps required for initial conference.  
30:04. Field trip.  
30:05. Temporary staking and/or marking.  
30:06. Public hearing.  
30:07. Referral to other agencies.  
31:00. Preparation and revision of preliminary plat, grading plan, and construction plans.  
31:01. Final subdivision plat to be approved within one year.  
31:02. Preparation of final subdivision plat.  
32:03. Review of final subdivision plat.

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\* **Editor's note**—Printed herein are the subdivision regulations adopted by the planning board, as compiled through February 23, 1982, as printed in a pamphlet and subsequently amended. Amendments to the compiled subdivision regulations pamphlet of February 23, 1982, are indicated by parenthetical history notes following amended provisions. The absence of a history note indicates that the provision remains unchanged from the February 23, 1982, pamphlet. Obvious misspellings and punctuation errors have been corrected without notation. For stylistic purposes, headings and catchlines have been made uniform and the same system of capitalization, citation to state statutes, and expression of numbers in text as appears in the Code of Ordinances has been used. Additions made for clarity are indicated by brackets.

**Cross references**—Buildings and building regulations, ch. 10; environment, ch. 22; floods, ch. 26; zoning, app. B.

- 32:04. Posting performance bond.
- 32:05. Certificate of insurance.
- 32:06. Signing of plat.
- 32:07. Plat void if revised after signature.
- 32:08. Filing plat with town clerk.

#### **Article IV. Required Improvements and Agreements**

- 40:00. Improvements and performance bond.
- 41:00. Inspection of improvements.
- 42:00. Utilities.
- 43:00. Future status of roads, parks and easements.
- 44:01. Authority-waiver of required improvements.

#### **Article V. Standards for Subdivision Design**

- 50:00. General.
- 51:00. Streets.
- 52:00. Improvements.
- 53:00. Lots.
- 54:00. Reservation for open spaces, parks and playgrounds.
- 55:00. Other reservations.
- 56:00. Responsibility for ownership of reservation.
- 57:00. Miscellaneous.

#### **Article VI. Items to Be Shown on Maps**

- 62:01. Sketch layout.
- 62:02. Preliminary plat.
- 62:03. Grading plan.
- 62:04. Solar access plan.
- 62:05. Construction plans.
- 62:06. Final subdivision plat.
- 62:07. As-built street plans.

#### **Attachment**

- Sec. I. Definitions.
- Sec. II. Storm sewer design.
- Sec. III. Street design.
- Sec. IV. Compliance with state standards.
- Sec. V. Solar access guidelines.

## APPENDIX Aô SUBDIVISIONS

### ARTICLE I. DEFINITIONS

#### 10:00. [Definitions.]

For the purposes of these regulations, certain words and terms used herein are defined as follows:

- 10:01 *Construction plan* means the maps or drawings accompanying a subdivision plat and showing the specific location and design improvements to be installed in the subdivision in accordance with the requirements of the planning commission.
- 10:02 *Easement* means authorization by a property owner for the use by another, and for a specific purpose, of any designated part of his property.
- 10:03 *General Statutes* means the General Statutes of the State of Connecticut 1958 Revision as now amended or from the time to time amended or revised.
- 10:04 *Official map* means the map established by the town engineer showing the roads, highways, and parts theretofore laid out and any amendments thereto made by the town engineer or additions thereto resulting from the approval of subdivision plats by the planning commission and the subsequent filing of such approved plats.
- 10:05 *Official submittal date* means the date of the next regular meeting of the planning commission following acceptance by the town engineer of the formal subdivision application.
- 10:06 *Preliminary layout* means the preliminary drawing or drawings, described in section 31:021, article III of these regulations, indicating the proposed manner or layout of the subdivision to be submitted to the planning commission for its consideration.
- 10:07 *Planning commission* means the town planning commission of the Town of Berlin.
- 10:08 *Street* means and includes streets, roads, avenues, lanes, or other public ways (not private ways).
- 10:081 *Street, business*, means a street which serves or is designed to serve, as an access to abutting business properties.
- 10:082 *Street, collector*; means a street which collects or will collect traffic from local streets which will carry through traffic from surrounding areas. Also, any street shown as collector streets on the master plan or official map.
- 10:083 *Street, dead-end*, means a street or a portion of a street with only one vehicular outlet.

10:084 *Street, local*, means a street which serves or will serve, primarily, only those properties having frontage on it, and which does not or will not carry through traffic from surrounding areas. Also, any street shown as local streets on the master plan or official map.

10:085 *Street, major*; means a street which is used primarily as a route for traffic between communities or large areas (state system).

10:086 *Street, pavement*, means the wearing or exposed surface of the roadway used by vehicular traffic, including all base courses.

10:087 *Street, right-of-way width*, means the distance between property lines measured at right angles to the centerline of street.

10:088 *Street sight distance*. See *Town of Berlin Design and Construction Standards*, section 3.01.

10:09 *Subdivider* means any person, firm, corporation, partnership, or association who shall layout for purposes of sale or development, any subdivision, or part thereof, as defined herein.

10:10 *Subdivision* means the division of any tract or parcel of land into three or more parts or lots made subsequent to September 22, 1949, date of adoption of subdivision regulations by the planning commission, for the purpose, whether immediate or future, of transfer of ownership or building development, and shall include resubdivision and, when appropriate to the context, shall relate to the process of subdividing or to the land area to be subdivided.

10:101 *Resubdivision* means a change in a map of an approved or recorded subdivision or resubdivision if such change:

- (a) Affects any street layout shown on such map;
- (b) Affects any area reserved thereon for public use; or
- (c) Diminishes the size of any lot shown thereon and creates an additional building lot, if any of the lots shown thereon have been conveyed after the approval or recording of such map.

10:11 *Subdivision plat* means the final map or drawing, described in section 32.02, article III of the[se] regulations, on which the subdivider's plan of subdivision is presented to the planning commission for approval and which, if approved, shall be submitted to the town clerk for recording.

10:12 *Town plan or master plan* means a comprehensive plan for development of the town adopted by the planning commission, on January 1, 1960, pursuant to chapter 126, section 8-23 of the General Statutes which indicates the general locations recommended for various public works and reservations, and for the general physical development of the town, and includes any part of such plan separately adopted and any amendment to such plan, or parts thereof.

10:13 *Town of Berlin construction and design specifications and standards (town standards)* means the design and construction specifications and standards adopted by the planning commission and the town engineering department.

10:14 *Zoning regulations* means the officially adopted zoning regulations of the Town of Berlin, together with any and all amendments thereto adopted from time to time.

10:15 *Public hearing*. Pursuant to chapter 126, section 8-26 of the General Statutes, the planning commission may hold a public hearing regarding any subdivision proposal if, in its judgment, the specific circumstances require such action.

(Amend. of 2-23-1982, § 10:00)

## ARTICLE II. GENERAL PROVISIONS

### **20:01. Authority.**

By authority conferred by the General Statutes of the State of Connecticut chapter 126, section 8-25 the planning commission has the power and authority to review and approve or disapprove plats of subdivision within the Town of Berlin.

(Amend. of 2-23-1982, § 20:01)

### **20:02. Jurisdiction.**

If a tract being subdivided contains one or more new streets, or is being subdivided into three or more parts or lots, even though on an existed street, before offering land for sale by reference to a map or referring to the map in deeds, the owner is required by law to submit a plat with the town clerk. The location and design of each new street must also be approved by the planning commission, therefore, the construction of new streets shall not start until this approval has been obtained.

(Amend. of 2-23-1982, § 20:02)

### **20:03. Policies.**

20:031. Land subdivision is considered as a part of a plan for the orderly, efficient, and economical development of the town.

20:032. Land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health, or peril from fire, flood, or other menace.

20:033. Proper provision shall be made for vehicular and pedestrian traffic, drainage, water, sewerage, and other needed improvements.

20:034. Proposed streets shall compose a convenient system conforming to the official map, and shall be properly related to the proposals shown on the town plan as it is adopted by the planning commission.

20:035. Streets shall be of such width, grade, and alignment as to accommodate the prospective traffic, to afford adequate light and air, and to facilitate fire protection.

20:036. In proper cases, park areas of suitable location, size, and characteristics for playgrounds, or other recreational purposes shall be shown on the subdivision plat. (Amend. of 2-23-1982, § 20:03)

**20:04. Enactment.**

In order that land may be subdivided in accordance with this policy, these regulations are hereby adopted.

(Amend. of 2-23-1982, § 20:04)

**20:05. Conflict with town law.**

Should any of these regulations conflict or be inconsistent with any provision of any ordinance, or special act relating to the town or of any General Statute, their relative provisions of said ordinance, special act, or statute shall apply. If any section, subsection, paragraph, sentence, clause, or other part of these regulations is for any reason held invalid, the validity of the remaining portion of these regulations shall not be affected.

(Amend. of 2-23-1982, § 20:05)

**20:06. Plats straddling municipal boundaries.**

Whenever access to the subdivision can be had only across land in another municipality, the planning commission may require a certificate from the town attorney of that municipality that access is legally assured, and from the town superintendent of highways of the aforementioned municipality that the access road is adequately improved; or alternatively the commission may require from the superintendent of highways and attorney of said municipality that a legally adequate performance bond has been duly executed and is sufficient in amount to assure the construction of the necessary road. In general, lot lines should be laid out so as not to cross town boundary lines. Subdivision proposals on land straddling or abutting the boundary of another municipality, shall be referred by the planning commission to the regional planning agency of the region in which the other municipality exists as provided in chapter 126, section 8-26b of the General Statutes.

(Amend. of 2-23-1982, § 20:06)

**20:07. Conformance to zoning regulations.**

The minimum size of lot shall be at least as large as required by the zoning ordinance for the zoning district in which the lot is located.

(Amend. of 2-23-1982, § 20:07)

**Cross reference—Zoning, app. B.**



**20:08. Resubdivision.**

For a resubdivision, the same procedure, rules and regulations apply as for a subdivision, except that a public hearing shall be required and except that procedures relating to submittal of a preliminary plan may be waived.  
(Amend. of 2-23-1982, § 20:08)

**20:09. Public hearing.**

Pursuant to chapter 126, section 8-26 of the General Statutes, the planning commission may hold a public hearing regarding any subdivision proposal if, in its judgment, the specific circumstances require such action.  
(Amend. of 2-23-1982, § 20:09)

**ARTICLE III. PROCEDURE FOR MAKING APPLICATION**

**30:00. General procedure.**

Whenever any subdivision of land is proposed, before any contract for the sale of any part thereof, and before any permit for the erection of a structure in such proposed subdivision shall be granted, the subdivider or his authorized agent shall apply for and secure approval of such proposed subdivision in accordance with the following procedure, which involves basically four steps:

1. Initial conference on sketch layout.
2. Public hearing if deemed necessary by the commission.
3. Preparation and revision of preliminary plat and construction plans.
4. Preparation of final subdivision plat.

(Amend. of 2-23-1982, § 30:00)

**30:01. Initial conference on sketch layout.**

The commission has accumulated considerable information which may be of material assistance to the prospective subdivider. Therefore, developers in the town shall call on the planning commission at one of its regular meetings, or for minor subdivisions the town engineer, for an initial conference at the very outset. This will afford an opportunity to discuss with the commission and the town engineer the requirements as to the general layout of streets, and reservations of land, street improvements, drainage, sewerage, water, fire protection, and similar matters, as well as availability of existing services. At this meeting the sketch plan will be informally submitted to the planning commission so that the subdivider may introduce the proposal to the commission and so that the date of a public hearing, if required, may be set. This informal submittal shall not be considered an application for approval (See sec. 31:08, sec. 31:09).  
(Amend. of 2-23-1982, § 30:01)

**30:02. Requirements for subdivision of land.**

Before preparing the sketch, layouts, or attending the initial conference, the applicant, or his representative, should familiarize himself with the regulations, standards, and requirements contained herein.

(Amend. of 2-23-1982, § 30:02)

**30:03. Sketch maps required for initial conference.**

(See appendix, section 62, for detailed list of items to be shown on each map.)

30:031. *Sketch layout.* The applicant shall submit eight copies of sketch plans of the proposed subdivision. The applicant shall also submit eight copies of an alternative plan of the proposed development as an open space subdivision or a design open space development, in conformance with section V.A.8 of the Berlin zoning regulations, if the proposed development is located within an R-21, R-43, R-86, MR-1, or MR-2 zoning district, and has a minimum parcel size equal to the minimum parcel size required within the zoning regulations for open space subdivisions and design open space development.

(Amend. of 2-23-1982, § 30:031; Amend. of 8-22-1995, § 30:031)

[30:032. Reserved.]

30:033. *Sketch map of surrounding area.* Showing adjacent streets and properties (three copies, scale no smaller than one inch equals 800 feet). Minimum 1,000 feet in all directions except where more is required by town engineer.

30:034. One copy of the sketch maps required under 30:031, 30:032 [reserved], and 30:033 will be returned to the developer, two copies will be retained by the commission. Where possible, the maps required under section 30:031, 30:032 [reserved], and 30:033 shall be combined onto one map.

(Amend. of 2-23-1982, § 30:03)

**30:04. Field trip.**

After the initial conference the town engineer will schedule and make a field trip to the site of the proposed subdivision at which time the applicant or his representative should attend.

(Amend. of 2-23-1982, § 30:04)

**30:05. Temporary staking and/or marking.**

In order to facilitate inspection and review of the site of the proposed subdivision, temporary staking and/or marking along the approximate centerline of all proposed roads in the subdivision may be required in time for the town engineer's field trip.

(Amend. of 2-23-1982, § 30:05)

**30:06. Public hearing.**

30:061. *Resubdivision.* Prior to approval of a resubdivision a public hearing shall be held.

30:062. *Subdivision.* Following the initial conference and prior to submittal of the preliminary plat, the planning commission may require a public hearing to be held to address the concept and details of the subdivision, as shown on the sketch layout. (Amend. of 2-23-1982, § 30:06)

**30:07. Referral to other agencies.**

Following the initial conference, and public hearing if required, and prior to submittal of application for preliminary approval, the proposed subdivision shall be submitted for approval by the subdivider to other agencies having jurisdiction, as follows, where applicable:

30:071. *Water and sewer.* Berlin Water Control Commission, or Kensington Fire District, or Worthington Fire District.

30:072. *Wetlands and/or flooding.* Berlin Inland Wetlands and Water Courses Commission, Berlin Zoning Commission.

30:073. *Other town agencies.* The planning commission may consider the subdivision to have other significant impacts on the community, and may refer the proposed subdivision to other town agencies, including, but not necessarily limited to: executive board, police department, fire board and fire departments, conservation commission, park and recreation commission, board of education.

30:074. *Other nontown agencies.* The proposed subdivision during the application process shall be referred by the applicant to all other agencies having jurisdiction as required by law, including, but not necessarily limited to: regional planning agencies, Connecticut Department of Environmental Protection, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, public utilities companies. The planning commission may also refer the proposed subdivision to the above agencies and to the Hartford County Soil Conservation, if environmental impacts to the area are suspected.

(Amend. of 2-23-1982, § 30:07)

**31:00. Preparation and revision of preliminary plat, grading plan, and construction plans.**

31:01. *Discussion with the town health director.* Before preparing the preliminary plat the applicant shall discuss the proposed subdivision with the town health director or his agent, who must eventually approved any final subdivision plat involving private water wells and/or private sewage disposal systems. Particular attention should

be paid to the area, grade, and type of soil for proposed building lots, the proper amount of land area for private sewage disposal facilities, and the proper drainage of stormwater. Percolation tests shall be performed, and test pits excavated as required by the health director before submittal of the preliminary plat.

31:02. *Maps required.* (See appendix section 62 for detailed list of items to be shown on each map.) After discussion with the town health director or his agent, and based upon the report from the planning commission, the applicant shall have the following maps prepared:

31:021. *Preliminary plat.* Prepared by a licensed civil engineer and land surveyor.

Three copies at a scale no less than one inch equals 40 feet.

31:022. *Grading plan, if required.* Prepared by a licensed civil engineer and land surveyor.

31:023. *Preliminary construction plans, if required.* Prepared by a licensed civil engineer and land surveyor.

31:024. *Maps.* One copy of the maps required under 31:021, 31:022, 31:023 will be returned to the developer, two copies will be retained by the commission.

31:03. *Conference on preliminary plat.* After preparation of the maps above, the applicant should submit three copies of each of them to the planning commission's agent, the town engineer, and arrange through him for a conference with the commission at one of its regularly scheduled meetings.

31:04. *Report on preliminary plat, indicating required revisions.* After the town engineer has reviewed the preliminary plat, grading plan, and construction plans, a report will be sent to the planning commission. Upon receipt of such report by the planning commission and within 30 days, a report will be sent to the applicant.

31:05. *Revision of preliminary plat.* The applicant shall have any required changes or additions made to the preliminary plat, grading plan, and construction plans and shall resubmit three copies of each to the town engineer.

31:06. *Approval of the town health director.* The preliminary plat shall be submitted by the town engineer to the health director, or his agent, for such approval as is required by law.

31:07. *Review of revised preliminary plat, grading plan and construction plan.* The three copies of each of the revised preliminary plat, grading plan, and construction plans will be reviewed by the town engineer prior to formal application to the planning commission by the applicant.

31:08. *Submittal of formal application for preliminary approval.* Formal subdivision application shall be filed in duplicate, on forms to be provided by the commission, with the town engineer but will not be accepted until the town engineer has indicated that the

preliminary plat, grading plan and construction plans are in proper form for action by the planning commission.

31:09. *Date of filing applications.* Formal application must be filed with the town engineer as agent of the planning commission at least five working days before a regular meeting of the commission in order to be considered at that meeting. The official submission date of the plat shall be the date of the next regular meeting of the planning commission following acceptance of the subdivision application by the town engineer.

31:10. *Application fee.* The fee to accompany the subdivision application shall be set by the Town Council. In no case will any of the fee be returned. In the case of a revised subdivision or resubdivision the same fee as required above shall be submitted.

31:11. *Resolution approving or disapproving preliminary plat.* The Planning and Zoning Commission shall approve, modify, and approve, or disapprove the preliminary plat by the timelines set forth by state statutes. Approval of the preliminary plat does not constitute final approval of the subdivision.

(Amend. of 2-23-1982, § 31:00)

**32:01. Final subdivision plat to be approved within one year.**

A preliminary plat shall remain in effect for a period of one year following the date of the approval resolution. Within 60 days prior to expiration of such preliminary approval, upon written application, the commission may extend preliminary approval of all or any portion of said preliminary plat for an additional period not to exceed one year. Should the subdivider fail to request and to obtain final approval within the one-year period or the one-year extension, the preliminary plat and approval thereof shall become null and void. Should the subdivider wish to reinitiate preliminary subdivision application procedures within 90 days after the preliminary approval has become null and void, the commission at its discretion may waive the application fee.

(Amend. of 2-23-1982, § 32:01)

**32:02. Preparation of final subdivision plat.**

Based on the above-noted resolution, the applicant shall have a final subdivision plat approved. This may require correcting and completing the preliminary plat in final form or redrawing a new map. The final subdivision plat, except for any changes required by resolution, should be exactly the same as the approved preliminary plat. As applicable, the preliminary grading plan and construction plan shall also be completed in final form required by the resolution. The information shown on the grading plan and construction plans, if required, shall be considered as a part of the final subdivision plat. No visible changes, erasures, modifications, or revisions shall be made to the final plat, grading plan, or construction plan between the time of its printing and submittal to the commission.

32:021. *Section basis.* The subdivider may present subdivisions to the commission on a sectional basis, and proceed with the stipulation of these regulations. Final approval of a section shall not be given by the commission until preliminary approval has been given to the entire subdivision. The section limits are the choice of the subdivider but shall be approved in a concept by the planning commission. Thereafter the planning commission shall expect that the subdivision procedure will follow these limits in each and every operation from that point to the completion of the whole process. No change shall be made without the expressed approval of the commission and those only upon written order stipulating the revised agreement conditions to be upheld.

(Amend. of 2-23-1982, § 32:02)

**32:03. Review of final subdivision plat.**

After completion, the final subdivision plat and, if required, the final grading plan and construction plans, in accordance with the commission's resolution, with application for final approval, shall be submitted to the town engineer for review.

32:031. *Referral to planning commission.* After review by the town engineer, the final plat, grading plan, and construction plans and any other pertinent information shall be referred to the planning commission for their action.

32:032. *Resolution approving or disapproving final plat.* Within 65 days of the date of submittal to the town engineer, the planning commission will approve, modify and approve, or disapprove the final plat, with grading plan and construction plans as required, by resolution which will set forth in detail any condition to which the approval is subject or [to] reason for disapproval. Where the final plat is approved the date of the resolution shall constitute the date of final approval.

(Amend. of 2-23-1982, § 32:03)

**32:04. Posting performance bond.**

If the applicant has indicated his intention of posting a performance bond to insure the completion of all required improvements, the amount of the bond will be set by the planning commission in the above-noted resolution. The applicant must post a bond with the town engineer on a form to be furnished by, or approved by the commission prior to the approval and signing of the final plat and the filing thereof with the town clerk.

(Amend. of 2-23-1982, § 32:04)

**32:05. Certificate of insurance.**

Public liability coverage protecting the town against claims for which the subdivider is legally responsible in the amount of \$500,000.00 each person, \$500,000.00

each accident, liability, and \$100,000.00 property damage shall be filed with the town engineer prior to approval and signing of the final plat.  
(Amend. of 2-23-1982, § 32:05)

### **32:06. Signing of the plat.**

The planning commission will sign the plat after a signature by the health director or in his absence an authorized agent, where required, if it meets the requirements as set forth herein.

32:061. *When bond is posted.* A majority of the members of the planning commission are authorized to endorse approval on the plat after the bond has been posted and all of the conditions of the resolution have been met.

32:062. *When no bond is posted.* A majority of the planning commission are authorized to endorse approval on the plat after all conditions of the resolution have been satisfied and all improvements satisfactorily completed.

32:063. *Certificate by town engineer.* No approval shall be endorsed on a final plat until a signed certificate has been placed thereon by the town engineer that an approved bond has been posted or that all improvements have been satisfactorily completed.

(Amend. of 2-23-1982, § 32:06)

### **32:07. Plat void if revised after signature.**

No changes, erasures, modifications, or revisions shall be made in any subdivision plat after approval has been given by the commission and endorsed in writing on the plat. In the event that any subdivision plat, when recorded, contains any such change the plat shall be considered null and void, and the commission shall institute proceedings to have said plat stricken from the records of the town clerk.

(Amend. of 2-23-1982, § 32:07)

### **32:08. Filing plat with town clerk.**

One copy of the final subdivision plat, printed on a permanent material which is legally acceptable for filing with the town clerk shall be filed by the subdivider at his own expense in the office of the town clerk and any plan not so filed within 90 days following its approval by the planning commission or within 90 days of the date upon which plat is taken as approved by reason of the failure of the planning commission to act, shall become null and void. No such plat shall be recorded or filed by the town clerk or other officer authorized to record or file plans until its approval has been endorsed thereon by a majority of the planning commission and the filing or recording of a subdivision plat within such approval shall be void.

(Amend. of 2-23-1982, § 32:08)

## ARTICLE IV. REQUIRED IMPROVEMENTS AND AGREEMENTS

### 40:00. Improvements and performance bond.

40:01. *Completion of improvements or posting of subdivision bond.* Prior to the granting of final approval of a subdivision by the planning commission, the applicant shall complete to the satisfaction of the planning commission all improvements shown on the subdivision plan, site plan and/or grading plan and/or such improvements as are required by resolution by the planning commission. Said improvements shall include, but are not necessarily limited to, all streets, drains, public sanitary water and sewerage systems, public sidewalks, curbing, street and lot corner monuments, filling, excavation and grading, and construction or alteration of watercourses. In lieu of the construction of required improvements by the applicant prior to final subdivision approval, the planning commission may accept a suitable bond or other surety to secure to the town the satisfactory completion of the required improvements which remain uncompleted, said surety to be in form and content approved by the town corporation counsel and the planning commission, and in an amount approved by the planning commission. As a part of this surety, the planning commission may require that the applicant deposit with the treasurer of the Town of Berlin a sum of money not greater than ten percent of the total value of the proposed improvements, which funds may be drawn upon by the planning commission should the applicant fail, after 24 hours written or verbal notice, or without notice in an emergency as determined by the then acting chairman of the planning commission, to certain required improvements or to perform other work, the completion of which in the opinion of the planning commission, or in the case of emergency, its chairman, is necessary for the safety, health, protection and/or convenience of the Town of Berlin, the public at large, and/or affected property owners. Should the commission be required to draw upon the funds deposited with the town treasurer, the applicant shall restore these funds to the original balance within 15 days of receipt of notice. Should the applicant fail to restore these funds, the planning commission may recover these funds by the actions specified in section 40:03 of these regulations.

40:011. *Time of completion.* The performance bond shall cover each subdivision section with a 24-month completion date considered for each, unless otherwise specified by the commission, to be measured from the date of approval. Progress reports, as requested by the bonding agency, may be estimated by the town engineer, based on the time limit prescribed.

40:02. *Costs to be borne by the applicant.* All required improvements shall be made by the applicant, at his expense, without reimbursement by the town or any division therein.

40:03. *Failure to complete improvements.* For subdivisions for which no performance bond has been posted, if the improvements are not completed within the period specified by the planning commission in the resolution approving the plat, said resolution shall be deemed to be void, and the owner will be so notified by said commission. In those cases where a performance bond has been posted and required



improvements have not been installed within the term of such performance bond, or should the subdivider fail to maintain steady and timely progress towards completion of the required improvements, if in its opinion public health, safety or convenience is jeopardized, the planning commission may thereupon declare said bond to be in default and made demand on surety for the completion of the project or for the payment of whatever sum is necessary to complete the project.

40:04. *Release of bond.* As work progresses the amount of the bond may be reduced by the planning commission upon the recommendation of the town engineer. Any request for a bond reduction must be submitted in writing to the town engineer at least five working days prior to the next following commission meeting. In no case shall the amount of the bond be reduced to less than 25 percent of the original bond or \$5,000.00 whichever is greater, until the improvements have been accepted by the town and the warrantee deed dedicating the land to the Town of Berlin for highway purposes and/or other dedicated purposes has been placed on file with the town clerk. Where the original bond is less than \$5,000.00, no portion of the performance bond shall be released until acceptance of the improvements by the town.

40:05. *Issuance of certificate of occupancy.* The road which provides access and frontage to a residential lot shall be completed or an asphalt binder road surface shall be installed leading up to and along the frontage of the subject lot in accordance with the standards of these regulations prior to the issuance of a certificate of occupancy. (Amend. of 2-23-1982, § 40:00; Amend. of 7-22-1999, § 40:05)

#### **41:00. Inspection of improvements.**

41:01. *General inspection.* The planning commission will provide for the inspection of required improvements during construction to assure their satisfactory completion. If the town engineer, or other authorized inspector, finds upon inspection that any of the required improvements have not been constructed in accordance with the town construction standards and specifications and the approved construction plans, the applicant shall be responsible for completing said improvements. Whenever the cost of improvements is covered by a performance bond, the bonding company shall be severally and jointly liable for completing said improvements according to specifications.

41:02. *Inspection of stages of construction.* In order to facilitate inspection of required improvements during construction, the applicant shall notify the town engineer 24 hours in advance before he proceeds with each of the following stages of construction.

41:021. Before backfilling of underground drainage facilities.

42:022. Before backfilling of water and sewer facilities to be accepted by the Town of Berlin.

42:023. Before laying gravel subbase.

42:024. Before laying base course.

42:025. Before each paving course.

42:026. Before pouring concrete walks or curbs.

42:027. After completion of all improvements.

41:03. *Certificate of satisfactory completion.* The planning commission will not give final approval of required improvements, nor authorize release of performance bond, until the applicant's engineer has submitted a statement certifying the road and other required improvements have been constructed in accordance with the approved construction plan and profile.

41:04. *Failure of the commission to make inspection.* Failure of the commission to order or carry out inspection of required improvements during construction will not in any way relieve the applicant or the bonding company of their responsibilities to comply with these regulations.

41:05. *Maintenance period.* For a period of 18 months after acceptance of the improvements by the town, the subdivider shall be responsible for the repair or replacement of said improvements which have failed, settled or deteriorated due to improper construction or due to acts of the subdivider or his agents during or subsequent to construction. To insure compliance, the subdivider shall file with the commission, prior to acceptance of the improvements by the town, a maintenance bond, certified check or escrow agreement, as approved as to form and sureties by the town attorney in the amount of ten percent of the improvement costs; however, the commission may require a greater amount to be retained as a maintenance bond, if deemed in the public interest by the commission. It shall be the subdivider's responsibility to insure that individual property owners or their agents, who may have purchased property within the subdivision, do not cause damage to the improvements during the maintenance period. If damage is caused it shall be the responsibility of the subdivider to make necessary repairs or to offer conclusive evidence that the damage was caused by others.  
(Amend. of 2-23-1982, § 41:00)

#### **42:00. Utilities.**

Trenches, mains, etc., section 3:02, Town of Berlin Design and Construction Standards and Specifications applies.  
(Amend. of 2-23-1982, § 42:00)

#### **43:00. Future status of roads, parks and easements.**

43:01. *Offers of conveyance.* Approval of a final subdivision plat shall not constitute acceptance by the town of any street. However the filing of such final plat with the town clerk shall constitute an offer of dedication to the town for acceptance as a street of any land shown as a street, on said plan. Said offer of dedication shall be binding upon the owner of said land, his heirs, successors and assigns and may be altered or released only upon approval of the commission. The same shall hold true for dedication of land for easements, open space or other public use.

43:02. *Necessary submittals.* Following completion of required improvements, the subdivider shall submit, at least five working days before the next scheduled meeting of the planning commission, the following for review by the town engineer and approval by the planning commission.

43:021. Deed description and conveyance maps for all offered or required streets, parks, open space and easements.

43:022. Properly completed waiver of mechanics lien on a form approved by the corporation counsel.

43:023. Maintenance bond, if required.

43:024. As-built construction plans.

43:03. *Acceptance by the public.* After review and approval of the submittals required above, the planning commission shall request that the executive board [town council] authorize acceptance of the offered or required streets or other public areas by town meeting to be scheduled as the executive board [town council] may direct. (Amend. of 2-23-1982, § 43:00)

#### **44:01. Authority-waiver of required improvements.**

The planning commission may waive, subject to appropriate conditions, the provisions of these regulations for any or all improvements as, in the judgment of the special circumstances of a particular plat, are inappropriate because of inadequacy or lack of connecting facilities, topography or other features of the land being subdivided. No waiver shall be granted that will have a significant adverse affect on adjacent property or on public health and safety. Such adjustment will not have the effect of nullifying the intent and purpose of these regulations, the town master plan, or the official map of the town. In granting any adjustment, the planning commission shall attach such conditions as are, in its judgment, necessary to secure substantially the objectives of the standards or requirements so adjusted.

(Amend. of 2-23-1982, § 44:01)

### **ARTICLE V. STANDARDS FOR SUBDIVISION AND RESUBDIVISION DESIGN**

#### **50:00. General.**

50:01. *Character of land.* The land to be subdivided or resubdivided shall be of such character that it can be used for building purposes without danger to health or the public safety.

50:02. *Conformance to master plan or official map.* The plat shall include all streets shown on the master plan or official map that fall within the site, and any other streets that the planning commission may require.

50:03. *Frontage on improved streets.* The area to be subdivided shall have sufficient frontage on an existing publicly travelled town or state highway as required by the zoning regulations. If such existing publicly travelled highways have not been improved to the standards and specifications for subdivision development which are a part of this regulation, the commission may require the developer to make certain improvements where necessary for drainage, safety, traffic or other reasons as deemed proper by the commission. For the purposes of this regulation, streets laid out but not improved, the so-called "paper street" and "ancient highways," shall not be considered as existing highways. Where these streets are incorporated into subdivisions they shall be improved by the developer to the town standards and specifications for subdivision development.

50:04. *Monuments.* Monuments shall be of the type furnished by the town and paid for by the developer who shall place them in accordance with section 13-51 of the General Statutes which reads in part "such highway or street shall be marked or defined in the following manner: at the beginning and termination by stone bounds on each side a stone bound at each angle or deflections between the beginning and termination." Monuments shall be spaced so as to be within sight of each other, the sight lines being contained wholly within the street limits and shall be not more than 500 feet apart. Monuments shall be set three inches above finished grade of centerline of road.

50:05. *Lot corners to be pinned.* All lot corners, angles and, where not located on street lines, the beginning and end of curves shall be identified with suitable galvanized iron or steel pipes or pins of at least 30 inches in length and three-fourths-inch diameter. Pipes or pins will be set by a licensed land surveyor.  
(Amend. of 2-23-1982, § 50:00)

## **51:00. Streets.**

51:01. *Relation to topography.* Streets shall be related appropriately to the topography, and all streets shall be arranged so as to obtain as many building sites as possible at or above the grade of the street. Grades of the streets shall conform as closely as possible to the original topography. A combination of steep grades and curves shall be avoided.

51:02. *Block size.* Block dimensions shall be at least twice the minimum lot depth and generally not more than 12 times the minimum lot width required in the zoning district. In long blocks the planning commission may require the reservation of a 20-foot or greater width easement through the block to accommodate utilities or pedestrian traffic.

51:03. *Intersections.* Intersections of street lines shall be at an angle as close to 90 degrees as possible.

51:04. *Continuation of streets into adjacent property.* The arrangement of streets shall provide for the continuation of principal streets between adjacent properties where such continuation is necessary for convenient movement of traffic, effective fire protection, or efficient provisions of utilities, and where such continuation is in accordance with the town plan. If the adjacent property is undeveloped, and the street must be a dead-end street temporarily, the right-of-way shall be extended to the property line. A temporary circular turnaround shall be provided on all temporary dead-end streets, with notation on the plat that land outside the normal street right-of-way shall revert to the abutters whenever the street is continued. The planning commission may limit the length of temporary dead-end streets. The commission may require dedication of rights-of-way for other future streets to adjoining properties as deemed necessary by the commission.

51:05. *Permanent dead-end streets.* When a street does not extend to the boundary of the subdivision and its continuation is not necessary for access to adjoining property, its terminus shall normally not be nearer to such boundary than 100 feet or the minimum lot depth, whichever is greater. Reserved strips of land shall not be left between the end of a proposed street and an adjacent piece of property. However, the planning commission may require the reservation of a 20-foot or greater width easement to accommodate emergency vehicles, pedestrian traffic or utilities. A circular turnaround shall be provided at the end of a permanent dead-end street.

51:06. *Street names.* All roads shall be named and such names shall be subject to the approval of the planning commission. Names shall be sufficiently different in sound and spelling from other road names in the town so as not to cause confusion. A road which is a continuation of another road shall bear the same name. In general, street names shall conform to the following classifications: Street, avenue, or road ó Major or Collector Street; Drive or lane ó local residential street (except as follows); Court or place, dead-end street (permanent); Circle ó a street, both ends of which intersect street at different locations.

51:07. *Location, width, and improvement of streets.* Streets shall be suitably located, of sufficient width, and adequately improved, to accommodate the prospective traffic, and to afford satisfactory access to police, firefighting, snow removal, or other road maintenance equipment, and shall be coordinated so as to compose a convenient system. The location, arrangement, or design of streets shall be such as to cause no undue hardship to adjoining properties.

51:08. *Posting of signs.*

51:081. *Street signs.* Prior to the issuance of a building permit on a new street created in accordance with the town's subdivision regulations, a street sign shall be installed that identifies the name of the new street at all intersections, in accordance with the requirements of section 52:031.

51:082. *Addresses.* Prior to the issuance of a building permit for all new dwelling units, the builder shall post a sign that shows the numerical house address for the building to be constructed. The numbers posted on the sign shall be a minimum 9 inches high and the sign may be temporary in nature, but be posted at a point that is clearly visible from the street.

(Amend. of 2-23-1982, § 51:00, Amend of 8-23-2001(1))

## **52:00. Improvements.**

All improvements shall be constructed in accordance with the Town of Berlin Design and Construction Specifications and Standards (town standards), and specific plans approved by the planning commission and the town engineer. All work related to the subdivision shall be performed so as to avoid hazard, damage or inconvenience to the public, and adjoining property owners. Adequate measures, as approved by the town engineer, shall be provided for the control of siltation and erosion, surface water, dust, noise and traffic. The commission may require that the hours of operation of the construction activities be limited to avoid public inconvenience. Work during other than the normal working hours of the town will only be performed with approval by the town engineer. All work in existing streets shall comply with the provisions of an ordinance concerning public rights-of-way.

52:01. *Street improvements.* Streets shall be graded and improved with pavement, sidewalks where required, curbs, gutters, aprons, guardrails, fences, signs, street lights, and storm drains.

52:02. *Drainage improvements.* The developer may be required by the planning commission to carry away by pipe or open ditch any spring or subsurface water that may exist either previous to, or as a result of the subdivision. Such drainage facility shall be located in the road right-of-way where feasible, or in perpetual unobstructed easements of appropriate width. A culvert or other drainage facility shall, in each case, be large enough to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the subdivision. The town engineer shall approve of the size of the facility, based on anticipated runoff from a 100-year storm under conditions of total potential watershed development. The town engineer may require that the subdivider provide, prior to approval of the subdivision, an acceptable drainage basin study by a professional engineer, with drainage expertise, including the effect of each subdivisions on existing downstream drainage facilities outside the area of the subdivision. The drainage study will also analyze the need for a net zero increase in stormwater runoff unless the town engineer concludes that said design will result in increasing the normal peak in stormwater runoff and that this increase will be detrimental to properties within the watershed. Where it is anticipated that the additional runoff incident to the development of the subdivision will overload an existing downstream drainage facility during a 100-year storm, the planning commission shall notify the executive board [town council] or other appropriate owners of downstream property of

such potential conditions. In such cases, the planning commission may withhold approval of the subdivision until provision has been made for the improvement of said potential condition. The commission may require the installation of a stormwater management system which could include both detention and retention systems, which will restrict discharges of storm water from the subdivision to no more than the flows existing prior to development.

(Amend. of 7-13-1993, § 52:02)

52:021. A street storm sewer or drainage system shall be installed and extended to the nearest town storm sewer or to the nearest natural drainage outlet all in accordance with these and any other town regulations and as approved by the town engineer.

52:022. Open drainage systems, including retention ponds, detention ponds, culverts, drainage swales, or impounded water courses shall be visually screened from view from adjacent properties and public rights-of-way. (Also see Section II, Storm Sewer Design, 2:07 of the Subdivision Regulations.)

52:03. *Other improvements.*

52:031. *Signs and traffic control devices.* Standard town street signs shall be provided by the town and paid for by the developer who shall place them at all intersections in locations within the right-of-way as approved by the town engineer. Traffic control signs and traffic control devices shall be provided and installed by the subdivider as and where required. The type, quantity, specifications and location of all traffic control signs and devices on existing or proposed town streets shall be determined by the Berlin Police Department, and on state highways by the State of Connecticut traffic authority.

52:032. *Sanitary sewers, water mains and fire hydrants.* When required by the planning commission, the subdivider shall install sanitary sewers, and/or water mains and fire hydrants of a type and in a manner prescribed by the regulations of the appropriate sewer, water, or fire district or other municipal agency having jurisdiction.

52:033. *Underground utilities.* Unless excused by the planning commission all utilities shall be installed underground to depths required by the town engineer. The subdivider shall install underground service connections for each utility to the property line of each lot before the street is paved except those prohibited by law.

52:034. *Sidewalks.* Unless otherwise excepted below, the subdivider shall install sidewalks along existing and proposed road frontage in all R-7 through R-21 residence zones; in all residential zones within one mile of an existing

school or site purchased for school purposes; and in all business, commercial or industrial zones where required by the commission. As deemed necessary and proper by the commission the following exceptions to the above may be granted: in residential zones sidewalks may not be required on proposed streets if: a) There are no public sidewalks within 500 feet, and b) The total number of lots within the subdivision of the entire property, as shown on the sketch map of the property (see section 30.03) and as determined by the commission, consists of less than 15 lots. Sidewalks may not be required on an existing street in residential zones if: a) There are no existing public sidewalks within 500 feet on the same side of the street, and b) There are less than four lots, within the subdivision of the entire property, proposed on the street. Where required, sidewalks shall be installed within six months of the issuance of a certificate of occupancy for the construction of a new residential building.

(Amend. of 2-23-1982, § 52:034; Amend. of 7-22-1999, § 52:034)

52:035. *Street lights.* Where required by the planning commission, the subdivider shall install street lights in accordance with power company standards and procedures, approved by the town engineer. All costs of installation shall be paid by the subdivider.

52:036. *Street trees.* On all (local residential) streets constructed subsequent to the adoption of this regulation, the subdivider shall install street trees on both sides of the street in accordance with the following standards:

- a. Tree species shall be selected only from the following list:

**LARGE TREES**

Quercus palustris	Pin Oak
Acer platinoides	Norway Maple
Acer rubrum	Red Maple
Platanus x acerifolia	London Plane
Gleditsia triacanthos var. Inermis	Thornless Honey Locust
Tilla Cordata	Littleleaf Linden
Zelkova serrata	Japanese Zelkova

**MEDIUM TREES**

Celtis occidentalis	Columnar European Beech
Fraxinus pennsylvanica	Hackberry
Var. lanceolata	Marshall's Seedless
Carpinus betulus	Green Ash
	European Hornbeam



## SMALL TREES

Mallus sp.	Flowering Crabapples
Carpinus Caroliniana	American Hornbeam
Crataegus sp.	Hawthorns

- b. All trees shall be planted a minimum of four feet on center from the back of the sidewalk as illustrated by this section.
- c. All trees shall be nursery stock, balled and burlapped, and shall be a minimum of 2 ½ inches in caliper.
- d. Small trees shall be planted 25 feet on center and medium and large trees shall be planted 35 feet on center.
- e. No trees shall be planted within 35 feet of any intersection nor within 15 feet of any property corner.
- f. Smaller trees shall be planted near intersections. Large and medium trees shall be planted between intersections.
- g. Sharp contrasts between species shall be avoided. Species should be selected to provide repetition, balance, and subtle changes in the streetscape.
- h. All species and planting locations shall be listed and shown on the site plan.
- i. A minimum of six species of trees shall be selected and shall be noted on the subdivision plan.

(Amend. of 2-23-1982, § 52:036; Amend. of 10-12-1993, § 52:036)

(See Illustration 1)

52:037. *Miscellaneous other improvements.* The subdivider shall install all other required improvements to standards approved by the town engineer. Such improvements include, but are not necessarily limited to: retaining walls, fences, guardrails, slope paving, rip rap, loam, fertilizer and other soil conditioners, trees, shrubs, lawns and other ground cover.

52:038. *Fire protection.* Fire hydrants shall be required where public water is available or required. Fire hydrants shall be located no more than 600 feet apart in a design approved by the appropriate water district, and a minimum of ten feet from any driveway apron. In subdivisions where public water is not available, an alternative and adequate supply of water for fire control shall be provided. Alternative fire control systems may include a pond or cistern with dry hydrant connections. The design shall be reviewed by the fire marshal. The planning commission, upon consultation with the fire marshal, may waive the requirement for providing an alternative supply of water for fire control for subdivisions with five lots or fewer if it finds that public safety will not be compromised. The commission may require [an] interior hydrant when the structure is more than 600 feet of travelway from [the] nearest hydrant located within the public right-of-way.

(Amend. of 2-23-1982, § 52:00; Amend. of 10-10-1995, § 52:037)

**53:00. Lots.**

53:01. *Lot arrangement.* The lot arrangement shall be such that there will be no foreseeable difficulties for reasons of topography or other conditions, in securing building permits to building on all lots in compliance with the zoning regulations, and in providing driveway access to buildings on such lots from an approved street.

53:02. *Access across a watercourse.* Where a watercourse separates the buildable area of a lot from the street by which it has access, provisions shall be made for the installation of a culvert or other structure of a design approved by the town engineer and the Inland Wetlands Agency.

53:03. *Lot dimensions.* Lot dimensions shall comply with the minimum standards of the zoning regulations. The planning commission may require that lots be arranged so as to follow further subdivision and the opening of future streets where they would be necessary to serve potential lots, all in compliance with the zoning regulations. Lots may have to be increased in size as necessary to provide for adequate water supply and sewage disposal systems as required by the health director and the Connecticut Department of Health. Lots may have to be increased in size as necessary to provide a suitable building lot that protects the natural topography. Each potential building lot shall be of a size and configuration that it can contain somewhere on the lot a square that contains no land with an average slope greater than 35 percent, as measured over the distance of 50 feet, and be of the size required in the following chart:

**Zone Minimum Dimension**

- R-7 Single Family = Conventional 40ø/ Open Space N/A
- R-7 Two Family = Conventional 50ø/ Open Space N/A
- R-11 = Conventional 50ø/ Open Space N/A
- R-15 = Conventional 68ø/ Open Space N/A
- R-21 = Conventional 72ø/ Open Space 50ø\*
- R-43 = Conventional 81ø/ Open Space 60ø\*
- R-86 = Conventional 135ø/ Open Space 70ø\*
- MR-1/2 = Conventional Single Family 99ø/ Open Space N/A

\*Due to the flexibility of the lot sizes in Open Space Subdivisions, the minimum buildable square may be reduced in the rare occasion that the square cannot be met within the setbacks. However, the applicant and the Commission should keep in mind that the purpose of the Open Space Subdivision is to protect sensitive land areas, and therefore the applicant should try harder to pursue the Building Square.

(Amend. of 5-12-16, §53:03)

53:04. *Side lot lines.* Side lot lines shall be right angles to street lines (or radial to curved street lines) unless a variation from this rule will give a better street or lot plan.

53:05. *Corner lots.* Dimensions of corner lots shall be large enough to allow for erection of buildings, observing the minimum front yard setback from both streets.

53:06. *Lot grading.* Lots shall be graded so as to provide an approximately level rear yard for a distance of at least 30 feet from the house. Drainage swales shall be provided at side and rear lot lines, leading to the surface and/or subsurface drainage system as required by the planning commission. Driveways shall be graded at a minimum of one percent and a maximum of 15 percent. Yards shall have a minimum grade of one percent and a maximum grade of 50 percent (1:2 slope). A lot with overall grade greater than 15 percent as measured from any opposite boundaries shall be considered unbuildable and thus not acceptable as a building lot.

53:07. *Driveways.* All driveways for rear lots and where the house is to be located more than 150 feet from the road shall be designed to accommodate fire apparatus with a 43-foot turning radius and shall have a minimum width of 18 feet. (Amend. of 2-23-1982, § 53:00; Amend. of 10-10-1995, § 53:07)

53.08. *Buildings.* The Commission may require that buildings be designed and located so as to minimize the disturbance of environmental features including ridgelines, steep slopes, ledge rock, regulated wetland areas, floodplains, open spaces, and other natural areas.

#### **54:00. Reservation for open spaces, parks and playgrounds.**

54:01. *Purpose.* It is the purpose of this section to:

- 1) Maintain and enhance the conservation of natural and scenic resources;
- 2) Protect natural streams or water supply;
- 3) Promote conservation of soils and wetlands;
- 4) Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open spaces;
- 5) Enhance public recreation opportunities;
- 6) Promote orderly development; and
- 7) Protect ridgelines.

(Amend. of 2-23-1982, § 54:01; Amend. of 8-22-1995, § 54:01)

54:02. *General.* The commission shall require the dedication of open space and/or land for recreation in locations and with public access deemed proper and adequate by the commission, for subdivisions not developed as open space subdivision or design open space developments in accordance with section V.A.8 of the Berlin Zoning regulations.

54:03. *Standards.*

54:031. In all residential zones, the commission may require dedication of open space and/or recreational land in an amount not exceeding ten percent of the gross land area of the subdivision. Such land shall be of a suitable size,

dimension, topography and general character, and have adequate road access, for the particular purpose envisioned by the commission.

(Amend. of 2-23-1982, § 54:03; Amend. of 8-22-1995, § 54:03, Amend. of 9-11-2003 §54.031)

54:032. At the discretion of the commission, up to 50 percent of the open space/recreational land dedication may be land covered by water, or designated as inland wetlands.

(Amend. of 2-23-1982, § 54:03; Amend. of 8-22-1995, § 54:03)

54:033. The commission may waive the requirements for the dedication of open space for any subdivision creating four or less building lots and being less than six times the area of the minimum sized lot within the underlying zone; or having an overall area less than two and one half acres.

(Amend. of 2-23-1982, § 54:03; Amend. of 8-22-1995, § 54:03)

54:04. *Recreational sites.* Land reserved for recreational purposes shall be of a character and location suitable for use as a playground, playfield or other recreational purpose, and shall be relatively level and dry. The commission may require sufficient grading, loaming and seeding of the site so that it is useable for the purposes intended. The commission may require that the recreational land area be located at a suitable place on the edge of the subdivision so that additional land may be added at such time as the adjacent land is subdivided.

(Amend. of 8-22-1995, § 54:04)

54:05. *Conveyance of open space.* The open space area shall be conveyed by the applicant at the stage and in the condition agreed upon in the approved subdivision and may be conveyed by any of the following means as determined by the commission:

- (a) Deeded in perpetuity to the town at the time of or before the filing of the subdivision plat with the town clerk.
- (b) Deeded to a homeowner's association within the subdivision upon terms and conditions, as approved by the commission, which will protect the public welfare and assure the continued use of the open space for the intended purpose. A copy of the proposed homeowner's association deed and the bylaws of the homeowner's association should be submitted with the application for subdivision.
- (c) Reserved for common ownership of all property owners within the subdivision by covenants, as approved by the commission in the deeds. A copy of the covenant shall be submitted as a part of the application.
- (d) Deeded in perpetuity to a nonprofit land conservation trust. The deed or covenant shall warrant that such land is dedicated for use only as open space in perpetuity.

(Amend. of 8-22-1995, § 54:05)

54:06. *Fees in lieu of dedication.* In accordance with section 8-25 of the Connecticut General Statutes, the commission may permit the applicant to pay a fee to

the municipality, or pay a fee to the municipality and transfer land to the municipality, in lieu of the requirements to reserve and dedicate open space or land for recreation as set forth in sections 54:02, 54:03, 54:04 and 54:05 of these regulations.

(Amend. of 2-23-1982, § 54:00; Amend. of 8-22-1995, § 54:06)

54:07. *Conservation easements.*

54:071. The commission may require the imposition of conservation easements, on land within lots to be created, in a form and manner prescribed by the commission, to be established on areas of land that they determine should remain in their natural state or otherwise preserved. Land preserved within conservation easements shall not be counted towards the open space dedication required by section 54:031 of these regulations.

54:072. Before any activity authorized by the approval of the application for subdivision is commenced, the developer shall install Conservation Easement Area boundary identification markers. Such markers shall consist of four inch by four inch pressure treated wood posts four feet above ground level in height set in concrete, labeled with a metal marker containing the words "Conservation Easement Area Boundary." The metal markers shall be of a size, color and type approved by the Commission. Boundary markers shall be permanently installed at all major angles along the boundary of the Conservation Easement Area, at the intersections of the boundary of the Conservation Easement Area and lot boundary lines, and at intervals of no more than 100 feet. The Commission may approve an alternative means of demarcation of the conservation easement area, if it determines it appropriate for the site.

(Amend. of 6-13-2002, eff. 6-21-2002)

54:072. Before any activity authorized by the approval of the application for subdivision is commenced, the developer shall install conservation easement are boundary identification markers. Such markers shall consist of four-inch by four-inch pressure treated wood posts four feet above ground level in height set in concrete, labeled with a metal marker containing the words "Conservation Easement Area Boundary." The metal markers shall be of a size, color and type approved by the commission. Boundary markers shall be permanently installed at all major angles along the boundary of the conservation easement area, at the intersections of the boundary of the conservation easement area and lot boundary lines, and at intervals of no more than 100 feet. The commission may approve an alternative means of demarcation of the conservation easement area, if it determines it appropriate for the site.

(Amend. of 6-13-2002, eff. 6-21-2002)

**55:00. Other reservations.**

55:01. *Frontage on existing roads.* The street line and setback lines for subdivisions abutting existing streets shall comply with sections 2.11 and 11.05 of the zoning regulations. Where the subdivisions abuts an existing narrow road, or when the official map or master plan indicates plans for realignment or widening of a road that would require reservation of some land in a subdivision, the subdivider may be required to show areas for widening or realigning such roads on the plat, marked "Reserved for Road Re-Alignment or Widening Purposes." Land reserved for road widening may not be counted in satisfying the minimum front yard requirements of the zoning regulations.

55:02. *Utility and drainage easements.* Where topography or other conditions are such as to make impractical the inclusion of utilities or drainage facilities within the road right-of-way, perpetual unobstructed easements at least 20 feet in width for such utilities or drainage facilities shall be provided across property outside the road lines and with satisfactory access to the road. Easements shall be delineated on the plat. Drainage easements shall be carried from the road to a natural watercourse or other drainage facilities. When a proposed drainage system will carry water across private land outside the subdivision, appropriate drainage rights must be secured and delineated on the plat.

55:03. *Easements for access.* The planning commission may require in order to facilitate public or emergency access from roads to schools, parks, playgrounds, other open space, or other nearby roads or rights-of-way, perpetual unobstructed easements at least 20 feet in width. Easements shall be delineated on the plat.  
(Amend. of 2-23-1982, § 55:00)

**56:00. Responsibility for ownership of reservation.**

56:01. *Responsibility.* In any case where the title to a reservation is not offered for dedication to the town, the ownership shall be clearly established in a manner satisfactory to the planning commission to insure continued maintenance and responsibility for such reservation.  
(Amend. of 2-23-1982, § 56:00)

**57:00. Miscellaneous.**

57:01. *Preservation of existing features.* Existing features which would be of benefit to the neighborhood or to the town as a whole, such as trees, significant wetlands, watercourses and water falls, historic sites, and similar irreplaceable assets, shall be preserved, insofar as is possible, through harmonious design of the subdivision. The commission may require preservation and conveyance to the town of such features with sufficient surrounding land.

57:02. *Imposed restrictions.* If the owner places restrictions on any of the land contained in the subdivision greater than those required by the zoning regulations, such

restrictions shall be indicated on the plat and subject to approval by the planning commission.

57:03. *Subdivisions including land zoned for business and industry.* If a proposed subdivision includes land that is zoned for business or industrial purposes, the layout of the subdivision with respect to such land shall make such provision as the planning commission may require for safe and convenient access to such vehicle parking and unloading and loading space as may be required by the zoning regulations, or otherwise for safe and convenient service access to such land.

57:04. *Subdivisions in areas subject to flooding.* In all areas of special flood hazards as shown on the official flood insurance rate map and the floodway map:

- A. All subdivision proposals shall be consistent with the need to minimize flood damage, and in conformance with the town ordinance entitled: "An Ordinance Establishing Floodplain Management Regulations for Special Flood Hazard Areas in the Town of Berlin, Connecticut."
- B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.
- D. Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least 50 lots or five acres (whichever is less).
- E. Obstruction of floodways with buildings or other structures, or by significant filling is contrary to the best interests of the community and therefore prohibited.
- F. All development within the limits of special flood hazard zones are subject to regulation and approval by the Inland Wetlands Agency.

57:05. *Solar access.* The subdivider shall consider in developing the subdivision plat the use of solar energy techniques which would not significantly increase the cost of the housing to the buyer after tax credits, subsidies and exemptions. Passive solar energy techniques mean site design techniques which maximize solar heat gain, minimize heat loss and provide thermal storage within a building during the heating season and minimize heat gain and provide for natural ventilation during the cooling seasons. The site design techniques to be considered include, but are not necessarily limited to, the following:

- A. House orientation;
- B. Street and lot layout;
- C. Vegetation;
- D. Natural and manmade topographic features; and
- E. Protection of solar access within the development.

57:051. *Solar access plan.* Prior to obtaining preliminary subdivision approval, the subdivider shall prepare a solar access plan showing in sufficient detail site design techniques proposed. The solar access plan shall be at the same

scale as the subdivision plat, and where a grading plan is required, the solar access data may be shown on the grading plan.

- 57:052. *Solar access guidelines.* The planning commission has developed guidelines to assist the subdivider in his consideration of solar energy techniques. These guidelines are incorporated in section V of the town standards, to which the subdivider is referred.
- 57:06. *Groundwater protection.* The commission may require that restrictions be placed upon the property for land wholly or partly within a designated aquifer protection zone. Such restrictions may include the prohibition of the discharge of substance and materials which are potential groundwater contaminants. The planning commission may require that the restrictions be enforced by restrictive covenants in a manner and form approved by the commission.
- 57:07. *Technical and Legal Assistance.* The Town of Berlin Planning and Zoning Commission may require additional assistance (including but not limited to Engineering and Legal assistance) in evaluating an application submitted in accordance with these regulations if it finds that the nature and intensity of development may have a significant impact on the site and its surrounding areas and that the Town staff will not be able to complete its review of an application in the time period prescribed by State Statute.

The expense of the additional assistance shall be estimated by the Planning and Zoning Commission, based on a preliminary estimate prepared by a qualified party or expert, and the estimated cost of reviewing the application times one hundred-fifty percent (150%) shall be paid by the applicant and deposited with the Commission or its designated agent. Such deposit shall be made prior to review of the application and/or submission.

Upon completion of the review and final action by the Planning and Zoning Commission on the application, the Town shall determine the costs incurred for the review and refund the excess monies to the applicant. Applicants shall not be responsible for costs incurred for assistance which exceed one hundred-fifty percent (150%) of the Commission's estimate.

(Amend. of 2-23-1982, § 57:00; Amend. of 10-10-1995, § 57:06; Amend. of 6-28-2007, § 57:07)

## **ARTICLE VI. ITEMS TO BE SHOWN ON MAPS**

### **62:01. Sketch layout.**

The sketch layout may be prepared in pen or pencil, shall be drawn to a convenient scale, not less than one inch equals 100 feet, and shall show the following information:



- A. Title of proposed subdivision, graphic scale, north arrow, date, and property owner's name.
  - B. Location of property lines, existing easements, railroad rights-of-way, and watercourses. Location, width, and names of all existing or platted streets or other public ways within or immediately adjacent to the tract.
  - C. Location and sizes of existing sewers, water mains, culverts and other underground structures within the tract and immediately adjacent thereto. Existing permanent buildings and utility poles on or immediately adjacent to the site.
  - D. Location and width of proposed streets.
  - E. Proposed lot lines with approximate lot dimensions and areas.
  - F. Preliminary provisions for collecting and discharging storm drainage, disposal of sanitary sewage, and distribution of water.
  - G. All parcels of land intended to be dedicated for public use or reserved in the deeds for the use of property owners in the proposed subdivision, with designation of the purpose thereof.
  - H. Existing grades, from available topographic maps.
  - I. Preliminary finished grades of each proposed street.
  - J. The entire adjacent property holdings of the applicant together with its probable street system.
  - K. The sketch map of surrounding area, drawn to a convenient scale of not less than one inch equals 800 feet, showing the following information:
    - 1. Graphic scale and north arrow.
    - 2. All roads and properties within 1,000 feet radially of the applicant's property. All properties held by the applicant in the area shall be identified.
    - 3. All pertinent features such as railroads, water bodies, streams, wetlands and flood zones.
    - 4. Boundary lines between zoning districts.
  - L. If individual sewage disposal systems are to be used, the subdivision sewage disposal report and the soil test report shall be submitted with the sketch layout.
- (Amend. of 2-23-1982, § 62:01)

**62:02. Preliminary plat.**

The preliminary plat shall be prepared by a licensed engineer or land surveyor at a convenient scale not less than one inch equals 40 feet; two prints in black and white shall be submitted, and the sheets shall not be larger than 24 inches by 36 inches. The preliminary plat should show the following:

- A. The location of the property with respect to surrounding property and streets. The names of all adjoining property owners of record, or the names of adjoining developments, [and] the names of adjoining streets.
- B. The location and dimensions of all boundary lines of the property.
- C. The location of existing streets and sewers, drains, water mains, easements, water bodies, and other pertinent features such as inland wetlands, watercourses, flood

hazard zones, railroads, buildings, and outstanding trees, ledge outcropping or other natural features that may influence the design of the subdivision.

- D. The location, width and dimension of all proposed streets, including proposed names submitted for approval, water and sewerage systems and easements for same, and all walks, curbs, guardrails, fences, street lights, and other improvements proposed.
- E. The locations, dimensions, and areas of all proposed or existing lots, which lots shall be numbered as directed by the Berlin Assessor.
- F. The location and dimensions of all property proposed to be set aside for park or playground use, or other public or private reservation, with designation of the purpose thereof.
- G. The name of the owner or owners of land to be subdivided, the name of the subdivider, if other than the owner, and the name of the engineer or land surveyor.
- H. The date of the map, approximate true north point, scale, and title of the subdivision.
- I. Sufficient data acceptable to the town engineer to determine readily the location, bearing, and length of all property lines and street lines. Where curve data applies, the following information shall be given based upon the arc definition of curve:
  - 1. Central angle, in degrees, minutes and seconds.
  - 2. Radius, in feet and hundredths.
  - 3. Length, in feet and hundredths.
  - 4. Tangent distances, in feet and hundredths.

No plus or minus distances are wanted. An assignment of position, whether a stream or other so called indeterminate location is involved, shall be made and tied into the survey, computed, and noted as accurately as any other data appearing on the map. The whole survey shall have an error of closure of 1:5,000 or better (in certain instances the town engineer may require a higher degree of accuracy, this will be discussed at the initial conference). The survey shall then be balanced and coordinated. Where required by the town engineer all survey data shall be referenced to monuments included in the State of Connecticut system of plan coordinates and elevations (CGS Datum) and in any event should be tied to reference points previously established by public authority, where available.

- J. Location of all proposed monuments.
- K. The following notations shall be shown on the preliminary plat:
  - 1. General notes (required where applicable):
    - a. All lot corners to be pinned.
    - b. Subdivider to retain necessary rights, and shall grade lots, and construct drainage courses and drainage swales as required, and (if applicable) in accordance with approved grading plan entitled: \_\_\_\_\_, which grading plan is a part of the approved subdivision plan. All side and rear lot lines to be swaled.
    - c. Each lot owner shall maintain drainage courses and swales so as not to obstruct or divert the flow of water.

- d. Subdivider to provide sufficient sedimentation and erosion control as required by the town engineer.
  - e. (If applicable) All utilities to be buried.
  - f. (If applicable, areas within flood hazard zones, or otherwise subject to flooding) Minimum basement elevation \_\_\_\_\_. No openings in foundation below elevation \_\_\_\_\_. Elevations below \_\_\_\_\_ are subject to flooding.
  - g. Elevations are CGS Datum (or assumed, if CGS Datum unavailable).
  - h. Connections to storm drains to be approved by town engineer before installation.
  - i. Other special notes as required.
2. Endorsement form:
- a. A block, for the purpose of endorsement by the planning commission, shall be placed in a suitable location on the plat. The statement "approved for planning commission" at the top and five blank lines for the signature of the commission members; the top line being labeled "chairman" and a black line labeled "date" at the bottom of the block.
  - b. A block for the purpose of endorsement by the health director shall be placed in a suitable location on the plat. The statement "approved by the health director" at the top and one black line for his signature, and one black line for the date.
3. Certification form. The plat shall be certified to and the class survey (A-2 or better) shall appear in the certification statement. The plat shall be signed by the land surveyor or civil engineer and land surveyor, and the appropriate seal or seals affixed thereto.

(Amend. of 2-23-1982, § 62:02)

**62:03. Grading plan.**

Where required by the planning commission, the subdivider shall have prepared by a licensed civil engineer and land surveyor, at the same scale as the subdivision plat, a grading plan of the area to be subdivided showing existing land features and elevations with two-foot contour intervals and the proposed road and site grading, including subsurface and surface drainage. Proposed surface finished grades are to be shown by two-foot interval contours and/or sufficient spot elevations to adequately define the finished surface. The grading plan shall show the limits of, and all proposed alterations to, existing wetlands areas and flood hazard zones.

(Amend. of 2-23-1982, § 62:03)

**62:04. Solar access plan.**

The subdivider shall have prepared a solar access plan, at the same scale of the subdivision plat, which plan shall show the following:

- A. Layout of existing and proposed streets, easements, and other public areas.
- B. Setback lines.

- C. Location of existing and proposed principal structures. Where details of proposed dwellings are unknown, a 24-foot by 40-foot structure shall be shown.
- D. Solar access setback (shadow projections) within 45 degrees of the south side of each proposed principal structure for December 21 from 8:43 a.m. to 3:17 p.m. at 41 degrees 30 minutes north latitude.
- E. Existing and proposed grades within the subdivision area, sufficient to determine shadow projections for minimum building heights of 20 feet.
- F. Limits of existing treed areas and limits of areas of tree removal and/or pruning necessary to provide effective use of solar energy techniques based on assumed mature tree heights of 50 feet.
- G. Location of private sewage disposal systems.
- H. True and magnetic north points.

Where a grading plan is required, the subdivider may include the above solar energy information on the grading plan.

(Amend. of 2-23-1982, § 62:04)

### **62:05. Construction plans.**

62:051. *Preliminary construction plans.* Preliminary construction plans shall show:

- 1. Preliminary plan and profile of roads, sidewalks, storm drainage facilities, and sanitary sewers.
- 2. Preliminary layout of water system.
- 3. Preliminary layout of any special facilities which might be required to make area(s) suitable for individual sewage disposal systems.

62:052. *Construction plans.* Construction plan and profiles, prepared and/or approved by a licensed civil engineer, shall be prepared for all required improvements. Plans shall be drawn at a scale no less than one inch equals 40 feet, and map sheets shall be on 24-inch by 36-inch sheets. The following shall be shown:

- A. Profiles showing existing and proposed elevations along the centerline of all roads. Where a proposed road intersects an existing road or roads, the elevation along the centerline of the existing road or roads, within 100 feet of the intersection, shall be shown. All elevations must be referred to established U.S. Government or approved local benchmarks, where they exist within one-half mile of the boundary of the subdivision.
- B. Plans and profiles showing the location and typical section of road pavements, including curbs and gutters, sidewalks, manholes, catchbasins, and street lights, the location, size, and invert elevation of existing and proposed sanitary sewers, stormwater drains, water mains, and fire hydrants.
- C. Location, size, elevation, and other appropriate description of any existing facilities or utilities at the point of connection to proposed facilities and utilities within the subdivision.
- D. All specifications and references required by the Town of Berlin, Design and Construction Standards and Specifications.
- E. Notation of approval as shown in paragraph 62:02 K-2.

- F. Title of subdivision, title of map, name and signature of licensed civil engineer and land surveyor, and date, including revision dates.

62:053. *Construction procedures, general.*

- A. All gravity features (storm and sanitary sewers, etc.) shall be installed before pressure features (water, gas, etc.)
- B. All gravity pipes shall be laid in a straight line and to a constant grade between structures.

(Amend. of 2-23-1982, § 62:05)

#### **62:06. Final subdivision plat.**

The final subdivision plat shall be submitted on a permanent material which is legally acceptable for filing with the town clerk. In addition one permanent transparent copy and three paper copies of the aforementioned plat shall be filed with the Town of Berlin Engineering Department. The subdivider shall also submit one transparent copy of the final plat reduced to a scale of one inch equals 100 feet. The final subdivision plat shall include the following information:

- A. The information found on the latest revised preliminary plat.
- B. Approved names of all new streets.
- C. Certificate by the town engineer that the performance bond has been posted, or that the improvements have been completed.

(Amend. of 2-23-1982, § 62:06)

#### **62:07. As-built street plans.**

Upon completion of the streets, roads, and utilities, the subdivider shall present final as-built street plans to the engineering department. They will consist of as-built plans and profiles on 24-inch by 36-inch permanent transparent material at a scale of one inch equals 40 feet and shall contain the following information: Plan and profile:

- A. Street lines and grades.
- B. Lot frontage dimensions.
- C. Angles made by the intersection of the street lines with lot lines.
- D. Horizontal and vertical location of storm drains, water lines, and sanitary sewers, including all services from the mains to the street line or to the limit of easements. Water valves and curb stops, and the ends of sewer services shall be located by measurements to visible features, such as house corners, manholes, hydrants or monuments.
- E. Grades of gravity features.
- F. Location of edge of traveled way.
- G. Location and type of monuments.
- H. All data necessary to reproduce any and all lines on the ground.

There shall be no more than one street on each sheet without the expressed consent of the town engineer.

(Amend. of 2-23-1982, § 62:07)

APPENDIX A--SUBDIVISIONS

**Attachment**

TOWN OF BERLIN  
DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR  
SUBDIVISION DEVELOPMENT

February, 1962

Revised: \_\_\_\_\_, 1982

**Section I. Definitions.**

*Commission* means the Planning Commission of the Town of Berlin.

*Department* means the Engineering Department of the Town of Berlin.

*Engineer* means the Town Engineer of the Town of Berlin or his authorized representative.

*Form 812* means State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, and Incidental Construction, July, 1980, and revisions thereto.

*Town* means the Town of Berlin

*Town standards* means standards and specifications, including drawings, as attached hereto and/or on file in the office of the town engineer.  
(Amend. of 2-23-1982, § I)

**Section II. Storm sewer design.**

2:01. *Drainage system size.* Size shall be based upon anticipated runoff for a 25-year storm and ultimate land use based upon the zoning map and land use plan of the town. In the case of a watershed area extending into a neighboring municipality the designer shall base his design for that portion of the watershed on the planned use of the land in that municipality. The minimum size of storm sewer pipe shall be 15-inch internal diameter. Cross culverts and basins shall be sized to accommodate runoff from a 100-year design storm.

2:02. *Bedding.* When a pipe is to be laid in an unstable material, as determine by the engineer, he will require the removal of the unsuitable material and replacement with a bedding of gravel or broken stone, the thickness of which will depend upon the specific circumstances.

2:03. *Alignment.* Pipe shall normally be laid in straight lines between structures. However, 24-inch or great diameter pipe may be laid in curved alignment as approved by the engineer.

2:04. *Grade.* Pipe shall be laid to a straight uniform grade between structures. The grade shall not be less than one percent or greater than ten percent without the written permission of the engineer.

2:05. *Structures.* All structures are to be built to town standards, or approved by the engineer. Plans for structures not included in these specifications are available at the engineer's office for a nominal fee.

2:05:01. *Location.* Structures shall be spaced according to need but in no case shall they be more than 500 feet apart. At intersections they shall be located at the low point of the vertical curve joining the profiles of the gutter grades. The intersection grade shall be so designed as to place the low point at the point of tangency of the curb fillet curve.

2:06. *Under drain.* In locations where high groundwater is encountered or where in the opinion of the engineer it may be encountered, under drain shall be required. The engineer may, after approval of a subdivision, upon visual inspection of the field conditions, require said under drain to be installed by the developer in addition to the drainage shown on the approved plan. A combination storm sewer and under drain may be used with the approval of the engineer. The minimum size of under drain pipe shall be six-inch internal diameter.

2:07. *Open ditches.* In general open ditches will not be allowed. In some low density residential areas and industrial areas the requirement may be waived by the commission.

(Amend. of 2-23-1982, § II)

### **Section III. Street design.**

3:01. *Sight distance.*

- a. Vertical free sight distance, measured from a point 4.5 feet above the pavement (height of eye) to an object four inches high where street alignment is substantially straight and grade is the consideration. (See section 3:06:07.)
- b. Across an intersection. For a distance of 30 feet along the street lines as measured from the intersection of street lines, no hedge, shrubbery, trees, fence or any other obstacle of height greater than three feet shall be allowed. The triangular area formed by the intersection of street lines and each 30 feet point is also included.

3:02. *Utilities.*

- a. *Initial installation.* All utilities including mains and connection laterals shall be installed before paving. In commercial or industrial subdivisions installation of laterals before paving may be waived by the town engineer. All individual

laterals shall be extended to the street line. All laterals shall be shown on an as-built plan to be filed with the town engineer prior to the release of the bond.

- b. *Location.* Location shall be in accordance with the typical section.
- c. *Connection to existing facilities.* Any person connecting to existing utilities shall familiarize himself with local ordinances governing work within the town right-of-way.
- d. *Trenches.* All utility trenches within proposed or existing highway limits will be backfilled with compacted gravel, as specified in section 3:07:02.

3:03. *Intersection design.* Intersections of streets shall be at angles as close to 90 degrees as possible. Toward this end, an oblique street should be curved approaching an intersection and should be approximately at right angles for at least 100 feet therefrom. Where three or more streets intersect, a turning circle or other special treatment may be required. Intersections of major streets by other streets shall be at least 800 feet apart, if possible. Grades shall be limited to no more than two percent within 50 feet of intersections.

3:04. *Temporary dead-end streets.* A temporary circular turnaround shall be provided on all temporary dead-end streets. The layout shall be such that the land outside the normal street right-of-way shall revert to the abutters whenever the street is continued. Width of pavement and right-of-way shall conform to section 3:06:08 hereinafter.

3:05. *Street line intersections.* At intersections, street lines shall be joined by a circular curve having a tangent or radius, whichever is the lesser, as specified in section 3:06:09.



3:06. *Geometric data.*

	<i>Major Street (Residential and Commercial)</i>	<i>Collector Street (Residential)</i>	<i>Local Street (Residential)</i>	<i>Business Street (Also includes Commercial and Industrial)</i>
3:06:01. Right-of-way width	60 feet	60 feet	60 feet	60 feet
3:06:02. Pavement width	42 feet	36 feet	28 feet	42 feet
3:06:03. Maximum grade	6 percent	9 percent	9 percent	6 percent
3:06:04. Minimum grade	1 percent	1 percent	1 percent	1 percent
3:06:05. Minimum length of vertical curve	200 feet but not less than 60 feet for each 1 percent algebraic difference in grade	100 feet but not less than 30 feet for each algebraic difference in grade	Same as local residential collector street	Same as major street
3:06:06. Minimum radius of centerline curve	450 feet	200 feet	150 feet	200 feet
3:06:07. Minimum sight distance	300 feet	250 feet	200 feet	250 feet
3:06:08. Permanent cul-de-sac	Not permitted	Not permitted	Permitted	Permitted
1. Right-of-way diameter*			120 feet (140 ft*)	130 feet (160 ft*)
2. Pavement diameter*			100 feet (120 ft*)	110 feet (140 ft*)
3. Maximum length			6 times minimum lot width	500 feet
4. Maximum grade at cul-de-sac	4 percent			

\* Culs-de-sac, where approved by the commission, may be designed with a circle with unpaved center, minimum inside radius of 34 feet. Culs-de-sac of other than circular design may also be approved where applicable.

	<i>Major Street (Residential and Commercial)</i>	<i>Collector Street (Residential)</i>	<i>Local Street (Residential)</i>	<i>Business Street (Also includes Commercial and Industrial)</i>
3:06:09. Intersection fillet curve				
1. Right-of-way minimum radius or tangent	25 feet	15 feet	15 feet	25 feet
2. Pavement minimum radius	10 feet more than right-of-way			
3:06:10. Concrete sidewalks	5 feet wide or as determined by commission	4 feet wide where determined by commission	4 feet wide where determined by commission	As and where determined by commission
3:06:11. Pavement	A	B	B	A
3:06:12. Pavement crown	8 inches	6 inches	6 inches	8 inches
3:06:13. Curbing	As determined by planning commission, subsections 3:08:01, 3:08:02 and/or 3:08:03[sic].			

3:07. *Paving design.* References are from Form 812.

3:07:01. *Subgrade.* Subgrade shall be free of all soft, yielding, organic, and other material which will not readily compact when rolled with a three-wheeled roller having a minimum compression of 300 pounds per square inch.

3:07:02. *Gravel subbase.* Gravel shall conform to M.02.02. Construction method shall conform to 2:12:03. In general the depth of gravel shall be as follows:

Fill section	12 inches
Earth cut section	18 inches
Rock cut section	24 inches

These depths may be varied because of specific circumstances as determined by the engineer.

3:07:03. *Processed aggregate base.* Materials shall conform to M.05.01, except that only broken stone, stone sand and screenings will be allowed. Construction methods shall conform to 3:04:03.

3:07:04. *Pavement.* Type A, two-inch bituminous concrete binder course and 1½ inch dense graded bituminous concrete pavement in conformance with appropriate sections of 4:06. Type B, 1½ inch bituminous concrete binder course and 1½ inch dense graded bituminous concrete pavement in conformance with appropriate sections of 4:06.

3:08. Curbing to conform to Form 812 and town standards.

3:08:01. Bituminous concrete lip curbing in conformance with appropriate sections of 8:15, curb mold as approved by the engineer.

3:08:02. Concrete curbing in conformance with appropriate sections of 8:11. Concrete curbing shall be installed at all intersection fillet curves. Reinforcing shall be installed where and as ordered by the engineer. Steel forms are required.

3:09. Sidewalks to conform to Form 812, section 9:21 and town standards for sidewalk construction as published by the department.  
(Amend. of 2-23-1982, § III)

#### **Section IV. Compliance with state standards.**

4.01. Unless otherwise provided in these town standards, all work methods, equipment, and materials shall be in compliance with Form 814A.

4.02. In order to ensure quality control, the town will require developers to deposit with the town an amount to be determined by the Town Council each year. This

money will be used by the town to cover its cost to hire an accredited Independent Laboratory who will, under direction of the Town Engineer, perform field tests of the improvements proposed within the street rights-of-way to ensure the improvements meet the standard stipulated in Form 814.A.

The specific items to be tested are as follows:

1. In place gradation and density of roadway sub-base materials.
2. In place gradation and density of roadway base materials.
3. In place thickness and compaction of roadway bituminous concrete binder course.
4. In place thickness and compaction of roadway bituminous concrete surface course.
5. Perform slump, air and temperature control tests of concrete used in sidewalks and take concrete cylinders required to perform a compressive strength test after 7 and 28-day curing period.
6. Gradation and density of materials used to backfill trenches that fall within the rights-of-way.

Notes to Above: A. Thickness may only be verified by coring.  
B. Extractions/Gradations of pavement may be done at the option of the Town.  
C. Los Angeles Abrasion of Aggregates may be done at the option of the Town.

In the event that the field tests stated above are not performed during the construction process due to the lack of coordination between the developer and the town, the town will take core samples of the roadway materials for testing as above, at the following random locations:

1. In the first third of the proposed pavement section using random number selection.\*
2. In the last third of the proposed pavement section using random number selection.\*
3. In the middle third of the proposed pavement section using random number selection.\*

\* Roadways longer than 600 feet shall have core samples taken at intermediate points so that no section greater than 300 feet in length is not tested. More than one location may be sampled in any section. In lieu of providing the Town a deposit to be used for the above-stated field tests, the developer may elect to hire an accredited Independent Laboratory directly and provide the Town the certified results of the required field tests. Failure to provide the certified tests will result in the Town not accepting the rights-of-way as part of the Town's street system.

Upon acceptance of the rights-of-way by the town for street purposes, if there is a balance of funds remaining from the deposit, the balance remaining will be returned to the developer. If the deposit is insufficient to cover the actual testing costs, the developer shall be responsible for providing additional deposits prior to any field tests being scheduled.

## **Section V. Solar access guidelines.**

A. *General.* Section 57:05 solar access, of the subdivision regulations, requires that all subdivisions will be planned and designed to encourage energy conservation by planning lots and development thereon to enable the use of solar energy systems to the maximum extent possible. The guidelines hereinafter set forth serve as a guide for the commission and the applicant in planning and evaluating proposed subdivisions with regard to energy conservation.

B. *Goals.*

B-1. *Maximum possible solar access.* New lots created by the act of subdivision should have adequate solar access to the maximum extent possible. Adequate solar access to the maximum extend possible should be interpreted to mean that all proposed lots have adequate solar access. The commission realizes that not all lots will have sufficient solar access to make effective use of solar energy systems, whether passive or active, due to such factors as:

- a) The configuration or orientation of the tract;
- b) The nature of surrounding development;
- c) Existing physical features of the tract such as topography, soils, vegetation; and
- d) Road circulation patterns.

However, in many instances, greater solar access can be achieved simply by considering solar access objectives at the initial planning stage. By providing the greatest possible degree of solar access on a lot, conservation purposes are served since the potential for immediate or future usage of solar energy is increased.

B-2. *Use of passive solar energy systems.* As many lots as possible should be capable of effectively using passive solar energy systems. This requires protection of the south-facing walls of the building from shadow-producing objects. If south wall access is protected, rooftop access is also guaranteed, enabling the use of active solar energy systems attached to the roof. It is not intended to require protection for south lot or detached collector access. (See paragraph D-1 for definitions.)

B-3. *Solar access easements.* Each lot should have control over its own south wall access to the maximum extent possible. The need for solar access easements on adjoining lots or other tracts of land should be minimized.

B-4. *Individual choice.* By taking into account solar access requirements of proposed building lots in the planning stage, energy conservation will be encourage by enabling the use of solar energy systems on as many lots as possible, should the owner so desire. However, it is not intended to require

the use of solar energy systems on all buildings in new subdivisions. The choice is left to the individual lot owner.

- C. *Providing for adequate solar access.* As a guide in providing for the maximum solar access possible, the following factors should be considered:
- C-1. *Proposed street layout.* Streets should have an east-west orientation whenever possible, with acceptable variations of ten degrees to the northwest and 25 degrees to the southwest. Due to topographic or soil conditions, or existing street layouts, such an orientation may not be desirable or acceptable to the planning commission or the applicant since excessive grading or disturbance of wetlands would be required or an undesirable pattern of circulation result. Each subdivision must be reviewed individually as to conflicts between the provisions of adequate solar access, the preservation of existing natural features on the tract, and desirable circulation patterns.
  - C-2. *Lot orientation.* Lots should be arranged so as to take advantage of south-facing slopes on the tract. The longer axis of all minimum-sized lots should be oriented north-south whenever possible in order to minimize the shading of solar collectors from off-site development, vegetation or other natural features. On large lots, lot orientation may not be a critical factor, depending on other characteristics of the tract of land.
  - C-3. *Building location.* Proposed development on the lots should enable the use of solar energy systems to the maximum extent possible by:
    - a) Locating buildings on south-facing slopes and as far north on the lot as possible in order to minimize the shading of solar collectors from on-site and off-site development, vegetation or other natural features.
    - b) Orienting buildings so that the longest axis is east to west. Such an orientation may result in house orientations which vary from the normal orientation whereby the longest house axis parallels the street. The commission realizes that other orientations may be possible depending on architectural type and type of solar energy system, but that in most instances the stated orientation will achieve maximum solar access.
  - C-4. *Sewage disposal location.* Sewage disposal leaching fields should be located to the south of proposed house locations, unless soil conditions are not suitable or unless such a location would compel the use of an otherwise unnecessary pumped septic system. Such a location will aid the use of solar energy systems, since regarding and tree removal associated with the construction of leaching fields will reduce potential shading problems caused by existing vegetation.
  - C-5. *Limits of vegetation control.* In Berlin, most subdivisions are located on land that is at least partially forested. Therefore, one of the biggest problems in obtaining adequate solar access is the extent of tree removal and/or pruning necessary to keep the south wall of a dwelling free from shadows. It will not be necessary to cut down every tree to the south of a dwelling in order to obtain adequate solar access; trees further to the south may require only selective pruning. But the necessary area of tree removal and/or pruning may

be quite large, depending on orientation and degree of slope, and may be too large to enable the effective use of solar energy systems without designating solar easements. As a guide in determining whether or not the use of solar energy systems is feasible on proposed lots without designating a solar easement, section 62:04 requires that the area of tree removal and/or pruning be shown on the solar access plan. It is not intended, however, that any necessary tree removal be done by the applicant or developer or that it be considered part of the work in the subdivision which is normally bonded.

C-6. *Open space in subdivisions.* Section 54:01, standards, provides that the planning commission may require reservation of land within subdivisions for open space, park or playground purposes. In certain instances, the location of such reservation can aid energy conservation purposes.

If the reservation is to be used for active park or playground purposes, the reservation will probably have to be located on land which is relatively flat and without significant vegetation growth. In those instances, such a reservation would be using an area of the tract which is also well suited for the use of solar energy systems. The planning commission, in conjunction with other town officials, should determine which goal has a greater priority in individual instances, providing for energy conservation or providing for parks and playgrounds. The two goals may not conflict on land which is relatively flat but with trees suitable for firewood. Such an area could be designated for park and playground purposes, should the town be willing to use the parcel as a community woodlot first.

If the reservation is to be used for open space purposes, its location can serve energy conservation in two different ways. First, open space which is reserved on steep northerly slopes with a substantial tree cover can prevent the creation of lots with inadequate solar access. Even if the open space reservation is a conservation restriction on one or more proposed lots, it should be located so that [the] building is restricted from areas with inadequate solar access. Secondly, open space land can serve as a location for community solar systems. In those instances when few proposed lots have adequate solar access, the open space land should be located on a portion of the tract which does have adequate solar access whenever possible in order to provide for the present and future use of community solar energy systems. When such a reservation is made, the conveyance of said land should state that the use of community solar energy systems is a permitted use on said land.

C-7. *Conflicts with other design standards.* Measures for providing adequate solar access may conflict with other design standards. For example, a street layout which fosters good solar access may not provide a suitable circulation pattern or may have unacceptable effects on the environment. The applicant should choose those alternatives which appear most acceptable to him; however, the planning commission will make the final determination regarding suitable resolutions of such conflicts.

D. *The basics of solar access.* As an aid in determining whether or not proposed lots have adequate solar access, the following information should be used:

D-1. *Levels of solar access.* There are four types of solar access: rooftop, south-wall, south-lot and detached collector access. Each type refers to the location of the solar collection surface.

D-2. *Shadow lengths.* The length of a shadow cast by an object depends on the following characteristics of the land on which the object is located:

- a) Orientation of slope;
- b) Degree of slope; and
- c) Time of day.

It is not necessary for a solar collector surface to be unobstructed by shadows from sunrise to sunset. That portion of the sky which must remain unobstructed for a solar collector to operate efficiently is defined as skyspace and is partially determined by the sun's position on December 21, the day of the year when shadows are longest. Approximately 90 percent of the sun's energy is received between the hours of 8:43 a.m. and 3:17 p.m. at north latitude 40 degrees 30 minutes on December 21. (Berlin's north latitude is approximately 41 degrees 30 minutes.) On that date at 8:43 a.m. the sun is located 45 degrees east of south and at 3:17 p.m. the sun is located 45 degrees west of south, measured on the horizon. Therefore, the eastern and western boundaries of the solar skyspace for heating purposes are defined by 45 degrees east and west of south. In determining siting of structures, what areas of tree removal and/or pruning are needed, and what solar easements might be necessary, the angles of 45 degrees east and west of a solar collector surface should be used. To determine the impact of shadows on proposed solar collector surfaces the planning commission recommends the use of solar access setback mylar overlays, which incorporate varying conditions of shadow length and direction due to height of objects, ground slopes, and time of day. These overlays may be obtained by loan or purchase from the engineering department.

E. *References.* The following publications are recommended as sources of information related to solar access planning.

1. The American Planning Association. *Site Planning for Solar Access: A Guidebook for Residential Developers and Site Planners.* Washington, D.C.: U.S. Government Printing Office, 1979.
2. Cooperative Extension Service, University of Connecticut. *Planning for Solar Access.* Storrs, Connecticut: Cooperative Extension Service, Undated.
3. Office of Policy and Management. *Passive Solar Subdivision Design: A Planners' Guidebook.* Hartford, Connecticut: Office of Policy and Management, Energy Division, September, 1981.

(Amend. of 2-23-1982, § V)

#### Checklist of Procedures for Subdivision Applicants

1. Prepare sketch map of entire holdings, showing surrounding area and proposed layout.
2. Initial conference and field trip.
3. Public hearing, if required.
4. Referral to other agencies.



5. Discuss water supply and sewage disposal proposals with health director, and/or his agent, and/or the applicable water and sewer authority, and town engineer.
6. Make percolation tests and excavate test pits under supervision of health director or agent.
7. Prepare preliminary plats. (Construction plans and profiles, grading plan, etc., as required.)
8. Conference on preliminary plat with town engineer.
9. Revision of preliminary plat, if required.
10. Approval of health director and/or water and sewer authority as applicable.
11. Make formal application for preliminary approval and pay fee (five working days prior to planning commission meeting).
12. Gain preliminary approval by planning commission and set up "section" treatment, if necessary.
13. Prepare final plat, construction plan and profiles, and grading plan as required.
14. File performance bond and insurance certification with town engineer or construct improvements.
15. Gain final plat approval by planning commission.
16. File final plat (approved by the commission) with the town clerk.
17. Construct according to final plans (if bond posted).
18. Inspection of stages of construction for conformance.
19. Submit deed descriptions, conveyance maps, waiver of mechanics liens, maintenance bond and as-built plans to town engineer for review. Correct and resubmit as necessary.
20. Recommendation to executive board [town council] of acceptance of streets and other areas by town planning commission upon recommendation of the town engineer.
21. Acceptance of streets and other areas by town meeting.

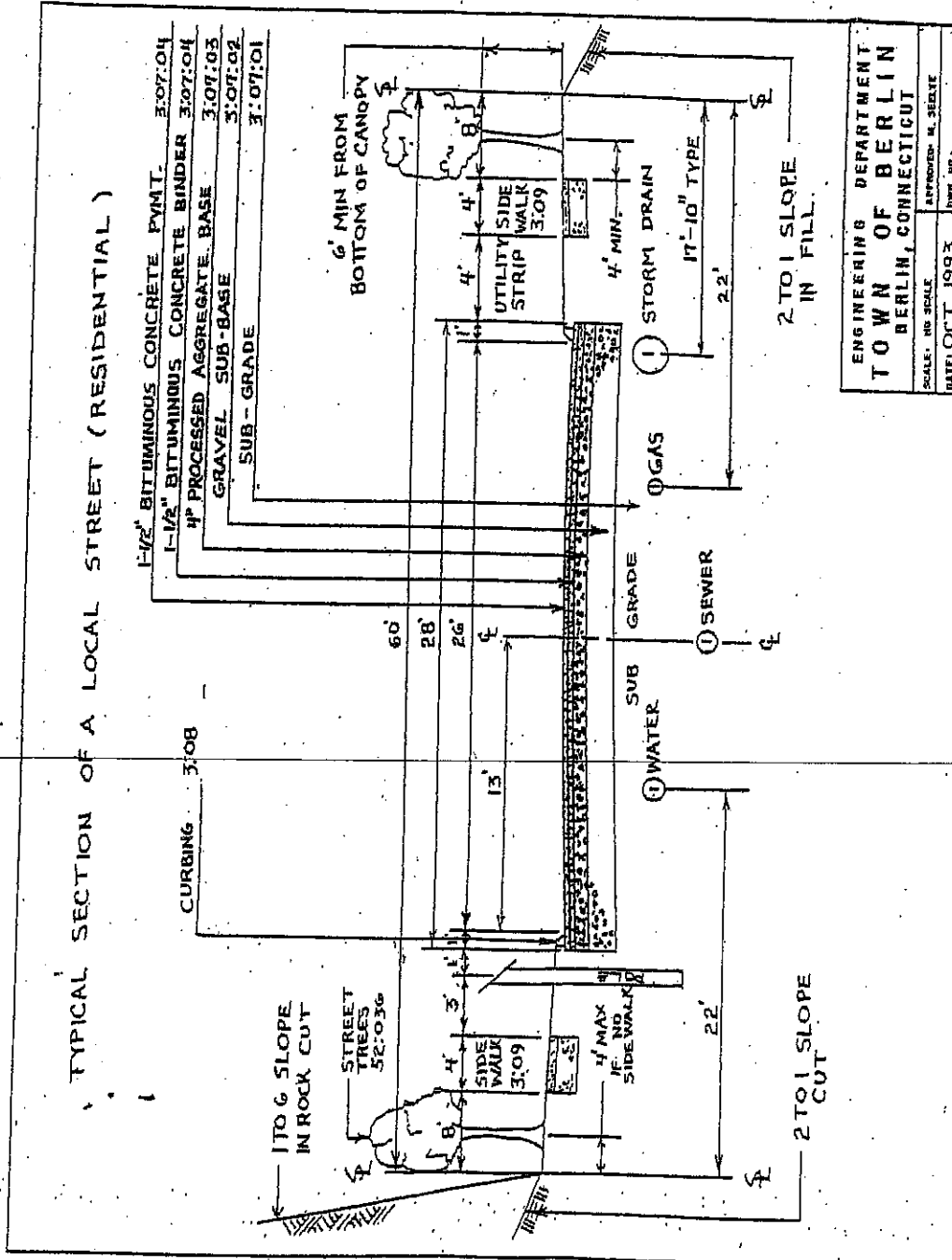
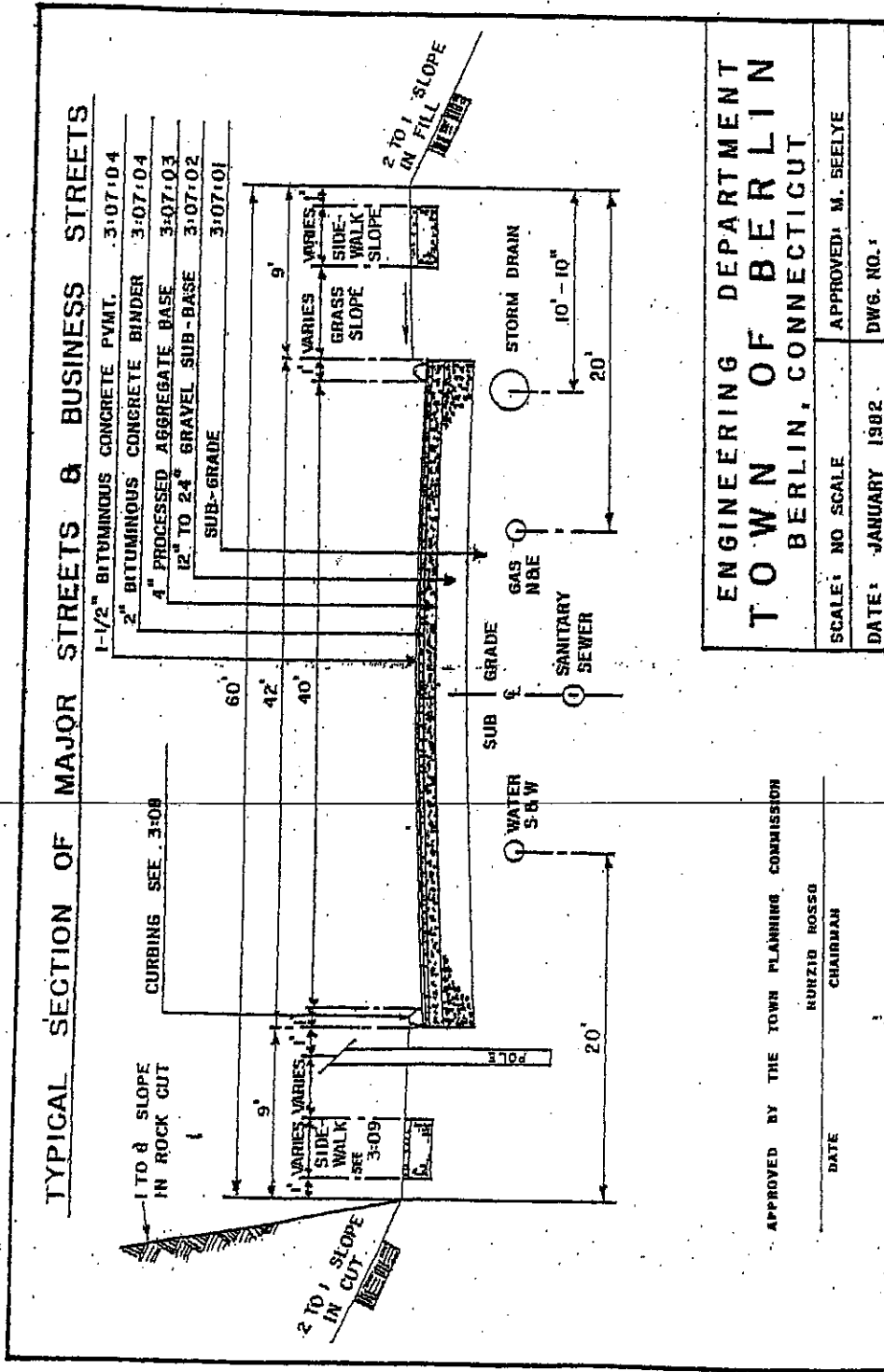


Illustration 1



ENGINEERING DEPARTMENT  
**TOWN OF BERLIN**  
 BERLIN, CONNECTICUT

SCALE: NO SCALE  
 DATE: JANUARY 1982

APPROVED: M. SEELYE  
 DWG. NO. 1

APPROVED BY THE TOWN PLANNING COMMISSION  
 RUDIZIO ROSSO  
 CHAIRMAN

DATE

Illustration 2

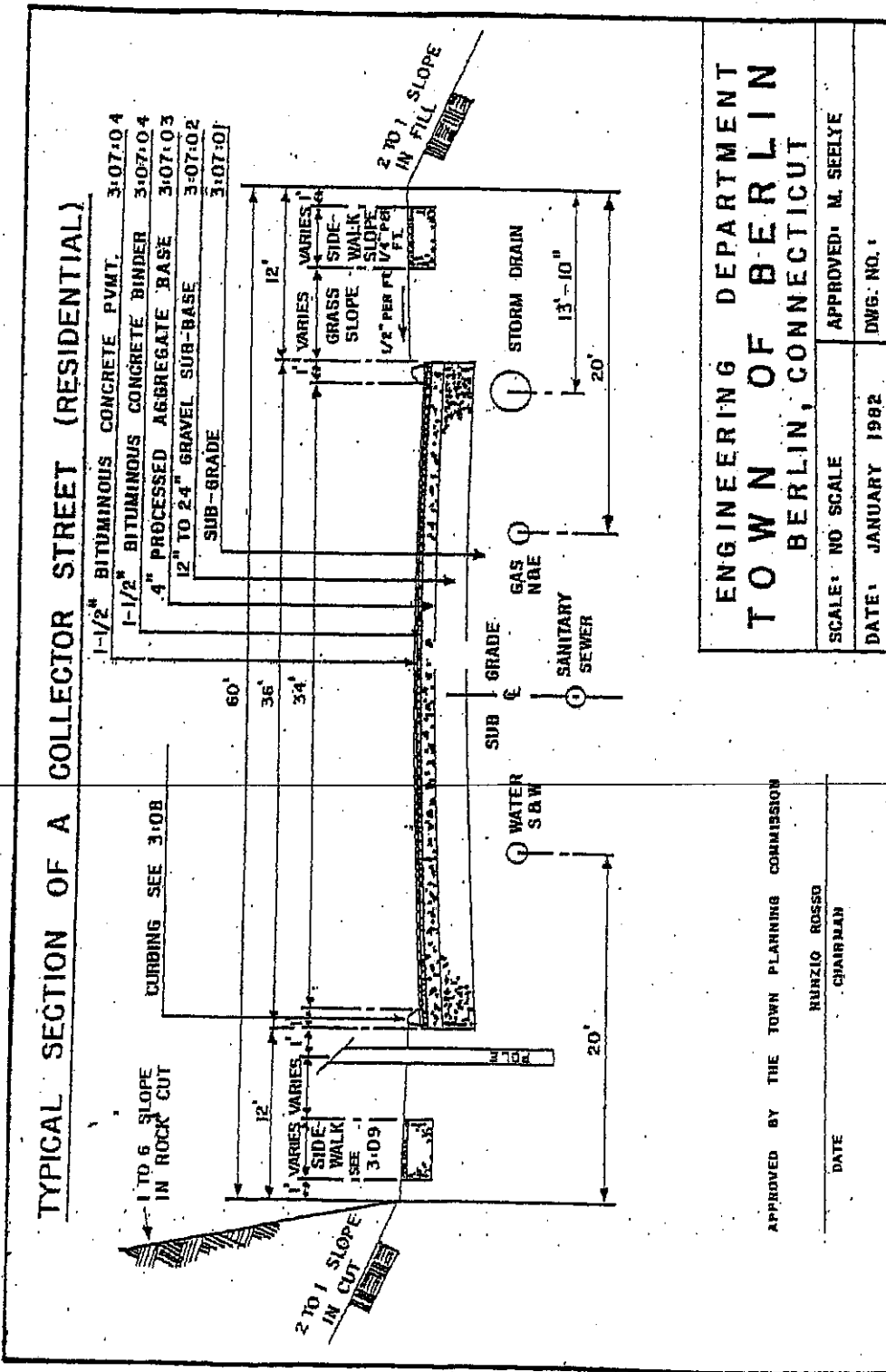


Illustration 3

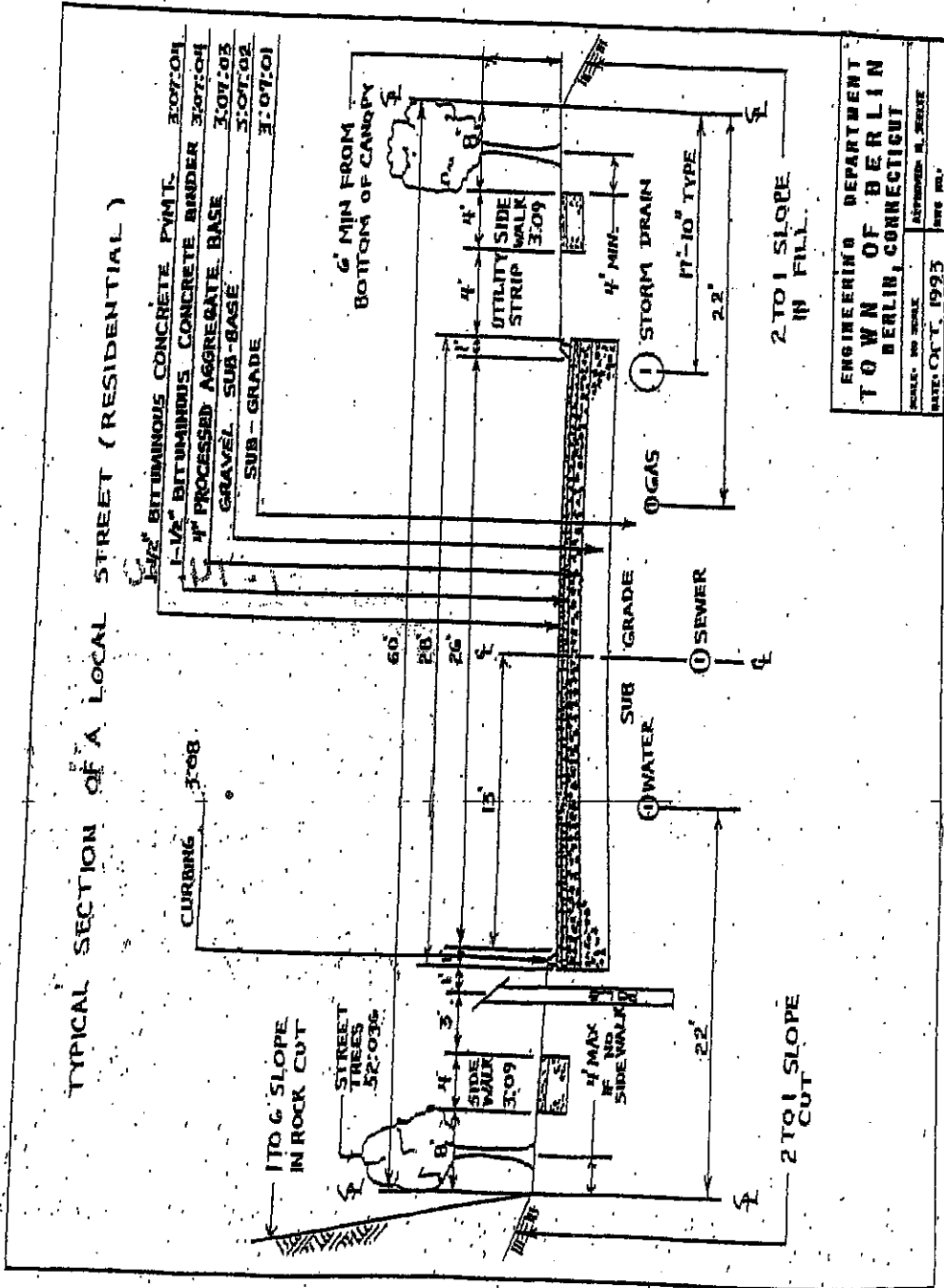
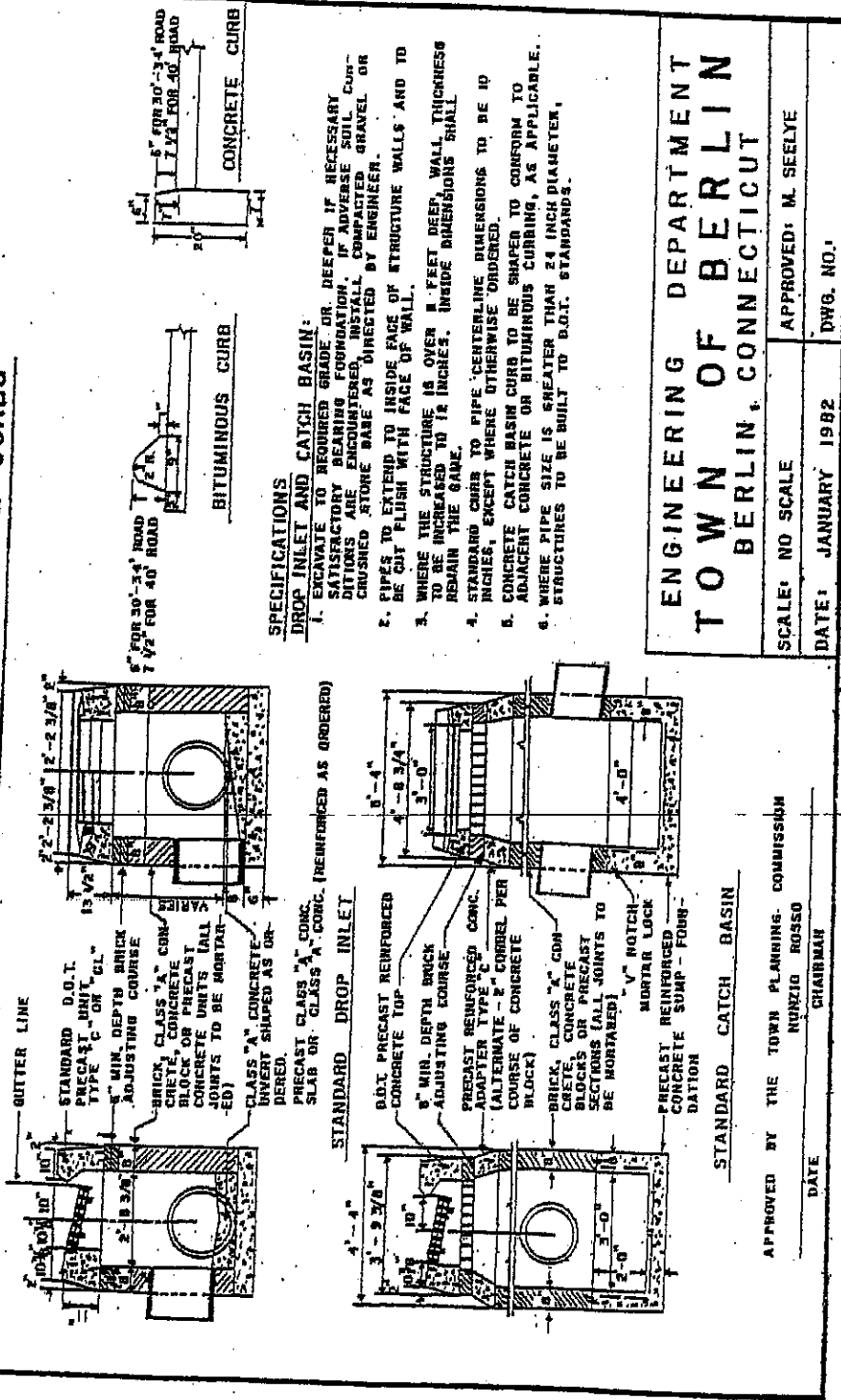


Illustration 4

DETAILS OF STRUCTURES & CURBS



ENGINEERING DEPARTMENT  
TOWN OF BERLIN  
BERLIN, CONNECTICUT

SCALE: NO SCALE	APPROVED: M. SEELYE
DATE: JANUARY 1982	DWG. NO.:

APPROVED BY THE TOWN PLANNING COMMISSION  
NUNZIO ROSO  
CHAIRMAN

DATE

Illustration 5