

**RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND
AND THE LAYING OUT OF WAYS**

**PLANNING BOARD
TOWN OF LINCOLN, MASSACHUSETTS**

Adopted at a meeting of the planning board of the town of Lincoln on October 20, 1982, after public hearings held on March 4, 1981 and October 20, 1982

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RULES AND REGULATIONS OF THE PLANNING BOARD
OF
LINCOLN, MASSACHUSETTS
GOVERNING THE SUBDIVISION OF LAND
AND THE LAYING OUT OF WAYS

SECTION 1.0 PURPOSE AND AUTHORITY

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

1.1 PURPOSE

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

"The subdivision control law has been enacted for the purpose of protecting the safety, convenience and welfare of the inhabitants of the cities and towns in which it is, or may hereafter be, put in effect by regulating the laying out and construction of ways in subdivisions providing access to the several lots therein, but which have not become public ways, and ensuring sanitary conditions in subdivisions and in proper cases parks and open areas. The powers of a planning board and of a board of appeal under the subdivision control law shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways; for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for ensuring compliance with the applicable zoning ordinances or by-laws; for securing adequate provision for water, sewerage, drainage, underground utility services, fire, police, and other municipal equipment, and street lighting and other requirements where necessary in a subdivision; and for coordinating the ways in a subdivision with each other and with the public ways in the city or town in which it is located and with the ways in neighboring subdivisions. It is the intent of the subdivision control law that any subdivision plan filed with the planning board shall receive the approval of such board if said plan conforms to the recommendation of the board of health and to the reasonable rules and regulations of the planning board pertaining to subdivisions of land; provided, however, that such board may, when appropriate, waive, as provided for in section eighty-one R, such portions of the rules and regulations as is deemed advisable."

1.2 AUTHORITY

These rules and regulations have been adopted under authority vested in the Planning Board of the Town of Lincoln by General Laws, Chapter 41, Section 81-Q, as amended.

1.3 VARIATION

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

1.4 REFERENCE

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

1.5 CONFORMITY

These regulations shall be considered as revised to conform with any amendment of Chapter 41 of the General Laws made after January 1, 1980.

1.6 DEFINITIONS

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

Board -- The Planning Board of the Town of Lincoln.

Superintendent of Streets -- The Superintendent of Streets or other official designated by the Board of Selectmen in charge of streets and roadways of the Town of Lincoln.

Subdivision -- A division of land into two or more lots, in such a manner as to constitute a "subdivision" as defined in General Laws, Chapter 41, Section 81-L, as amended. (The complete language of this definition can be found in Appendix A.)

Applicant -- The person who applies for the approval of a plan of a propose subdivision or construction of a way. An applicant or applicants must be the owner or owners of all of the land included in the proposed subdivision. An agent, representative or his assigns may act for an owner, providing that written evidence of such fact is submitted. Evidence in the form of a list of the officers and designated authority to sign legal documents shall be required for a corporation.

Town -- The Town of Lincoln.

SECTION 2.0 PLAN BELIEVED NOT TO REQUIRE SUBDIVISION APPROVAL

2.1 SUBMISSION

Any person who wishes to cause to be recorded a plan of land and who believes that his plan does not require approval under the Subdivision Control Law may submit at a regularly scheduled meeting of the Board an original drawing of the plan, suitable for recording, and two (2) contact prints thereof accompanied by the necessary evidence to show that the plan does not require approval, together with a filing fee. Said person shall also file, by delivery or registered mail, a notice with the Town Clerk stating the date of submission for such determination.

2.2 CONTENTS OF PLAN

- (1) Identification of the plan by name of owner of record and the names of abutters;
- (2) The location of all structures, ways, easements, and the extent of any residue of the land divided. Each lot to be numbered as directed by the Board of Assessors.
- (3) The statement "Approval Under the Subdivision Control Law Not Required" and sufficient space for the date and endorsement of the Board.

Failure of the plan to show adequate or accurate information shall be sufficient grounds for the Board to refuse to endorse the plan under Section 81-P of Chapter 41.

2.3 ENDORSEMENT

If the Board determines that the plan does not require approval, the Board shall without a public hearing and within fourteen (14) days of submission endorse the plan under the title "Approval Under the Subdivision Control Law Not Required" or words of similar import. The Board may add to its endorsement a statement of the reasons approval is not required. The original of the plan shall be returned to the applicant after endorsement.

2.4 DETERMINATION BY BOARD THAT PLAN REQUIRES APPROVAL

If the Board determines that the plan requires approval, it shall give written notice of its determination to the Town Clerk and the applicant. The applicant may then submit his plan for approval as provided by law and these rules and regulations, or he may appeal from such determination to the Superior Court in accordance with the provisions of Section 81-BB of Chapter 41.

2.5 FAILURE OF BOARD TO ACT

If the Board fails to act upon a plan submitted under this section within fourteen (14) days of submission, the plan is deemed to be approved and a certificate to this effect shall be issued by the Town Clerk. The original of the plan, with the Town Clerk's certificate, shall be returned to the applicant.

SECTION 3.0 SUBDIVISION APPROVAL - GENERAL REQUIREMENTS

3.1 UNAPPROVED SUBDIVISIONS AND WAYS PROHIBITED

No person shall made a subdivision of any land within the Town, or proceed with the improvement or sale of lots in a subdivision, or the construction of any way or the installation of municipal services therein, unless and until a Definitive Plan of such subdivision or way has been submitted to approved by the Planning Board as hereinafter provided.

3.2 COMPLIANCE WITH THESE RULES AND REGULATIONS

All plans and all procedures relating thereto shall in all respects comply with the provisions of these rules and regulations, unless the Board authorizes a variation therefrom in specified instances. To assist the applicant, a check-list for securing approval of a subdivision plan is provided in Appendix B.

3.3 COMPLIANCE WITH ZONING BY-LAW

The Planning Board will not approve or modify and approve any plan of a subdivision of land unless all buildings, structures and lots shown on said plan comply with the Zoning By-Law of the Town of Lincoln or unless a variance from the terms thereof has been properly granted by the Board of Appeals.

3.4 CRITERIA FOR BOARD ACTION

The Board, in considering any proposed subdivision plan, will be concerned with the requirements of the community and the best use of the land being subdivided. Particular attention will be given to width, arrangement and location of streets, sanitation, drainage, size and arrangement of lots, open areas and parks. Adequate street and utility connections will be required. No subdivision shall be approved if the Planning Board determines that the access roads and/or utility services connecting with the proposed subdivision will fail to meet acceptable engineering standards for capability to handle the expected additional traffic and/or service demand from said subdivision.

3.5 INCLUSION OF WETLAND

Flood plains, marshes, ponds, water courses or seasonal wet areas may be included as part of a lot subject to the approval of the Conservation Commission, the Board of Health, and the Planning Board as hereinafter provided. The approval of a subdivision by the Planning Board does not constitute an authority to alter, fill, drain, or relocate such features and the developer shall be required to comply with all provisions of all Town by-laws, of the General Laws, and with any other laws and regulations relative thereto. All subdivision proposals must be designed to assure that such proposals minimize flood damage; locate and construct all public utilities and facilities to minimize or eliminate flood damage; and provide adequate drainage to reduce exposure to flood hazards.

3.6 ALTERATION OF WATER COURSES AND PONDS PROHIBITED

Natural water courses and ponds may not be altered, filled, drained or relocated. Any pond that has been in existence for over 25 years shall be deemed to be a natural pond subject to these regulations.

SECTION 4.0 PRELIMINARY PLAN

4.1 PURPOSE

A Preliminary Plan of a subdivision or a proposed way may be submitted by the applicant to the Board and the Board of Health for discussion and approval, modification, or disapproval by the Board. The submission of a Preliminary Plan will enable the applicant, the Board, the Board of Health, or other Town agencies and owners of property abutting the subdivision to discuss and clarify the problems of the subdivision before a Definitive Plan is prepared. The applicant may thus avoid the expense and delays which may be necessitated by changes in a Definitive Plan. Therefore, it is recommended that a Preliminary Plan be filed in every case, allowing the Board sixty (60) days in which to study the plan and to make recommendations toward the preparation of the Definitive Plan.

4.2 SUBMISSION

Any person who wishes to file a Preliminary Plan may submit at a regularly scheduled meeting of the Board an original drawing of the plan and four (4) contact prints thereof, together with a filing fee of \$10.00. The applicant shall also give written notice to the Town Clerk by delivery or by registered mail that he has submitted such Preliminary Plan, stating the date of such submission.

The Preliminary Plan must be accompanied by a copy of a print of the relevant page from the Town Topographic Atlas, scale one inch equals 200 feet, as revised, which shall show the location of the proposed subdivision or way on such sheet. (Copies of the relevant page of the Town Topographic Atlas may be ordered through the Clerk of the Board.) The submission should also include a statement of any easements, covenants, or restrictions applying to the area proposed to be subdivided.

During discussion of the Preliminary Plan the complete information required for the Definitive Plan (Section 5.0 - Definitive Plan) and the financial arrangements (Section 5.7 - Performance Guarantee) will be developed. This development shall commence at the first meeting with and presentation to the Board.

4.3 CONTENTS

The Preliminary Plan may be drawn on tracing paper with pencil, preferably at a scale of one inch equals forty (40) feet, shall be clearly designated as a "Preliminary Plan", and shall show:

- (1) The subdivision name, boundaries, north point, date and scale.
- (2) name and address of record owner, applicant and designer, engineer or surveyor.
- (3) Names of all abutters, as determined from the most recent Town tax list.
- (4) Existing and proposed lines of streets, ways, easements, public areas, open spaces, trails, etc., within the subdivision with boundary lines, measurements, etc.

(5) Topography of the land in a general manner, showing such contours as may be required by the Board. Such topography shall be based on the datum of the Town Topographic Atlas. Also major site features such as existing stone walls, fences, buildings, large trees or wooded areas, rock ridges and outcroppings, water bodies, and other wetlands.

(6) Location, names and present widths of streets bounding, approaching or near the subdivision. Also existing utility lines and proposed system of drainage, including existing natural waterways, in a general manner, both within and adjacent to the subdivision.

(7) Approximate boundary lines of proposed lots, with approximate areas and dimensions each lot to be numbered as directed by the Board of Assessors.

(8) Profiles of Proposed streets when required by the Board.

4.4 PLANNING BOARD ACTION

Within sixty (60) days of submission, the Board shall approve the Preliminary Plan with or without modifications or shall disapprove the Preliminary Plan giving reasons for such disapproval. The Board shall notify the applicant and the Town Clerk of its action. One copy of the Preliminary Plan will be returned to the applicant.

Approval of a Preliminary Plan does not constitute approval of a subdivision and the action of the Board on such Preliminary Plan shall not prejudice its action on the Definitive Plan.

SECTION 5.0 DEFINITIVE PLAN

5.1 SUBMISSION

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

(1) An original drawing of the Definitive Plan in waterproof drawing ink on linen, mylar, or the equivalent, six (6) contact prints thereof (black line on white background), and any additional prints as may be requested by the Board. Prints will be referred by the Board of the Board of Selectmen, Board of Health, Board of Assessors, Conservation Commission, Town Engineer and other Town officials for review. The original drawing will be returned to the applicant after review, and if approved, must be recorded in the Middlesex Registry of Deeds.

(2) Accompanying statements regarding zoning, easements, trails, open space, open space management, wetlands, etc., data on percolation tests and plans, specifications and profiles, etc., for water supply, septage disposal and drainage as required in Section 5.4. below.

(3) A properly executed Application Form accompanied by the appropriate fee as specified on a schedule established by the Planning Board and available from the Clerk to the Planning Board.

The applicant shall also file by a delivery or registered mail a notice with the Town Clerk stating the date of submission for such approval.

5.2 CONTENTS

The Definitive Plan shall be prepared by a Registered Civil Engineer and/or Land Surveyor and shall be clearly and legibly drawn in waterproof drawing ink on linen, mylar, or the equivalent, in a form suitable for recording. The plan shall be at a scale of one inch equals forty (40) feet or such other scale as the Board may prescribe to show details clearly and adequately. Profiles of proposed streets shall be drawn to the same horizontal scale as the plan and with vertical scale ten times larger unless otherwise authorized and wither on the same sheet as the plan or on separate sheets of the same dimensions as the plan. If multiple sheets are used, they shall be appropriately numbered and accompanied by an index sheet showing the entire subdivision. The Definitive Plan shall contain the following information:

(1) Subdivision name, boundaries, north point, date and scale. A statement shall be made on each plan as to whether the bearings shown are magnetic, grid or true, or a north point arrow shall be shown on each plan and clearly labeled as to which system it indicates. If magnetic bearings are used, the angle of declination between magnetic and true north shall be stated by note or indicated by the use of two north point arrows with the degree of declination indicated. The date of the survey shall also be noted.

(2) Name and address of record owner, applicant, and engineer or surveyor.

(3) Boundary lines of contiguous and adjacent land and names of owners thereof as determined from the most recent Town tax list.

(4) Existing and proposed lines of streets, ways, easements, and any public or common areas within the subdivision. (Proposed names of proposed streets will be shown in pencil until they have been approved by the Board.)

(5) Location, direction, name and present width and grade of each street and public or private way bounding, approaching or within reasonable proximity of the subdivision.

(6) Sufficient data to determine readily the location, direction and length of every street and way line, lot line and boundary line, and to establish these lines on the ground. Whenever any point on the perimeter of a subdivision is within 500 feet of an existing coordinate point of the Massachusetts Coordinate System or if the subdivision is to contain four (4) or more lots, then north and east coordinates of the Massachusetts Coordinate System shall be provided for all essential angle points on the subdivision perimeter and also for at least two angle points of each lot within the subdivision other than the perimeter points mentioned above. Where a subdivision is tied into the Massachusetts Coordinate System, at least two permanent bounds shall be provided on the subdivision perimeter near a public way, and they shall be suitably described and the description turned over to the Planning Board. Said points shall be either be in ledge or by set granite bound with drill hole or chiseled cross, bound to be set four feet in ground and to extend six inches above ground. Also a reasonable number of bounds will be set on the perimeter of the subdivision and for the lots, as directed by the Board of Assessors.

(7) Location and outline of all existing buildings and site features such as stone walls, fences, large trees or wooded areas, rock ridges and outcroppings, wetlands and water bodies within or adjacent to the proposed subdivision. The effect of the completed subdivision on these items must also be shown.

(8) Topography with two-foot contours to the extent required by the Board.

(9) Area of each lot in square feet, and lot lines with bearings and lines thereof; each lot to be numbered as directed by the Board of Assessors.

(10) Location of existing monuments, hydrants, public utility facilities, water pipes and wells within the subdivision, with the distance and bearing to the nearest town, county or state monument on an accepted way.

(11) Park or open areas suitably located for playground and open space for recreation purposes within a subdivision, if any.

(12) Proposed storm drainage of land, including existing natural waterways and the proposed disposition of water from the proposed subdivision to adequate natural drainage channels or to artificial means of disposal thereof.

(13) Easements of at least twenty (20) feet wide over adjoining property for the maintenance of street drains where necessary.

(14) Locations and species of proposed street trees and/or individual trees or wooded areas to be retained within the sidelines of each street.

(15) Street plans and profiles must show the per cent slope of each grade, and the radius, length, point of curvature and point of tangency of each curve.

(16) Street plans and profiles must show, in addition to the proposed grades, present elevations of the center line and both side of each proposed street at fifty (50) foot stations, all elevations must refer to the elevations as shown in the relevant sheet from the Town Topographic Atlas, as revised.

(17) General soil types, subsurface conditions on the tract, location and results and dates of tests made to ascertain subsurface soil, rock and ground water conditions, depth to ground water as measured in April or May only, and location and results of soil percolation tests, highest known high water elevations as per the Soils Conservation Service, U.S. Department of Agriculture. Such information shall be shown on a map of the site, drawn on mylar or the equivalent, to the same scale as the Definitive Plan or such other scale as may be required by the Board.

(18) Minimum building setback lines on all lots.

(19) Location of all water courses, ponds, flood plains, marshes and seasonal wet areas. The base flood elevation (the level of the 100-year flood) data shall be provided for subdivision proposals greater than five acres for that portion within the flood plain district as designated on the Lincoln Flood Insurance Rate Maps.

(20) Location of all of the following improvements unless specifically waived in writing by the Board: proposed monuments, street paving, sidewalks, street signs, all utilities above and below ground, curbs, gutters, street trees, storm drainage and all easements.

(21) Suitable space to record the action of the Board and the signatures of the members of the Board including, where appropriate, a reference to the covenant between the applicant and the Board.

5.3 SITE PLAN - CLUSTER SUBDIVISION

All persons seeking a Special Permit from the Board for an R-1 Cluster Subdivision, as defined in Section 6.6 of the Lincoln Zoning By-Law, must file a Site Plan in accordance with Section 17 of the Zoning By-Law in addition to a Definitive Plan. The Site Plan and the Definitive Plan may be the same plan provided all required information can be clearly and legibly shown, otherwise separate sheets will be required. The Site Plan must be prepared in a form suitable for recording, as stipulated for the Definitive Plan.

The applicant is referred to Section 17 of the Zoning By-Law for further information regarding the Site Plan. The applicant is also expected to discuss the Site Plan with the Planning Board to ascertain exactly what information the Board will require. In general, the Site Plan will show:

(1) All building sites and/or building "envelopes" (area within a lot whereupon a building may be constructed), and all existing structures are to be dimensioned.

(2) All existing and proposed grades, existing and proposed changes to topography.

(3) All driveways and proposed parking provisions.

(4) All existing and proposed trees, proposed screenings, fencing, and plantings, and other landscape features.

(5) Proposed lighting, signs, service areas, refuse and waste disposal areas.

5.4 ACCOMPANYING STATEMENTS AND DATA

The applicant shall submit with the Definitive Plan statements and data providing the information listed below.

(1) Any easements, covenants and restrictions applying to the area proposed to be subdivided.

(2) Proposed land management plans for any open space or common land.

(3) Proposed arrangements for water supply, with supporting data, as required by the applicable rules and regulations of the Board of Water Commissioners.

(4) Proposed arrangements for storm and surface drainage, with supporting data and design analysis, including plans and profiles showing location and size of drain lines and culverts, design of catch basins and manholes, and such other information as may be required to define the drainage provisions.

(5) Sight lines for entering and merging traffic at street intersections and driveway intersections, and all other data pertaining to traffic, safety, crossings, trails, pedestrians, cyclists, etc.

(6) A print from the relevant page of the Town Topographic Atlas, scale one inch equals 200 feet, as revised. (Copies of the relevant pages from the Town Topographic Atlas may be ordered through the Clerk of the Board.)

5.4.1 ENVIRONMENTAL IMPACT STATEMENT (EIS)

The applicant shall also submit five (5) copies of an environmental impact statement, the purpose of which is to enable the officials of the Town to determine what methods are used by the applicant to promote the environmental health of the community and to minimize adverse effects on the natural resources of the Town. This statement will also address the economic impact resulting to the Town as the result of the development, as well as its effects on Town demographics and traffic during and after construction.

In preparing the statement, the applicant should refer to the set of Environmental Quality Maps, Town of Lincoln, 1971, and to the Soil Survey Maps and Manual, prepared for Lincoln by the Soils Conservation Service, U.S. Department of Agriculture, on file at the Town Hall. The statement should include specific references to the appropriate plans and maps. The statement shall be a technical document with references for all statements whenever possible.

In reviewing the statement, the Town boards will consider the degree to which water is recycled back into the ground, the maintenance and improvement of the flow and quality of surface waters, historic sites, unique geological, botanical, zoological, and archaeological features, existing or potential trails and accesses to open space area, proposed land management, and the health and safety of the inhabitants of the area.

The Planning Board may waive any section, or sections, of the EIS which it deems inapplicable to the proposed project. The developer should discuss the requirements with the Board prior to the preparation of the EIS and prior to the submission of the plan.

The EIS shall include the following:

(1) Physical Environment

1. Describe the general physical conditions of the site, including amounts and varieties of vegetation, general topography, unusual geologic, scenic and historical features, trails and open space links, and indigenous wildlife.
2. Describe how the project will affect these features.
3. Provide a complete physical description of the project, and its relationship to the surrounding area.

(2) Surface Water and Soils

1. Describe location, extent and type of existing water and wetlands, including existing surface drainage characteristics, both within and adjacent to the subdivision.
2. Describe the methods to be used during construction to control erosion and sedimentation; i.e., use of sediment basins and type of mulching, matting, or temporary vegetation; describe approximate size and location of land to be cleared at any given time and length of time of exposure; covering of soil stockpiles; and other control methods used. Evaluate effectiveness of proposed methods on the site and on the surrounding areas. Refer to similar methods used on existing or on-going nearby projects.
3. Describe the permanent methods to be used to control erosion and sedimentation. Include descriptions of:
 - a. any areas subject to flooding or ponding;
 - b. proposed surface drainage system;
 - c. proposed land grading and permanent vegetative cover;
 - d. methods to be used to protect existing trees and vegetation during and as a result of construction;
 - e. the relationship of the development to the topography;
 - f. any proposed alterations of shore lines, marshes or seasonal wet areas;
 - g. any existing or proposed flood control or wetland easements;
 - h. estimated increase of peak run-off caused by altered surface conditions, and methods to be used to return water to the soils.
4. Completely describe sewage disposal methods. Evaluate impact of disposal methods on surface water, soils and vegetation.

(3) Sub-surface Conditions

1. Describe any limitations on proposed project caused by sub-surface soil and water conditions, and methods to be used to overcome them.
2. Describe procedures and findings of percolation tests conducted on the site.
3. Evaluate impact of sewage disposal methods on quality of

sub-surface water, including, but not limited to, well and other water supplies.

(4) Town Services

1. Describe estimated traffic flow at peak periods and proposed circulation pattern.
2. Describe locations and number of vehicles accommodated in parking areas.
3. Describe effect of project on police and fire protection services.
4. Describe effect of project on public works department services.
5. Describe effect of project on educational services.
6. Describe effect of project on the Town water supply and distribution system.

(5) Human Environment

1. Provide a tabulation of proposed buildings by type, size (number of bedrooms, floor area), ground coverage, and a summary showing the percentage of the tract to be occupied by buildings, parking and other paved vehicular areas, and usable open land.
2. Describe type of construction, building materials used, location of common areas, location and type of service facilities (laundry, trash, garbage disposal).
3. Describe lighting, screening, security provisions.
4. State proximity to transportation, shopping and educational facilities.
5. Describe proposed recreational facilities, including active and passive types; and age groups participating, and state the extent to which recreational facilities and open space will be available to all Lincoln residents.

(6) General Impact

Summarize briefly the environmental impact on the entire Town with supporting reasons.

5.4.2 SOIL SURVEYS

Where appropriate, the Board may require soil surveys to establish the suitability of the land for the proposed storm and sanitary drainage installations.

5.4.3 ADDITIONAL PROFESSIONAL SERVICES

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

5.5 REVIEW

5.5.1 BOARD OF HEALTH

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

5.5.2 OTHER TOWN BOARDS

Before approving the Definitive Plan, the Board will refer it to the following boards for their review, and will solicit written statements from each within thirty (30) days of referral as to the adequacy of the proposed plan. The failure of any board to respond will be interpreted as having no adverse comment or statement to make.

- (1) The Board of Selectmen, as to the design of the street system, the drainage system, and the sewer system, if any, the location of easements, and the provisions for the safety of the future inhabitants and the public.
- (2) The Board of Water Commissioners, as to the design of the water distribution system; and
- (3) The Conservation Commission, as to the impact of the subdivision on the Town's open space program, and a wetlands determination (21 days) where necessary.

5.5.3 ENGINEERING REVIEW

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

5.6 PUBLIC HEARING

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

5.7 PERFORMANCE GUARANTEE

Before approval or conditional approval of a Definitive Plan of a

subdivision, the subdivider shall agree to meet the conditions and to complete the required improvements specified in Section 7.0 for all lots in the subdivision. Such construction and installation shall be secured by one, or partly by one and partly by the other, of the following methods, which may from time to time be varied at the option of the subdivider with the approval of the Board.

5.7.1 BONDS OR SURETY

The subdivider shall file either a performance bond or a deposit of money or negotiable securities in an amount determined by the Planning Board to be sufficient to cover the cost of all or any part of the improvements specified in Section 7.0 not covered by a covenant under Section 5.7.2 hereof. Such bond or security shall be approved as to form and manner of execution by the Town Counsel and as to sureties by the Town Treasurer. Release of the bond or deposit shall be contingent on the completion of such improvements within two (2) years of the date of the bond. See Appendix D.

5.7.2 COVENANT

The subdivider may file a covenant acceptable to the Planning Board, executed by the owner of record and duly recorded, running with the land, whereby conditions specified in the certificate of approval are met, and whereby such ways and services as specified in Section 7.0 shall be provided to serve any lot before such lot may be built upon or conveyed other than by mortgage deed. Reference to any such covenant must be noted on the Definitive Plan.

Before the Board shall approve any Definitive Plan of a subdivision whereon is shown any street or way classified as a minor street, as defined in Section 6.1.3 hereof, it shall first obtain from the subdivider a covenant in the form prescribed under Section 6.1.3.1. This covenant shall be executed by the owner of record and duly recorded with the Definitive Plan.

5.8 PLANNING BOARD ACTION & CERTIFICATE OF APPROVAL

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

Final approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of streets within a subdivision.

5.9 RELEASE OF BOND OR COVENANT

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

- (1) File with the Board of Selectmen a certified copy of the layout plan ("as-built" plan) of each street in the subdivision (or, in the

case of approval with covenant, of the street or streets serving the lots for which a release is desired). Certification shall be by a Registered Civil Engineer or Land Surveyor, and shall indicate that streets, storm drains, sewers, water mains and their appurtenances have been constructed, and monuments have been installed, in accordance with said plan and are accurately located as shown thereon.

(2) Obtain and submit to the Board written evidence that the required improvements have been completed to the satisfaction of the Boards listed below for the respective facilities:

1. The Board of Water Commissioners, as to the installation of the water distribution system;
2. The Board of Health, as to the design and construction of the septic system(s);
3. The Board of Selectmen, as to construction of all other required improvements and the performance of all other required work.

5.9.1 ADDITIONAL PROFESSIONAL ADVICE

Before the Board releases the interest of the Town in a performance bond, deposit, or covenant, the Board may at its discretion require the applicant to obtain, at his own expense, additional professional engineering advice as to the satisfactory completion of the construction of each street or way in the subdivision, storm drains, water mains and their appurtenances, and installation of all other services required according to the Definitive Plan.

5.9.2 ACTION ON REQUEST FOR RELEASE

Upon completion of the improvements, the applicant shall send to the Town Clerk by registered mail a written statement in duplicate that the construction or installation in connection with which a bond, deposit or covenant has been given meets the requirements of Section 7.0. This statement should contain the address of the applicant. The Town Clerk shall furnish a copy of the statement to the Board forthwith. The Board shall make its determination on this request for release within forty-five (45) days of filing of said request.

If the Board determines that the construction or installation has been completed, it shall release the interest of the Town in the Bond, deposit or covenant, and return the bond or deposit to the person who furnished it, or issue a release of covenant in a form for recording. If the Board determines that the construction or installation has not been completed, it shall specify to the applicant in writing wherein the construction and installation fails to comply with the requirements of Section 7.0.

SECTION 6.0 DESIGN STANDARDS

6.1 CLASSIFICATION OF STREETS

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

6.1.1 PRINCIPAL STREET

A principal street is any street that carries or is designed to carry through traffic between parts of, or principal streets in, Lincoln or between Lincoln and other towns.

6.1.2 SECONDARY STREET

A secondary street is any street used solely for access to the abutting lots.

6.1.3 MINOR STREET

A minor street is any street which, in the opinion of the Board, may be built to a less exacting standard than those hereinafter prescribed for principal streets and secondary streets, provided:

- (1) In the interest of the Town and the residents of the lots served by said street, it should remain as a private way.
- (2) Such street serves as legal frontage for not more than three (3) lots; provided that for the purposes of this paragraph any lot owned by or under deed of gift to the Town of Lincoln, the Lincoln Land Conservation Trust, or any other nonprofit organization organized and acting for the purpose of preserving open space shall not be counted as one of the three lots if there is an enforceable restriction upon the land, satisfactory to the Planning Board, to the effect that no building or other-structure shall be built or placed upon the lot unless and until the minor street is redesigned and improved in accordance with the minimum standards hereinafter prescribed for a secondary street.
- (3) To ensure that the lots served by a minor street are substantially larger than the minimum required by the Lincoln Zoning By-Law, the total acreage of the lots served must be twelve acres (480,000 square feet), or greater, and each lot must be at least three acres (120,000 square feet); moreover, the Planning Board may require any lot to be larger than three acres if it deems that such action is required by Section 1.1 of these Rules and Regulations.
- (4) Such street shall have no connection with or projection to any street existing or proposed other than that with which it originates.

6.1.3.1 MINOR STREET COVENANT

Before the Board shall approve any Definitive Plan of a subdivision whereon there is shown any street or way classified as a minor

street, it shall have first obtained from the subdivider a covenant or agreement that such minor street shall remain a private way unless it shall be redesigned and improved in accordance with the minimum standards hereinafter prescribed for a secondary street.

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

6.2 STREET DESIGN

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

6.2.1 DESIGN SPEEDS

Radius of curves and lengths of vertical curves should be selected to provide safe sight distances (either passing or stopping) for the design speed of the road. The design speed for principal streets shall be 35 miles per hour and for secondary and minor streets 25 miles per hour.

6.2.2 LOCATION AND ALIGNMENT

6.2.2.1 MASTER PLAN

The proposed streets and off-street footpaths shall conform, so far as practicable, to the Master or Study Plan as adopted in whole or in part by the Planning Board.

6.2.2.2 PROJECTIONS

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

6.2.2.3 RESERVE STRIPS

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

6.2.2. JOGS

Street jogs with centerline offsets of less than one hundred twenty five (125) feet should be avoided.

6.2.2.5 CURVES

The minimum centerline radii of curved streets shall be two hundred (200) feet for principal streets and one hundred (100) feet for secondary and minor streets.

6.2.2.6 INTERSECTIONS

Streets shall be laid out so as to intersect as nearly as possible at right angles. Particular attention shall be paid to sight lines, interfering plantings, walls, fences, etc., and to blinding by headlights, etc.

6.2.2.7 FILLETS

Property lines at intersections shall be rounded or cut back to provide for a minimum radius at the edge of the pavement of forty (40) feet. The distance between the edge of the pavement and the property line shall be not less than fifteen (15) feet for principal streets and twelve (12) feet for secondary or minor streets.

6.2.2.8 DEAD ENDS - LENGTH

Dead-end streets shall not be longer than five hundred (500) feet, unless, in the opinion of the Board, a greater length is necessary to comply with Section 1.1 of these Rules and Regulations. The minimum length of dead-end streets shall not be less than the minimum lot frontage in the zoning district in which proposed. The required length shall be measured from the nearest right-of-way line of the intersecting street to the nearest point of the first curve of the outside radius of the turnaround as measured along the shortest right-of-way line of the proposed dead-end street exclusive of intersection radii.

6.2.3 RIGHT OF WAY WIDTHS

The minimum width of street rights of way shall be sixty (60) feet for principal streets, fifty (50) feet for secondary streets, and forty (40) feet for minor streets. Greater width shall be required by the Board when deemed necessary for present and future vehicular travel.

6.2.3.1 TURNAROUNDS AND/OR PROJECTIONS

Principal streets having temporary dead-ends shall terminate in circles having a right of way diameter of not less than one hundred forty (140) feet, dead-end secondary streets of not less than one hundred forty (140) feet, and minor streets of not less than one hundred twenty (120) feet. Where a circle is laid out as a permanent termination of a road, the entire area of the circle shall be a permanent part of the right of way.

Where a circle is laid out over a projected right of way, the lot lines shall be laid out to the lines of the future projected route and the circle shall be designed in such relation to the projection of the right of way that the additional land used for the circle may be relinquished to the adjacent properties at the time the road is constructed over the projected route. However, the additional areas used for the circle may not be included in the areas of the adjacent lots for the purpose of determining their conformity to the minimum requirements under the Zoning By-Law of the Town.

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

6.2.4 GRADES

6.2.4.1 LONGITUDINAL GRADES

The minimum grade of any street shall not be less than 0.5%. On curves

the gradient shall be maintained at the gutter elevation. A descending minimum grade may not intersect with an ascending minimum grade.

The maximum grade of principal streets shall not exceed 8% on straightaways or 6% on curves, of secondary streets 10% on straightaways or 8% on curves, and of minor streets 10% on both straightaways or curves.

6.2.4.2 SUPERELEVATION

Where curves and grades combine to create potentially dangerous driving conditions, the Board may require a suitable amount of superelevation of the curves of other protection.

6.2.4.3 INTERSECTIONS

Where streets intersect within a subdivision or at the juncture of a subdivision street with an existing street, a grade not exceeding 3% shall be maintained for a minimum of sixty (60) feet.

6.3 EASEMENTS

6.3.1 UTILITY EASEMENTS

Easements for utilities across lots or centered on rear or side lot lines shall be provided where necessary and shall be at least twenty (20) feet wide. In addition, a work easement of ten (10) feet will be provided on each side of the utility easement.

6.3.2 DRAINAGE EASEMENTS

Where a subdivision is traversed by a water course, drainage way, channel or stream, the Planning Board may require that there be provided a storm water easement or drainage right of way of adequate width to conform substantially to the lines of such water course, drainage way, channel or stream, and to provide for construction or other necessary purposes. The minimum width of any such easement shall be twenty (20) feet. Where necessary, drainage easements on adjoining property shall be secured for the benefit of the Town. In addition, a work easement of ten (10) feet will be provided on each side of the drainage easement.

6.3.3 ACCESS AND/OR TRAIL EASEMENTS

Access easements to park and conservation land shall be secured for the benefit of the Town and shall be twenty (20) feet in width. Unless otherwise required, easements for off-street footpaths shall be twenty (20) feet in width.

6.4 OPEN SPACE/PARKS

Before approval of a plan, the Planning Board may also in proper cases require the plan to show a park or parks suitably located for playground or recreation purposes or for providing light and air. The park or parks shall not be unreasonable in area in relation to the land being subdivided and to the prospective uses of such land. The Board may by appropriate endorsement on the plan, or by recorded covenant, require that no building be erected upon such park or parks without its approval.

6.5 PROTECTION OF NATURAL FEATURES

The Board will require that the subdivider may every reasonable effort consistent with sound planning to preserve natural features such as large trees, water courses, scenic points, historic spots, and similar community assets, which, if preserved, will add attractiveness and value to the subdivision.

SECTION 7.0 REQUIRED IMPROVEMENTS

7.1 DESIGN AND MATERIALS CONFERENCE

The Town Engineer, the Superintendent of Streets or Planning Board may call for a design and materials conference in order that the subdivider may be informed as to the acceptability of the materials, methods, and standards of construction to be employed. The subdivider may be accompanied or represented by his engineer or contractor, or both, at the conference.

7.2 NOTICE REQUIRED BEFORE CONSTRUCTION

Any person intending to commence construction in any subdivision or of any way shall give at least ten (10) days written notice to the Superintendent of Streets, Town Engineer and the Board before first commencing construction, in addition to giving the notices specified in Section 7.13 below.

7.3 PROTECTION OF ARCHAEOLOGICAL ARTIFACTS

The Board may require the subdivider to allow monitoring of his excavation and site work in general by a qualified person approved by the Board when there is reason to believe that archaeological artifacts may be in the area. If artifacts or other items or archaeological interest are discovered, whether the site is monitored or not, the subdivider shall immediately notify the Board and/or the Town Engineer and obtain guidance and direction as to how to proceed with his work.

7.4 STANDARDS OF CONSTRUCTION

Standards of construction not otherwise specified hereunder shall be according to the standard specifications for highways and bridges of the Massachusetts Department of Public Works (latest edition).

7.5 STREETS, SIDEWALKS, AND PATHS

7.5.1 CROSS SECTIONS

Street construction shall conform to the Typical Cross Sections as shown in Exhibit A, included with these Rules and Regulations.

7.5.2 CLEARING

Unless otherwise required by the Board, the entire width of pavement, shoulders and embankments shall be cleared of all stumps, roots, brush and boulders, and all trees not intended for preservation. If any large boulders or trees remaining within the street lines constitute, in the opinion of the Board, a potential future hazard, the Board may require that they be removed.

7.5.3 SUBGRADE PREPARATION

(1) All existing material within the limits of roadway, sidewalk and off-street path construction shall be removed to a depth of at least twelve (12) inches plus the pavement thickness below finished grade. Additionally, all deleterious material remaining shall be excavated to solid bearing. When, in the opinion of the Board, the existing material is acceptable for use as a gravel base, excavation of said material may be waived. Grading and compaction shall be as required for Gravel Foundation (Section 7.5.4 below).

(2) Earth borrow shall be free from deleterious matter and shall have the physical characteristics of soils designated as Group A-1, A2-4, or A-3 under AASHO-M145. It shall have properties such that it may be readily spread and compacted for the formation of roadways and embankments. No stones over six (6) inches shall be placed within twelve (12) inches of the Gravel Foundation.

(3) Prior to placing Gravel Foundation, the subgrade shall be shaped to a true surface conforming to the proposed cross-section of the roadway and compacted to not less than 95% of the maximum dry density as determined by the Standard AASHO Test Designation T99 Compaction Test Method C at optimum moisture content.

7.5.4 GRAVEL FOUNDATION

(1) Gravel for roadways, sidewalks, and off-street path construction shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings, and deleterious materials.

Gradation requirements for gravel shall conform to the following:

Sieve	Percent Passing
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-8

Maximum size of stone in Gravel Foundation shall be four (4) inches in the largest dimension.

(2) The Gravel Foundation shall be constructed in two six-inch courses which shall be shaped to a true surface conforming to the proposed cross section of the roadway and compacted as specified above in Section 7.5.3(3).

(3) Any specific area of Gravel Foundation which, after being rolled, does not form a satisfactory solid, stable foundation shall be removed, replaced and recompact.

7.5.5 SHOULDERS

Shoulders five (5) feet in width shall be constructed of gravel covered with six (6) inches of loam and brought to a finished grade flush with or slightly above that of the adjacent pavement or curbing. Gravel shoulders shall be constructed and compacted in conjunction with and to the same degree as the gravel base for the road.

7.5.6 EMBANKMENTS

Embankments shall be constructed as shown on Exhibit A, Typical Roadway Section.

7.5.7 SIDEWALKS AND/OR OFF-STREET PATHS

Sidewalks and/or off-street paths shall be provided on one side of principal and secondary streets when, in the judgment of the Board, the probably use warrants. The Board may require sidewalks and/or off-street paths on both sides of the street.

Sidewalks and/or off-street paths shall be five (5) to eight (8) feet wide, as the Board may determine, and shall be located outside the road shoulders. Where sidewalks and/or off-street paths are located outside the right-of-way, the developer shall reserve suitable easements therefor.

The location and grading of sidewalks and/or off-street paths shall be as approved by the Board. Specific attention shall be given to preclude standing water and icing.

Sidewalks and/or off-street paths shall be constructed of a twelve (12) inch layer of clean gravel containing no large stones, paved with three (3) inches or more of bituminous concrete. Where sidewalks and/or off-street paths are located at the edges of embankments, a level area at least two (2) feet in width shall be provided between the sidewalk and/or off-street path and embankment edges.

7.5.8 SURFACE TREATMENT

Surface treatment for principal and secondary streets, sidewalks and off-street paths shall be Class I Bituminous Concrete Base Course, Type I-1, which shall be constructed in two (2) courses. The bottom course shall be two (2) inches in thickness. The final course shall be one inch in thickness.

Bituminous Concrete materials, transportation, delivery, spreading, compacting and finishing shall be in accordance with the applicable provisions of the current Commonwealth of Massachusetts D.P.W. Standard Specifications for Highways and Bridges.

Both courses will be installed over the full twenty-four (24) foot width for principal streets, and over the full twenty (20) foot width for secondary streets.

The paved surface on dead-end turnarounds shall have an outside radius of sixty (60) feet, and the inside radius shall be thirty-six (36) feet. Plantings or other landscaping will be provided in sufficient quantity and scale to indicate the location and boundary of the center island in the turnaround (i.e., to snow plow operators).

When, in the opinion of the Board, the grades or other conditions applying to minor streets require pavement, paving materials approved by the Board shall be applied to a width of sixteen (16) feet. Where such conditions apply to a turnaround on a minor street, the outside radius of the paved surface shall be fifty (50) feet and the inside radius shall be twenty-five (25) feet.

No paving material may be applied to sub-grade or pavement foundation that is frozen or saturated with water.

7.5.9 CURBING

Where grades are in excess of 2% or where such protection is deemed necessary by the Board, curbing constructed of granite or bituminous concrete and sealed to the road pavement shall be constructed. Curbing shall be constructed according to the curbing cross sections in Exhibit B.

7.5.10 LOAM AND SEED

Loam shall be placed to a depth of six (6) inches on all shoulders, embankments, and all other areas disturbed by the construction. Grass seed mixture containing not less than 75% of permanent types shall be placed at the rate of four (4) pounds per one thousand (1,000) square feet. Other types of ground cover may be employed with the approval of the Board.

7.6 WATER SYSTEM

7.6.1 GENERAL REQUIREMENTS

All lots in a subdivision shall be provided with access to a water main along their legal frontage. Where new mains are to be laid in a public or private way and where such way has more than one proposed or existing entrance on public or private ways containing existing or proposed mains, the new mains shall be constructed at both ends to form a closed loop.

The water distribution system will be installed as described below for connection with Town water mains where such mains exist. Where such mains do not exist, the subdivider will be required to connect into an existing Town water main of adequate size.

The subdivider shall be responsible for constructing the water distribution system within the subdivision and its connection to the Town mains in accordance with the rules and regulations of the Board of Water Commissioners of the Town. He shall provide, store, inspect and install all pipe and appurtenances thereto in accordance with these regulations. He shall make all main and service connections and shall maintain the installation prior to acceptance of the roads by the Town in accordance with these regulations.

7.6.2 INSPECTION

The subdivider shall give notice to the Board as required in Section 7.2 above and Section 7.13 below.

7.6.3 DESIGN

7.6.3.1 SIZE OF MAINS

The size of water mains on any street shall be not less than eight (8) inches inside diameter. Mains of larger diameter shall be provided when required by the Board of Water Commissioners.

7.6.3.2 LOCATION OF MAINS

Water mains shall be positioned as shown on Exhibit A, Typical Roadway Section.

7.6.3.3 HYDRANTS

Hydrants shall be located along all mains at intervals not greater than seven hundred (700) feet, Hydrants shall be located at the

terminations of all mains. A hydrant shall be located on each new main within seven hundred (700) feet of the nearest hydrant on the supply main or, if no hydrant exists within seven hundred (700) feet, at the connection. All hydrants shall be located so that no structure is more than five hundred (500) feet from a hydrant. Each hydrant shall be provided with a gate valve.

7.6.3.4 GATE VALVES

Gate valves shall be located at intervals not greater than seven hundred (700) feet in any new main, at the point of connection of any new main with an existing Town main, and in each main supplied at any junction of mains,

7.6.3.5 SERVICES

Each lot shall be provided with a service connection having a shutoff and brought to the edge of the right of way. Service connections shall be located for best accessibility to the house sites. A corporation cock shall be provided at the main.

7.6.4 MATERIALS

7.6.4.1 HANDLING AND STORAGE

Pipe and accessories shall be handled with care to avoid damage. Damaged pipe shall be rejected.

The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times. Valves and fittings shall be kept drained and stored before installation in a manner protecting them from damage due to freezing of trapped water.

7.6.4.2 PIPE

All water pipe shall be cement-lined ductile iron (or possibly, PVC) and shall conform to the latest revision of Federal Specification SS-P-351 and shall be of a strength suitable for a working pressure of 150 psi and a test pressure of 300 psi.

7.6.4.3 HYDRANTS

Hydrants shall be Kennedy or Mueller of the model currently used by the Water Department, six (6) inches inside diameter, right hand opening.

7.6.4.4 GATE VALVES

Gate valves shall be iron body, fully bronze mounted, with ends to fit the type of pipe used. All buried valves shall have two (2) inch square operating nuts and adjustable cast iron valve boxes and covers.

Gate valves shall be right hand opening and of 150 pounds per square inch design. Valve boxes shall consist of cast iron base, center section, and top section with cover marked "Water". The top section shall be adjustable for elevation.

Fittings and valves should be at the required locations with joints centered, spigots home and all valve stems plumb. Valve box top sections shall be set to allow equal movement above and below

finished grade. The base shall be centered over the valve and shall rest on compacted backfill. The top of the base section shall be appropriately on line with the nut at the top of the valve stem, and the entire assembly shall be plumb.

7.6.4.5 SERVICE CONNECTIONS

Service connections shall be Type K copper (or possibly, PVC) and provided with bronze stop and waste valves and service boxes. The minimum size shall be three-quarters (3/4) inch. The connection to the main shall be by means of a saddle and corporation cock.

7.6.5 INSTALLATION

7.6.5.1 EXCAVATION AND BEDDING

The trench shall be excavated to a depth sufficient to give the pipe a cover of four (4) feet six (6) inches. Rock shall be removed to a depth of six (6) inches below the bottom of the pipe and replaced with sand.

7.6.5.2 LAYING PIPE AND INSTALLING FITTINGS

Pipes shall be laid to the alignment and grade shown on the Definitive Plan. Pipes shall be installed on wood block in accordance with the manufacturer's installation instructions. No pipe shall be installed in frozen ground.

Tight bulkheads shall be used to prevent entry into the pipe of dirt or water from the trench. Pipes may be angled from the straight by a maximum of 130 at any joint. Ells will be used for larger angles.

7.6.5.3 HYDRANT INSTALLATION

Hydrants shall be installed in accordance with the typical hydrant installation shown as Exhibit E.

7.6.5.4 STERILIZATION

Before being placed in service the entire line shall be flushed and chlorinated. Chlorine shall be applied in a manner approved by the Town Engineer.

Water shall be fed slowly into the new line with chlorine applied in amounts to produce a dosage of 40 to 50 p.p.m. Mains previously filled shall be treated to a concentrated dosage at intervals along the line and retained for a period of eight (8) hours or more. A residual of not less than 5 p.p.m, shall be produced in all parts of the line. During the chlorination process all valves and accessories shall be operated.

After chlorination, the water shall be flushed from the line at its extremities and at all hydrants until the replacement water tests are equal chemically and bacteriologically to those of the permanent source of supply.

Both the chlorination and the flushing process shall be witnessed by the Town Engineer or his designated agent. Water samples will be submitted to an approved independent testing laboratory to confirm the results of the chlorination and flushing processes at the subdivider's expense,

7.6.5.5 PRESSURE TESTING

The completed water line shall be subjected to a water test pressure

of 200 psi for a period of one hour. Any measurable leakage shall be repaired. Tests shall be repeated following any repairs, The pressure test shall be witnessed by the Town Engineer or his designated agent.

7.6.5.6 BACK FILLING

Selected material containing no lumps or stones over two (2) inches in diameter shall be used up to a level of one (1) foot above the top of the pipe, and shall be tamped as placed. The remainder of the backfill to the top of the trench shall be compacted by puddling, tamping or rolling; it shall contain no stones weighing over fifty (50) pounds.

7.6.5.7 CONNECTIONS

Connections to existing water mains shall be made with the tapping sleeve valve without interruption of service on the existing main. Connections shall be made under the supervision of the Town Engineer.

7.7 STORM DRAINAGE

7.7.1 FUNCTION

Storm drains, culverts, subdrains, ditches and related installations, including catch basins, gutters and manholes shall be installed as necessary in the Board's opinion to provide adequate disposal of surface and sub-surface water, including control of erosion, flooding, and standing water, from or in the subdivision and adjacent land.

7.7.2 DESIGN

The drainage system shall be designed by the Modified Soil Cover Complex Method for a storm frequency of ten (10) years on slopes. Where a greater degree of protection should be afforded to public or private property, i.e., roadway cuts and crossings, etc., a greater storm frequency may be required by the Board (usually a 100-year storm frequency).

7.7.3 PIPE

Drain pipe shall be at least twelve (12) inches in diameter and shall be of good quality, vitrified clay, concrete, aluminum, or bituminous coated corrugated metal pipe. Concrete pipe twelve (12) inches and larger in diameter and pipe located under roadways shall be reinforced. At least three (3) feet of cover will be required over drains. Where special conditions of topography and/or hydrology require pipe to be laid with less than three feet of cover, the Board may require other materials or methods of construction to meet such conditions.

7.7.4 CATCH BASINS AND MANHOLES

Catch basins, curb inlets and manholes shall be located as required to maintain the drainage area free from temporarily ponded runoff and to avoid excessive accumulations of surface flow on or adjacent to public ways. They shall be constructed of precast reinforced concrete sections or of eight (8) inch radial concrete blocks or bricks set in a full mortar joint struck smooth with a trowel. The Board may direct that any or all catch basins within a given drainage area shall be of any one of the three types of construction. Vertical joints between blocks shall be filled with mortar to form a keyed joint. Catch

basins shall be constructed as shown in Exhibit D and spaced not over 300 feet apart.

Manholes shall be spaced not over 250 feet apart on straight runs and at all changes in alignment or grade. Where desirable in the opinion of the Board because of special features of the terrain, curved alignment may be allowed. It is not to be interpreted that provision for curved alignment constitutes general acceptance of such methods of construction and every effort must be made in the design to avoid such installations. Manholes shall be constructed as shown in Exhibit C.

7.7.5 CONTINUITY OF SYSTEM

Proper connections shall be made with any existing drains in adjacent streets or easements. Where property adjacent to the subdivision has not been subdivided, drains installed within the subdivision shall be of such design as to make feasible their connection with drains installed in such adjacent property if and when it is subdivided.

7.7.6 SUB-SURFACE DRAINS

Sub-surface drains, i.e., under curb drainage, shall be required in side slope roadway cuts. Sub-surface drains shall be constructed as shown in Exhibit E.

7.8 FIRE ALARM SYSTEM

A fire alarm system shall be installed in conformity with the specifications on file in the Town Hall. Such system shall include one (1) fire alarm box for each 1000 feet of way or any fraction thereof within the subdivision. The location of all boxes shall be shown on the Definitive Plan.

7.9 SHADE TREES

Where, in the opinion of the Board, existing trees are inadequate, shade trees having a trunk diameter of at least 1 1/2 inches and of such variety as the Board may approve shall be planted. Such trees shall usually be spaced not more than forty (40) feet apart, and planted in one-half (1/2) cubic yard of loam. Trees shall be properly wrapped and guyed in a manner to ensure their survival. The Tree Warden will inspect and approve the plantings.

7.10 MONUMENTS

Monuments shall be installed on both sides of streets and at all intersections of streets with each other, at all points of change in direction or curvature of streets, and at all such other points as in the opinion of the Board may be necessary to show the location of projected streets or easements. Monuments shall be of 4" x 4" granite embedded three and a half (3 1/2) feet below and extending six (6) inches above finished grade. Drill holes shall be placed in the top of each bound. No permanent monuments shall be installed until all road construction which would destroy or disturb the monuments is completed. A letter from a Registered Land Surveyor shall be submitted certifying that the monuments have been installed as indicated on the Definitive Plan.

7.11 UTILITIES

7.11.1 UNDERGROUND SERVICES

Insofar as possible, the subdivider will see that any other

underground services are installed and individual lot services carried to the front lot lines prior to completing pavement foundation. All gas, telephone, electricity, fire alarm and burglar alarm lines, and water pipes shall be installed underground.

7.11.2 SEWERAGE SYSTEM

If a sewerage system is required in the opinion of the Board, it shall be constructed in accordance with the regulations of the Massachusetts Department of Public Health.

7.12 SIGNS

At all intersections street signs, of a design approved by the Board, shall be installed.

Until such time as each street is accepted by the Town as a public way, the sign posts at the intersection of such street with any other street shall have affixed thereto a sign designated such street as a private way.

7.13 INSPECTION

7.13.1 INSPECTION BY BOARD OR ITS REPRESENTATIVE

No water main, drain, catch basin, road subgrade or foundation, or any other item or work designated for inspection shall be backfilled or paved over until inspected by the Board or its representative.

7.13.2 INSPECTION CHECK-LIST

The subdivider shall notify the designated Town representative upon completion of each item in the Subdivision Inspection Check-List which the Planning Board will furnish the subdivider. (See Exhibit G.)

7.13.3 FINAL RELEASE

The Board may withhold final release of the subdivider's bond or delivery of a certificate of performance on the subdivider's covenant until satisfied as to:

- (1) Pavement integrity intact after one winter.
- (2) Permanent type grass on all seeded areas.
- (3) Shoulders and embankments intact.
- (4) Functional integrity of all parts of the drainage system.
- (5) Satisfactory installation of utilities as required by the Board.

APPENDIX A

SECTION 81L, CHAPTER 41, GENERAL LAWS: DEFINITIONS

In construing the subdivision control law, the following words shall have the following meaning, unless a contrary intention clearly appears:

"Applicant" shall include an owner or his agent or representative, or his assigns,

"Certified by (or endorsed by) a planning board", as applied to a plan or other instrument require or authorize by the subdivision control law to be recorded, shall mean bearing a certification or endorsement signed by a majority of the members of a planning board, or by its chairman or clerk or any other person authorized by it to certify or endorse its approval or other action and named in a written statement to the register of deeds and recorder of the land court, signed by a majority of the board.

"Drainage" shall mean the control of surface water within the tract of land to be subdivided.

"Lot" shall mean the area of land in one ownership, with definite boundaries, used, or available for use, as the site of one or more buildings.

"Municipal services" shall mean public utilities furnished by the city or town in which a subdivision is located, such as water, sewerage, gas and electricity.

"Planning board" shall mean a planning board established under section eighty-one, or a card of selectmen acting as a planning board under said section, or a board of survey in a city or town which has accepted the provisions of the subdivision control law as provided in section eight-one N or corresponding provisions of earlier laws, or has been established by special law with powers of subdivision control.

"Preliminary plan" shall mean a plan of a proposed subdivision or resubdivision of land drawn on tracing paper, or a print thereof, showing (a) the subdivision name, boundaries, north point, date, scale, legend and title "Preliminary Plan": (b) the names of the record owner and the applicant and the name of the designer, engineer or surveyor; (c) the names of all abutters, as determined from the most recent local tax list; (d) the existing and proposed lines of streets, ways, easements and any public areas within the subdivision in a general manner; (e) the proposed system of drainage, including adjacent existing natural waterways, in a general manner; (f) the approximate boundary lines of proposed lots, with approximate areas and dimensions; (g) the names, with approximate location and widths of adjacent streets; (h) and the topography of the land in a general manner.

"Recorded" shall mean recorded in the registry of deeds of the county or district in which the land in question is situated, except that, as affecting registered land, it shall mean filed with the recorder of the land court.

"Register of deeds" shall mean the register of deeds of the county or district in which the land in question, or the city or town in question, is situated, and, when appropriate, shall include the recorder of the land court.

"Registered mail" shall mean registered or certified mail.

"Registry of deeds" shall mean the registry of deeds of the county or district in which the land in question is situated, and, when appropriate, shall include the land court.

"Subdivision" shall mean the division of a tract of land into two or more lots and shall include resubdivision, and, when appropriate to tile context, shall relate to the process of subdivision or the land or territory subdivided; provided, however, that the division of a tract of land into two or more lots shall not be deemed to constitute a subdivision within the meaning of the subdivision control law if, at the time when it is made, every lot within the tract so divided as frontage on (a) a public way or a way which the clerk of the city or town certifies is maintained and used as a public way, or (b) a way shown on a plan theretofore approved and endorsed in accordance with the subdivision control law, or (c) a way in existence when the subdivision control law became effective in the city or town in which the land lies, having, in the opinion of the planning board, sufficient width, suitable grades, and adequate construction to provide for the needs of vehicular traffic in relation to the proposed use of the land abutting thereon or served thereby, and for the installation of municipal services to serve such land and the buildings erected or to be erected thereon. Such frontage shall be of at least such distance as is then required by zoning or other ordinance or by-law, if any, of said city or town for erection of a building on such lot, and if no distance is so required, such frontage shall be of at least twenty feet. Conveyances or other instruments adding to, taking away from, or changing the size and shape of, lots in such manner as not to leave any lot so affected without the frontage above set forth, or the division of a tract of land on which two or more buildings were standing when the subdivision control law went into effect in the city or town in which the land lies into separate lots on each of which one of such buildings remains standing, shall not constitute a subdivision.

"Subdivision control" shall mean the power of regulating the subdivision of land granted by the subdivision control law.

APPENDIX B

SUBDIVISION PLAN REVIEW CHECK-LIST

- ___ 1. Secure information on zoning from Clerk of the Planning Board.
 - ___ 2. Discuss intentions with Planning Board, Water Commission, Conservation Commission, Board of Health, Board of Assessors, Board of Selectmen, and Town Engineer, as appropriate and/or necessary,
 - ___ 3. File Preliminary. Plan with Planning Board with copies to Board of Health and Conservation Commission, if necessary. (See Section 4.0.)
 - ___ 4. Discuss Preliminary Plan with Planning Board, providing for on-site staking and inspection where requested.
 - ___ 5. Within 60 days the Planning Board shall approve, with or without modifications, or disapprove the Preliminary Plan.
 - ___ 6. File Definitive Plan with Planning Board. (See Section 5.0.)
 - ___ Notice to Town Clerk of submission.
- Accompanying documents submitted with plan:
- ___ a. Easements, covenants, restrictions applying to tract.
 - ___ b. Proposed land management plans for any open space or common area.
 - ___ c. Arrangements and data regarding water supply.
 - ___ d. Arrangements and data regarding storm and surface water drainage.
 - ___ e. Septage disposal data, as required by Board of Health.
 - ___ f. Intersection sight lines and traffic data.
 - ___ g. Print from Town Topographic Atlas showing tract location.
 - ___ h. Environmental Impact Statement.
 - ___ i. Soil surveys, if requested.
 - ___ j. Other information, if requested.
- ___ 7. Board of Health report (due 45 days from filing of Definitive Plan).

- ___ 8. Reports of other Town Boards:
 - ___ a. Selectmen: streets, drainage, location of easements, public safety.
 - ___ b. Water Commissioners: water distribution system.
 - ___ c. Conservation Commission: open space and wetlands.
- ___ 9. Independent Planning Board engineering and survey review.
- ___ 10. Public Hearing (after 14 days published notice).
- ___ 11. Performance Guarantee: bond or covenant.
- ___ 12. Decision of Planning Board (within 60 days of filing of Definitive Plan).
 - ___ Decision filed with Town Clerk.
- ___ 13. Appeal period of 20 days after decision filed with Town Clerk.
- ___ 14. If Definitive Plan is approved and no appeal is filed, Planning Board endorsement of plan.
- ___ 15. Recording of Plan and pertinent documents (covenant, special permit) in Registry of Deeds.
- ___ 16. Completion of improvements and release of performance guarantee.

NOTE: CLUSTER SUBDIVISIONS --

Petitions for a Special Permit for an R-1 Cluster Development under Section 6.6 of the Lincoln Zoning By-Law are considered by the Planning Board concurrently with the submission and review of a Definitive Subdivision Plan. Under this procedure, the steps listed below are required in addition to those provided above:

- ___ Submission of site plan with Definitive Plan.
- ___ Application for Special Permit filed with Town Clerk.
- ___ Decision of Planning Board after Public Hearing (Approval requires 4/5 vote).
- ___ Filing of Special Permit with Town Clerk.
- ___ Appeal period of 20 days.
- ___ If no appeal, Special Permit to be recorded.
 - Special permit lapses if not used or construction not begun (except for good cause) within 13 months,

APPENDIX C

SUGGESTED TIMETABLE FOR ANY DEVELOPMENT REQUIRING
TOWN MEETING APPROVAL (R2, R3, R4 DEVELOPMENT)

As soon as possible, but at least twelve weeks prior to Town Meeting,	Meet with full Planning Board to outline plans and schedule.
At least nine weeks prior to TM	Second meeting with full Planning Board to deliver progress report with semi-final plans. Notify Board of Selectmen, Board of Health, Water Board, Highway Engineers, Conservation Commission and Board of Appeals of proposed action.
Twelve to six weeks before TM.	Meet with Boards: Selectmen, Water, Health, Conservation, Assessors, and Town Engineer in preparing final plans.
Six weeks before TM.	Meeting with Planning Board to review final plans and materials to be sent to the Town,
Five weeks before TM.	Mail notices of neighborhood meetings and public hearings with description of project. Submission of copy for public hearing advertisement.
Four weeks before TM.	Advertisement for public hearing published. Meeting with Planning Board and representatives of Selectmen, Health, Water, Highway, Conservation, Assessors, Finance, School, and Appeals to review plans.
Three weeks before TM.	Neighborhood meeting, North Lincoln. Neighborhood meeting, South Lincoln.
Two weeks before TM.	Planning Board hearing, Town Hall.
One week before TM.	Meeting with Planning Board to review results of meetings and hearings, make changes, and prepare for Town Meeting; Planning Board report prepared.
TM	Town Meeting.
One week after TM.	Submission of subdivision petition to Planning Board and Board of Appeals.

Advertisement for subdivision hearing submitted. Final plans submitted. Copies to Health, Water, Appeals and Highway Engineers.

Two weeks after TM.

Meeting with Planning Board and (informal) Board of Appeals; Planning board report filed with Board of Appeals.

Three weeks after TM.

Combined Planning Board and Board of Appeals hearing.

At least five weeks after TM.

Decision by Planning Board and Board of Appeals.

COMMENTS:

Assuming the plans are well conceived, success depends on sound public relations with the Town. Unless the Town is convinced that the plans are well thought out, the plans will get sent back for further study.

In addition to the two neighborhood meetings and the Planning Board hearing, it would appear to be desirable to meet informally with the local residents as soon as possible since they will be the ones who will be primarily affected by the development.

In addition, after the initial meeting with the Planning Board, there should be ready a steady stream of articles for the Concord Journal with major articles appearing one week before the hearing and one week before the Town Meeting.

The Town Meeting will want to see the proposed layout and a sample elevation and floor plan, but will not require floor plans and elevations for all the buildings nor will any detailed engineering be required. The Town Meeting will be comparing the proposed development against a standard two-acre subdivision, and will want to know:

1. The amount of road surface.
2. How the sewage is to be handled.
3. How the utilities will be handled.
4. The amount of land to be covered by buildings.
5. The projected population of the development by ages.
6. The projected costs of the units.
7. The estimated gross revenue.
8. The estimated net revenue.
9. The traffic projections.

Answers to these questions should be available well in advance of the Town Meeting and should preferably be contained in a brochure to be mailed to the Town to announce the neighborhood meetings and the public hearing. Note: Most of these are among the items to be covered by the EIS.

In addition to the above information, the Planning Board and the Board of Appeals, in order to approve the subdivision plan, will have to have:

1. A report from the Board of Health regarding the sewage disposal plans.
2. Clearance from the Town Engineer with regard to road construction and drainage.

3. A floor plan showing the elevations and floor plan of the buildings.
4. A plan showing the detailed engineering of all roads and buildings including sewage treatment.

APPENDIX D

COMPUTATION SHEET - COST DETERMINATION, BOND OR SURETY

Should the developer choose to provide security to be retained by the Town guaranteeing completion of municipal services and other items as required by the Planning Board and shown on the Definitive Plan, the "Computation Sheet" shown below must be completed and filed with the Board. Should the developer wish a partial release of security held by the Town, a "Computation Sheet" shall be prepared enumerating the items of work remaining to be completed. See Section 5.7, Performance Guarantee, p. 16, and Section 5.9, Release of Bond or Covenant, p. 18.

COMPUTATION SHEET

Item	Unit	Quantity	Unit Cost	Item Total
1. Clearing & grubbing	lump sum			
2. Stripping, including stockpiling	c.y.			
3. Ordinary borrow, including grading & compaction	c.y.			
4. Gravel borrow, including grading & compaction	c.y.			
5. Ledge rock - blasting & removal	c.y.			
6. Paving	ton			
7. Water main (size)	l.f.			
8. Hydrants	each			
9. Gates	each			
10. Fittings	lb.			
11. House services	each			
12. Drain pipe (size)	l.f.			
13. Drainage structures (type)	each			
14. Subdrain	l.f.			
15. Sidewalk (width)	l.f.			

- 16. Curbing (type) 1.f.
- 17. Fire alarm cable 1.f.

Item	Unit	Quantity	Unit Cost	Item Total
18. Fire alarm pull box	each			
19. Loaming & seeding	s.y.			
20. Cleanup	lump sum			
21. Monuments	each			
22. Engineering, including as-built plans	lump sum			
23. Plantings (type)	each			
24. Miscellaneous items (describe):				

Total				_____
Total x 150%				_____

I certify that the above enumerated work items, quantities and unit prices adequately and fairly represent all items shown to be constructed or installed on the approved Definitive Subdivision plans

titled: _____

dated: _____

Registered Professional Engineer

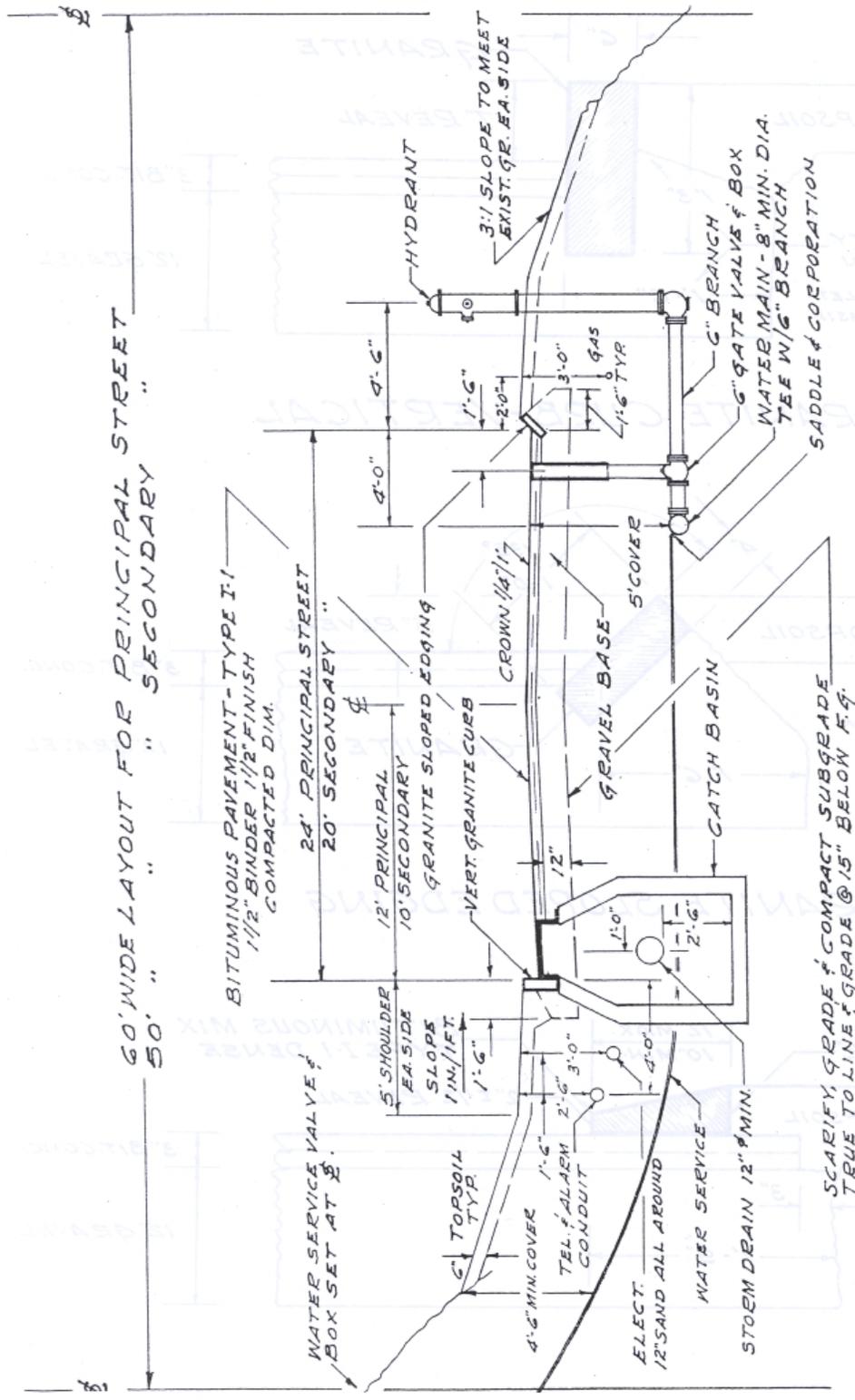
Date

Approved: _____ Date: _____
Lincoln Town Engineer

Security Provided: _____, _____
(Type) (Amount)

ILLUSTRATION

Illustration - Exhibit A - Typical Roadway Section



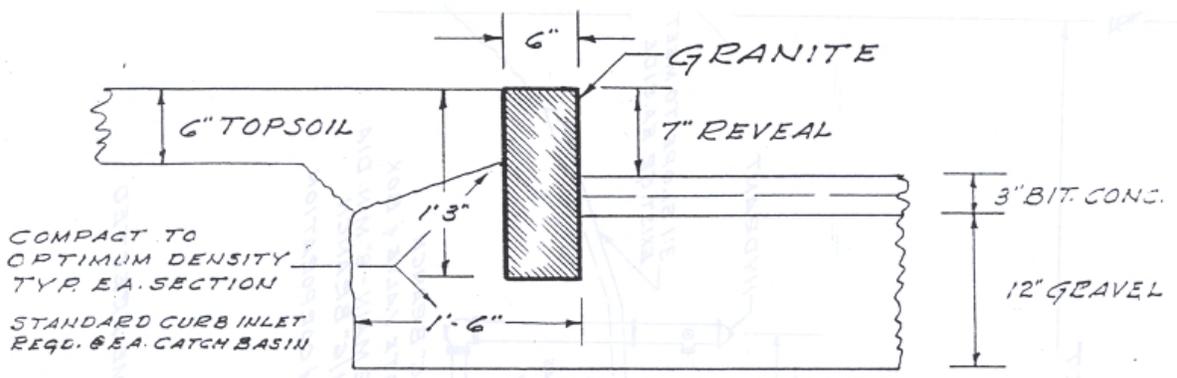
SCARIFY, GRADE & COMPACT SUBGRADE TRUE TO LINE & GRADE @ 15" BELOW F.G.

NOTE:
 HORIZONTAL DIMENSIONS ARE REFERENCED TO THE RESPECTIVE GUTTER LINE.
 WAYS WHICH ARE PRIVATE SHALL HAVE A SIGN DESIGNATING SAME ERECTED AT THE ENTRANCE AT THE ONSET OF CONSTRUCTION.

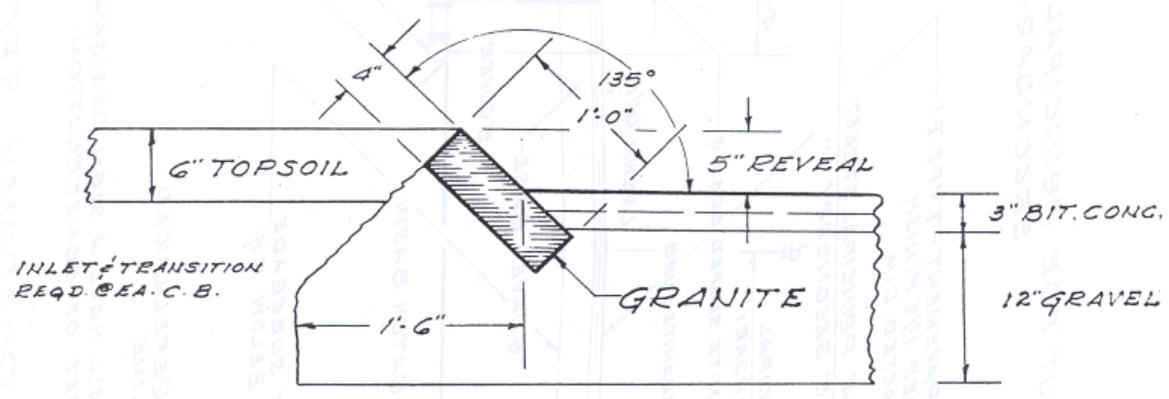
TYPICAL ROADWAY SECTION

ILLUSTRATION

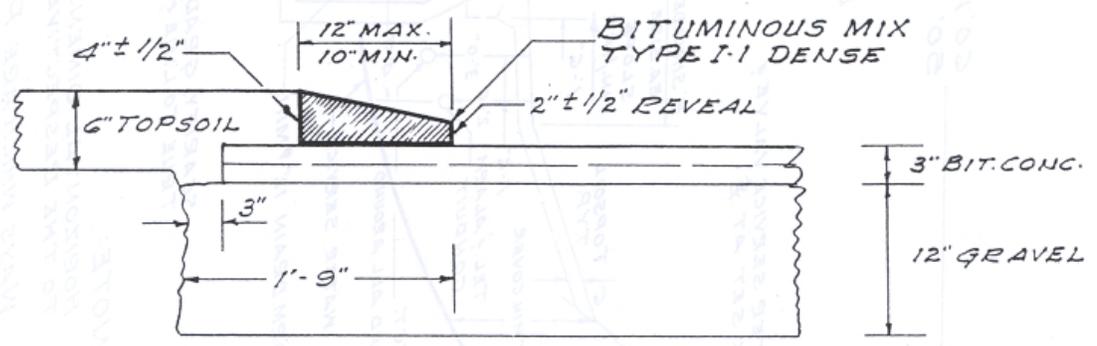
Illustration - Exhibit B - Granite Curb Vertical & Granite Sloped Edging



GRANITE CURB-VERTICAL



GRANITE SLOPED EDGING

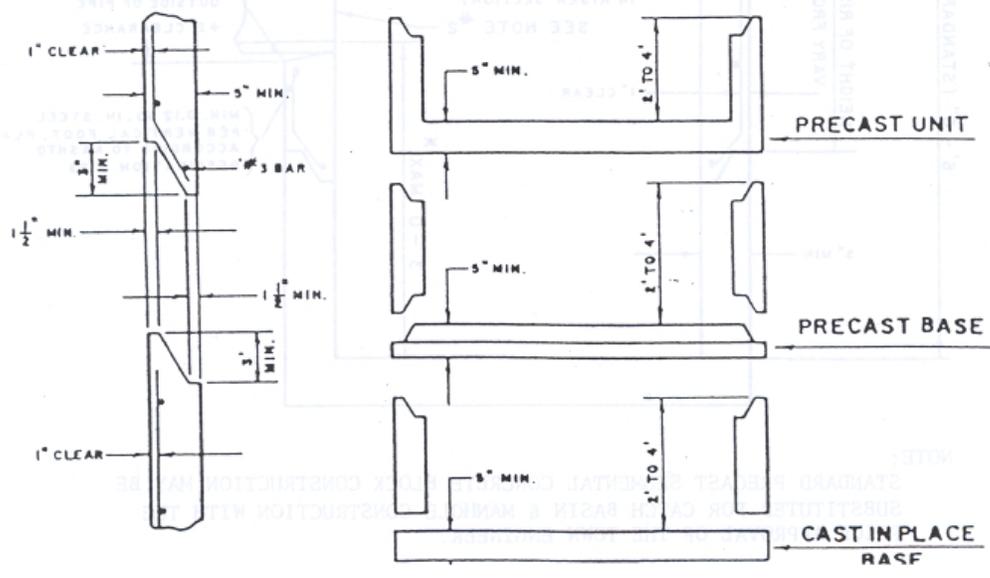
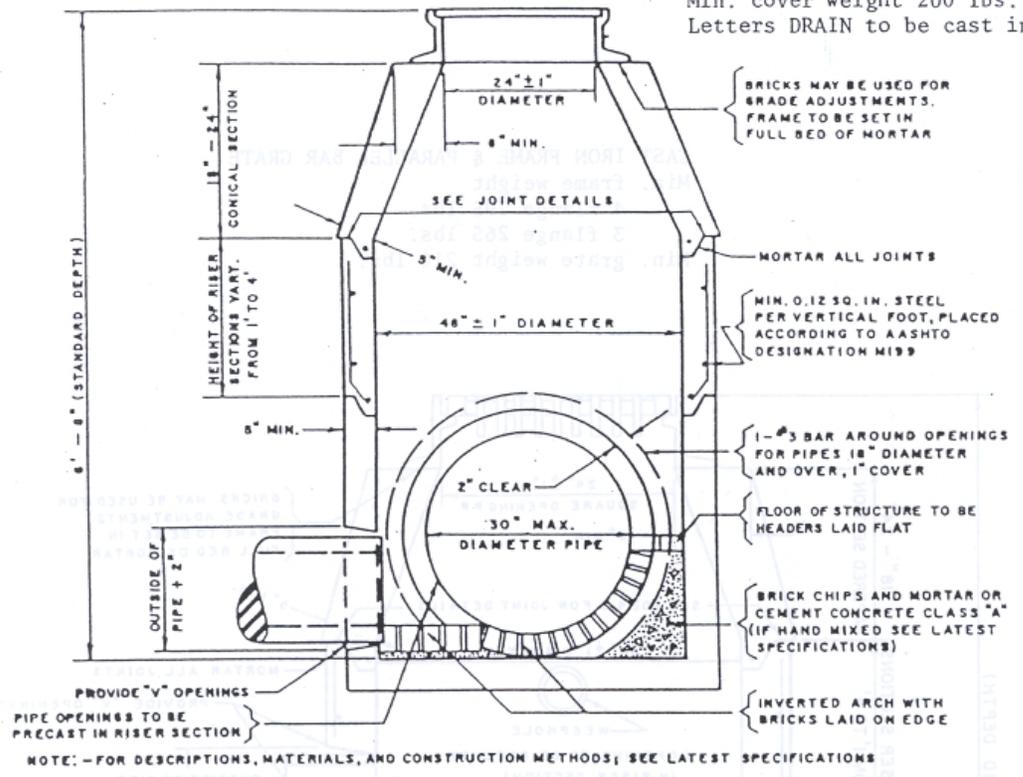


ILLUSTRATION

Illustration - Exhibit C - Precast Concrete Manhole 9 Feet or Less In Depth

PRECAST CONCRETE MANHOLE 9 FEET OR LESS IN DEPTH

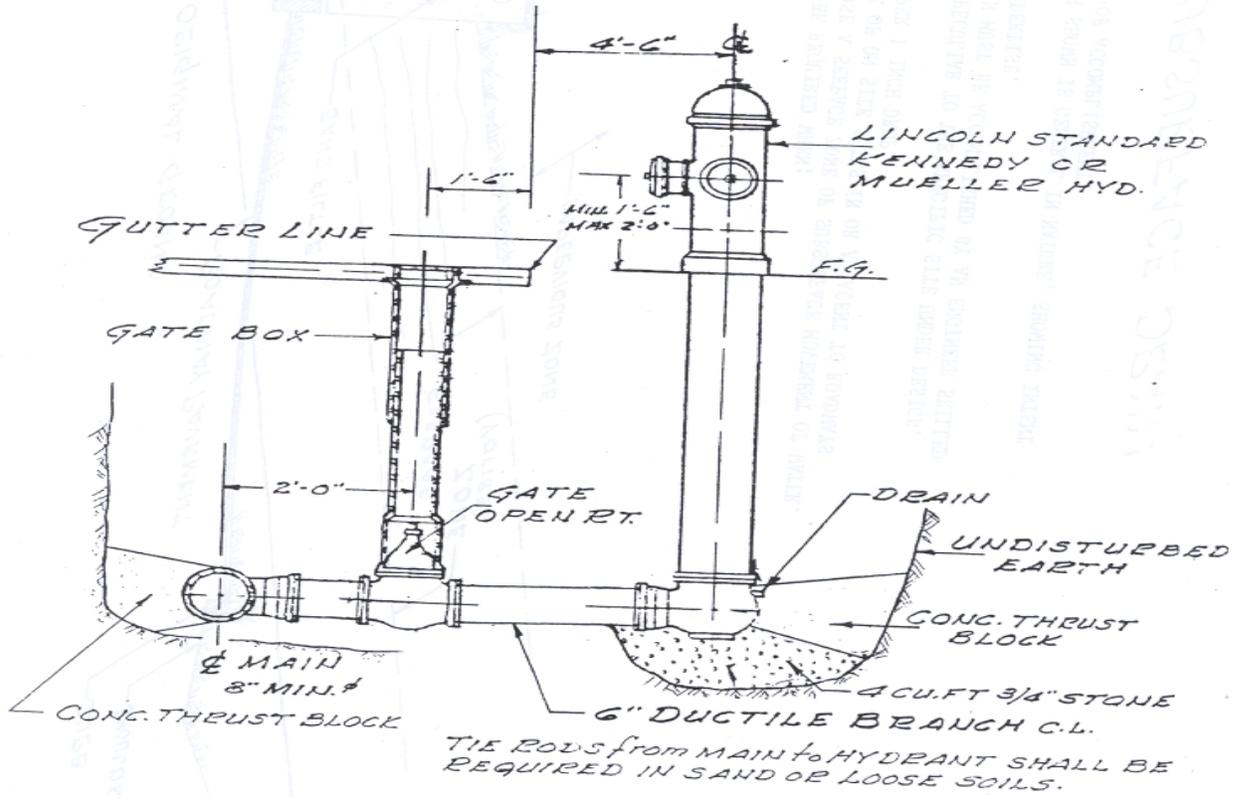
CAST IRON FRAME & COVER
Min. frame weight 265 lbs.
Min. cover weight 200 lbs.
Letters DRAIN to be cast in cover



ILLUSTRATION

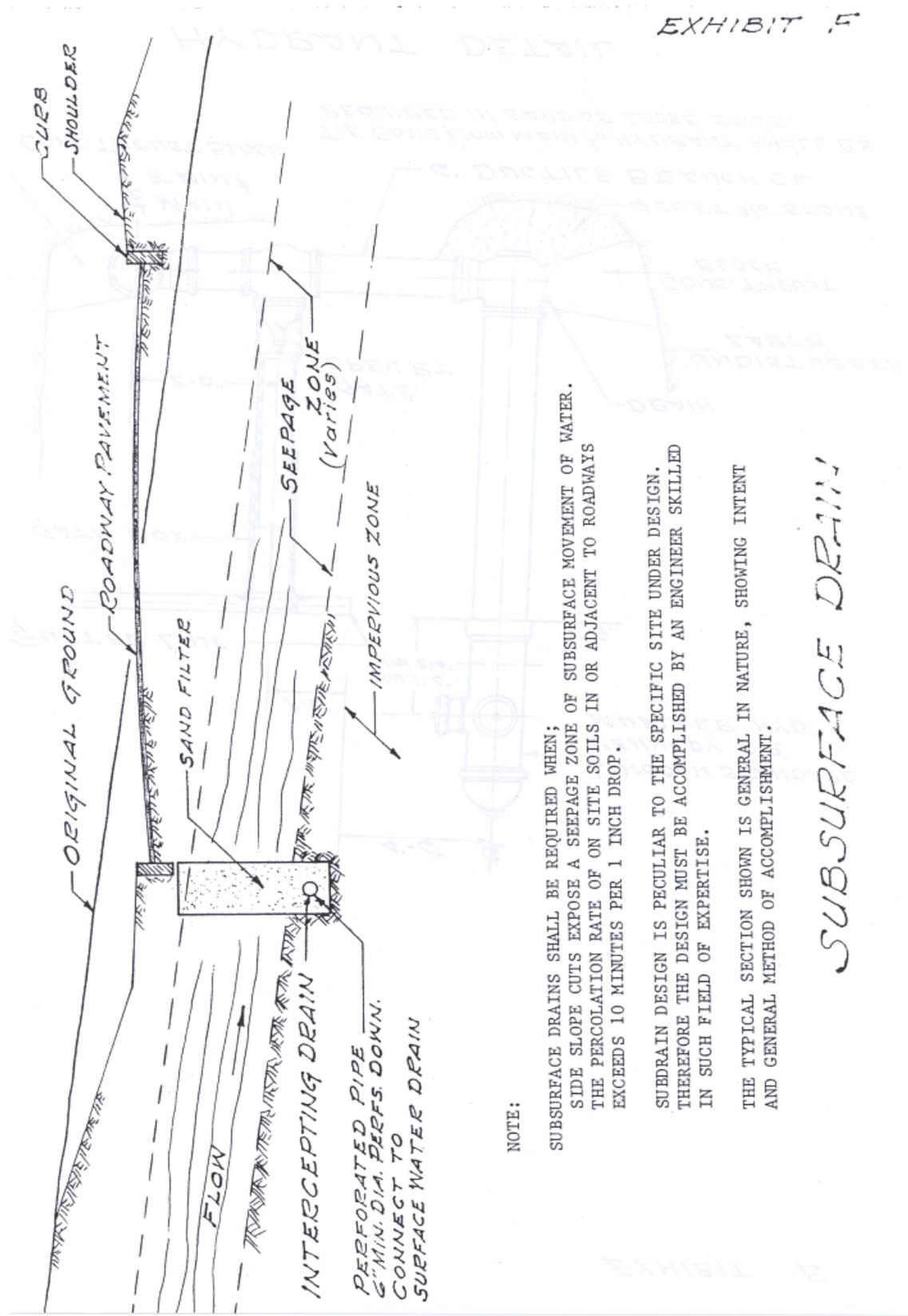
Illustration - Exhibit E - HYDRANT
DETAIL

EXHIBIT E



HYDRANT DETAIL

ILLUSTRATION
Illustration - Exhibit f - Subsurface Drain



NOTE:

SUBSURFACE DRAINS SHALL BE REQUIRED WHEN;
SIDE SLOPE CUTS EXPOSE A SEEPAGE ZONE OF SUBSURFACE MOVEMENT OF WATER.
THE PERCOLATION RATE OF ON SITE SOILS IN OR ADJACENT TO ROADWAYS
EXCEEDS 10 MINUTES PER 1 INCH DROP.

SUBDRAIN DESIGN IS PECULIAR TO THE SPECIFIC SITE UNDER DESIGN.
THEREFORE THE DESIGN MUST BE ACCOMPLISHED BY AN ENGINEER SKILLED
IN SUCH FIELD OF EXPERTISE.

THE TYPICAL SECTION SHOWN IS GENERAL IN NATURE, SHOWING INTENT
AND GENERAL METHOD OF ACCOMPLISHMENT.

SUBSURFACE DRAIN