Town of New Boston Subdivision Regulations

Revision Adopted February 11, 2020
Including all previous adoptions and amendments

Adopted by New Boston Planning Board on February 11, 2020

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ARTICLE I: INTRODUCTION

1.01 PURPOSE

These regulations are adopted in accordance with RSA 674:36 and 674:44, as amended, for the following purposes:

a. To provide for the safe, attractive and harmonious development of land.
b. To ensure the health, safety and welfare of the residents of the Town of New Boston.
c. To provide against such scattered or premature development of land as would involve danger or injury to health, safety, or prosperity by reason of the lack of water supply, drainage, transportation, schools, fire protection, or other public services, or necessitate the excessive expenditure of public funds for the supply of such services.
d. To provide for connected open spaces and connected green spaces of adequate proportions.
e. To provide for adequate public services, facilities and parking.
f. To provide for suitably located connected roads of sufficient dimensions to accommodate existing and proposed pedestrian and vehicular traffic.
g. To provide for adequate drainage, stormwater management, pollution prevention, proper landscaping and protection from negative environmental impacts.
h. To provide for harmonious and aesthetically pleasing development of the Town and its environs.
i. To encourage the wise use and management of natural resources, rural character and historic features throughout the Town in order to preserve the integrity, stability, and beauty of the community and the value of the land.
j. To guide the future growth and development of the Town, in accordance with the Town's Master Plan.

1.02 AUTHORITY

Pursuant to the authority vested in the New Boston Planning Board by the voters of the Town of New Boston by vote of the Town Meeting, March 12, 1968, and in accordance with the provisions of RSA 674, Sections 35 - 42, the New Boston Planning Board adopts the following regulations governing the subdivision of land in the Town of New Boston, New Hampshire.

1.03 VALIDITY

1.03.01 INTERPRETATION

These Development Regulations shall be construed broadly to promote the purposes for which they are adopted.

1.03.02 CONFLICT

Whenever the regulations made under the authority hereof differ from those prescribed by any statute, ordinance or other regulations, that provision which imposes the greater restriction, or the highest standard shall govern.

1.04 SEVERABILITY

If any section, clause, provision, portion or phrase of these regulations shall be held to be invalid or unconstitutional by any court of competent authority, such holding shall not affect, impair or invalidate any other section, clause, provision, portion or phrase of these regulations.

1.05 EFFECTIVE DATE

This Regulation shall be in effect from the time of its adoption by the vote of a majority of the Planning Board present and voting.

ARTICLE II: JURISDICTION

2.01 GENERAL

This Regulation shall pertain to all land within the boundaries of the Town of New Boston. All Sections and paragraphs of these Subdivision Regulations shall apply to all Planning Board applications unless the section or paragraph specifically indicates otherwise.

2.02 APPLICABILITY

These provisions shall govern subdivisions within the boundaries of the Town of New Boston. No land shall be subdivided until:

a. The Planning Board has given final approval of the subdivision at a public hearing and the Chairman of the Planning Board (or designee) has affixed his/her signature on the approved plan

b. The applicant has complied with all of the Town of New Boston regulations including but not limited to the Zoning Ordinance, Stormwater Regulations, Highway Department standards, Residential Driveway Standards and the regulations herein, including the posting of appropriate performance guarantees as appropriate, and;

c. The approved plan is filed with the Hillsborough County Registry of Deeds, as required.

2.03 DEVELOPMENT REQUIRING SUBDIVISION APPROVAL

Subdivision approval shall be required for:

a. The subdivision of any lot, tract or parcel of land

b. Lot line adjustment

c. Condominium conversion

The property owner or his representative shall apply in writing to the Planning Board on application forms provided by the Planning Board for approval of any subdivision, condominium conversion or lot line adjustment.

ARTICLE III: DEFINITIONS

3.01 DEFINITIONS

For the purpose of these Regulations, the word “shall” is mandatory, the words “may” and “can” are permissive.

For any term not defined in these regulations, the definition, if any given in the Town of New Boston Zoning Ordinance or applicable State Statutes shall prevail. Terms and Words not so specifically defined shall have their common meaning. In the event a conflict is found to exist between the meaning or definition of any word or term defined in this document, and the meaning or definition of any word or term also defined in the Zoning Ordinance or applicable State Statues, the most restrictive meaning or definition shall prevail.

Term Definitions:

ABUTTER: as defined in RSA 672:3, as amended.

AGENT: means the duly designated Planning Consultant or Official assigned by the Board. In addition, an Agent may also include an authorized representative of a property owner, applicant, or a public official.

BACKLOT: shall mean a lot using backland, thereby, being behind a road frontage lot. A backlot shall have fifty feet (50') of road frontage, and maintain a corridor of 50' in width, minimally, extending to the main body of the lot.

BOARD: means the Planning Board of the Town of New Boston.

CERTIFICATION: means a signed, written acknowledgement by the Planning Board or such professional as the Board may designate, such as a surveyor, engineer, soil scientist, or any other professional, which states compliance with an applicable ordinance, regulation, or standard. Certification shall be accompanied by the applicable seal, if any, of the professional's license.

CERTIFIED SOIL SCIENTIST: means a person qualified in soil classification and mapping who is licensed and certified by the State of New Hampshire Joint Board of Licensure and Certification.

CERTIFIED WETLAND SCIENTIST: means a person qualified in wetland delineation and mapping who is licensed and certified by the State of New Hampshire Joint Board of Licensure and Certification.

DEVELOPMENT OF REGIONAL IMPACT: as defined in RSA 36:55, as amended.

ENGINEER: means a Professional Engineer duly certified for the field in which he is working and licensed in the State of New Hampshire, or means the Consulting Engineer of the Town of New Boston.

EROSION: means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

LOT: means a parcel of land capable of being occupied, as permitted by the Town of New Boston's Zoning Ordinance, by one or more principal structures or uses and their accessory structures or uses and as shown and identified as such on a plat.

OWNER: means an individual, firm, association, syndicate, partnership, or corporation that have sufficient proprietary interest to seek development of land, who shall be required to provide adequate documentation to establish such interest.

ROADWAY: means the road surface between shoulders.

STREET: as defined in the Town of New Boston Zoning Ordinance for definition, as amended.

SUBDIVIDER: means the owner of record in the Hillsborough County Registry of Deeds or the authorized agent of the owner of record of a subdivision or proposed subdivision.

SUBDIVISION: as defined in RSA 672:14, as amended.

SUBDIVISION - MINOR: a minor subdivision shall be:

(1) a division of land into three (3) or fewer lots, with no potential for re-subdivision, and/or requiring no new road, or,
(2) minor lot line adjustments or boundary agreements which do not create new buildable lots.

SUBDIVISION - MAJOR: a major subdivision shall be:

(1) a division of land into four (4) or more lots, and/or,
(2) a division of land requiring a new road, and/or,
(3) a division of land with potential for further subdivision.

SURVEYOR: means a person engaged in the business of surveying land and who is licensed for same in the State of New Hampshire.

UTILITIES: for the purpose of these regulations, utilities mean private utilities such as fire protection systems, community wells, septic systems, and so on, unless otherwise stated.

WETLANDS: as defined in the Town of New Boston Zoning Ordinance, as amended.

ARTICLE IV: ADMINISTRATION

The Office of the Planning Board/Planning Department is the agency to which all applications for subdivision approval shall be delivered. The Planning Department staff may consist of a Planning Coordinator, a Planning Board Assistant and Planning Board Clerk whose duties shall be as listed in the job descriptions for those positions on file in the Board of Selectmen's office, and as amended. For the purposes of administrative review of compliance to conditions of approval the Planning Coordinator is designated as the person responsible for said administrative review. All other administration of these regulations will be managed by the Planning Board, with enforcement duties assigned to the Building Inspector/Code Enforcement Officer.

4.01 REFERRAL TO TOWN AGENCIES AND BOARDS

The Planning Board may refer any materials submitted by the applicant to any boards, agencies or other administrative or policy making bodies for their evaluation of the extent to which the proposed development will have an impact, adverse or otherwise, on the Town. The Planning Board may request that said boards, agencies or other bodies indicate the extent to which the Town's public services and facilities can accommodate the demands created by the proposed project in terms of the present capabilities of the Town and the realistic and planned projections of future increases in said capabilities. In this regard, reference may be made to the Master Plan, Capital Improvements Plan, Budget or other documents or plans that are operative or under study in the Town at the time that this application is being reviewed.

4.02 PREMATURE DEVELOPMENT

The Planning Board, in its discretion, will not approve such scattered or premature development as would involve danger or injury to health, safety or prosperity by reason of the lack of water supply, drainage, transportation, schools, fire protection, public safety or other public services; nor will the Planning Board approve such development which will necessitate an excessive expenditure of public funds for the supply of such services.

These regulations are designed to guide the Town's future growth in a balanced and responsible manner. Towards this end, the Planning Board shall consider the following items when determining whether a proposed development is scattered or premature:

a. Existing and projected capacity of the Town's school system and the effect of the development on school bus transportation;
b. Adequacy of existing access roads;
c. Adequacy of water for domestic needs and firefighting purposes;
d. Potential health problems regarding the relationship between on-site sewage disposal systems and the soil conditions of the parcels, as well as the potential impact on surrounding water quality;
e. Potential problems with the delivery of municipal services (such as fire protection, ambulance and police services);
f. Potential drainage problems both on-site and downstream and within existing receiving municipal systems;
g. General compliance with applicable Master Plan goals and recommendations, and;
h. Other issues which, in the view of the Planning Board, may cause the proposed development to be scattered or premature.

4.03 OFF-SITE IMPROVEMENTS

If the Board determines that the proposed subdivision will adversely affect existing public facilities, roads, sidewalks, drainage, septage or water supply, causing them to be inadequate to meet the additional needs created by the subdivision, then the applicant shall pay a reasonable share for such upgrading of the public facilities to an extent necessary to protect the public interest. If other properties benefit from the upgrading of such off-site public improvements, the Board shall determine the portion of the cost to be paid by the applicant, taking into consideration the following elements:

a. The character of the area;
b. The extent that other public and private property will be benefited by the upgrading, and;
c. Any other factors that the Board deems appropriate to establish a rational connection between the needs created by the development and the amount to be paid by the applicant.

4.04 WAIVERS

The Planning Board may grant a waiver to any portion of the Subdivision Regulations only when the Board finds, by majority vote, that:

a. Strict conformity to the Subdivision Regulations would pose an unnecessary hardship to the applicant and a waiver would not be contrary to the spirit and intent of the regulations, or,

b. Specific circumstances relative to the subdivision, or conditions of the land in such subdivision, indicate that the waiver will properly carry out the spirit and intent of the regulations.

A waiver of any specific requirement shall not be construed as a waiver in full or in part of any other requirement, nor shall such waiver constitute a waiver of requirements on any other subdivision proposal. The basis for any waiver granted by the Planning Board shall be recorded in the minutes.

4.05 ABUTTER NOTIFICATION

The applicant and the abutters shall be notified of the initial public hearing by certified mail (as necessary), return receipt requested, mailed at least ten (10) days prior to the hearing. The notice shall include the time and place of the public hearing and a general description of the application and shall identify the applicant and the location of the application.

4.06 AMENDMENTS

These regulations may be amended or rescinded by the Board, but only following a public hearing on the proposed changes as required by RSA 675:6. A record of any changes, certified by the signatures of a majority of the members of the Board, shall be transmitted to the Town Clerk and the New Hampshire Office of Strategic Initiatives. (See RSA 675:8 & 9.)

4.07 PENALTY

Any owner, or agent of the owner, of any land located within a subdivision in the Town of New Boston, who transfers or sells any land before a plat of said subdivision has been approved by the Planning Board and filed with the Register of Deeds of Hillsborough County under RSA 674:37, shall forfeit and pay a civil penalty of $1,000 for each lot or parcel so transferred or sold; and the description by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the transaction from such penalties. The town may enjoin a transfer or sale which violates the provision of RSA 676:16 and may recover the penalty imposed by civil action. In any action to recover a penalty, the prevailing party may recover reasonable court costs and attorney's fees as may be ordered by the Court.

4.08 APPEALS

For purposes of appeals of Planning Board decisions, such decision shall be deemed "final" on the date when the Board takes its last official action on a subdivision; provided that, if an approval is granted with conditions and the subdivider wishes to challenge the Board's authority to require any or all of the conditions, the date on which said condition(s) is/are imposed shall be deemed to be the date of final action. Application of appeal to the Hillsborough County Superior Court shall be made within 30 days of the Board's decision, pursuant to RSA 677:15. Any Planning Board decisions appealable to the board of adjustment shall be appealed pursuant to RSA 676:5.

4.09 APPLICATION PAYMENTS

All fees for application and processing of a subdivision shall be payable to the Town of New Boston. All fees due as part of an application shall be paid in full prior to final approval.

ARTICLE V: PERMITTING PROCEDURE

5.01 APPLICATION

Whenever a subdivision as defined herein and covered by these regulations is proposed to be made, and before any conveyance of such subdivision or any part thereof is made, the owner of the land involved, or his agent shall make application for approval in writing to the Board on a form provided by the Board. This form shall include a cover sheet that consists of a certification by the applicant that the application being submitted is a completed application as provided for in Section 5.09. The completed application shall be accompanied by all supporting information and supporting plans and documentation required herein, and by the fees established by the Board for notification as required by Statute, RSA 676:4,I,(d)(1).

5.02 FEES

a. All costs of notices, whether mailed or posted, shall be paid in advance by the applicant. Failure to pay costs shall constitute valid grounds for the Board to terminate further consideration and to disapprove the plat without a public hearing.

b. The Board may require special investigative studies, environmental assessments, a legal review of documents, administrative expenses, and other matters necessary to make an informed decision, provided that the review and consultation does not substantially replicate a review and consultation obtained by the Zoning Board of Adjustment. The cost of such studies and investigations shall be paid by the applicant prior to the service or study being provided.

5.03 PUBLIC HEARING AND NOTICES

Except as provided for in Section 5.02.a, no application shall be heard, accepted, approved or disapproved by the Planning Board without affording a public hearing thereon.

A public hearing will be held for any of the following:

a. An amendment to a previously approved plan;
b. A waiver request;
c. Design Review, per RSA 676:4 II(b);
d. Formal review

5.04 PRE-APPLICATION REVIEW

a. Preliminary Conceptual Consultation. Prior to the formal submission of a subdivision layout, the applicant is strongly encouraged to meet with the Board to review the basic concept of the proposal and to consider the Board's suggestions which might be of assistance later on in resolving problems with meeting town requirements during final plat consideration. Preliminary consultation and review shall not bind either the subdivider or the Board.

The Board and the applicant may discuss proposals in conceptual form and in general terms only, such as desirability of types of development and proposals under the Master Plan. Such discussion may occur without the necessity of giving formal notice to the public and abutters, but such discussion may occur only at formal meetings of the Board.

b. Design Review Phase. The Board may engage in non-binding discussions with the applicant beyond conceptual and general discussions which involve more specific design and engineering details. Design review requires the submission of an application form. Design review may

proceed only after identification of, and notice to, the owner, applicant, abutters, holders of conservation, preservation and agricultural preservation restrictions and every licensed professional whose seal appears on the plans, and the general public as required by RSA 676:4,I,(d).

Preliminary conceptual consultation and design review shall be separate and apart from formal consideration, and the time limits for acting under RSA 676:4,I,(c),(1) shall not apply until formal application is submitted.

5.05 FORMAL REVIEW

The applicant shall file the completed application for Formal Review with the Planning Department at least twenty-one (21) days prior to the meeting at which the application will be accepted, per the schedule of regular Planning Board meetings. Click items* for link to form, Application Cover Sheet*, Application Checklists - Design Review* or Final (Formal) Review* and Subdivision Application*. Forms are also available from the Planning Department and online at www.newbostonnh.gov/planning.

At a properly noticed public hearing, the Planning Board may:

a. Vote to determine if the application poses potential regional impact and take corresponding action. If the Planning Board determines there is potential regional impact, further action on the application will be tabled until after the public hearing on potential regional impact, or;
b. Determine if an application is complete and if so accept the application, or if the application is determined not to be complete, the Board will deny or table the acceptance of the application and thereafter shall communicate to the applicant in writing why such action has been taken by the Planning Board, or;
c. Vote to table, approve, approve with conditions, or deny the application.

5.06 DETERMINATION OF POTENTIAL REGIONAL IMPACT

Determination of potential regional impact shall apply to all Formal applications requiring abutter notification and shall be made at an abutter notified public hearing to provide notice to and an opportunity for response from potentially affected municipalities and the regional planning commission(s) concerning developments which are likely to have impacts beyond the boundaries of the Town of New Boston, in accordance with RSA 36:54-58, as amended.

Determination of potential regional impact may be found for applications which meet any of the following impacts:

a. Relative size or number of dwelling units as compared with existing stock.
b. Proximity to the borders of a neighboring community.
c. Transportation networks.
d. Anticipated emissions such as light, noise, smoke, odors, or particles.
e. Proximity to aquifers or surface waters which transcend municipal boundaries[1].
f. Shared facilities such as schools and solid waste disposal facilities.

[1] SNHPC guidelines suggest: Proposed developments located within 1,000 feet of any aquifer or surface waters that transcend municipal boundaries and there will be either a large water withdrawal (defined as 57,600 gallons by NHDES) or there will be indoor, outdoor, or underground storage of chemicals or other potential pollutants.

If a determination of potential regional impact is made by the Board, the Planning Board will notify the regional planning commission and affected municipalities, in accordance with RSA 36:57 as amended.

All costs associated with notification shall be borne by the applicant.

5.07 VOLUNTARY MERGER

Any applicant owning two (2) or more contiguous pre-existing approved or subdivided lots who wishes to consolidate them for municipal regulations and taxation purposes may do so by applying to the Planning Board as follows:

a. A notice of the merger sufficient to identify the relevant parcels shall be submitted to the Planning Board for endorsement in writing. Said notice of merger shall be recorded with the Hillsborough County Registry of Deeds.
b. No new survey plat need be recorded.
c. No public hearing or notice shall be required.
d. Provided that such merger does not create a violation of the current ordinances and regulations of the Town, all such requests shall be approved by the Board.
e. A copy of the approved notice of merger shall be forwarded to the Town's assessing official(s).

This section is not intended to be the exclusive means of accomplishing merger and, thus, nothing in this section is intended to affect any other legally available or operative mechanism that would accomplish a similar merger.

5.08 MINOR SUBDIVISION

The applicant may first meet with the Board for preliminary conceptual consultation and/or design review of the proposal to discuss if it qualifies as a minor subdivision as defined in these regulations.

For a minor subdivision, the applicant shall submit:

a. A completed application, as required in Section 5.09, and
b. A final plat as provided in Section 5.09.01.

5.09 FORMAL REVIEW PROCEDURES

A completed application sufficient to invoke jurisdiction of the Board, submitted at least twenty-one (21) days prior to the public hearing, must include sufficient information to allow the Board to proceed with consideration and to make an informed decision.

The following shall be required for and constitute, a completed application:

a. An application for subdivision approval properly filled out and executed by the applicant. In the event that the applicant is not the owner of record, the owner of record must also sign the application form in the space provided. The application shall be filed with the Planning Department.
b. An abutters list providing the names and mailing addresses of the applicant; owner (if different from applicant); all abutters as indicated in town records, the Hillsborough County Registry of Deeds, etc., holders of conservation, preservation or agricultural preservation restrictions, the NH Department of Environmental Services Dam Bureau, as necessary, (see RSA 676:4,I,(d),(2)),

compiled not more than five (5) days before the date of delivery of the application; and, the name and address of every licensed professional whose seal appears on the plan.

c. A check payable to the Town of New Boston to cover filing fees, mailing, advertising, recording, and other reasonable costs.

d. Four (4) paper print copies of the final plat prepared in accordance with and accompanied by the information required in Section 5.09.01, to be drawn at a scale of no smaller than one hundred feet to the inch (1"=100').

e. Eight (8) legible 11" x 17" copies of the final plat.

f. One copy of the final plat at the scale of the New Boston tax maps, i.e. 1"=400', showing lot lines and road layout only.

g. Three (3) paper print copies of the road profiles and cross sections at 50' intervals, if applicable, prepared in accordance to the standards for road construction, to be drawn at a vertical scale of ten feet to the inch (1"=10') and a horizontal scale of fifty feet to the inch (1"=50').

h. Three (3) paper print copies of the Stormwater Management and Erosion Control Plan, if applicable.

i. Three (3) paper print copies of a soil map for the entire area under consideration for subdivision approval, in accordance with the Site Specific Soils Mapping Standards.

j. A statement of intent with regard to fire fighting water supply, as required by the Board.

5.09.01 FINAL PLAN DETAILS

a. Addressing all applicable provisions of the Final Subdivision Review Checklist, including any waiver requests.

b. The final plat shall be prepared by a surveyor licensed in the State of New Hampshire in permanent black ink, on a permanent reproducible linen or polyester film. It shall be submitted in one (1) original and a minimum of three (3) blue (black) line prints on paper. If State Subdivision Approval from the New Hampshire Department of Environmental Services is required, an additional blue/blackline copy of the final plat shall be submitted for distribution to that agency. If Individual Pre-Engineered Stormwater Management Plans were required for the subdivision, an additional blue/blackline copy of the final plat shall be submitted for distribution to the Building Inspector/Code Enforcement Officer. The overall sheet size shall be in accordance with requirements of the Register of Deeds. A margin of at least one (1) inch shall be provided outside the ruled border lines on three sides and at least two (2) inches along the left side for binding. Adequate space shall be available on the plat for the necessary endorsement by the Board which wording shall read "Approved by the New Boston Planning Board on _____. Certified by, _____, Chairman, and by _____, Secretary."

c. The final plat shall show the proposed subdivision name or identifying title; the names, addresses and deed references to the ownership title of the proposed subdivision, the owner(s) of record, the subdivider, if other than the owner, all abutters, all holders of conservation, preservation and agricultural preservation restrictions, the NH Department of Environmental Services Dam Bureau, as necessary (see RSA 676:4,I,(d),(2)); and the name, address and seal of every licensed professional whose seal appears on the plan; date of plan, including revision dates; graphic and written scale; locus map showing the subdivision site, north point and main traffic arteries; north point; and, certification by the surveyor that all bounds have been set.

d. Street lines, building lines, pedestrian ways, lot lines, driveway locations, reservations, the location of fire protection systems (e.g., cisterns), if required or existing, easements, wetland areas, areas to be dedicated to public use and areas the title to which is to be reserved by the developer.

e. Sufficient data so that the Board may determine readily the location, bearing and length of every street line, lot line, easement line, boundary line and to reproduce such lines upon the ground. All dimensions shall be shown to the nearest hundredth of a foot and bearings to be at least a half a minute. The error of closure shall not exceed one to 10,000 and shall be certified by the surveyor registered in the State of New Hampshire. Certification shall verify that an actual field survey has been performed and the method used for the survey. Survey of large areas of remaining acreage which are not being proposed for development may be exempted by the Board, upon request by the applicant.

f. Lot dimensions, areas in square feet and acres, and consecutive numbering of lots in accordance with the tax map numbering system for the Town of New Boston.

g. Accurate dimensions and location of all easements, either on or off the site. A written acknowledgement of the subdivider's responsibility for maintenance, and assumption by him of liability for injuries and damages that may occur on any land to be dedicated for public use, until the deed to such land has been legally accepted by the Town and recorded in the Hillsborough County Registry of Deeds.

h. Site Layout
   1. Subdivisions and buildings 100 feet (100') away.
   2. Roads and drives 200 feet (200') away; existing and proposed street lines; existing and proposed street right-of-way widths; street names; stations; radii; curve data; pavement widths.
   3. Setback lines; 200' squares; zoning district(s); designated suitable building envelopes; a statement incorporating the requirements of the subdivision regulations.
   4. Topographic contours at 5' intervals; water courses, ponds and standing water, wetlands, vernal pools, rock ledges; acreage breakdown of the types of wetlands on the lots and setback distances in accordance with the Wetlands Conservation and Stream Corridor District; aquifer transmissivity levels in accordance with the Groundwater Resource District; any designations of the Forestry and Conservation District; and identified Steep Slopes Conservation District of the Zoning Ordinance; as well as open space with acreage noted.
   5. Location of existing and proposed water mains, sewers, culverts, drains, and other utilities, and proposed connections or alternative means of providing water supply and disposal of sewage and surface drainage.

i. Sanitation
   1. Location of each percolation test hole and test pit.
   2. Approval of subdivision by New Hampshire Department of Environmental Services, Subsurface Systems Bureau, with recorded number, unless subdivision lot is greater than five (5) acres and approval is not required by the Division.
   3. Test pit information log.
   4. Approval of any encroachment in wetlands as authorized in accordance with a Dredge and Fill Permit issued by the New Hampshire Department of Environmental Services.

j. Location, name, width and administrative classification of proposed and existing streets and highways bounding, approaching, or within four hundred (400) feet of a lot line and profiles of proposed streets with elevations at intervals of fifty feet (50') to indicate the existing topography and proposed grades; and cross sections at intervals of fifty feet (50'), as well as at all proposed culvert inlet and outlet stations.

k. Where the topography is such as to make difficult the inclusion of any facilities mentioned above within the public area as laid out, the final plat shall show the dimensions of the boundaries of proposed permanent easements over or under private property.

l. Location of all parcels of land to be dedicated to public use and the conditions of such dedication, and a copy of such restrictions as are intended to cover part or all of the tract.

m. Location, design, details of installation and other pertinent information as required for submission of a Certified Soil Erosion and Sediment Control Plan. This shall include a note on the plan stating AN “INDIVIDUAL STORMWATER MANAGEMENT PLAN” (I.S.W.M.P), TO BE SUBMITTED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, WILL BE REQUIRED FOR LAND DISTURBANCE OR DEVELOPMENT IN “CRITICAL AREAS” (BOTH THOSE DESIGNATED HEREON OR CREATED DURING DEVELOPMENT). FOR BUILDING PERMITS REQUIRING AN I.S.W.M.P., CERTIFICATES OF OCCUPANCY WILL ONLY BE ISSUED AFTER RECEIPT OF A “CERTIFICATE OF COMPLIANCE” AS SPECIFIED IN THE NEW BOSTON SUBDIVISION REGULATIONS."

n. Temporary stakes along the center lines of new roads and at approximate road fronting lot corners and driveway locations shall be driven in the ground to facilitate inspection.

o. Approval, as prescribed by law, from any other municipal, state or federal agency which may have jurisdiction.

p. The subdivider shall not make any changes whatsoever to the final plat as approved by the Planning Board, unless a revised plat or a plat of resubdivision is submitted to and approved by the Board.

q. A fee sufficient to cover the cost of filing the plat with the Register of Deeds, Hillsborough County, shall accompany the final plat.

r. Soil information as described and defined in the Wetlands Conservation and Stream Corridor District of the Town's Zoning Ordinance. In the event that a wetland will be crossed by a new development road and/or driveway, application for a Conditional Use Permit from the Planning Board shall be submitted for preliminary review under the terms as specified in the Wetlands Conservation District.

s. Source of soils information shall be:
   1. The subdivision plan shall provide soil maps and information in accordance with Site Specific Soil Mapping Standards for New Hampshire and Vermont, Society of Soil Scientists of Northern New England, Publication No. 3, January 1999, as amended.
   2. Maps prepared by field examination shall be prepared and stamped by a Certified Soil Scientist.
   3. All costs of preparing soil data shall be borne by the applicant.

t. Floodplain
   1. The applicant shall provide the Planning Board with sufficient documentation to demonstrate that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
   2. The applicant shall include Base Flood Elevation (BFE) data for all proposals for development greater than 50 lots or 5 acres.
   3. The applicant shall submit sufficient evidence (construction drawings, grading and land treatment plans) so as to allow a determination that:
      a) all such proposals are consistent with the need to minimize flood damage;

b) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and,
c) adequate drainage is provided so as to reduce exposure to flood hazards.

u. All bounds, unless bonded with appropriate security, shall be set prior to plan recording as detailed in Article VII Road Improvement Construction Requirements, 7.01 c.

5.09.02 ADDITIONAL REQUIREMENTS FOR FINAL PLANS

The following items shall be submitted, unless waived, upon request and for cause, before final approval of the application can be granted:

a. Three (3) paper print copies of the Individual Pre-Engineered Stormwater Management and Erosion Control Plans, if applicable.

b. Four (4) paper print copies of the proposed fire fighting water supply system design plan, if required by the Board, and if the applicant chooses to install a cistern. Should the applicant decided to install sprinkler systems, a Declaration of Covenants and Restrictions and deed language noting this stipulation shall be submitted as part of the completed application. These documents shall be reviewed by the legal counsel of the Town to ensure their acceptability and accuracy, the cost of which review shall be borne by the applicant.

c. Warranty Deed for the transfer to the Town of any areas for dedication, conveyance, grants of easement, etc., such as for new roads and utilities, shall be submitted to reflect the areas as plotted on the final plat. Documentation shall also be submitted that will assure the Town that all encumbrances, liens, etc., have been released regarding the area to be transferred. Deeds and related documentation shall be reviewed by the legal counsel of the Town to ensure its acceptability and accuracy, the cost of which review shall be borne by the applicant.

d. Bond and security proposal(s) for any improvements.

e. Approval from the Board of Selectmen and Fire Wards of any proposed new street names.

f. Nine (9) copies of the traffic, fiscal and/or environmental studies.

g. Driveway Permit(s) issued by the Town or State for all lots in the subdivision. If the proposed subdivision involves construction of a road, driveway permits for lots accessing onto the new development road shall be submitted when the road construction is at sub-grade, in accordance with the Town of New Boston Driveway Regulations.

h. State Subdivision Approval for all lots under five (5) acres in size.

i. Any and all other approvals and/or permits from local or state agencies, as required, including, but not limited to, State of New Hampshire Wetland Bureau Dredge & Fill Permit, and, State of New Hampshire Alteration of Terrain (AoT) Permit as governed by RSA 485-A:17, submission of such approval to the Board to include a set of the plans approved by the State under that permitting process.

j. If the Planning Board requires the review of material by an outside consultant, or the creation and submission of special studies, the cost of same shall be borne by the applicant.

5.09.03 DIGITAL PLAT FILING REQUIREMENTS

Digital plat data is required of all applicants filing for subdivision approval. The data shall be presented in AUTOCAD, .DXF or .DWG format and may be submitted on CD or DVD to the Town of New Boston Office of the Planning Board/Planning Department. Each disk shall be labeled with the applicant's name and the tax map and lot numbers written thereon. The data shall be a line drawing of all parcel boundaries and of the outline of all buildings on the property.

Although not required, state plane coordinates should be provided on two corners of the property being subdivided. The requested datum is NAD'83. Applicants without AUTOCAD software shall furnish the data in .DXF format that is compatible with AUTOCAD software. Those applicants without computer assisted drafting capability shall be assessed a fee of $150.00 per plan sheet to cover the costs of converting hard copy plans to the computer based tax map.

5.10 BOARD ACTION ON AN APPLICATION

a. Upon receipt of an Application, the Board shall, at the next regular meeting or within 30 days of its delivery to the Office of the Planning Board/Planning Department, determine if the submitted application is complete according to the Subdivision Regulations, and shall vote upon its acceptance. The Board shall act to approve, conditionally approve or disapprove the completed application and final plat within 65 days after the determination of the completeness of the application, subject to extension or waiver as provided for in accordance with RSA 676:4,I(f), as amended. At the same meeting, the Board shall make a determination relative to if the proposed development is a Development of Regional Impact.

b. No building permits, construction, building or improvements shall occur on any lands included in the final plan submission until final or conditional approval of a completed application has been granted.

c. Approval of the final plat shall be certified by written endorsement on the final plat and signed by the Chairman and Secretary of the Planning Board. The Office of the Planning Board/Planning Department shall transmit a mylar of the final plat, with such approval endorsed in writing thereon, to the Register of Deeds of Hillsborough County. The subdivider shall be responsible for the payment of all recording fees.

d. In the case of disapproval of any plat submitted, the grounds for such disapproval shall be adequately stated in the records of the Planning Board.

e. In the event that conditions precedent or subsequent are a condition of final approval, either the final plat will not be signed or recorded, or if a bond or other security has been submitted and the plat has been recorded, no bonds or other security shall be released until all conditions precedent or subsequent have been met, and, if required, a compliance hearing is held.

f. Notwithstanding any final approval, no occupancy permits shall be issued until satisfactory completion of all conditions precedent and/or subsequent is confirmed by the Board.

g. Upon failure to approve, conditionally approve or disapprove an application, the Board of Selectmen shall, upon request of the applicant, immediately issue an order directing the Planning Board to act on the application within thirty (30) days. If the Planning Board does not act on the application within the thirty (30) day time period, then within forty (40) days of the issuance of the order, the Board of Selectmen shall certify on the applicant’s application that the plan is approved,

unless within those forty (40) days the Board of Selectmen identify in writing a specific provision of these regulations, the Zoning Ordinance, or other applicable regulation or law with which the application does not comply. If the Board of Selectmen approves the application it shall constitute final approval for all purposes including filing, recording and court review.

5.11 APPROVAL AND CONDITIONAL APPROVAL

The Planning Board may grant conditional approval of an application as presented to the Planning Board at public meeting.

a. If the Board places a condition precedent on the approval (one to be fulfilled before construction can commence, such as obtaining an easement, posting a bond, etc.) such approval shall become final without further public hearing being required, upon evidence submitted by the applicant of the satisfactory compliance with the conditions imposed. This may occur only when the conditions precedent are:

    1. Minor plan changes whether or not imposed by the Board as a result of public hearing, compliance with which is administrative, and which does not involve discretionary judgment, or;
    2. Conditions which are in themselves administrative and which involve no discretionary judgment on the part of the Board, or;
    3. Conditions with regard to the applicant's possession of permits and approvals granted by other boards or agencies, including State and federal permits.

b. If the Board imposes a condition(s) subsequent, such as the completion of on-site or off-site improvements before the subdivision is considered to be completed, an additional noticed public hearing shall be held at which interested parties and town officials will have an opportunity to review and comment on the developer's compliance with the condition(s) subsequent before any bonds are released.

5.12 ISSUANCE OF DECISION

a. The Planning Board shall issue a final written decision which either approves, conditionally approves, or disapproves the application. If the application is not approved, the Board shall provide the applicant with written reasons for the disapproval.

b. The Planning Board's decision shall be placed on file in the Office of the Planning Board/Planning Department and shall be made available for public inspection within 5 business days after the vote to approve, conditionally approve or disapprove the application is made. A copy of the decision shall be made available to the applicant. The final written decision, including all conditions of approval, shall be recorded with or on the plat.

c. Subdivision plats approved by the Planning Board and properly recorded in the registry of deeds shall be afforded the statutory exemptions as outlined in NH RSA 674:39, as amended. The New Boston Planning Board shall consider the requirements for "active and substantial development or building" and "substantial completion of improvements" on a case by case basis and discuss these two levels of exemption at the hearing(s) on the subdivision application.

d. Notwithstanding any final approval, no occupancy permits shall be issued by the Building Inspector/Code Enforcement Official until satisfactory completion of all conditions precedent

and/or subsequent is confirmed by the Board, except upon such terms as the Planning Board may have authorized as part of its decision approving the plan, and, failure to satisfy conditions required may constitute grounds for revocation of approval.

e. Any and all agreements and conditions of final approval shall be part of the Board's Notice of Decision, a copy of which shall be acknowledged by the subdivider's signature under the following statement: "The subdivider shall acknowledge receipt of the Notice of Decision and acceptance of all provisions set forth therein and shall return a signed copy of same to the Board for its records. Until such acknowledgement and acceptance has been filed with the Board, no further action shall be taken with regard to the final plat. Failure to acknowledge receipt of the Notice of Decision and acceptance within ninety (90) days of the Board's mailing will cause its approval to lapse."

5.13 SUBDIVISION EXPIRATION OF APPROVAL

Signed major subdivisions have two (2) years from the date of signing to complete active and substantial development or building as defined in these regulations, on the plan or in the development agreement.

If active and substantial development or building is not accomplished within two (2) years of the date of conditional approval, the subdivision will not be subject to the five (5) year exemption per RSA 674:39, as amended.

5.14 RECORDING PROCEDURE

Subdivisions, Easements and Other Documents – All approved and signed subdivision plans, development agreements, easements and notarized documents, will be recorded at the Hillsborough County Registry of Deeds.

The cost of recording plans and all documents shall be borne by the applicant. The recording fees will be determined by the Registry at the date of filing.

5.15 REVOCATION OF APPROVAL

A subdivision approval which has been filed with the appropriate recording official may be revoked by the Planning Board in accordance with RSA 676:4-a, as amended.

ARTICLE VI: PLAN REQUIREMENTS: SUBDIVISION

6.01 GENERAL REQUIREMENTS FOR THE SUBDIVISION OF LAND

All subdivision applications shall observe the following general requirements and principles of land subdivision:

a. Streets shall be logically related to the topography so as to produce useable lots, reasonable grades and safe intersections in appropriate relation to the proposed use of the land to be served by such streets. Where practicable, lots shall be graded toward the ditch line of the streets. Where not practicable, adequate provisions shall be made to control the drainage of such lot by an adequate stormwater system, subject to the approval of the Road Agent, and/or the Town's consulting engineer.

b. The arrangement of streets in the subdivision shall provide for the continuation of the principal streets in adjoining subdivisions, or for their proper projection when adjoining property is not subdivided.

c. All lots platted for residential development shall front upon an existing public street as defined in the New Boston Zoning Ordinance, or upon a proposed street as shown on a subdivision plat to be approved by the Planning Board.

d. Center-lines of parallel two-way streets shall not be closer than three hundred and fifty feet (350') to each other.

e. Intersecting property lines at a street intersection shall be joined by a curve of at least twenty foot (20') radius.

f. Streets shall be laid out to intersect as nearly as possible at right angles. Streets entering opposite sides of another street shall be laid out either directly opposite one another or with a minimum off-set of one hundred and twenty-five feet (125') between their center lines.

g. Planning Board approval of a subdivision plat with a street shown thereon does not constitute acceptance of that street as a town road. Said acceptance is a separate process governed by the Board of Selectmen.

h. Reserve strips of land which, in the opinion of the Board, show intent on the part of the subdivider to control access to land dedicated to or to be dedicated to public uses shall not be permitted.

i. Subdivision plats, including, preliminary plats or layouts shall show the boundaries of proposed permanent easements for utilities over or on the property wherever topography permits, and the total width of such easements shall not be less than twenty feet (20'). Such easements shall have access to existing or proposed public ways. Water courses proposed for public control shall have a permanent easement of not less than twenty feet (20').

j. Areas set aside for parks and playgrounds to be dedicated or to be reserved for the common use of all property owners by a covenant in the deed, whether or not required by the Board, shall be of reasonable size and character for neighborhood playgrounds or other recreational use.

k. Names of new streets shall be approved by the Board of Selectmen.

l. Lots shall be laid out and graded to eliminate flood or stagnant water pools. No water shall be permitted to run into the roadway, but shall be directed into catch basins, if available, or otherwise into ditches, and shall be piped underground in a metal, concrete, or plastic (SPE) pipe of not less than fifteen inches (15") in diameter, or such size as may be deemed necessary by the Road Agent.

6.02 FIRE FIGHTING WATER SUPPLY SYSTEMS[2] (E.G. CISTERNS, SPRINKLER SYSTEMS, ETC.)

a. Private and Class 6 roads are not required to meet the requirements set forth below.

b. Cistern Distance Requirements - Any road will need to have a cistern access from a specific distance. The distance measurement will be from the middle of the driveway cut to the middle of the cistern.

Existing roads built prior to 2020 - An existing road is any road that is accepted and maintained by the Town of New Boston or the State of New Hampshire in use prior to December 31, 2019.

1. An acceptable firefighting water supply system (cisterns), shall be installed when land is subdivided along an existing road that is not already protected by an approved firefighting water supply fire cistern in accordance with these requirements. The type of system to be used shall be presented by the applicant and agreed to by the Planning Board following recommendation by the Fire Wards.

   A cistern shall:

   i. Be within 2,200 feet truck travel distance to the driveway;
   ii. Have a minimum usable capacity of 30,000 gallons of water;
   iii. Be available year-round;
   ix. Comply with the requirements set forth in the Appendix.

2. The applicant may present an alternative water supply system in lieu of the above requirements, such as the installation of a sprinkler system.

   A sprinkler system shall comply with the requirements set forth in the Town of New Boston Building Code, Chapter NB-6.0 and comply with the requirements set forth in the Appendix.

Notwithstanding the provisions of sub-sections above, when the New Boston Board of Fire Wards deems that, due to specific conditions, there is sufficient threat to life or property, it may recommend to the Planning Board that additional fire protection measures be provided, even if sprinkler systems are proposed.

New roads accepted after 2020 - A new road is any road accepted by the Town of New Boston or constructed by the State of New Hampshire after January 1, 2020.

Roads are considered new when they are any of the following:

- a new road being built after January 1, 2020;
- any extension of an existing road established before 2020;
- a Class 6 road improved to a higher Class
- a private road being accepted as a Class 5 town road.

[2] Refer to Appendix for cistern prototype and construction specifications.

1. An acceptable firefighting water supply system (cisterns) shall be installed for dwellings that are not already protected by an approved firefighting water supply cistern. The type of system to be used shall be chosen by the applicant and agreed to by the Planning Board following recommendation by the Fire Wards.

   A cistern shall:

   i. Be within 1,000 feet truck travel distance to the driveway;
   ii. Have a minimum usable capacity of 45,000 gallons of water;
   iii. Be available year-round;
   ix. Comply with the requirements set forth in the Appendix.

2. Or, an alternative firefighting water supply system (cisterns, sprinklers) may be presented by the applicant; this alternative is subject to approval.

   The alternative water supply system shall:

   i. Be within 2,000 feet truck travel distance to the driveway;
   ii. Have a minimum usable capacity of 30,000 gallons of water;
   iii. Be available year-round;
   ix. Comply with the requirements set forth in the Appendix, and;
   x. Every dwelling will need to have an approved sprinkler system.

   A sprinkler system shall comply with the requirements set forth in the Town of New Boston Building Code, Chapter NB-6.0 and comply with the requirements set forth in the Appendix.

Notwithstanding the provisions of sub-sections above, when the New Boston Board of Fire Wards deems that, due to specific conditions, there is sufficient threat to life or property, it may recommend to the Planning Board that additional fire protection measures be provided, even if sprinkler systems are proposed.

6.03 IMPACT STUDIES

The Planning Board may, at its discretion, require an applicant to provide to the Planning Board with applicable impact studies such as but not limited to: Traffic, Environmental, and Fiscal.

The purpose of any impact study required by the Board shall be to determine:

a. The extent to which the proposed development or facility will impact resources, public services and facilities of the Town, and;
b. The extent to which the environment or public services and facilities may need to be expanded, upgraded or mitigated because of the proposed development.

TRAFFIC IMPACT ANALYSIS: The review of any commercial, industrial, or residential development located on a town-maintained street conducted by the Planning Board under these regulations shall ascertain that adequate provisions have been made by the owner or his/her authorized agent for traffic safety. To facilitate this review, the Board may require the developer to provide a traffic impact analysis when deemed necessary due to the size, location or traffic generating characteristics of the development.

The traffic impact analysis shall include the following:

1. Traffic circulation and access, including adequacy of adjacent streets and intersections, entrances and exits, traffic flow, sight distances, accident statistics, curb cuts, turning lanes, and existing or recommended traffic signalization.
2. Pedestrian safety and access.
3. Off-street parking and loading.
4. Emergency vehicle access.
5. Off-site improvements necessitated by the development and to be constructed by the developer.

The Planning Board reserves the right to request additional information than that listed above, on a case by case basis.

The Board may retain the services of a consultant qualified in traffic planning to review the traffic impact analysis and to ensure that adequate provisions were made in the development plan to reduce or eliminate adverse impacts. The Board may further require, pursuant to RSA 676:4,I,(g), that the developer reimburse the town for reasonable costs of this review. No plan shall be approved until such fees, if applicable, are paid in full.

ENVIRONMENTAL IMPACT ANALYSIS: The purpose of an environmental impact analysis is to provide the Board with information needed to evaluate the effects of a proposed project upon the environment. The Board may require the developer to provide an environmental impact analysis when deemed necessary due to such things as the topography, location, or other unique characteristics of the development.

The environmental impact analysis shall include the following:

1. An inventory of existing environmental conditions at the project site and in the surrounding area. The inventory should include air and water quality, water supply, hydrology, geology, soil type, topography, vegetation, wildlife, aquatic organisms, ecology, demography, land use, aesthetics, history, and archaeology.
2. A project description and a list of all licenses, permits, or other approvals required by law or regulation.
3. The environmental impact analysis shall assess the probable impact of the project on all the inventory items and shall include a listing of adverse environmental impacts that cannot be avoided.
4. The environmental impact analysis shall also include the steps the applicant proposes to take to minimize adverse environmental impacts during construction and operation and whether there are any alternatives to any part of the project.

The Planning Board reserves the right to request additional information than that listed above, on a case by case basis.

FISCAL IMPACT ANALYSIS: The purpose of a fiscal impact analysis is to predict both the municipal and educational servicing costs which accrue due to the public service demands of various forms of residential and non-residential growth. The Board may require the developer to provide a fiscal impact analysis when deemed necessary due to such things as the size, location or other unique characteristics of the development.

The fiscal impact analysis shall include the following:

1. The fiscal impact analysis shall project only the primary costs that will be incurred and the immediate revenues that will be generated.
2. The fiscal impact analysis shall examine current costs and revenues.

3. The fiscal impact analysis shall consider public (governmental) costs and revenues.
4. The fiscal impact analysis shall deal with the cost and revenue implications derived from population and/or employment change.
5. The fiscal impact analysis shall project costs only to the local jurisdictions in which the population or employment change is taking place.
6. The fiscal impact analysis should include costs and revenues shown over the anticipated buildout of the project, with the addition of seven (7) years added to that timeframe in order to allow the Planning Board to review the potential future cost ramifications to the Town over a long term basis.

The Planning Board reserves the right to request additional information than that listed above, on a case by case basis.

6.04 SITE SPECIFIC SOIL MAPPING STANDARDS

The Planning Board of the Town of New Boston hereby adopts Site Specific Soil Mapping Standards for New Hampshire and Vermont as part of its subdivision regulations in accordance with RSA 674:35-36, to assure that the land indicated on plats submitted to the Planning Board is of such character that it can be used for building purposes without danger to public health, safety or welfare, and to protect ground water quality for purposes of public health and safety.

a. Any subdivision plan which creates lots smaller than five (5) acres shall provide soil maps and information in accordance with Site Specific Soil Mapping Standards for New Hampshire and Vermont, Version 2.0, Society of Soil Scientists of Northern New England, January 1999, Special Publication No. 3, as amended.

b. Site Specific Soil Maps shall be prepared and stamped by a Certified Soil Scientist.

6.05 STORMWATER MANAGEMENT AND EROSION / SEDIMENT CONTROL REGULATIONS

a. GENERAL

The purpose of this Regulation is to control runoff and soil erosion and sedimentation resulting from site construction and development. Subdivision and site plans shall include plans for managing stormwater and controlling erosion and sedimentation as provided herein.

b. DEFINITIONS

The following definitions apply to this Stormwater Management and Erosion and Sediment Control Regulation:

BEST MANAGEMENT PRACTICE (BMP): A proven or accepted structural, non-structural, or vegetative measure the application of which reduces erosion, sediment, or peak storm discharge, or improves the quality of stormwater runoff.

CRITICAL AREAS: Disturbed areas of any size located within 75 feet of a stream, bog, water body, very poorly drained soils or 50 feet of poorly drained soils; disturbed areas exceeding 2,000 square feet in highly erodible soils; disturbed areas exceeding 20,000 square feet in any soil type; creation of impermeable surfaces exceeding 10,000 square feet; disturbed areas within 20 feet of a side lot line or, disturbed areas containing slopes in excess of 15 percent covering 1,000 square feet or more.

DEVELOPMENT: Any construction or land alteration or grading activities other than for gravel operations, agricultural and forestry practices.

DISTURBED AREA: An area where the natural vegetation has been removed exposing the underlying soil.

EROSION: The detachment and movement of soil or rock fragments by water, wind, ice or gravity.

HIGHLY ERODIBLE SOILS: Any soil with an erodibility class (K factor) greater than or equal to 0.43 in any layer as found in Table 3-1 of the "Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire.", or any soil that has a history of high erosion as seen on site. (In New Boston the following soils have been identified as highly erodible: Belgrade, Binghamville, and Saco-variant.)

INDIVIDUAL STORMWATER MANAGEMENT PLAN (ISWMP): An individual stormwater management plan created for one proposed lot in order to demonstrate that the lot is viable and can be responsibly developed. The ISWMP demonstrates one option for responsible development of the lot and is not exclusively binding upon the eventual developer.
PRE-ENGINEERING INDIVIDUAL STORMWATER MANAGEMENT PLAN (PEISWMP): An individual stormwater management plan that may or may not be the final ISWMP for the lot but which proves the buildability of the lot for the purposes of subdivision.

PROJECT AREA: The area within the subdivision or site plan boundaries.

SEDIMENT: Solid material, either mineral or organic, that is in suspension, is transported, or has been moved from its site of origin by erosion.

STABILIZED: In a condition in which the soils on the site will not erode under the conditions of a 10-year storm. Stabilization shall include the following, at a minimum: 1) Installation of base course gravels (in paved areas), 2) Minimum of 85 percent vegetated growth, 3) Installation of stone or rip rap material, and 4) Properly installed erosion control blankets.

STORMWATER MANAGEMENT PLAN (SWMP): A stormwater management plan created for a tract of land being developed or subdivided that involves construction or reconstruction of a street or road and/or the subdivision of more than three building lots.

STORMWATER RUNOFF: The water from precipitation that is not absorbed, evaporated, or otherwise stored within the contributing drainage area.

STREAM: Areas of flowing water occurring for sufficient time to develop and maintain defined channels but may not flow during dry portions of the year. Includes, but is not limited to, all perennial and intermittent streams located on U.S. Geological Survey maps.

SUITABLE BUILDING ENVELOPE (SBE): An area of at least 0.5 acres of contiguous land that is all at least 75 feet from very poorly drained soils, at least 20 feet from all side lot lines and does not include any slopes in excess of 15%. All suitable building areas on a lot should be delineated and shown as one or more suitable building envelopes.

NOTE: "Stormwater Management and Erosion Control Plan", "Stormwater Management and Erosion and Sediment Control Plan" and "Stormwater Management Plan" are used interchangeably throughout this regulation and shall mean the same plan prepared in accordance with these regulations.

c. APPLICABILITY

1. The applicant shall submit a stormwater management and erosion control plan to the Planning Board for any tract of land being developed or subdivided, where one or more of the following conditions are proposed:

    i. Construction or reconstruction of a street or road, and;
    ii. A subdivision of more than three (3) building lots.

2. The applicant shall submit an individual stormwater management and erosion control plan to the Planning Board for any lot being developed or subdivided, where one or more of the following conditions are proposed:

    i. Disturbed critical areas, and/or;
    ii. Creation of critical areas.

3. If a stormwater management plan or an individual stormwater management plan is required as part of the subdivision application as noted in Sections 1 & 2 above, it must be re-submitted as part of the application for a building permit. Pre-engineered individual stormwater management plans submitted at the time of subdivision can be resubmitted as final individual stormwater management plans provided the builder plans to comply with them as designed.

4. If an individual stormwater management plan is not required at the time of subdivision because a suitable building envelope of at least 0.5 acres is shown on the lots, but there are critical areas on the lots, the following notes shall be added to the subdivision plans:

"An 'Individual Stormwater Management Plan' (ISWMP) to be submitted prior to the issuance of a building permit, will be required for land disturbance or development in 'Critical Areas' (both those designated hereon or created during development). For building permits requiring an ISWMP, Certificates of Occupancy will only be issued after receipt of a 'Stormwater Management Plan Compliance Statement' as specified in the New Boston Subdivision Regulations."

"Deeds for each lot shall have the following statement: 'The property herein described is subject to the following condition as described in the recorded subdivision plan referenced above: A Stormwater Management Plan will be required prior to the issuance of a building permit if any land is to be disturbed in designated or created Critical Areas.'."

5. An individual stormwater management plan required to be submitted at the time of building permit application as noted in Section 4, above, shall be prepared in accordance with these regulations.

d. MINIMUM REQUIREMENTS

1. The following minimum requirements apply to all projects, regardless of size. Please note that the additional requirements of Section f, Completed Application Requirements, may also apply unless the Planning Board deems the minimum requirements in this section to be satisfactory.

    Site drawing of existing and proposed conditions:
    (i) Locus map (at a scale of 1" = 2,000') showing property boundaries;
    (ii) North arrow, scale (1"=50' preferred), date;
    (iii) Property lines;
    (iv) Easements;
    (v) Structures, utilities, roads and other paved areas;
    (vi) Topographic contours at intervals not exceeding 2 feet and indicating slopes in excess of 15%;

(vii) Critical areas and any designated Suitable Building Envelopes;
(viii) Surface water and wetlands, drainage patterns, and watershed boundaries;
(ix) Vegetation;
(x) Soils information for design purposes or for determining highly erodible soils shall be determined from a National Cooperative Soil Survey (NCSS) soil series map;
(xi) Temporary and permanent stormwater management and erosion and sediment control BMPs;
(xii) Areas and timing of soil disturbance;
(xiii) A schedule for the inspection and maintenance of all BMPs.

2. Narrative section including discussion of each measure, its purpose, construction sequence, and installation timing as they apply to the site.

3. Professional Certification: The stormwater management plan must be designed and stamped by a professional engineer who has certified that he or she has the requisite experience and certifications to meet SWMP design requirements, including expertise in site grading, site drainage, erosion control, hydrology, and soils. It must include the following text:

   "I hereby certify that this plan has been prepared by me, a professional engineer with more than 2 years of experience in grading, drainage, hydrology and erosion and sediment control, and that this plan meets the standard SWMP design requirements. _____name, _____date, _____seal."

4. Owner Certification: The plan must be signed by the owner and site contractor agreeing to abide by the plan.

5. Notice: A note that the professional engineer accepts the responsibility to monitor the site work and sign off on the plan with a statement that "the site work has complied with the SWMP", and a note that "No Certificate of Occupancy will be issued without the 'SWMP compliance statement' issued in writing".

e. DESIGN STANDARDS

The following standards shall be applied in planning for stormwater management and erosion and sediment control:

1. All measures in the plan shall meet, as a minimum, the Best Management Practices set forth in the "New Hampshire Code of Administrative Rules, Chapter Env-Wq 1500 Alteration of Terrain, current edition and the New Hampshire Stormwater Management Manual, New Hampshire Department of Environmental Services, Volumes 1 - 3, December 2008, as amended, a copy of which is available in the Office of the Planning Board/Planning Dept.
2. Whenever practical, natural vegetation shall be retained, protected or supplemented. The stripping of vegetation shall be done in a manner that minimizes soil erosion.
3. Appropriate erosion and sediment control measures shall be installed prior to soil disturbance.
4. The area of disturbance shall be kept to a minimum. Disturbed areas remaining idle for more than 30 days shall be stabilized.
5. Measures shall be taken to control erosion within the project area. Sediment in runoff water shall be trapped and retained within the project area using approved measures. Wetland areas and surface waters shall be protected from sediment.

6. Off-site surface water and runoff from undisturbed areas shall be diverted away from disturbed areas where feasible or carried non-erosively through the project area. The integrity of downstream drainage systems shall be maintained.
7. Measures shall be taken to control the post-development peak rate of runoff so `that it does not exceed pre-development runoff for the 2, 10 and 50-year frequency 24-hour duration storm event and for additional storm event frequencies as specified in the design criteria of the New Hampshire Code of Administrative Rules, Chapter Env-Wq 1500 Alteration of Terrain, current edition and the "New Hampshire Stormwater Management Manual", New Hampshire Department of Environmental Services, Volumes 1 - 3, December 2008, as amended.
8. Drainage facilities shall be designed using the twenty-five (25) year storm return frequency. Appropriate facilities shall be provided to mitigate the post development peak rate of runoff so that it does not exceed the pre-development peak rate of runoff. Applicants are encouraged to use innovative stormwater management techniques to retain stormwater onsite and reintroduce it to the groundwater.
9. Stormwater management basins and roadway cross culverts shall be evaluated using the fifty (50) year storm return frequency to check flood impacts and demonstrate that downstream properties will not be adversely affected.
10. Drainage swales with a slope of five (5) percent or greater shall be adequately protected against soil erosion. Permanent rip rap armor or erosion control matting shall be designed by a Professional Engineer.
11. When segments of closed drainage are required, drainage structures (catch basins or drain manholes) shall not be spaced greater than three hundred (300) feet apart. Drainage structures shall be required at all changes in grade, changes in alignment and intersections of multiple pipes.
12. Underdrains shall be required where a) the roadway is in a 4-foot cut; and, b) in all ledge cuts. The design engineer shall specify underdrain locations on the plan. The Highway Department reserves the right for the Road Agent or designated representative to require additional underdrain based on field conditions encountered during construction.
13. Underdrains shall outlet into a headwall or drainage structure.
14. Priority should be given to preserving natural drainage systems including perennial and intermittent streams, wetlands, swales, and drainage ditches for conveyance of runoff leaving the project area.
15. All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 days unless conditions dictate otherwise.
16. All stormwater management basins shall be constructed with an outlet structure which conforms to the "New Boston Typical Stormwater Management Basin Outlet Structure" detail provided herein.
17. Access roads shall be provided to drainage structures that will require Town maintenance. Access roads shall be 10' wide, with a 12" crushed gravel base (NHDOT 304.3), shall not exceed 10%, and shall have all appropriate easements for Town use and maintenance.
18. All drainage swales, ponds, conveyance or contaminant systems shall be stabilized prior to directing any stormwater to them.

19. For any infiltration system, either at or below grade, do not discharge sediment laden waters from construction activities (runoff or water from excavations) to the infiltration system. Temporary sediment basins or traps shall be provided. Do not traffic exposed soil surface with construction equipment. If feasible, perform excavations with equipment positioned outside the limits of the infiltration systems. After the area is excavated to the final design elevation, the bottom of the infiltration area shall be deeply tilled with a rotary tiller or disc harrow to restore infiltration rates, followed by a pass with a leveling drag. Infiltration ponds shall not be placed into service until the contributing areas have been fully stabilized.

f. COMPLETED APPLICATION REQUIREMENTS

The Planning Board shall require each of the following in the final plan unless the project is deemed of sufficiently minimal impact to qualify for the minimum requirements specified in Sub-Section d of this Regulation.

1. Construction drawings
   Existing and proposed conditions:
   - (i) Locus map (at a scale of 1" = 2,000') showing property boundaries
   - (ii) North arrow, scale (1"=50' preferred), date
   - (iii) Property lines
   - (iv) Structures, roads, utilities, earth stockpiles, staging areas, equipment storage, and stump disposal
   - (v) Topographic contours at 2-foot intervals indicating slopes in excess of 15%
   - (vi) Critical areas and any designated Suitable Building Envelopes
   - (vii) Within the project area, and within 400 feet of the project boundary, surface waters, wetlands, drainage patterns and watershed boundaries
   - (viii) Vegetation
   - (ix) Extent of the 100-year flood plain boundaries, as published or determined
   - (x) Soils information for design purposes from a National Cooperative Soil Survey (NCSS) soil series map, or a Site Specific Soil Map of the site. Highly erodible soils shall be determined by soil series.
   - (xi) Easements
   - (xii) Areas of soil disturbance
   - (xiii) Areas of cut and fill
   - (xiv) Areas of poorly and very poorly drained soils, including any portion to be disturbed or filled
   - (xv) Location of all structural, non-structural, and vegetative stormwater management and erosion and sediment control BMPs
   - (xvi) Identification of all permanent control BMPs
   - (xvii) Tabulated sequence of construction
2. Other plan requirements:
   - (i) Construction schedule
   - (ii) Earth movement schedule
   - (iii) A proposed schedule for the inspection and maintenance of all BMPs
   - (ix) Description of temporary and permanent vegetative BMPs, including seeding specifications
   - (x) Description of all structural and non-structural BMPs with detailed drawings and placement of each, as appropriate
3. Report section, including:
   - (i) Design calculations for all temporary and permanent structural control BMPs
   - (ii) A proposed schedule for the inspection and maintenance of all BMPs
   - (iii) Identification of all permanent control measures and responsibility for continued maintenance

(ix) A drainage report with calculations showing the volume, peak discharge, and velocity of present and future runoff. For an Individual Stormwater Management Plan where less than 20,000 s.f. of impervious surface is proposed, the drainage report can be limited to engineered drainage calculations demonstrating adequacy of proposed flow sensitive structures such as culverts.

(x) When detention structures are planned to reduce future condition peak discharge, the soil cover complex method shall be used to compute the runoff volume and peak discharge for designing the structure. The design will conform to the criteria outlined for those types of structures given in the "Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire".

(xi) Following plan approval, should site conditions change from those assumed by the design engineer during plan preparation, in the opinion of the Planning Board or its designee, (for example, if extensive logging takes place which leaves less forested area than initially was presented), new design calculations shall be required and a new Stormwater Management Plan or Individual Stormwater Management Plan will be required to be submitted and approved by the Town's consulting engineer, prior to issuance of a building permit.

g. RESPONSIBILITY FOR INSTALLATION/CONSTRUCTION

1. The applicant shall bear final responsibility for the installation, construction, inspection and disposition of all stormwater management and erosion and sediment control measures required by this Regulation.
2. For a stormwater management plan required for construction or reconstruction of a street or road according to Section c.,1.,i., above, the Planning Board will require a bond or other security in accordance with acceptable bonding methods as described in Article VIII of this regulation and in an amount and with surety conditions satisfactory to the Board, providing for the actual construction and installation of such measures within a period specified by the Planning Board and expressed in the bond and surety. The bond shall be calculated using the "Town of New Boston, New Hampshire Subdivision/Site Plan Improvements Guarantee Worksheet".
3. For an individual stormwater management plan not involving construction or reconstruction of a street or road, and/or for an individual stormwater management plan, the following bonding requirements will apply. In either case the surety conditions shall be satisfactory to the Planning Board, providing for the actual construction and installation of such. The bond shall be calculated using the "Town of New Boston, New Hampshire Stormwater Management Plan Improvement Guarantee Worksheet".
    i. The applicant may choose to submit the bond or other security at the time of subdivision; or,
    ii. The applicant, their heirs, successors or assigns, may elect to submit the bond or other security at the time a building permit is applied for. If the time of application for a building permit is later than two (2) years from the approval of the subdivision the bond amount shall be recalculated using the current "Town of New Boston, New Hampshire Stormwater Management Plan Improvement Guarantee Worksheet". At no time may a Stormwater Management Plan Improvement Guarantee Worksheet that is older than two (2) years be used as the basis for the bond or other security to be submitted.
    iii. In either case the bond or other security shall be held by the Planning Board in accordance with Article VIII of these regulations.

4. Site development shall not begin before the stormwater management and erosion and sediment control plan receives conditional approval. Best Management Practices shall be installed as designed and scheduled as a condition of final approval of the plan.

h. PLAN REVIEW AND APPROVAL

1. The Planning Board may call for an outside technical review of any stormwater management plan that is prepared under this Regulation. Such review shall be required for any stormwater management plan submitted for construction or reconstruction of a street or road. Any such technical review shall be conducted by the Town's Consulting Engineer or other qualified professional consultant, as determined to be appropriate by the Planning Board, at the expense of the applicant.
2. The Planning Board shall indicate approval of the stormwater management and erosion and sediment control plan, as filed, if it complies with the requirements and objectives of this Regulation. Such approval shall be a component of subdivision or site plan approval. If disapproved, a list of plan deficiencies and the procedure for filing a revised plan will be given to the applicant.

i. MAINTENANCE AND INSPECTION

1. A narrative description of on-going maintenance requirements for water quality protection measures required by stormwater management and erosion and sediment control plans after final Planning Board approval shall be recorded on the deed to the property on which such measures are located. The description so prepared shall comply with the requirements of RSA 478:4-a.
2. The Planning Board may require routine inspections to verify on-going maintenance of water quality protection measures. Such inspections shall be performed by the Planning Board or its designated agent at reasonable times to the landowner. The need for said inspections shall be identified as part of the Planning Board's approval of the stormwater management and erosion and sediment control plan.
3. If permission to inspect is denied by the landowner, the Planning Board shall secure an administrative inspection warrant from the district or superior court under RSA 595-B.
4. The Planning Board may require a fee for routine inspections of water quality protection measures. The fee shall be paid by the owner of the property. A fee schedule shall be established by the Planning Board which represents the cost of performing an inspection of various types of water quality protection measures. The procedure for the adoption of the fee schedule shall be as provided in RSA 676:1.
5. In order to receive a certificate of occupancy, a “SWMP compliance statement” must be filled out and stamped by a professional engineer who has certified that he or she has the requisite experience and certifications to meet SWMP design requirements, including expertise in site grading, site drainage, erosion control, hydrology, and soils or by a person specified by the board. The form must indicate that the professional has inspected the affected area(s), and that the SWMP has been complied with.
6. In order to release the performance bond, the requirement of item 5. above, must be met and the qualified professional must attest that the affected area(s) have been adequately, and verifiably stabilized. This does not apply to a Stormwater Management Plan to be monitored by the town's consulting engineer. The Building Inspector shall forward a copy of

the "Stormwater Management Plan Compliance Statement" to the Planning Board in order for the Board to release the performance bond. The Planning Board may disagree with the findings of any inspector and require that the Board, or their designee, perform an independent inspection prior to the release of the performance bond.

STORMWATER MANAGEMENT PLAN COMPLIANCE STATEMENT

I hereby certify that I _____ (PRINT NAME), a professional engineer with more than 2 years of experience in site grading, site drainage, erosion control, hydrology and soils, have inspected the affected areas as shown on the Stormwater Management Plan or Individual Stormwater Management Plan for

_____ (PRINT APPLICANT'S NAME)

Tax Map/Lot #_____, located on_____ (PRINT ROAD NAME), and hereby certify that the Stormwater Management Plan or Individual Stormwater Management Plan has been complied with and that the affected areas have been adequately and verifiably stabilized.

_____ _____

Signed and Sealed Date

6.06 SEPTIC SYSTEMS: PERC TESTS AND TEST PITS

Where private individual sewage disposal systems are proposed, the subdivider shall submit soil test information with the preliminary layout and final plat. Test pit information is to be supplied to the Planning Board on all lots, regardless of size, as part of the preliminary information to be submitted, and all test pits are to meet NH Department of Environmental Services, Subsurface Systems Bureau, standards.

6.07 GROUNDWATER PROTECTION

a. Any application for subdivision review which involves the proposed receiving, handling, storing or processing of any regulated substance (as defined by RSA 339-A:2) shall disclose this information as part of the application submission. Copies of all appropriate state permits as required by the NH Department of Environmental Services for the proposed use shall be submitted to the Town of New Boston Health Officer and New Boston Fire Department as part of the subdivision application.

b. Subdivision applications which involve property contaminated by hazardous or toxic materials (as defined by RSA 339-A:2) shall disclose such information as part of the application. If the Planning Board finds that a potential health risk or an environmental threat exists from a previous use or existing use of the site, then the Planning Board shall require that any environmental assessment that has been completed and submitted to the NH Department of Environmental Services shall be submitted to and reviewed by the Town Health Officer (or third party consultant of the Board's choice and at the applicant's expense) prior to any Planning Board action.

ARTICLE VII: ROAD IMPROVEMENT CONSTRUCTION REQUIREMENTS

7.01 NEW DEVELOPMENT ROADS

a. When an applicant is proposing a new development road, the following will be required in the order listed:

1. "New Road Entry Permit" from the Town or State is applied for and issued by the appropriate agency.
2. New road name is applied for.
3. Three (3) copies of road profiles and cross sections at fifty foot (50') intervals, prepared by an engineer are submitted to the Planning Board.
4. The site is flagged and marked for centerline stations, approximate front lot corners and driveway locations.
5. The Planning Board and Road Agent, and other town boards, commissions or agencies, as appropriate, perform an on-site inspection of the marked site.
6. The road plans and profiles and cross sections shall be forwarded to the Town's consulting engineer for their review and approval. The cost of said review shall be borne by the applicant, the funds for which shall be deposited with the Town prior to the commencement of the review. An estimated charge of $3,500 for the review shall be submitted to the Office of the Planning Board/Planning Department with the design plans to begin the review. Any additional costs above the $3,500 estimate will be paid by the applicant upon receipt of a written estimate for the additional charges to be submitted by the Town's Consulting Engineer.
7. Security for the new road construction shall be provided.
8. A warranty deed shall be submitted, with related documentation, for the roadway area to be transferred to the Town upon completion of the construction and acceptance as a Class V road. The deed and related documentation shall be reviewed by the legal counsel of the Town, and once approved by the legal counsel of the Town, the deed shall be executed and held in escrow until the improvements are completed and accepted, at which time it shall be recorded with the Hillsborough County Registry of Deeds in order to transfer title to the Town.
9. The applicant shall submit to the Planning Board, for review by the Town Engineer, a detailed "as-built" plan of the subdivision. As-built plans shall be submitted, reviewed and approved prior to the issuance of any Certificates of Occupancy within the subdivision.

b. The following improvements shall be installed and constructed by the subdivider to the satisfaction of the Planning Board and Board of Selectmen and under the supervision of the Road Agent or other designated agent of the Planning Board, as conditions precedent to the approval of the final plat, upon satisfactory completion of which the plat will be signed and recorded. In lieu of the completion of street work and utility installations prior to the final approval of the plat, the subdivider shall file a bond or make other suitable arrangements as contained in Article VIII, prior to approval of the final plat.

c. Monuments constructed of stone at least four inches (4") square on the top and at least thirty-six inches (36") long shall be set at all road fronting lot corners, so that a minimum of six inches (6") is above the ground. Monuments for lots fronting on a new development road shall be considered as part of the cost for construction, in accordance with Article VIII, and shall be installed and certified by the surveyor, prior to acceptance of the road and release of the security or recording of the final plat. Iron pins or equivalent markers at all rear and other lot corners shall be set and certified by the surveyor, prior to approval of the final plat. Drill holes shall be a minimum of two inches (2") deep, and set with a PK nail. Two bench marks of the same description as the monuments shall be set at opposite ends of the subdivision, whose tops are at

an even foot in reference to the U.S.G.S. datum plan where practical, or to an assumed datum where the preceding is not feasible.

d. The New Boston Planning Board, in its efforts to promote responsible and well planned development for the Town of New Boston, has established objectives and standards with relation to the construction of proposed public right-of-ways:

    1. In order to maintain acceptable life safety considerations for its citizens and to compose a convenient and coordinated street system, the New Boston Planning Board does not allow for the construction of non-connecting public rights-of-way.
    Exception: If the subdivider has presented information and data to the Board, showing that the connection to an existing town road by any method is not possible, and upon confirmation of the facts by the consulting engineer of the Town, if appropriate, at that time only will the Board consider the construction of a non-connecting public right-of-way (loop or cul-de-sac road) within said subdivision.

    2. Roads shall be designed with regard to existing topography and the suitability of the land.

    3. Prior to road construction, the applicant shall submit an amount as determined by the Town's consulting engineer and approved by the Planning Board to cover the cost of construction inspections. An escrow account will be established in the name of the applicant for the express purpose of the road construction inspections. The roadway shall be constructed in accordance with the Road Geometric Standards located in the Appendix.

    4. All proposed drainage facilities, culverts and erosion and sediment controls shall be installed in accordance with the approved plan. Natural water courses shall be cleaned and increased in size when necessary to take care of storm run-off. Drainage swales below centerline grade shall be constructed in the street right-of-way on both sides of the paved roadway.

    5. The roadway shall be graded to the final grade in accordance with the profile and cross section approved plans.

    6. Driveways are to be installed after the road base is in place. For driveways in a cut section, a 3% negative grade shall be maintained from the edge of the traveled way to the center of the ditchline and no more than a 3% positive grade from the center of the ditchline to the right-of-way. For driveways in a fill section, a 3% negative grade shall be maintained from the edge of the traveled way to the right-of-way. Only clean water shall be permitted to drain into the Town's ditchline.

    7. All driveways shall be constructed per the Town of New Boston Driveway Regulations and shall require a Permit. All driveways shall be shown on the subdivision plans.

    8. No paving shall be permitted between the period of November 1st and April 15th, annually, without the written permission of the Town Engineer and/or the Road Agent. Finish coat of pavement shall be applied no later than September 30th, annually. No fill or gravel shall be permitted to be placed over frost.

    9. After the binder (base) course of pavement is approved, the subdivider/developer will allow the road to set over one (1) winter, during which period, he will be liable for the road including, but not limited to, winter maintenance. The wearing (finish) course of pavement will be applied no later than one (1) year from the date of application of the binder course, or at the discretion of the Road Agent. Security for same shall be as described in Article VIII.

10. All streets shall be posted "Private" until accepted by the Town. The subdivider shall be responsible for providing and installing any and all standard street signs as approved by the Town for all street intersections.

11. The subdivider shall give the Town, on demand, proper deeds for land or rights-of-way reserved on the plat for streets, drainage, utilities (private), or other purposes.

12. Road design and construction shall be in conformance with the Town of New Boston Subdivision Regulations. However, any subject not covered in the Subdivision Regulations shall be governed by the State of New Hampshire, Department of Transportation, "Standard Specifications for Road and Bridge Construction". Additional information on road design and construction standards can be found in the American Association of State Highway and Transportation Officials (AASHTO), "Policy of Geometric Design of Highways and Streets".

7.02 EASEMENTS, DEED RESTRICTIONS, DEDICATIONS, COVENANTS

a. Where the topography is such as to make difficult the inclusion of any utilities, drainage or other facilities, within the right-of-ways so laid out, the submitted layout shall show the boundaries of proposed permanent easements over or under private property.
b. All common driveways shall require access easements.
c. Easements shall be an appropriate width for their intended use and shall have satisfactory access to existing or proposed public ways.
d. Any existing or proposed easements shall be shown, clearly labeled and identified on the plan. If the easement is being dedicated by the plan, it shall be properly set out in an easement deed to be recorded at the registry of deeds, by the Town at the time of plan recording. The costs shall be borne by the applicant. If an easement shown on the plan is already of record, its recorded reference must be given.
e. Copies of deed restrictions or protective covenants for each definitely restricted section shall be submitted to the Planning Board and boundaries of such shall be accurately presented on the submitted plan. The Town is not responsible for private covenants.
f. All easement documents may be reviewed by Town Counsel, at the discretion of the Planning Board. All costs shall be borne by the applicant.
g. All easement documents shall be submitted to the Planning Board for recording with the final plan. In addition, easement documentation should provide a space for the recorded plan number to be written in at the time of recording. All costs shall be borne by the applicant.

7.03 AS-BUILT REQUIREMENTS

As-Built plans shall be submitted to the Planning Board, for review by the Town Engineer after all infrastructure improvements have been completed and at least the binder course of pavement has been placed, and prior to the issuance of any Certificates of Occupancy within the subdivision. As-built plans submitted to the Town of New Boston shall be prepared in accordance with the guidelines detailed in the Appendix.

ARTICLE VIII PERFORMANCE AND MAINTENANCE SECURITIES

8.01 INCOMPLETE IMPROVEMENT GUARANTEE

Completion of improvements required by the Board as a condition of approval such as streets, utilities and stormwater management, etc., which have not been completed, shall be guaranteed by the subdivider by one of the following alternatives:

a. Posting of a performance bond or submission of an irrevocable letter of credit, or other security providing the type and form of the security is acceptable to the Board and approved by the legal counsel of the town, and providing the amount is sufficient to cover the cost of necessary construction, including a cost escalation factor of no more than 10 percent (10%) per year. Additionally, the Board reserves the right to require that the applicant demonstrate the financial trustworthiness of any bonding company acting as Surety on a performance bond and to insist, if, in the judgment of the Board, it is deemed necessary, that such company acting as Surety be a company organized under the laws of the State of new Hampshire and/or be licensed to operate and be in good standing in the State of New Hampshire and that the laws of the State of New Hampshire shall govern any disputes or actions taken under such bond. (See RSA 674:36,III,(b).) All performance bonds shall be calculated using the road bond estimate form of the Town of New Boston and the final amount shall be approved by the Town's Consulting Engineer.

b. The performance bond or letter of credit shall include language which will either (1) provide for the automatic extension of the security, without amendment, for a minimum period of one (1) year, or; (2) provide that the Surety shall provide a replacement bond or letter of credit or a written commitment to provide a replacement bond or letter of credit a minimum of 120 days prior to the expiration date of the initial term of the security or any extension thereof. Any such security shall meet all of the requirements of the initial bond as well. Failure to timely provide such replacement security or commitment shall constitute a breach in the conditions of the bond and entitle the Town to act to recover under the bond and/or proceed with any other available remedies including revocation of approval pursuant to RSA 676:4-a. This requirement shall not be applicable if the applicant has provided a letter of credit that is "self-calling". The initial term of any such security shall be at least 90 days beyond the time stated for completion of applicable improvements.

c. Submission of cash or a passbook in an amount sufficient to cover the cost of necessary construction, including a cost escalation factor of no more than 10 percent per year. A cash escrow agreement is required which cash escrow agreement will provide, at a minimum, the specifications of the contemplated improvements that the cash escrow secures, the timetable for completion of the same, and the terms and conditions that will govern the process by which the Town may avail itself of such funds in the event of default by the Obligor.

    1. The subdivider may also elect to complete the improvements as shown on the conditionally approved plan as follows:

        i. Construction of all the agreed upon improvements, in accordance with these Regulations and the Road Construction Inspection Procedures, prior to the issuance of a building permit. No lot shall be sold or built upon prior to the completion of said improvements.

        ii. Construction of the road improvements in accordance with these Regulations and the Road Construction Inspection Procedures to a point determined by the subdivider and agreed to by the Planning Board, and posting of an acceptable security of sufficient amount to cover the cost of completing the remaining improvements, including a cost escalation factor.

2. As phases or portions of the secured improvements or installations are completed and approved by the Planning Board, the Board may partially release said security to the extent reasonably calculated to reflect the value of such completed improvements and installations, as per these Regulations and the Road Construction Inspection Procedures. (See RSA 674:36,III,(b).)

3. If a bond or other surety is provided, it shall be approved as to form and sureties by the legal counsel of the Town.

4. Town of New Boston shall have the power to enforce any securities being held to secure the construction and installation of improvements and utilities by all appropriate legal and equitable remedies. (See RSA 674:36,III,(b).)

5. Prior to the acceptance of the completed road/fire protection system by the Town, an acceptable two (2) year maintenance bond must be submitted by the applicant for the road/fire protection system in the amount of 10% of the performance bond value.

6. Bonding for stormwater management shall be provided.

8.02 IMPROVEMENT CONSTRUCTION INSPECTIONS

The roadway shall be inspected in accordance with the Town of New Boston Road Construction Inspection Procedures to be provided to the subdivider by the Board at the pre-construction meeting. The final inspection will be performed by the Town's Consulting Engineer and the Road Agent. If, at the compliance hearing before the Planning Board, the road is found to be satisfactory, the Planning Board will then recommend to the Board of Selectmen that they accept the road as a Class V road for the Town, if they are so authorized, or to present it for vote of the Town Meeting.

The applicant shall submit to the Planning Board, for review by the Town Engineer, a detailed "as-built" plan of the subdivision.

ARTICLE IX APPENDICES

9.01 ROAD GEOMETRIC STANDARDS

Table of Road Geometric and Other Standards			
	Primary Roads ADT>1,000	Secondary Roads ≥400ADT≤1,000	Tertiary Roads ADT≤400
a. Minimum R.O.W. width	60'	50'	50'
b. Minimum width of pavement	24'	22'	22'
c. Minimum width of sidewalks as required	4'	4'	4'
	Primary Roads ADT>1,000	Secondary Roads ≥400ADT≤1,000	Tertiary Roads ADT≤400
d. Minimum road grade	1%	1%	1%
e. Maximum road grade	9%	9%	10%
f. Grade 75' from center of intersection to PVC	-3%	-3%	-3%
g. Maximum road grade at driveway entry	8%	8%	8%
h. Minimum angle of intersection	80 degrees	80 degrees	80 degrees
i. Minimum width of gravel shoulders each side of road	4'	4'	2'
j. Minimum centerline radii on curves *Minimum shall be 300' if profile grade is greater than 8%	500'	300'	200'*
k. Minimum tangent length between reverse curves	300'	250'	200'
l. Minimum gravel road base	24"	18"	18"
i. sub-base (bank run) if unfractured, no larger than 6"	18"	12"	12"
ii. upper base (crushed gravel) stone being no larger than 1 1/2"	6"	6"	6"
iii. both layers to be properly compacted by means of a vibratory roller of no less than 27,000 lbs. dynamic force			
iv. testing of compaction to be by a qualified engineer according to 95% ASTM 1557			
m. Minimum bituminous paving	4 ½"	4 ½"	4 ½"
i. base or binder course 3/4" "SUPERPAVE"	3"	3"	3"
ii. finish or wearing course 1/2" or 3/8" "SUPERPAVE"	1 ½"	1 ½"	1 ½"
n. Minimum road crown	2%	2%	2%
o. Shoulder cross slope	4%	4%	4%
p. Dead-end or cul-de-sac streets, if permitted	See typical detail	See typical detail	See typical detail

i. length, not more than *length to be measured from intersection of centerlines of cul-de-sac and existing road to throat of turnaround. Any dead end street or cul-de-sac street constructed in accordance herewith shall not be thereafter considered an "existing road" for purposes of this regulation so that under normal circumstances such dead end roads shall not be capable of being extended.	1,000’	1,000’	1,000'
	Primary Roads ADT>1,000	Secondary Roads ≥400ADT≤1,000	Tertiary Roads ADT≤400
q. Clear Zone - measured from edge of traveled way	10'	8'	6'
r. Design Speed	35 mph	35 mph	35 mph
s. Stopping Sight Distance - measured along center of travel lane	250'	250'	250'
t. Center of roadway to be center of right-of-way.			
u. Right-of-way drainage to cover full R.O.W. width			
v. Culvert headers, guard rail and rip rap (Class A) to be installed at the discretion of the Road Agent.			
w. Shoulder slope beyond the gravel shoulder to be 3 to 1.			
x. Slopes to receive loam and seed to prevent erosion as required.			
y. Backslopes beyond the ditchline are to be 3 to 1, except in ledge cuts.			
z. Underdrain to be installed per detail attached. (Section added 8/10/04.)			
aa. ADT (Average Daily Traffic) is measured in Vehicle Trips per Day.			
ab. All stormwater management basins shall be constructed with an outlet structure which conforms to the "New Boston Typical Stormwater Management Basin Outlet Structure" detail provided herein.			
ac. Minimum Centerline Offset for Underground Utility (UGU) Trench, if UGU approved.	28 ½'	23 ½'	23 ½'

9.02 AS-BUILT REQUIREMENTS

As-built plans submitted to the Town of New Boston shall be prepared in accordance with the following guidelines:

1. Sheet size shall be 22" x 34".

2. A licensed Land Surveyor shall prepare all plans. Plans shall be stamped and signed by the licensed Land Surveyor.

3. The Land Surveyor shall certify on the plan that all required Monumentation required by the approved subdivision plan has been set.

4. The design engineer shall certify on the plans that the layout of the line and grade of all public improvements is in accordance with the approved construction plans for the subdivision. This certification should be signed and stamped by the design engineer.

5. Plans shall be drawn to scale, preferably 1" = 50', or at the same scale as the engineer's drawings. The scale shall be indicated on the plan in written and bar scale format.

6. Three (3) copies of the As-built plan shall be provided to the New Boston Planning.

7. Upon final approval of the As-built, three (3) paper print copies and one AutoCAD (.DWG or .DXF) drawing compatible with AutoCAD software shall be submitted to the Planning Board.

8. In addition to the detailed as-built outlined above, the developer shall be required to submit one copy of the as-built plan at the scale of the New Boston tax maps, 1" = 400', which shows the lot lines and road layout only.

9. The plan shall include the following detail as applicable:
    a. <u>Roadway:</u>
        i. Roadway horizontal alignment including edges of pavement.
        ii. Elevations shall be provided at fifty (50) foot intervals along the centerline of the constructed roadway and designate elevations on original roadway profile.
        iii. Locations of all visible roadway components including but not limited to guardrail, driveway aprons, sidewalks, traffic signs, curbing, retaining walls, etc.
        iv. 2-foot topography for roadway and slopes.
    b. <u>Drainage Improvements:</u>
        i. Roadway cross-culverts (reference to size, type, inverts, and direction of flow)
        ii. Driveway culverts (reference to size, type, and direction of flow)
        iii. End Treatments, i.e. headwalls, flared end sections
        iv. Drainage ditches and swales (reference to lining if applicable, i.e. riprap, pavement)
        v. Underdrain
        vi. Drainage Structures (reference to rim and inverts)
        vii. Stormwater management basins
            1) Bottom Elevation
            2) Berm Elevation
            3) Outlet Structure (reference to rims, inlet inverts, and outlet inverts)
            4) Emergency Overflow
            5) Stormwater Treatment Measures, i.e. treatment swales, level spreaders

c. Fire Cisterns:
    i. Paved vehicle pad
    ii. Tank location
    iii. Suction line
    iv. Fill line
    v. Vent
    vi. Man-way Access
    vii. Bollards
    viii. Perimeter boulders
    ix. Surface drainage
    x. Town ROW and/or easements
d. Utilities within the ROW:
    i. Overhead utilities, i.e. telephone, electric, cable (include all utility poles with reference numbers and associated guy wires)
    ii. Underground utilities
    iii. Sewer (private)
    iv. Water (private)
    v. All related appurtenances, i.e. conduit, pipeline manholes, stubs, transformer pads, junction boxes, gates, valves, hydrants, etc.
e. Miscellaneous:
    i. Road Name
    ii. Date of Plan (including revision dates)
    iii. North Arrow
    iv. Property Lines
    v. Easements
    vi. Cross reference to Subdivision Approval
    vii. Stump dump locations

9.03 FIRE PROTECTION SYSTEMS

All proposed fire fighting water supply systems (e.g. cisterns, sprinkler systems, etc.) shall be constructed and/or completely installed, in accordance with designs approved by the New Boston Board of Fire Wards, the Planning Board and the Town's Consulting Engineer, prior to the issuance of any Certificate(s) of Occupancy. The type of system to be used shall be chosen by the applicant and accepted by the Planning Board following recommendation from the Fire Wards.

a. The following procedures shall apply, for cistern design approval:
    1. Four sets of stamped and signed final design plans for the fire protection system shall be submitted for review and approval by the Town's Consulting Engineer.
    2. The cost of the review shall be borne by the applicant, the funds for which shall be deposited with the Office of the Planning Board/Planning Department with the submission of the design plans. An initial deposit of $1,000 shall be provided to initiate the Town's Consulting Engineer's review. Any additional costs above the $1,000 estimate will be paid by the applicant upon receipt of a written estimate for the additional charges to be submitted by the Town's Consulting Engineer.
    3. Written approval of the design plans shall be submitted by the Town's Consulting Engineer to the Planning Board prior to issuing subdivision approval.
    4. Location of the fire protection system, if applicable, shall be recommended by the Board of Fire Wards and approved by the Planning Board prior to issuing subdivision approval.
    5. Upon approval of the design plans and location, if applicable, construction of the fire protection system shall be a condition to subdivision approval, and shall require that:
        i. The applicant shall be responsible for payment of all inspection fees incurred. Inspections shall be performed by the Town's Consulting Engineering firm.
        ii. Inspections of the system's construction are mandatory. Other water supply sources for fire protection shall be inspected in accordance with approved inspection schedules.
        The Town's Consulting Engineer shall provide a construction monitoring estimate for the inspection of the cistern installation based on the complexity of the design and site conditions. Expenses will include mileage, postage and other incidentals. The mileage reimbursement shall be at the current contracted rate.
        iii. Prior to construction, the applicant shall submit the sum established by the Town's Consulting Engineer to the Office of the Planning Board/Planning Department to cover the cost of the above-noted inspections. An escrow account shall be established in the name of the applicant for the express purpose of the fire protection system construction inspections, except that if the cistern is part of a subdivision that also includes road construction or reconstruction, the cistern inspection money may be combined in the monitoring escrow account for the road.
        iv. Prior to the start of construction, a Performance Bond shall be provided in the amount of:

            $$\frac{\$65{,}000 \times \text{Present Date ENR Cost Index}}{\$6{,}462 \text{ (Feb. 2002 ENR Cost Index)}} = \text{Bond Amount}$$

            This security for the installation of the fire protection system shall be provided in accordance with Article VIII of these regulations;

        v. Construction of the fire protection system in accordance with the approved design plans; approval of same by the Board of Fire Wards; and, acceptance of same by the Planning Board, shall be required prior to the issuance of any Certificate(s) of Occupancy.
    6. Any unexpended funds, plus interest accrued, if any, in the escrow account after the construction inspections have been completed shall be returned to the subdivider/ applicant upon final inspection and acceptance of the cistern, and receipt of the final inspection costs invoice for same.

7. In the event that the inspection costs exceed the initial deposit, an additional amount to be determined by the Planning Board shall be required. Construction of the fire protection system shall not be permitted to continue until the amount determined is submitted and final acceptance of the cistern shall be withheld until all outstanding bills are paid.
8. Prior to acceptance of the completed fire cistern, cistern site and vehicle pad by the town, an acceptable two-year maintenance bond must be submitted by the applicant for the fire cistern in the amount of 10% of the performance bond value.
9. At the time of acceptance, the applicant shall provide an approved form of conveyance to the Town that has been reviewed by the Planning Board and Town Counsel. Such document, as determined by the Planning Board, shall convey unencumbered fee title of said cistern and necessary appurtenant land or, if agreeable to the Board, perpetual easement rights to the same.

b. The following procedures shall apply for approval of sprinkler systems for one and two family dwellings and manufactured housing:
    1. Sprinkler systems shall be installed, inspected and accepted in accordance with the standards set forth in the Town of New Boston Building Code, Chapter NB-5.0.
    2. A note shall be placed on the final plat indicating that all homes in the subdivision will be serviced by sprinkler systems installed in accordance with the Town of New Boston Building Code, Chapter NB-5.0.
    3. A Declaration of Covenants and Restrictions shall be submitted by the applicant which specifies that all homes in the subdivision will be serviced by sprinklers systems installed in accordance with the Town of New Boston Building Code, Chapter NB-5.0.
    The Declaration of Covenants and Restrictions shall be reviewed by the Planning Board and also by Town Counsel. The cost of Town Counsel's review shall be borne by the applicant. The Declaration of Covenants and Restrictions shall be recorded at the Hillsborough County Registry of Deeds as a condition precedent to the approval of the final plat and the applicant shall pay the recording costs.
    4. Deed language shall be submitted by the applicant which indicates that the homes within the subdivision will be serviced by sprinkler systems installed in accordance with the Town of New Boston Building Code, Chapter NB-5.0. The deed language shall be reviewed by Town Counsel, the cost of which review shall be borne by the applicant.
    5. No Certificate of Occupancy shall be issued for a home constructed with a sprinkler system until the system has been inspected, tested and accepted by the Town of New Boston Fire Inspector or their designee, in accordance with the Town of New Boston Building Code, Chapter NB-5.0.

9.04 FIRE PROTECTION - CISTERN SPECIFICATIONS

The Town of New Boston is the ultimate owner and the New Boston Fire Department is the only user of any cistern constructed for subdivisions. As a result, the Town and the Fire Department have a clear interest in assuring that work is satisfactory. To that end, inspections will be performed by the Town's Consulting Engineer in accordance with the relevant Construction/ Installation Inspection Sheet" and as necessary. Cistern tanks shall be constructed of cast-in-place concrete, fiberglass reinforced plastic, or modular pre-cast concrete units. See relevant specifications (on page 58) for each below.

a. GENERAL

    1. The Town of New Boston expects the design of a cistern to be reasonable, practical, trouble-free and last a lifetime (50 years). All design and construction information shall be shown on plans.

    2. The cistern shall have a minimum usable capacity of 30,000 or 45,000 gallons and shall be available through the suction piping system.

2. The suction piping system shall be capable of delivering 1,000 gallons per minute for three-quarters of the cistern capacity.

3. The design of the cistern shall be submitted to the Planning Board, for approval by the Town's Consulting Engineer prior to construction. All plans must be stamped and signed by a professional engineer licensed by the State of New Hampshire.

4. Each fire cistern shall be sited to the particular location by the same registered professional engineer as noted in Item 5.

5. All cistern plans shall be furnished with an Owner and Site Contractor Certification which states that "Cistern construction will be performed in accordance with the approved design plans. In all cases the current Town of New Boston Fire Protection Cistern Specifications shall be considered a part of the approved plans. The owner and contractor understand that in the event of a discrepancy between the two documents the Fire Wards and/or the Town's Consulting Engineer will direct the contractor how to proceed.". This certification shall be signed prior to subdivision approval being granted.

6. The entire fire cistern shall be structurally rated for HS-20 loading, unless specifically exempted in writing by the Fire Wards.

7. All drawings herein are for general diagrammatic purposes only. Alternative designs and materials can be proposed, as previously noted; all designs must be submitted to the Planning Board for review and approval by the appropriate agent/agency.

8. It is required that all work be performed in accordance with all applicable safety laws and regulations. Neither the Town nor its agents assume any responsibility relative to construction safety; that is the sole responsibility of the applicants and his agents.

9. All areas disturbed as a result of construction of the fire cistern shall be graded, loamed, seeded, fertilized and mulched. The loam shall be screened and the minimum thickness placed is to be 4 inches. It shall be kept 12 to 18 inches below the top of the manhole ring. Seed mixtures and mulch shall be applied in accordance with the standards as found in the NH Stormwater Management Manual - Volume 3 Construction Phase Erosion & Sediment Controls, as amended.

10. The roadway shoulder and vehicle pad at the fire cistern, from edge of the roadway pavement to the pumper suction connection, shall have a pitch of 3/8" per foot downgrade. There shall be a defined swale (ditchline) where both grades meet, to take runoff away from the site. The vehicle pad at the fire cistern shall be a minimum of 28' deep from edge of existing pavement by 50' wide and shall have a minimum of 12 inches of crushed gravel which meets NHDOT 304.3.

    The vehicle pad gravel material shall be compacted to 95% of the modified proctor of the crushed gravel. The shoulder and pad shall be constructed, and paved with 4 ½" of bituminous pavement, in accordance with Article IX, 9.01 Road Geometric Standards, m.

11. Bottom of suction pipe to pumper connection shall not exceed 14 feet vertical distance.

12. All suction and vent piping above the cistern roof slab shall be ASTM Schedule 40 Steel. All above-grade Schedule 40 Steel piping and supports shall be painted in accordance with the following paint system:

    SHERWIN-WILLIAMS OR EQUAL: Safety Red

EXTERIOR PIPING: Including vent fill and suction piping

1st Coat: High solids catalyzed epoxy - 6 mil DFT*
2nd Coat: High solids Aliphatic - 4 mil DFT

*Dry Film Thickness

Surface preparation and application of the paint shall be in accordance with the manufacturer's requirements.

Below grade Schedule 40 Steel pipe shall be coated with CIM1000 or Elastoshield coating.

13. All pipe and hardware within the cistern shall be Schedule 10 Type 304 Stainless Steel.

14. The 8 x 5 inch eccentric reducer is available from Boston Pipe and Fittings of Cambridge, MA, or equal.

15. The final suction connection shall be a 4-1/2 inch National Hose Male Thread. A cap shall be provided and both the cap and the adaptor shall be brass.

16. The filler pipe fitting shall be a 4" storz connection installed at a 30 degree downward angle. The filler shall be located a minimum of 36 inches, and a maximum of 48 inches, above final grade level. See detail.

17. All horizontal suction piping shall slope slightly uphill towards pumper connection.

18. All construction, backfill, and grading material shall be in accordance with proper construction practices.

19. During the construction of the fire cistern, the excavation shall be kept stable and dry. The excavated area shall be dewatered to 2 feet below bottom of footing grade for the entire construction and testing period.

21. Prior to placement of the bedding material, a layer of geotextile separation fabric shall be placed on subgrade that is stable and dry. The fabric is to be MIRAFI 140.N or equal.

22. All cisterns shall be furnished with an MUTCD R7-1, 12" x 18" 'No Parking Any Time' sign with double arrows attached to a #5 steel bar welded above the suction pipe. The steel bar shall be painted in accordance with the above grade piping specifications.

23. Installer is responsible for completely filling cistern with potable water until the cistern is accepted by the Planning Board. Contractor shall promptly refill any water drawn down by the Fire Department as a result of flow testing.

24. ACCEPTABLE PADLOCK
In order to ensure that all cistern padlocks meet the specifications of the New Boston Fire Department, the contractor shall purchase all locks from the department. Each manway hatch shall be furnished with a lock from the NBFD. Locks will cost $50/each.

25. Inspections shall be carried out as required.

26. The Developer shall schedule all inspections 48 hours in advance with the Town's Consulting Engineering firm.

27. Prior to the start of construction of the cistern, a preconstruction meeting shall be held at the New Boston Town Hall. The New Boston Planning Department will organize the meeting.

    The following parties should attend the meeting:

    * New Boston Planning Dept. representative
    * New Boston Fire Dept. representative
    * Town's Consulting Engineer representative
    * Developer
    * Contractor (if applicable)

28. Two copies of the attached "Construction/Installation Inspection Sheet" shall be issued at each preconstruction meeting for a fire cistern installation. One copy shall be held by the developer/installer. The other copy shall be held by the Town's Consulting Engineer.

AFTER A MILESTONE INSPECTION ITEM ON THE "CONSTRUCTION/INSTALLATION INSPECTION SHEET" HAS BEEN SUCCESSFULLY COMPLETED, THE PLANNING BOARD SHALL BE GIVEN A COPY OF THE SIGNED OFF SHEET.

9.04.01 CAST-IN-PLACE CONCRETE

a. All cast-in-place concrete utilized as part of the construction of a fire cistern shall meet or exceed the specification requirements listed below:

   CONCRETE

   1. All concrete work shall conform to the requirements of the specifications, the latest edition of the ACI Building Code (ACI 318) and ACI 301, Specifications for Structural Concrete for Buildings, and to the International Building Code. In case of conflict, the more stringent requirements shall govern.
   2. All concrete shall be ready-mixed in accordance with ASTM C94.
   3. Vertical construction joints and stops in the concrete work shall be made at mid span. Dowels shall be provided at construction joints of area equal to 0.5% of the vertical concrete area. See specifications. Beveled keyways shall be provided at all construction joints.
   4. At least 48 hours shall elapse before depositing of new concrete against previously placed concrete.
   5. All concrete shall attain minimum compressive strengths at 28 days age of 4,000 psi. Refer to specifications and ACI 301 for design strengths required for selecting mix proportions.
   6. The use of calcium chloride is prohibited.

b. All cast-in-place concrete furnished as part of construction of the fire cistern and placed and cured must be in accordance with the most recent applicable ACI publication. Said ACI codes shall include but not be limited to the following:

   ACI 301 Specifications for Structural Concrete for Building
   ACI 304 Recommended Practices for Measuring, Mixing, Transporting, and Placing Concrete
   ACI 305 Hot Weather Concreting
   ACI 306 Cold Weather Concreting
   ACI 308 Standard Practice of Curing Concrete
   ACI 309 Standard Practice for Consolidation of Concrete
   ACI 318 Building Code Requirements for Reinforced Concrete
   ACI 347 Recommended Practice for Concrete Formwork

c. The tolerances for concrete work are as follows:
    1. Walls - All walls shall be even in appearance. Horizontal and vertical surfaces shall be plumb and/or level to within 1/4" in ten feet.
    2. Slabs - All slabs shall be even and level with a uniform appearance and have a smooth profile of surface. The surface shall be level to within 1/4" in ten feet.

d. All reinforcing steel used shall meet or exceed the following specification requirements:
    REINFORCING
    1. All reinforcing bar details shall conform to the latest ACI Code and detailing manual, except as otherwise specified.
    2. All reinforcing bars shall conform to ASTM A615 Grade 60 except ties and stirrups Grade 40. All welded wire fabric shall conform to ASTM A185 and shall be provided in flat sheets. Laps shall be staggered and shall be 1-1/2 full mesh minimum.
    3. Schedule with the shop drawings all necessary accessories to hold reinforcing securely in position. Minimum requirements shall be: high chairs - 4 feet on centers; slab bolsters - 3'6" on centers; support bars for high chairs - #5.
    4. All bars, except as otherwise noted, shall be continuous and shall be run continuously around corners, lapped at necessary splices, and hooked at discontinuous ends. Laps shall be 30-bar diameter minimum, unless otherwise noted.
    5. The concrete protective covering for main reinforcement shall be, unless shown otherwise:
        i. Footing bottoms - 3 inches
        ii. Columns, beams and formed surfaces in direct contact with soil or exposed to the weather (except slabs) - 2 inches
        iii. Interior faces of walls and slabs exposed to the weather - 1 inch
        ix. Interior slabs - 3/4 inch
    6. All concrete, unless specifically noted to be plain concrete, shall be reinforced.
    7. All reinforcing shall be inspected and approved before concrete is placed.

e. The Developer/Contractor shall, for approval, submit to the Town's Consulting Engineer two (2) copies of the following shop drawings and material certifications two weeks prior to use in construction:
    * Rebar
    * Form work and accessories
    * Concrete design mix
    * PVC waterstop
    * Waterproofing coating
    * Form tie patching
    * Suction, fill, and vent piping including supports
    * Backfill materials including structural fill, crushed stone and fabric
    * Access manhole structure and casting

f. The entire concrete structure of the cistern shall be completed, filled with water, and inspected prior to backfilling.

g. The bedding material for the cistern shall be a 12-inch layer of 1-1/2 inch crushed, washed stone. The bedding material shall be compacted by mechanical means, and shall meet the following gradation requirements:

Sieve Designation	Percent Passing
2"	100
1-1/2"	95-100
1"	35-85
3/8"	20-52
No. 8	0-5

h. All backfill material shall be screened gravel and shall be compacted to 95% of the material modified proctor value. The material shall meet the following gradation requirements:

Sieve Designation	Percent Passing
3"	100
2"	95-100
1"	55-85
No. 4	27-52
No. 200	0-12

i. Filler pipe will have an attached 2 ½" National Hose female threaded Siamese, it shall be a minimum of 36 inches, and a maximum of 48 inches, above final backfill grade.

j. The final suction connection of the suction pipe shall be 20 - 24 inches above the level of the pad where a fire vehicle's wheels are located, which is about ten feet from the cistern suction connection. SEE DETAIL. The cistern design shall include design elevations, i.e. top of base slab, top of roof slab and centerline of suction piping, and any other necessary elevations for construction of the cistern. The design engineer shall set a minimum of two (2) benchmarks on the proposed cistern site for use by the Contractor. The benchmarks shall be protected and maintained throughout the duration of construction.

k. Suction pipe shall be supported to the top of the tank.

l. Cistern shall be designed so that it will not float when empty. This must be stated on the plans.

m. Perimeter of tank at floor/wall joint shall be sealed with continuous 6-inch PVC waterstop. All butt-ends shall be heat welded. All vertical wall joints and horizontal slab joints shall have a continuous 6-inch PVC waterstop.

n. After backfilling, the tank area shall be enclosed with 3ft diameter boulders placed 6ft +/- on center. SEE DETAIL.

o. Backfill over the tank shall be:
    1. 4 feet of fill, or;
    2. if less than 4 feet, the top and highest 2 feet of sides of cistern insulated with 2" vermin-resistant foam insulation, and minimum 2 feet of fill.
    3. All backfill shall extend 10 feet beyond the edge of the cistern, then maximum 3:1 slope, loamed and seeded. All fill and loam shall remain 12 to 18 inches below the rim of the manhole.

p. NO EXCEPTIONS PERMITTED: All form ties shall be of a type that permit breaking-off at least one inch below the surface of the concrete with a one-inch diameter PVC cone. In addition, waterstop washers shall be placed halfway along the length. All form ties shall be broken at least one inch below the surface and sealed with a non-shrinking hydraulic cement.

q. A method of positive leak prevention shall be provided. The inside of the cistern walls, and floor, as well as the below-grade Schedule 40 carbon steel piping, shall be waterproofed with a modified urethane industrial membrane system equal to CIM1000 or Elastoshield, that will ensure long-term water tightness of the structure.

r. TESTING: After the tank is broom cleaned and has been inspected, but prior to backfilling, insulation and inspection of the cistern piping, the fire cistern shall be leakage tested. The vessel shall be filled with potable water to within 1-inch of the top cover of the manway. The installer should allow 48-hours for the water elevation to stabilize before commencing the 14-day leakage test. The tank level measurements shall be made and recorded by the Town's Consulting

Engineer. The installer shall provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway covers. The test is a zero leakage test. If after the fourteen-day test leakage is verified, the tank and/or components shall be repaired to stop the leak. Any repairs made shall be acceptable to the Board of Fire Wards, with a leakage retest. Flow testing shall be conducted by the Fire Department.

9.04.02 SINGLE-WALL FIBERGLASS REINFORCED PLASTIC TANK

a. GENERAL

Acceptable Tank Manufacturer

1. Manufacturers:
    i. Xerxes Corporation
    ii. Minneapolis
    iii. Minnesota
    ix. or APPROVED equal.
2. Manufacturing Standards:
    i. Manufacturer shall be able to provide documentation that the tank shell has been built to the applicable requirements of Underwriters Laboratories Standard UL 1316 or American Water Works Association (AWWA) D120.
    ii. Tank manufacturer shall be in the business of manufacturing tanks to UL 1316 or AWWA D120 standards.
3. Materials:
    i. Tank shall be manufactured of 100% resin and glass-fiber reinforcement, with no sand fillers and no exposed glass fibers.

b. SUBMITTALS

Applicant shall submit to the Planning Board and Board of Fire Wards, four (4) copies of shop drawings for each tank and four (4) copies of manufacturer's literature.

Submittal must include:

- Tank Plan
- Tank Section
- Hold-Down Deadmen Details
- Hold-Down Strap Materials and Hardware
- Tank Loading Capacity
- Internal Components
- Warranty
- Tank Weight
- Flange Type and Locations

In addition to the above submittals, a final design plan shall be prepared by the design engineer siting the cistern and detailing the installation specifications.

Two weeks prior to construction, the Developer/Contractor shall submit two (2) copies of the manufacturer's job specific shop drawings to the Town's Consulting Engineer for approval.

c. PRODUCTS

Single-Wall Fiberglass Underground Tanks

1. Product-Storage Requirements:
    i. Tank shall be vented to atmospheric pressure, as the tank is not designed as a pressure vessel.
    ii. Tank shall be designed for maximum product-storage temperature of 150 degrees
2. Loading Conditions - Tank shall meet the following design criteria:

i. Internal Load: Tank shall withstand a 5-psig air-pressure test with 5:1 safety factor. Installer shall air-test each tank for leakage prior to installation. Maximum test pressure is 5-psig (3-psig for a 10-foot tank).
ii. Vacuum Test: To verify structural integrity, each tank up through 10-foot diameter shall be vacuum tested by the manufacturer at the factory to 11.5 inches of mercury.
iii. Surface Loads: Tank shall withstand surface HS-20 axle loads when properly installed according to manufacturer's current installation instructions.
iv. External Hydrostatic Pressure and Burial Depth: Tank shall be capable of being buried in the ground with a maximum 7 feet of overburden, the excavation fully flooded, and a safety factor of 5:1 against general buckling.
v. The tank shall support accessory equipment - such as drop tubes, as shown on tank drawings and when installed according to tank manufacturer's recommendations.
vi. The tank shall be a Xerxes, or equal, 30,000 or 48,000-gallon tank. 10-12 foot diameter *(based on size)*, tanks shall meet the following specifications:
- ANSI/AWWA D120
- U.L. 1316
- Capacity of 48,000+ gallons or 30,000+ gallons
- Recognized in NFPA 22 & NFPA 1142
- 18,000 lb - 48,000 gallon tank weight empty
- 9,400 lb - 30,000 gallon tank weight empty

(Size of the tank is set forth by the subdivision regulations)
vii. The cistern shall be designed so it will not float, with a 1.5 factor of safety.

d. ACCESSORIES
1. Anchor Straps:
i. Straps shall be FRP anchor straps as supplied by tank manufacturer.
ii. Number and location of straps shall be shown on tank drawings.
2. Manways:
i. All manways shall be flanged and 30-inch ID, complete with UL-listed gaskets, bolts and covers.
ii. Location(s) shall be shown on tank drawings.
iii. Manway extensions shall be FRP.
3. Gauge Plates:
i. Gauge plates shall be installed under each service fitting and manway opening.
4. Manway Hatch:
i. The manway hatch shall be an aluminum Haliday Hatch, Model HC3636, or equal.
5. Internal Anti-Vortex Device:
i. An internal anti-vortex plate shall be factory installed by tank manufacturer.
6. Fittings:
i. All pipe fittings shall be constructed of carbon steel and shall have welded joints.
ii. All standard threaded fittings shall be half-couplings, and of 6-inch or 8-inch diameter. Reducers shall be used for smaller sizes where shown and provided by contractor.
iii. All NPT flanges shall withstand a minimum of 150 foot-pounds of torque and 1,000 foot-pounds of bending, both with a 2:1 safety factor.
7. Internal Piping:
i. The tank shall be provided from the manufacturer with an 8" diameter FRP suction pipe with a flanged connection at the crown of the tank and a flanged connection to the anti-vortex device.

e. CONCRETE
    1. All concrete used for the deadmen, manway pad and bollards shall meet the following specifications:
        - 3,500 psi compressive strength
        - 6%± 1% air entrainment
        - Max. slump 5"
        - Placed in accordance with all applicable NHDOT and ACI specifications
        -

f. SITEWORK
    1. Dewatering - The tank excavation shall be dewatered to 2'-0 below the bottom of the excavation until the tank is 100% backfilled and deadmen are in place.
    2. Erosion Control - The cistern site shall be protected against any erosion and siltation off the site. The installation shall employ any and all erosion control measures necessary to comply with this requirement.

g. EXECUTION
    1. Installation
        i. Tank shall be installed according to manufacturer's current underground storage tank installation instructions.
        ii. Contractor is responsible to prepare manufacturer's "Tank Installation Checklist - Fiberglass Underground Storage Tanks" during construction to the satisfaction of the Town's Consulting Engineer.
    2. Backfill Material
        i. Pea stone (mix of rounded particles) shall have a minimum diameter of 1/8" and a maximum dimension of 3/4", with a maximum of 2% passing a No. 200 sieve.
        ii. Crushed stone shall be washed crushed stone particles with a mix of angular particles between 1/8" and 1/2" and shall meet ASTM C-33 para. 9.1 requirements, with a maximum of 2% passing a No. 200 sieve.
        iii. No more than 5% of the backfill shall pass a No. 8 sieve.
        ix. Compaction of the backfill shall be every 12" lift; compaction shall be by mechanical means but should be performed with hand-operated equipment, with every effort made to avoid directly contacting the tank with tools and equipment during backfilling procedures.
        x. In any location where gravel is placed over crushed stone or pea stone a geotextile separation fabric shall be placed between the two materials to prevent migration of fines into voids of crushed stone. The fabric shall be Mirafi 140-N or equal.

h. WARRANTY
    1. Warranty shall be 50 years by the tank manufacturer.
        i. A copy of the written warranty shall be provided to the Planning Board and Board of Fire Wards for review prior to installation of the fire cistern.
        ii. Before the Town accepts the cistern for operation the Contractor shall submit to the Town's Consulting Engineer for review, the manufacturer's shipping paperwork, a copy of the manufacturer's "Installation Manual and Operating Guidelines", and the completed "Tank Installation Checklist - Fiberglass Underground Storage Tanks.".

i. TESTING
    1. After the tank has been backfilled and the manway and miscellaneous piping is installed, the fire cistern tank shall be leakage tested. The tank shall be filled with potable water to within 1 inch of the top cover of the manway. The installer may allow the filled tank to sit for one (1) day prior to commencement of the test. The test duration shall be seven (7) calendar days. The tank level measurements shall be made and recorded by the Town's

Consulting Engineer. The installer shall provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway cover. The test is a zero leakage test. If after the seven-day test leakage is verified, the tank and/or components shall be repaired to stop the leak. Any repairs made shall be acceptable to the Board of Fire Wards, with a leakage retest. Any repairs made to the tank shall be done with prior written recommendation by the tank's manufacturer.

2. Flow testing shall be conducted by the Fire Department.

j. MISCELLANEOUS WORK

Any work or specification requirement not included in this section shall come under the purview of the applicable Town of New Boston Fire Cistern Specifications and/or the direction of the Board of Fire Wards.

9.04.03 MODULAR PRE-CAST CONCRETE CISTERN

a. GENERAL

Acceptable Tank Manufacturer

1. Manufacturers:
    i. Michie Corporation of Henniker, New Hampshire;
    ii. or approved equal.
2. Manufacturing Standards:
    i. The manufacturer’s primary business shall be the manufacturing of pre-cast concrete products.

b. SUBMITTALS

1. Shop Drawings from Manufacturer stamped by a Professional Engineer licensed in the State of New Hampshire.
2. Draft copy of 50-year warranty that will be issued to the Town of New Boston from the manufacturer once installation is complete.
3. Buoyancy design calculations stamped by a Professional Engineer licensed in the State of New Hampshire demonstrating the tanks will not float when empty with a 1.5 factor of safety.
4. Site Plan Drawings specific to the site where the cistern is being constructed. Said drawings shall be stamped by a Professional Engineer licensed in the State of New Hampshire.

c. PRODUCTS

Pre-cast Concrete Tanks

1. Product-Storage Requirements:
    i. Tanks shall be delivered, stored, and installed with care. Any defects and/or damage done onsite shall be cause to reject the pre-cast segment.
    ii. Tanks shall be offloaded and placed by an appropriately sized crane.
2. Tank Design Requirements:
    i. Tanks shall be designed to be leak free and structurally sound for a period of 50-years.
    ii. Each tank shall be made from two (2) monolithic pieces, a top and a bottom.
    iii. All tank joints shall be leak-proof and shall meet or exceed the requirements of Federal Specification SS-S-210, ASTM C-990, AASHTO M-198B, and ASTM Specifications D-71, D-4, D-6, and D-217.
    ix. Tank exterior asphalt coating shall be Seaboard LN-12 or Conceal CS-55.
    x. All horizontal pipe connections shall be made with flexible sleeve pipe connections.
    xi. All vertical pipes shall be cast in to the tank top segments during manufacturing.
    x. The tank shall be designed to support accessory equipment, such as suction pipe, fill pipe, vent, etc.

xi. All concrete shall be 5,000 psi @ 28 days. Cement shall be Type III per ASTM C-150.
xii. Reinforcing shall be per ASTM A-615, Grade 60 deformed billet steel with a 1" minimum cover.
xiii. Reinforcing shall meet or exceed requirements of AASHTO HS20-44.
iv. The cistern shall be designed so it will not float, with a 1.5 factor of safety.

d. ACCESSORIES
    1. Manway Risers:
        i. All manway access points shall be constructed with pre-cast concrete risers which meet AASHTO HS20-44 loading.
        ii. Each tank shall have a manway. Locations shall be shown on tank drawings.
        iii. Manway covers shall be constructed 12 to 18 inches above finish grade.
    2. Manway Hatch:
        i. All manways shall be furnished with a hatch which meets AASHTO HS20-44 loading and which is lockable by padlock.
    3. Internal Anti-Vortex Plate:
        i. An internal anti-vortex plate shall be factory installed by tank manufacturer.
    4. Fittings:
        i. All pipe fittings shall be constructed of carbon steel and shall have welded joints.
        ii. Fill connection shall be a 4" storz and suction connection shall be 4-1/2" National Hose Male Thread.
    5. Piping:
        i. All piping shall be Schedule 40 steel pipe.
        ii. All above grade piping shall be painted safety red. All below grade piping shall be coated with CIM1000. See Section 9.04 a. General, 12 for details.

e. SITEWORK
    1. Dewatering - The tank excavation shall be dewatered to 2'0" below the bottom of the excavation throughout installation and backfill operations.
    2. Erosion Control - The cistern site shall be protected against any erosion and siltation off the site. The installation shall employ any and all erosion control measures necessary to comply with this requirement.

f. EXECUTION
    1. Installation:
        i. Contractor shall excavate site for tanks, prepare bedding, and properly dewater site prior to tanks being delivered to site.
        ii. Tanks and all piping shall be installed under the supervision and with assistance from the manufacturer.
    2. Foundation and Backfill Material & Methods:
        i. Prior to placement of the foundation material, a layer of geotextile separation fabric shall be placed on subgrade that is stable and dry. The fabric is to be Mirafi 140-N or equal.
        ii. Foundation material shall be ¾" crushed stone, placed a minimum of 12-inches thick.
        iii. In any location where gravel is placed over crushed stone a geotextile separation fabric shall be placed between the two materials to prevent migration of fines into voids of crushed stone. The fabric shall be Mirafi 140-N or equal.
        ix. Backfill material shall be 1-1/2" bank run gravel. Backfill shall be placed in maximum 12-inch loose lifts. Backfill shall be compacted to 95% of maximum dry density by modified proctor method (ASTM 1557).
        x. Compaction of backfill shall be by mechanical means, but should be performed with hand-operated equipment. Care should be taken to not contact tanks with tools and equipment during backfill procedures.

xi. All areas between tanks shall be filled to a minimum of 12-inches above crown of interconnection pipe with ¾" crushed stone. 1-1/2" bank run gravel may be used above this elevation, provided that proper compaction as stated above can be obtained.
xii. The tanks shall be back-filled prior to filling with water.
xiii. The backfill of the tanks shall be done uniformly around each tank. Differential backfill height on opposite sides of a tank should not exceed 2-feet.

g. WARRANTY
    1. A warranty shall be provided by the manufacturer for a period of 50-years.
        i. A copy of the written warranty shall be provided to the Planning Board and Board of Fire Wards for review prior to installation of the fire cistern.

h. TESTING
    1. After the tank has been backfilled and the manway and miscellaneous piping is installed, the fire cistern shall be leakage tested. The vessel shall be filled with potable water to within 1-inch of the top cover of the manway. The installer should allow 48-hours for the water elevation to stabilize before commencing the 14-day leakage test. The tank level measurements shall be made and recorded by the Town's Consulting Engineer. The installer shall provide the specified lock and key for use by the Town's Consulting Engineer to secure the manway covers. The test is a zero leakage test. If after the fourteen-day test leakage is verified, the tank and/or components shall be repaired to stop the leak. Any repairs made shall be acceptable to the Board of Fire Wards, with a leakage retest. Any repairs made to the tank shall be done with prior written recommendation by the tank manufacturer.
    2. Flow testing shall be conducted by the Fire Department.

i. MISCELLANEOUS WORK

Any work or specification requirement not included in this section shall come under the purview of the applicable Town of New Boston Fire Cistern Specification and/or the direction of the Board of Fire Wards.

CAST-IN-PLACE CONCRETE
CONSTRUCTION INSPECTION SHEET

Inspections shall be conducted and work found acceptable at the following points during construction. The Planning Board's authorized inspection agent (with the recommendation of the Fire Chief/Fire Wards) shall be the inspecting authority. The Planning Board's authorized inspection agent shall be notified at least 1 week before the inspection is required.

	Fire Ward or Agent (Sign & Date)
1) Inspection after excavation and prior to placement of crushed stone base.	
2) Inspection of slab rebar, formwork, and waterstop 24 hours prior to concrete placement.	
3) Inspection during placement of concrete for base slab.	
4) Inspection of wall rebar and interior formwork.	
5) Inspection of wall formwork in place with top slab dowels 24 hours prior to concrete placement.	
6) Inspection during placement of concrete for walls.	
7) Inspection of top slab formwork, rebar and piping sleeves 24 hours prior to concrete placement.	
8) Inspection of top slab concrete placement.	
9) Inspection of form tie cones removed prior to patching.	
10) Inspection of form tie cones patched.	
11) Inspection of interior substrate prior to applying waterproofing.	
12) Inspection of cistern prior to filling. Tank shall be broom clean.	
13) Two-week leak test.	Start Finish
14) Inspection of backfilling of cistern and placement of insulation.	
15) Inspection of cistern piping.	
16) Flow test (approval by Fire Dept.)	

17) Refill with potable water	
18) Inspection of landscaping.	
19) Final inspection.	

SINGLE WALL FRP TANK
CISTERN INSTALLATION INSPECTION SHEET

Inspections shall be conducted and work found acceptable at the following points during construction. The Planning Board's authorized inspection agent (with the recommendation of the Fire Chief/Fire Wards) shall be the inspecting authority. The Planning Board's authorized inspection agent shall be notified at least 1 week before the inspection is required.

	Fire Ward or Agent (Sign & Date)
1) Observe after excavation and erosion control; prior to placing pea gravel	
2) Observe rebar, formwork of deadmen; prior to placing concrete	
3) Observe fiberglass tank in ground with straps and turnbuckles, attached to anchor	
4) Observe backfilling of cistern and placement of insulation; prior to fill cover	
5) Observe piping and painting; with sonotubes in place	
6) Observe final grading and landscaping	
7) Observe paving/grading	
8) One-week leak test	Start Finish
9) Flow test (by Fire Dept.)	
10) Refill tank with potable water	
11) Final inspection	

MODULAR PRE-CAST CONCRETE CISTERN
CISTERN INSTALLATION INSPECTION SHEET

Inspections shall be conducted and work found acceptable at the following points during construction. The Planning Board's authorized inspection agent (with the recommendation of the Fire Chief/Fire Wards) shall be the inspecting authority. The Planning Board's authorized inspection agent shall be notified at least 1 week before the inspection is required.

	Fire Ward or Agent (Sign & Date)
1) Observe after excavation and erosion control; prior to placing tank bedding	
2) Observe tank bedding being placed	
3) Observe installation of tanks	
4) Observe backfilling of cistern and placement of insulation; prior to fill cover	
5) Observe piping and painting	
6) Observe final grading and landscaping	
7) Observe paving/grading	
8) Fourteen day leak test	Start Finish
9) Flow test (by Fire Dept.)	
10) Refill tank with potable water	
11) Final inspection	

9.05 SPECIFICATIONS, SCHEMATIC SITE PLANS AND FIGURES

Online Only - Select Document Below for Link

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TYPICAL STORMWATER MANAGEMENT BASIN OUTLET STRUCTURE	Page 31
TYPICAL ROADWAY CROSS SECTION	Page 38
TYPICAL CUL-DE-SAC - CENTERED	Page 38
TYPICAL CUL-DE-SAC - OFFSET LEFT	Page 38
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30,000 GAL. FRP FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 1

48,000 GAL. FRP FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 2

30,000 GAL. PRECAST CONCRETE FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 3

45,000 GAL. PRECAST CONCRETE FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 4

30,000 GAL. CAST-IN-PLACE CONCRETE FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 5

45,000 GAL. CAST-IN-PLACE CONCRETE FIRE CISTERN - SCHEMATIC SITE PLAN - EXHIBIT 6

30,000 GAL. FRP CISTERN - DETAILS - EXHIBIT 7

45,000 GAL. FRP CISTERN - DETAILS - EXHIBIT 8