

REQUEST TO REPEAL

Guilford County

Wastewater Rules

Effective January 1, 2007

Repeal

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REMOTE SEPTIC SYSTEMS RULES

SECTION I GENERAL PROVISIONS

- (A) Authorization – The Guilford County Board of Health is authorized under the provisions of Chapter 130A, Section 39 of the General Statutes of North Carolina to adopt appropriate rules and regulations for the protection of the public health.
- (B) Purpose – These rules set forth minimum design criteria for the use of off-site or remote systems. The design criteria are minimum in nature and may not address all aspects of remote systems. All other appropriate requirements of 15A NCAC 18A .1900 shall apply. Use of the proposed remote systems and any conditions shall be described in the Construction Authorization issued by the Health Director. Such information shall also be described on the Operation Permit to be issued by the Health Director upon the acceptable completion of the system installation.
- (C) Scope – This rule shall govern the treatment and disposal of domestic type sewage from remote septic tank systems serving single or multiple-family residences, places of business, or places of public assembly, the effluent from which is designed not to discharge to the land surface or surface waters.
- (D) Conflict with other Laws and Regulations –The provisions of any federal, state, or municipal laws or regulations establishing standards affording greater protection to the public welfare, safety and health, shall prevail within the jurisdiction of such agency or municipality over standards established by these rules.
- (E) Penalties – A person who violates any part of this rule is subject to the penalty provisions contained in G.S. 130A-22(c) (Administrative Penalties), GS 130A-23 (Suspension and Revocation of Permits), and GS 130A-25 (Criminal Penalties).
- (F) Inspection – Shall be pursuant to GS 130A-337 (Inspection; operation permit required).
- (G) Appeals – Appeals concerning the interpretation and enforcement of these rules by the local Health Department, shall be conducted in accordance with GS 130A-24 (Appeal Procedures).
- (H) Vesting – These rules shall apply to those properties that have not received conditional approval from Guilford County Technical Review Committee by 5:00 p.m. December 31st, 2006.

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SECTION II DEFINITIONS

- (A) Authorization to Construct – shall mean authorization to install a wastewater disposal system. This authorization, along with an Improvement Permit, will be required prior to the issuance of a Building Permit. The Authorization to Construct shall be valid for a period of five years or until the Improvement Permit expires, whichever occurs first.
- (B) Building Lot – the lot or parcel of land on which the facility served by a remote system is located.
- (C) Common Area – an area in a subdivision that is owned and controlled by the Homeowners Association.
- (D) Contact Person – The person or agent responsible for representing his/her company (developer, engineer, installer/contractor, licensed soil scientist, system designer etc.).
- (E) Drainfield Alternating Device – a manual or automatic device that diverts flow of wastewater from one drainfield (nitrification field) to another.
- (F) Easement – a legal document that is recorded at the Register Of Deeds office and contains all applicable provisions of 15A NCAC 18A 1938 (j).
- (G) Facility – one or more dwelling units, places of business, or place of public assembly that generates wastewater.
- (H) Health Director – means the Guilford County Health Director or an authorized agent/representative of the Health Director.
- (I) Improvement Permit- a document issued by the local health department granting the approval of a parcel for eventual construction of a facility utilizing a subsurface disposal system.
- (J) Operator In Responsible Charge (ORC) – a person certified by the Water Pollution Control System Operators Certification Commission to operate and maintain wastewater treatment and disposal systems.

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(K) Remote Systems –

1. Standard 1 – the entire nitrification field (initial and repair area) is located in an easement area, common area, or special purpose lot on a separate parcel from the building lot.
2. Standard 2 – the entire initial nitrification field is located in an easement area, common area, or special purpose lot on a separate parcel from the building lot.
3. Standard 3 – a portion of either the initial system or repair area is located in an easement, common area, or special purpose lot that is contiguous and adjacent to the building lot.
4. Standard 4 – a system that is not described in Standard 1, 2, or 3 and any portion of that wastewater system is located more than 500 feet from the facility.

(L) Special Purpose Lot – a non-buildable lot designated for the sole purpose of installing, maintaining and repairing a remote wastewater system.

(M) Supply Line – a watertight pipe used to convey effluent from the septic tank or pump tank to the distribution device or drainfield.

(N) Supply Line Network – a group of two or more supply lines ganged in one easement.

SECTION III RESPONSIBILITIES AND PERMITTING PROCEDURES

(A) An application for a remote system shall be pursuant to 15A NCAC 18A.1937.

(B) Prior to the issuance of an Improvement Permit for a Standard 1, 2, and 3 remote system site the following items shall be completed:

1. Nitrification lines shall be flagged out by use of an engineer's level or laser level to assure conformation with natural contours by the contact person.
2. The proposed nitrification lines shall be measured to verify design requirements for sizing, location and separation distances. Allowances shall be made for additional area as needed to accommodate staging of materials and maneuvering of construction equipment without encroaching on other properties or system areas.
3. A site sketch (see appendix I) shall be prepared that includes:
 - (a) line length
 - (b) flag colors
 - (c) line elevations (as applicable)
 - (d) proposed easement and/or property lines.

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4. All proposed easements and/or property lines shall be staked in the field and labeled for Health Director's review.
 5. Other site specific data as deemed necessary by the Health Director such as:
 - (a) mounding analysis
 - (b) lateral and vertical flow analysis, and/or
 - (c) deep soil borings (>48"), permeability and hydraulic conductivity measurements, and other information.
- (C) All remote wastewater supply lines shall be designed by a professional engineer, professional land surveyor, or registered wastewater system contractor. Plans shall be submitted to Health Director for review and approval prior to installation. Plans shall incorporate best management practices and accepted design standards including, but not limited to: minimizing supply line crossings and lengths, accessibility of nitrification lines and other system components, and facilitation of the installation, operation, repair, and maintenance of the system. The designer of the supply line network may be required to submit substantiating data, as needed by the Health Director.
- (D) The system shall be designed by a professional engineer and in accordance with 15A NCAC 18A. 1938 (i) when one or more of the following conditions are met:
1. Pretreatment components have not received prior state approval,
 2. Daily flow exceeds 3,000 gallons per day,
 3. Duplex pumps are required (duplex pumps are required if linear footage of nitrification trenches exceeds 2000 feet).
- (E) Prior to the issuance of an Authorization to Construct by the Health Director, all easements and property lines shall be surveyed and marked in the field.
- (F) An Authorization to Construct shall be issued by the Health Director that addresses each component of the remote system (i.e. supply lines, nitrification fields, tanks and appurtenances), provided that the entire system is installed, tested and approved by the Health Director prior to the issuance of the Operation Permit.
- (G) All system components shall be installed by a contractor who is registered with the Guilford County Health Department. A pre-construction meeting will be required prior to the installation of any supply line network or remote system. The contact person (developer, installer, professional registered engineer) and Health Director shall meet on the site with the approved remote system design plan and supply line network plan (see appendix II).

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- (H) Prior to the issuance of the Operation Permit for a remote system, all the following criteria shall be met, as applicable:
1. A contract for operation and maintenance shall be executed between the system owner and an Operator in Responsible Charge (ORC) as required in accordance with 15A NCAC 18A. 1961(b) and Section VI of this document and shall be in effect as long as the system is in use.
 2. All contiguous remote septic systems in that phase or section shall be installed.
 3. All inspections as required by the Health Director shall be completed.
 4. Pump delivery shall be verified by the Health Director at the distal end of the supply line by using a valve box accessible from the ground surface (see appendix III).
 5. For systems or system components required to be designed by a professional engineer or an authorized design individual, the owner shall submit:
 - a. A written certification signed by the engineer/designer that the system was installed in accordance with the approved plans and specifications, and,
 - b. An as built diagram representing the system components as they were installed (if different from approval).
 6. All individual easement areas shall be surveyed and marked with permanent markers or monuments that are clearly labeled as to the easement area and the lot it serves. Markers shall meet minimum standards (see appendix IV).
 7. All necessary easements shall be recorded with the Register of Deeds in the county where the system and facility are located.
- (I) Any subdivision with 2 or more supply lines in a single easement shall have a Home Owners Association (HOA) and the appropriate documents. The HOA and documents shall be reviewed and approved by the Health Director and recorded with the Register of Deeds. HOA documents shall at minimum address the following:
1. The use and/or limits of use for Private Sewer Line Access and Maintenance Easements and Remote Septic System Areas.
 2. The maintenance of Private Sewer Line Access and Maintenance Easements and Remote Septic System Areas.
 3. Outline a course of action in the event that a repair to a remote septic system is necessary.

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SECTION IV

SYSTEM SIZING AND DESIGN CRITERIA

(A) Septic Tank:

The septic tank shall be designed and constructed in accordance with Rules .1952 and .1954 and sized in accordance with 1952(b) (1). All septic tanks shall include a riser sealed to the outlet access. The riser shall extend above finished grade and shall be installed and maintained to prevent the inflow of surface water.

(B) Pump Tank:

The pump tank volume shall not be less than the septic tank volume as determined by the rules (15A NCAC 18A. 1952. (c) and shall also provide for:

1. Minimum pump submergence:

Effluent volume that covers the pump and the pump housing, or in accordance with pump manufacturers suggestions, but in no case shall there be less than 12 inches of effluent remaining in the tank. The pump intake shall be at least five (5) inches from the interior bottom of the tank.

2. Minimum Dose Volume:

The volume needed to fill the nitrification lines to 66%-75% of their capacity at each discharge, except as required for low-pressure pipe distribution, modified system (15A NCAC 18A.1956), and Innovative and Experimental (I&E) systems.

3. High Water Level Alarm:

The high-water alarm that it activates at a maximum of six (6) inches above the pump-on level.

4. Emergency Storage Capacity Requirement:

The effluent volume above the high-water alarm activation level, including the freeboard in the septic tank, must be equal to or greater than the design flow for the facility.

(C) Supply Lines:

- 1. Supply lines serving remote septic systems, shall be located either individually in dedicated easements or within supply line networks (gangs) in common easements. Easements shall extend completely from the building lot to the drainfield area.**

- a. All supply lines in a supply line network (standard 1 and 2 remote systems) shall be installed concurrently.**

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- b. Individual easements shall be a minimum width of 10 feet
 - c. Supply line network easements shall be under common ownership or control and provide for accessibility to all components for operation, maintenance and repair.
 - d. Easements shall remain free of structures, landscaping, or any activities that would interfere with the use of the easement for its intended purpose.
2. Supply line design specifications shall meet the following minimum criteria:
- a. The discharge piping and supply lines shall be at least two (2) inches in diameter.
 - b. The ultimate pump size and supply line size shall be selected such that a velocity of at least two feet per second (minimum scour velocity) and no more than eight (8) feet per second (to minimize water hammering) is achieved.
 - c. An accessible ball valve and union and a check valve in the vertical position shall be provided on the pump discharge piping.
 - d. Adequate anti-siphon devices (preferably a swing check valve that opens to atmosphere upon pump shutoff) shall be provided whenever the discharge orifice is at a lower elevation than the pump shutoff level.
 - e. Watertight, flexible pipe seals (boots) shall be used for pipe penetrations through the pump tank wall.
 - f. Supply lines shall be constructed of Schedule 40 PVC pipe labeled NSF-PW with solvent welded joints unless otherwise specifically designed and approved by the Health Director. All pipe, fittings, joints, installation and testing methods shall be in conformance with the appropriate ASTM or ANSI/AWWA standards.
 - g. All pipe segments shall be permanently marked every 10 feet with the corresponding

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lot # and shall be visible at the time of inspection.

- h. Unless otherwise addressed under 15A NCAC 18A.1955, a minimum burial depth of 2 feet, as measured from the crown of the pipe to the ground surface, shall be provided throughout the length of the force main.
- i. Clean backfill shall be used to cover supply lines.

D. Nitrification Field:

The nitrification field shall be sized by the Long Term Acceptance Rate (LTAR) as determined in 15A NCAC 18A.1955, .1956 and .1957.

- 1. Standard 1 – Initial system and repair system nitrification fields and the supply line shall be installed prior to the issuance of the Operation Permit.
- 2. Standard 2 – Initial nitrification field and the supply line shall be installed prior to issuance of the Operation Permit.
- 3. Standard 3 and Standard 4 – Initial system shall be installed prior to issuance of the Operation Permit.
- 4. Remote nitrification field areas shall be accessible via the dedicated access easement and shall be of sufficient size to allow for the passage of equipment normally used to install, inspect, operate, and maintain the system.
- 5. Nitrification fields and other supply line components shall be protected from traffic or other unauthorized access.

Section V

Installation and Testing Procedures

- (A) A pre-construction conference shall be required to be attended by the contact person (system designer, installer, licensed soil scientist, and registered professional engineer) as applicable and Health Director, prior to beginning construction of the remote system.
- (B) The septic tank and pump tank shall be demonstrated to be watertight by an acceptable leak test.
- (C) Nitrification fields shall be graded to shed surface water and in a manner which facilitates easy maintenance with standard mowing equipment. A

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grass or other suitable vegetative cover shall be established so as to prevent erosion and to allow for effective system inspection.

- (D) All supply line networks shall be installed prior to final plat approval.
- (E) At the final inspection, the Health Director shall observe the nitrification Field alternating device(s) and other distribution devices to be functional, and accessible from the finished ground surface.

Section VI Operation, Maintenance, and Monitoring

- (A) System management shall be required in accordance with 15A NCAC 18A. 1961 (b), Table V (b). Additionally, the following minimum inspection/maintenance and reporting requirements shall apply unless otherwise specified in the Operation Permit.

<u>Remote System</u>	<u>ORC Insp. Interval</u>	<u>Department Insp. Interval</u>
Standard 1	1 year	5 years
Standard 2	1 year	5 years
Standard 3	N/A	N/A
Standard 4	N/A	N/A

- (B) The Operator in Responsible Charge (ORC) shall provide monitoring reports to the Department within 30 days of each required inspection. The ORC shall maintain a log of all malfunction incidences/notifications, observations and maintenance activities. Minimum maintenance during each required inspection shall include:
 - 1. visual observation of the drainfield,
 - 2. visual observation of the supply line and appurtenant valves for leakage and damage,
 - 3. alternation of drainfield alternating devices,
 - 4. measuring of pressure head and flushing of distribution devices as applicable,
 - 5. assurance that the ground surface and vegetation over the drainfield and supply lines are maintained.
- (C) The owner of the remote septic system and applicable components shall be responsible for assurance of all maintenance and repair of the system including the mowing of grass over the drainfield and maintenance of access of the supply line easement areas. The repair and maintenance responsibilities shall be clearly defined and specified in the ORC contract.

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Section VII. Repair of System:

The provisions of 15A NCAC 18A .1961 shall govern the use of the remote septic system for repairs to existing malfunctioning wastewater systems.

Section VIII Appeals Procedure:

Appeals - Appeals concerning the interpretation and enforcement of these rules by the local Health Department, shall be conducted in accordance with the following procedure:

- (A) The aggrieved person shall give written notice of appeal to the local Health Director within thirty days of the challenged action. The notice shall contain the name and address of the aggrieved person, a description of the challenged action and a statement of the reasons why the challenged action is incorrect. The Health Director may affirm, modify or reverse the original action. The Health Director shall issue a written decision based on evidence presented at the meeting. The decision shall contain a concise statement of the reasons for this decision.
- (B) If the aggrieved person desires to pursue the appeal further, such party shall give written notice of the appeal to the local Health Director with a fee in an amount approved by the Board of Health and Board of Commissioners and a performance bond in the amount necessary to correct the duly noted violation within thirty days of the date of the written notice from the local Health Director. Upon filing of the notice, the local Health Director shall, within five working days, transmit to the local Board of Health the notice of appeal and the papers and materials upon which the challenged action was taken.
- (C) The local Board of Health shall hold a hearing within fifteen days of the receipt of the notice of appeal. The Board shall give the person not less than ten days notice of the date, time and place of the hearing. On appeal, the Board shall have authority to affirm, modify or reverse the challenged action. The local Board of Health shall issue a written decision based on the evidence presented at the hearing. The decision shall contain a concise statement of the reasons for the decision.
- (D) A person who wishes to contest a decision of the local Board of Health shall have the right of appeal to the Guilford County District Court within thirty days after the date of the decision by the Board. The scope of review in the District Court shall be the same as in G.S. 150 B-51.

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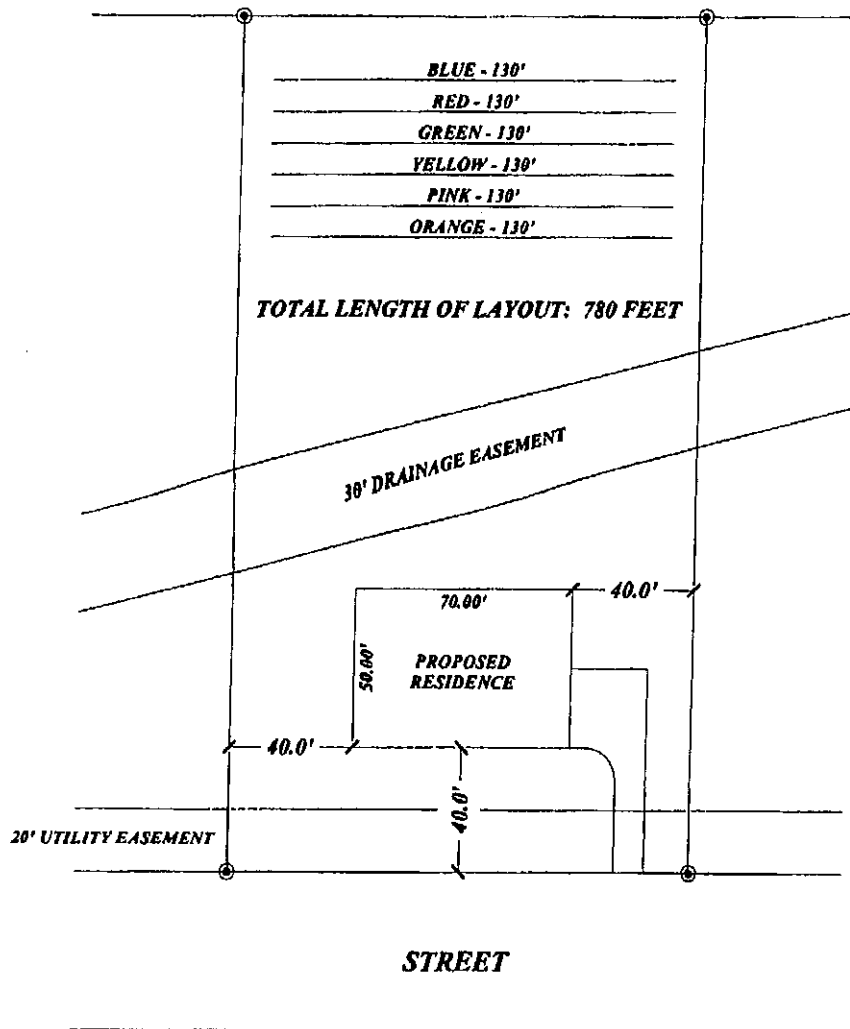
Appendix:

- I Sample site sketch
- II Sample Supply Line Network Diagram
Sample Supply Line Network Details
- III. Sample Pump Delivery Inspection Point
- IV Minimum Permanent Survey Monument Standards

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APPENDIX I

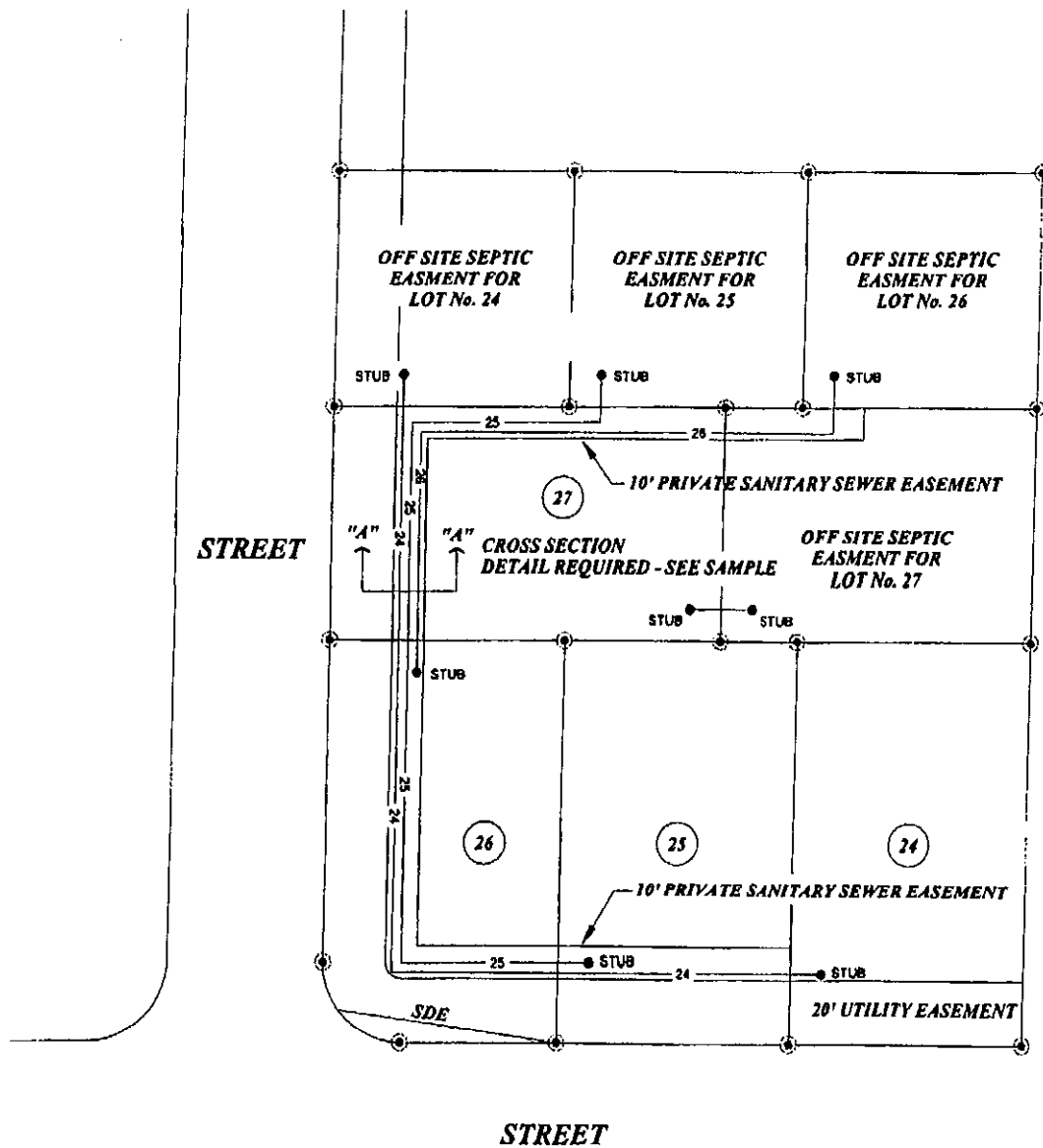
SAMPLE SITE SKETCH REQUIRED INFORMATION



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APPENDIX II

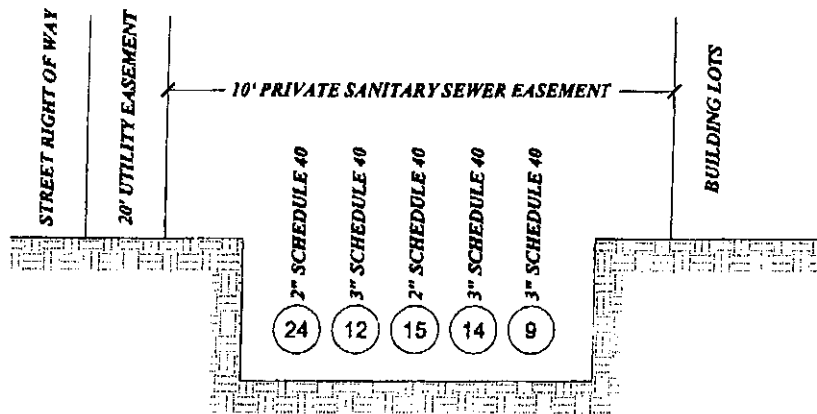
SUPPLY LINE NETWORK SAMPLE DIAGRAM



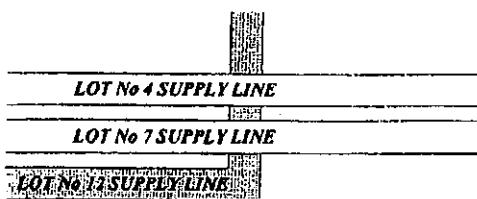
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APPENDIX II

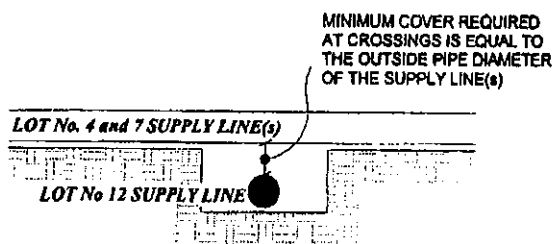
SUPPLY LINE NETWORK DETAILS SAMPLE DIAGRAM



SUPPLY LINE TRENCH CROSS SECTION VIEW



PLAN VIEW



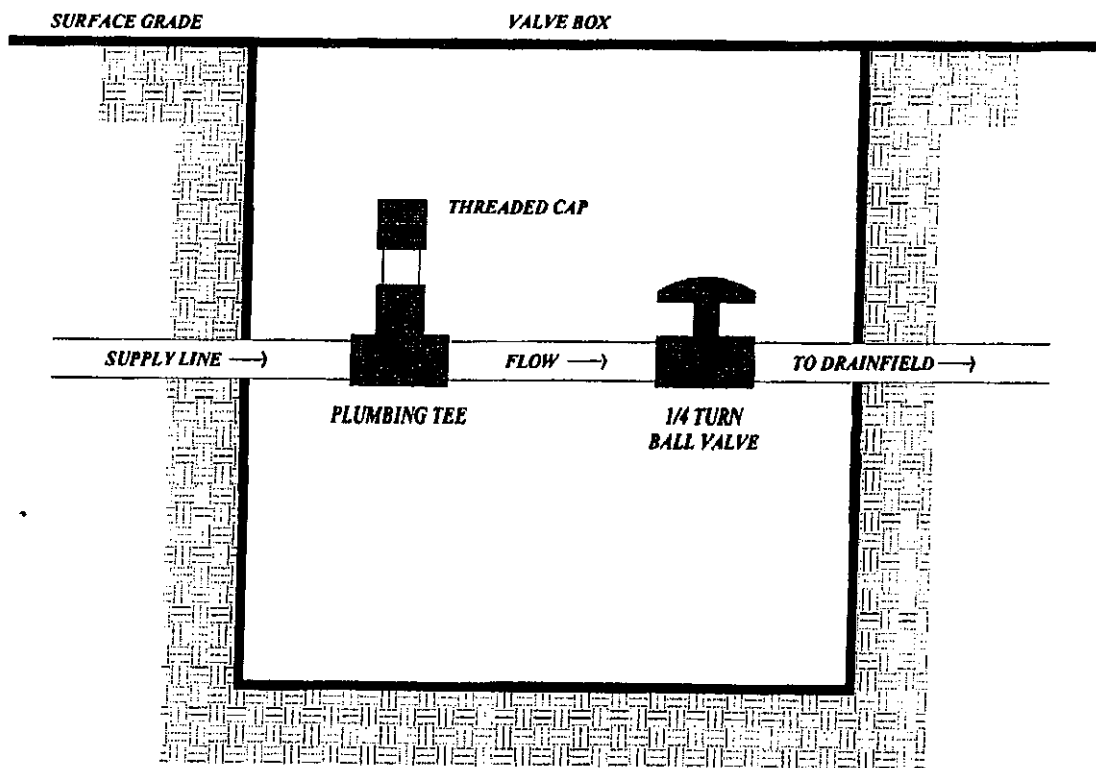
CROSS SECTION

SUPPLY LINE PIPE CROSSINGS DETAIL VIEWS

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APPENDIX III

PUMP DELIVERY INSPECTION POINT REQUIRED FITTINGS

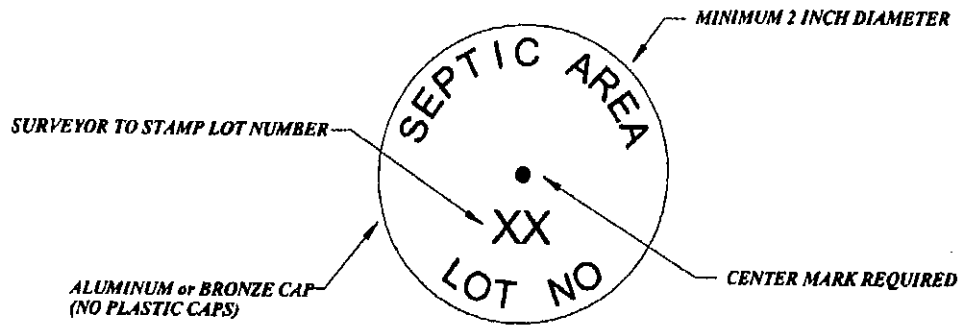


CROSS SECTION VIEW
NOT TO SCALE

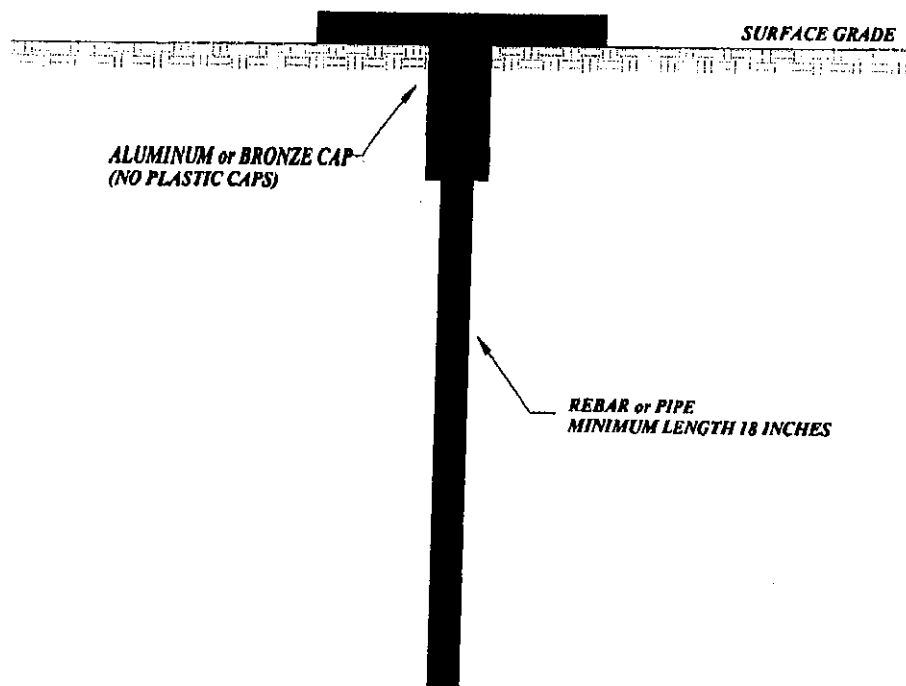
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APPENDIX IV

PERMANENT SURVEY MONUMENT STANDARDS



TOP VIEW OF CAP



CROSS SECTION

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Pursuant to North Carolina General Statute 130A-335 (c),(2) the local board of health has adopted by reference the wastewater system rules adopted by the Commission, with any more stringent modifications or additions deemed necessary by the local board of health.....

Therefore, incorporated by reference:

Title 15A- DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL
RESOURCES

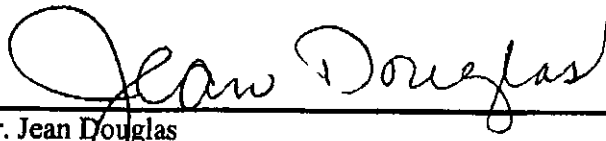
Chapter 18- ENVIRONMENTAL HEALTH

Subchapter 18A- SANITATION

Section .1900- SEWAGE TREATMENT AND DISPOSAL SYSTEMS

These regulations shall be effective January 1, 2007.

Adopted by the Guilford County Board of Health on August 21, 2006.



Dr. Jean Douglas
Chairperson
Guilford County Board of Health



Merle Green
Health Director
Guilford County Department of Public Health