MAINE SUBSURFACE WASTE WATER DISPOSAL RULES

144A CMR 241

SUMMARY

This rule governs the siting, design, construction and inspection of subsurface waste water disposal systems in order to protect the health, safety and welfare of the citizens of Maine. Approved procedures, design and siting requirements, materials, methods and administrative polices are described in detail.

EFFECTIVE DATE: July 1, 1995

AUTHORITY: Title 22 MRSA §42

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Appropriation 014-10A-2426-012-2658

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CHAPTER 1

ADMINISTRATION AND ENFORCEMENT

SECTION 100.0 GENERAL

100.1 Title: These regulations shall be known as the "Maine Subsurface Waste Water Disposal Rules," from now on referred to as "this code." The effective date is July 1, 1995.

100.2 Scope: This code establishes a set of standards, requirements, and procedures to protect public health and the environment from biological and chemical contamination. Such contamination may result if improperly treated waste water is released either onto the surface of the ground or into the ground water from an on-site collection, storage, or treatment system.

100.3 Liberal interpretation: This code shall be interpreted liberally so as to assure the proper treatment and installation of subsurface systems for the disposal of waste water.

100.4 Intent: The intent of this code is to ensure public safety, health, and welfare insofar as they are affected by the installation and maintenance of subsurface waste water disposal systems (from now on referred to as "systems").

100.5 Waste water disposal: All wastes and waste water produced by ordinary living uses shall be disposed of by one of the following methods:

100.5.1 On-site disposal: A system designed, installed, and used in accordance with this code;

100.5.2 Public sewer: A public sewer system; or

100.5.3 Licensed discharge: A waste water discharge system licensed by the Maine Department of Environmental Protection under Title 38 M.R.S.A. §413 and §414, as amended.

100.6 Public sewer connection: When public sewers come within 200 feet of the premises served, the use of systems shall comply with Title 38 M.R.S.A. § 1160 or when required under Title 30A, § 3405.

100.7 Abandoned septic tanks: The property owner or property owner's agent is responsible for seeing to it that the contents of all abandoned septic tanks are pumped and disposed of properly. The top or entire septic tank shall be removed and the remaining portion of the septic tank or excavation shall be filled immediately.

100.8 Failing system: When a failing or malfunctioning system is discovered, the system shall be corrected or its use discontinued within that period of time required by the plumbing inspector's order.

SECTION 101.0 APPLICABILITY

101.1 General: The provisions of this code shall cover all matters affecting or relating to systems.

101.2 Matters not provided for: There may be subsurface waste water disposal requirements essential for the sanitation and safety of an existing or proposed structure or essential for the safety of the occupants thereof that are not specifically covered by this code. Such requirements shall be determined by the Maine Department of Human Services (from now on referred to as the "Department") with the concurrence of the plumbing inspector.

101.3 Continuation of unlawful use: The continuation of occupancy or use of a structure with a system, or part thereof, contrary to the provisions of this code shall be deemed a violation of this code.

101.4 Referenced standards: Where differences occur between provisions of this code and referenced standards, the provisions of this code shall apply.

SECTION 102.0 VALIDITY

102.1 Partial invalidity: In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions of this code that may or shall be determined to be legal. It shall be presumed that this code would have passed without such illegal or invalid parts or provisions.

102.2 Segregation of invalid provisions: Any invalid part of this code shall be segregated from the remainder of the code by the court holding such part invalid, and the remainder shall remain effective.

102.3 Existing systems: The invalidity of any provision of this code as applied to existing systems shall not be held to affect the validity of such section in its application to systems hereafter built.

SECTION 103.0 EXISTING USE

103.1 Continuation: The use of any legal system which existed on the effective date of this code, or which had been previously approved for installation, may be continued without change except as may be specifically covered in this code or deemed necessary by the plumbing inspector for the general safety and welfare of the occupants and the public.

103.2 Change in use: It shall be unlawful to make any change in the use of any system without approval of the plumbing inspector and certification that such change does not result in any hazard to public health, safety, and welfare. Any person erecting, enlarging, or changing the use of a structure that uses an existing system shall comply with the requirements prescribed in Chapter 14.

103.3 Grandfathered systems: The test of whether a nonconforming system is "grandfathered" is:

103.3.1 Installation: If the type of system and its layout and use complies with the subsurface waste water or plumbing code provisions prevailing when the system was first put into use; and

103.3.2 Use: The structure is not used in a way that results in a waste water design flow of greater volume, except as provided for in Subsection 1402.5, or the need for larger adjustment factor set forth the in Table 703.1; and

103.3.3 Functioning: The system is not malfunctioning or has not malfunctioned.

103.4 Replacement structures: A structure is considered to be a replacement structure if it is used to replace: 1) the original structure which was destroyed by fire or natural disaster; or 2) it is exchanged with another structure by similar usage and design flow; and 3) it was occupied within the two most recent years. A replacement structure may be served by the existing sewage disposal system provided:

103.4.1 Within two years: The replacement structure is hooked up to the existing system within two years; and

103.4.2 Existing legal system: A subsurface waste water disposal application, installed after July 1, 1974, with the required permit and a certificate of approval; and

103.4.3 System properly functioning: The existing system was functioning properly when use of the system ceased; and

103.4.4 No additional load: The design flow of the replacement structure does not exceed the design flow of the existing system, except for as provide for in Subsection 1402.5.

103.4.5 Requirements not met: If any of these requirements are not met, the system shall be required to meet this code's requirements for a replacement system.

103.4.6 Structures not considered as replacement structures: Those that do not meet the requirements of 103.4 must meet the requirements of a first time system.

SECTION 104.0 REPAIRS AND MAINTENANCE

104.1 Ordinary repairs: Minor repairs or replacements may be made as required for the operation of pumps, siphons or accessory equipment, the clearance of a stoppage, or sealing of a leak in the septic tank, holding tank, pump tank, or building sewer. Such repairs or replacements shall be made in a safe and sanitary manner and in a manner consistent with this code. No permit is required for these ordinary repairs.

104.2 Disposal system permit not required: A disposal system permit is not required for minor repairs or replacements made as needed for the operation of pumps, siphons or accessory equipment, the clearance of a stoppage, or sealing of a leak in the septic tank, holding tank, pump tank, or building sewer.

104.3 Disposal field modification, repair or alteration: Any modification, repair or alteration of the disposal field, other than the addition of fill requires prior notification of the Division of Health Engineering as to whether or not a permit is required. If a permit is required, such modification, repair or alteration shall be as prescribed by a Maine Registered Professional Engineer or a Maine Licensed Site Evaluator and shall be considered a disposal field for permitting purposes.

104.4 Maintenance: All new and existing systems shall be maintained in a safe and sanitary condition. All service equipment, devices, and safeguards required by this code, or that were required for a system by previous subsurface waste water disposal codes, shall be maintained in good working order when installed, altered, or repaired.

104.5 Property owner's responsibility: The property owner or property owner's agent shall be responsible for the safe and sanitary maintenance of the system at all times.

SECTION 105.0 APPROVAL

105.1 Approved materials and equipment: All materials, equipment, and devices approved for use by the Department shall be made and installed in accordance with the conditions of approval.

105.2 Modifications: When there are practical difficulties involved in carrying out the provisions of this code, the Department may vary or modify such provisions upon a variance request by the applicant. Variances may be granted provided that the intent of this code is observed and public health, safety, and welfare are assured. The variance request for modifications and the final decision of the plumbing inspector or the Department shall be in writing and officially recorded with the variance application in the permanent records of the jurisdiction. See Chapters 19 & 20.

105.3 Used materials and equipment: Used materials, equipment, and devices may be used provided that they have been reconditioned, tested, and placed in good and proper working condition. Such use shall be approved in advance by the plumbing inspector. Septic tanks in place and in good condition, and adequately sized may continue in use when a disposal field is replaced.

105.4 Alternative materials and equipment: The provisions of this code are not intended to prevent the use of any material, equipment, or method not specifically prescribed by this code provided the use of any such alternative device has been approved in advance. The Department may approve any such alternative, provided the Department finds that the proposed design is satisfactory and complies with the

intent of the provisions of this code. In addition, it shall be shown that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, and safety. The Department shall require sufficient technical data to be submitted to substantiate the proposed use of any material or method. If it is determined that the evidence submitted is satisfactory proof of performance for the use intended, its use may be approved, subject to the requirements of this code. The costs of all tests, reports, and investigations required under these provisions shall be paid by the applicant. To assist in the determination, the Department may accept as supporting data any duly authenticated research reports from approved sources concerning all materials or devices proposed for uses not specifically provided for in this code.

SECTION 106.0 DUTIES AND POWERS OF PLUMBING INSPECTOR

106.1 General: The plumbing inspector shall enforce all the provisions of this code. He or she shall act on any question concerning the method or manner of construction and the materials to be used in the installation of a system, except as may be specifically provided for by other requirements of this code.

106.2 Application for disposal system permits: The plumbing inspector shall receive applications for disposal system permits, issue permits for the installation of systems, inspect the premises for which such disposal system permits have been issued, and enforce compliance with the provisions of this code.

106.3 Notices and orders: The plumbing inspector shall issue all necessary notices or orders pertaining to removal of illegal or unsafe conditions, the requirement of necessary safeguards during construction, and compliance with all requirements of this code for the safety, health, and general welfare of the public.

106.4 Inspections: The plumbing inspector shall make all the inspections required in this code. The plumbing inspector may engage such expert opinions as may be deemed necessary to report upon unusual technical issues that may arise, subject to the approval of the municipal officers.

106.5 Credentials: The plumbing inspector shall carry proper credentials of the office while inspecting any and all systems and premises in the performance of his or her duties.

106.6 Annual report: At least annually, the plumbing inspector shall submit to the municipal officers of the jurisdiction a written statement of code enforcement activities in form and content as shall be prescribed by such authority.

SECTION 107.0 APPLICATION FOR DISPOSAL SYSTEM PERMIT

107.1 Disposal system permit required: Work shall not be started until the plumbing inspector has issued a disposal system permit for the work. Certain maintenance activities do not require a permit as indicated in Section 104.

107.2 Disposal system repair: Notwithstanding section 104.3, all work performed within the disposal field footprint requires a permit.

107.3 Application for disposal system permit form: An application for a disposal system permit shall be made on forms provided or approved by the Department. Permit applications shall be prepared by a licensed site evaluator and require a site evaluation with the exception of replacement septic tanks and alternative toilets other than pit privies. Such application shall include an adequate description of the proposed work. See Section 601.0.

107.4 Description of work: The application for a disposal system permit shall contain a description of the type of system, its location, the use of the structure for which the system is requested, and such additional information as may be required by Chapter 6 or by a municipal ordinance.

107.5 Amendments: Amendments to a subsurface waste water disposal system permit, application for a permit, or any accompanying records may be made at any time before work on the system is complete. Such amendments are deemed part of the original application for the disposal system permit and shall be filed therewith.

107.6 Previous designs: A revision in this code shall not require changes in a subsurface waste water design provided that the subsurface waste water disposal system is permitted prior to May 1, 1997. For the purpose of seasonal conversion permits, all subsurface waste water disposal system applications that were filed with the Registry of Deeds for future replacement shall not be invalidated by this code.

SECTION 108.0 SUBSURFACE DISPOSAL SYSTEM PERMITS

108.1 Action on application for subsurface disposal system permit: The plumbing inspector shall examine, or cause to be examined, all applications for disposal system permits, and amendments thereto after a completed filing. If the application for a disposal system permit does not conform to the requirements of all pertinent laws, ordinances, and this code, or if it is considered incomplete, such application for a disposal system permit shall be rejected in writing, stating the reasons therefor. If the plumbing inspector is satisfied that the proposed work conforms to the requirements of this code and all applicable laws and ordinances, a disposal system permit shall be issued as soon as practicable.

108.2 Nontransferable: A disposal system permit shall not be transferable.

108.3 Previous approvals: A revision in this code shall not require changes in a disposal system for which a permit has been issued or otherwise lawfully authorized, prior to the effective date of this code.

108.4 Signature on disposal system permit: The plumbing inspector's signature shall be affixed to every disposal system permit.

108.5 Revocation: The plumbing inspector shall revoke a disposal system permit or approval issued under the provisions of this code in the case of any false statement(s) or misrepresentation(s) of fact in the application for the disposal system permit or on the plans on which the disposal system permit or approval was based.

108.6 Time limit: Any disposal system permit issued shall become invalid if the authorized work has not commenced within two years after the issue date of the disposal system permit. See definition "Work started."

SECTION 109.0 REQUIREMENTS OF DISPOSAL SYSTEM PERMIT

109.1 Payment of fees: A disposal system permit shall not be issued until the fee prescribed in Section 110.0 has been paid.

109.2 Compliance with this code: The disposal system permit shall be a license to proceed with work and shall not be construed as authority to violate, cancel, or set aside any of the provisions of this code, except as specifically stipulated by modification or legally granted variance as described in the application for disposal system permit.

109.3 Compliance with disposal system permit: All work shall conform to the plans as shown on the application for which a disposal system permit is issued. This includes any approved amendments thereto.

SECTION 110.0 FEES

110.1 General: A disposal system permit to begin work for new construction or alteration shall not be issued until the prescribed disposal system permit fee has been paid.

110.2 Fee schedule: Minimum disposal system permit fees, assessed by municipalities, are listed in Table 110.2. Pursuant to Maine law, municipalities retain 75% of those minimum permit fees and must forward the remaining 25% to the Department. Review fees, assessed by the Department, are listed in Table 110.3. Note: Municipalities may assess additional permit fees, above those listed in Table 110.2, if authorized to do so by local ordinance. The entire additional permit fees are retained by the municipality.

TABLE 110.2

MUNICIPAL PERMIT FEE SCHEDULE

(Fees paid to the municipality)

Permits for complete disposal system

Engineered system without variance	$225.00
Engineered system with variance	$275.00
Non-Engineered system without variance	$ 60.00
Non-Engineered system with a variance	$ 80.00
Primitive system [Includes one alternative toilet]	$ 60.00
Separate laundry disposal field	$ 20.00
Seasonal conversion permit	$ 30.00

Permits for separate parts of disposal system

Alternative toilet	$ 30.00
Disposal field [engineered system, without variance]	$ 25.00
Disposal field (engineered system, with variance	$ 50.00
Disposal field (non-engineered system, without variance	$ 45.00
Disposal field (non-engineered system, with variance	$ 60.00
Treatment tank [non-engineered system]	$ 30.00
Treatment tank [engineered system]	$100.00
Holding tank	$ 60.00

110.2.1 Late permit fee: A person who starts construction without first obtaining a disposal system permit shall pay double the permit fee indicated in Table 110.2.

110.2.2 Additional inspection fee: Inspections and fees, in addition to those mandated by these Rules, may be required by the LPI, through adoption of a local ordinance. Additional inspections may also be required by the LPI when work is found to be incomplete at a prearranged inspection, when work is found to be unsatisfactory or when access cannot be obtained at a prearranged date and time. In such cases, additional inspection fees may be assessed by the municipality with the entire additional fees being retained by the municipalities.

TABLE 110.3
DEPARTMENT REVIEW FEE SCHEDULE
(Fees paid directly to the Department)

Engineered system review - Chapter 16	$100.00
First time system variance review fee	$ 20.00
Formal Conference Fee, Chapter 21	$ 50.00
Formal Administrative Hearing Fee, Chapter 21	$ 75.00
Minimum lot request review fee - Chap 20	$ 50.00
Multi-user review fee - Chapter 17	$100.00
New System variance review fee - Chapter 19*	$ 20.00
Product approval request review fee - Chapter 18	$100.00
Replacement system review, non-engineered, - Chap 19	$ 30.00

Replacement system review, engineered	$150.00

*****Only applies when the Department reviews the new system variance, not when the LPI alone approves system.

SECTION 111.0 INSPECTIONS

111.1 Required: It shall be the duty of the plumbing inspector to enforce the provisions of this code and to make such inspections as may be required by this Section.

111.2 Required inspections: Any violations of the approved plans and disposal system permit shall be noted. The holder of the disposal system permit shall be notified of any such discrepancies.

111.3 Plumbing inspector's right of entry: In the discharge of duties, the plumbing inspector, with the consent of the property owner, occupant, or owner's agent, shall have the authority to enter at any reasonable hour any structure or premises in the jurisdiction to enforce the provisions of this code. Reference 30-A MRSA §4213. If entry is refused the LPI can seek a court order for entry.

111.4 Department official's right of entry: In the discharge of duties, Department officials, with the consent of the property owner, occupant, or owner's agent, shall have the authority to enter at any reasonable hour any structure or premises to enforce the provisions of this code. If entry is refused the Department can seek a court order for entry.

111.5 One inspection required: At a minimum, all systems shall be inspected before they are backfilled.

111.6 Notification required: The plumbing inspector shall be notified at least 24 hours before the system is ready to be inspected.

111.7 Preparation for inspection: When a system is ready for inspection, the installer shall make such arrangements as will enable the plumbing inspector to inspect all parts of the system. The installer shall have present the proper apparatus and equipment for conducting the inspection and shall furnish such assistance as may be necessary in making a proper inspection.

111.8 Covering of work: No part of a system may be backfilled until it has been inspected and approved. If any part is covered before being inspected and approved, it shall be uncovered at the discretion of the plumbing inspector and at the expense and risk of the owner.

111.9 Defects in materials and workmanship: If inspection discloses defective material, design, siting, or poor construction that does not conform to the requirements of this code, the nonconforming parts shall be removed, replaced, and reinspected.

111.10 Installer's statement of compliance: The State shall provide a form for the LPI to be given to the homeowner, or the homeowner's agent, at the time of issing the permit. This form will allow for the installer or inspector, in the case of an engineered system or a multi-user system, to provide a written statement to the owner, or agent, that the system was installed in compliance with this code and the conditions of the permit.

SECTION 112.0 WORKMANSHIP

112.1 General: All work shall be performed, installed, and completed in a workmanlike and acceptable manner commensurate with the specific requirements of this code, or generally accepted practices if not specifically addressed by this code, and the standards referenced herein.

SECTION 113.0 VIOLATIONS

113.1 Unlawful acts: It shall be unlawful to install, extend, alter, repair, or maintain systems except in conformity with this code.

113.2 Notice of violation: The plumbing inspector shall serve a notice of violation and order on the person responsible for the installation of work: in violation of the provisions of this code; in violation of a detailed statement or a plan approved thereunder; or in violation of a disposal system permit or certificate issued under the provisions of this code. Such orders shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

113.3 Prosecution: If the notice of violation and order are not complied with promptly, the plumbing inspector shall request the legal counsel of the jurisdiction to institute the appropriate proceedings at law or in equity to restrain, correct, or abate such violation, or to require removal or termination of the unlawful use of any system in violation of the provisions of this code or of the order or direction made pursuant thereto.

113.4 Penalties: Any person who shall violate a provision of this code, or who shall fail to comply with any of the requirements thereof, or who shall install work in violation of an approved plan or directive of the plumbing inspector, or of a disposal system permit issued under the provisions of this code, shall be subject to the penalties in Title 30-A M.R.S.A. Section 4212.

SECTION 114.0 STOP WORK ORDER

114.1 Stop work order notice: Upon notice from the plumbing inspector that work is being done contrary to the provisions of this code, such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the property owner's agent, or to the person doing the work. It shall state the conditions under which the work may be resumed.

114.2 Unlawful continuance: Any person who shall continue any work after having been served with a stop work order, except such work as the person is directed

to perform to remove a violation or unsafe condition, shall be considered in violation of this code.

SECTION 115.0 CERTIFICATE OF APPROVAL

115.1 Approval: After the required inspection, or, in the case of multiple inspections, when the final inspection indicates the work complies in all respects with this code and the permit application, a certificate of approval shall be issued by the plumbing inspector.

115.2 Thirty (30) day temporary use: Upon request of the holder of a disposal system permit, the plumbing inspector may issue a 30 day temporary authorization of use before the entire work covered by the disposal system permit shall have been completed. This authorization may be given only if such portion or portions of the system may be put into service safely prior to full completion without endangering health or public welfare.

SECTION 116.0 UNSAFE CONDITIONS

116.1 General: All installations, regardless of type, that are unsanitary or that constitute a hazard to human life, health, or welfare are hereby declared a nuisance and shall be abated by repair and rehabilitation or removal.

116.2 Structures: No portion of a structure shall be located on any part of a disposal field.

SECTION 117.0 MUNICIPAL RECORDS

117.1 Required: The municipality shall keep official records of applications for disposal system permits received, disposal system permits and certificates issued, fees collected, reports of inspections, and notices and orders issued.

117.2 Record retention: The disposal system permit and associated records shall be maintained until such time as the realty improvement served by the proposed or existing system is removed or connected to a public sewer.

117.3 Record availability: These records shall be available upon request for inspection by personnel of the Department and the public.

117.4 Associated records: The municipality shall also maintain and keep on file copies of the following documents:

117.4.1 Applications: Applications for disposal system permits and plans and specifications for the construction, installation or alteration of systems, including all forms and data submitted by the applicant;

117.4.2 Modifications: Modifications to plans or applications made subsequent to the issuance of a disposal system permit to construct, install, or alter systems;

117.4.3 Inspections: Reports of construction inspections made prior to issuance of a certificate of approval for a system;

117.4.4 Certificates of approval: Certificates of approval issued for systems; and

117.4.5 Malfunctioning systems: Inspection reports, plans, and specifications for repair or alteration of malfunctioning systems or components of malfunctioning systems.

SECTION 118.0 LOCAL ORDINANCE

118.1 General: The municipality may adopt local ordinances as allowed by MRSA Title 30-A §4211.

118.2 Definition: For the purpose of this code, the term "local ordinance" means any municipal ordinance that is more restrictive than any provision in these Rules..

118.3 No less stringent: The municipality shall not adopt an ordinance that is less stringent than this code.

118.4 Notification: In order for the Department to keep track of local requirements that may differ from the minimum requirements contained herein, any municipality that adopts a local ordinance is requested to send a copy of the ordinance to the Department.

SECTION 119.0 APPROVED SYSTEM USAGE

119.1 General: No system may be used nor shall any waste water be directed to any component/system until a certificate of approval has been issued or the plumbing inspector has issued a temporary authorization of use in compliance with Subsection 115.2 of this code.

SECTION 120.0 UNORGANIZED AREAS

120.1 Scope: This Section governs the appointment of plumbing inspectors and the administration of this code in unorganized portions of the State of Maine where there is no local form of government.

120.2 Plumbing inspector appointment: The Department may appoint plumbing inspectors in the unorganized areas. The appointed plumbing inspector is responsible for performing all the administrative and enforcement duties prescribed in this Chapter.

120.3 Lack of plumbing inspector: If a plumbing inspector has not been appointed, the following procedure shall be utilized.

120.3.1 Permit issuance: The Department is responsible for performing all the administrative and enforcement duties prescribed in Section 106.0.

120.3.2 Installer's statement of compliance: The State shall provide a form for the Site Evaluator to

give to the homeowner, or the homeowner's agent, at the time of the site evaluation. This form will allow the installer or inspector, in the case of an engineered system or a multi-user system, to provide a written statement to the owner, or agent, that the system was installed in compliance with this code and the conditions of the permit. This form will then be sent to the department.

120.3.3 Certificate of approval: The Department will issue a certificate of approval for the system, upon receipt of the installer's statement of compliance.

SECTION 121.0 ADVISORY RULINGS

121.1 Written request: Upon written request the Department may render an advisory ruling with respect to the interpretation and/or applicability of any subsurface waste water disposal related statute or rule administered by the Department.

121.2 Request address: A request for an advisory ruling shall be addressed to the Director, Division of Health Engineering, Department of Human Services, State House Station #10, Augusta, Maine 04333-0010.

121.3 Contents of request: The request for an advisory ruling shall contain sufficient facts for the department to make a ruling. The department may request additional information from the party requesting the ruling. Failure to provide such information shall be cause for the Department to refuse to issue a ruling.

121.4 Refusal to issue ruling: The Department may refuse to issue an advisory ruling if it may harm its interest in any litigation to which it is or may become a party.

121.5 Response time: An advisory ruling shall be in writing and issued no more than sixty (60) days from the date when all information necessary for the ruling has been received by the department.

121.6 Verbal Opinions: Verbal opinions do not carry the weight of advisory rulings. They are the opinion of Department staff, without benefit of legal consultation. Verbal opinions may be reversed when presented to the Department, as written requests for Advisory Rulings.

CHAPTER 2

DEFINITIONS

SECTION 200.0 GENERAL

200.1 Scope: Unless otherwise expressly stated, the following terms shall, for the purpose of this code, have the meanings set forth in the following Sections.

200.2 Interchangeability: Words used in the present tense include the future tense; words in the masculine gender include the feminine and neuter; the singular number includes the plural, and the plural includes the singular.

200.3 Terms defined in other codes: Where terms are not defined in the following Sections and are defined in the local building code or 10-144A CMR 238 "State of Maine Internal Plumbing Rules," they shall have the meanings ascribed to them in those codes.

200.4 Terms not defined: Terms not defined in the following Sections shall have ascribed to them their ordinarily accepted meanings such as the context may imply.

SECTION 201.0 GENERAL DEFINITIONS

Abutter: One that abuts; specifically, the owner of contiguous property. For purposes of the Subsurface Waste Water Rules, "abutter" is further defined to include that property, which is separated by a right of way and/or within setback requirements between a subsurface waste water disposal field and a potable water supply; whichever was installed first.

Adjacent wetlands: See definition, "Wetland, great ponds and rivers."

Aerobic: A condition in which molecular oxygen is a part of the environment.

Alteration: Any change in the physical configuration of an existing system or any of its component parts. This includes the replacement, modification, installation, addition, or removal of system components, or increase in size, capacity, type, or number of one or more components. The term "alter" shall be construed accordingly.

Alternative toilet: A device, other than a water closet, designed to treat human waste only. Examples are: privies and compost, chemical, recirculating, incinerating, and vacuum toilets. Portable toilets are not considered Alternative Toilets as they are only for temporary use (see definition of temporary portable toilet).

Anaerobic: A condition in which molecular oxygen is absent from the environment.

Applicant: The person who signs and submits an application for permit to construct, install, or alter a system.

Application for disposal system permit: Abbreviation for subsurface waste water disposal system permit application, also known as HHE-200 form, HHE-234, etc..

Backfill: Soil material that is suitable for use in the construction of disposal fields. See Section 1205.0.

Bedrock: A solid and continuous body of rock, with or without fractures, or a weathered or broken body of rock fragments overlying a solid body of rock.

Bedroom: Any room within a dwelling unit that serves primarily as sleeping quarters.

Black waste water: Waste water derived from plumbing fixtures or drains that receive excreta supplemented waste water.

Building drain: That part of the lowest horizontal piping of a drainage system that receives the discharge from soil, waste, and other drainage pipes inside the walls of a building and conveys it to the building sewer. Inside the building, it is considered to be the building drain until it undergoes a change of pitch more than that produced by a 45 degree wye. It extends to a point 8 feet outside the building wall.

Building sewer: That part of the plumbing system that extends from the end of the building drain and conveys its discharge to a public sewer, septic tank and disposal field, or other point of disposal.

Certificate of approval: A certificate signed by the plumbing inspector stating that a system has been installed in compliance with the disposal system permit application and this code.

Clay: A particle size category consisting of mineral particles that are smaller than 0.002 millimeter in equivalent spherical diameter; also, a soil texture class having more than 40% clay, less than 45% sand, and less than 40% silt.

CMR: Abbreviation for Code of Maine Rules. For example, 10- 144A CMR 241.9 identifies Section 9 of Chapter 241 of the Rules of the Bureau of Health within the Department of Human Services, Maine Subsurface Waste water Disposal Rules.

Coastal sand dune: Sand deposit within a marine beach system above high tide including, but not limited to: beach berm, frontal dune ridge, back dune area, and other sand areas deposited by wave or wind action.

Code: Code means the "Maine Subsurface Waste water Disposal Rules."

Construct: To build, install, fabricate, or put together on a site one or more components of a system.

Contour: An imaginary line of constant elevation on the ground surface. The corresponding line on a map is called a "contour line."

Curtain drain: A trench to intercept laterally moving ground water and divert it away from a disposal field.

Department: The Maine Department of Human Services.

Design flow: The waste water flow that may reasonably be expected to be discharged from a residential, commercial, or institutional facility on any day of operation, as determined in Chapter 9.

Disposal field: An individual subsurface waste water disposal system component, consisting of a closed excavation made within soil or fill material to contain disposal field stone, , in which distribution pipes have been placed or approved proprietary devices for the disposal of septic tank effluent.

Disposal field, peat: A disposal field in which the disposal field stone has been replaced with peat and is designed and installed in accordance with Chapter 23.

Disposal field, primitive: See definition, "Primitive disposal field."

Disposal field, separated laundry: See definition, "Separate laundry disposal field."

Disposal field stone: Gravel or crushed stone, that is clean, and free of dust, ashes or clay, and meeting the requirements prescribed in the Subsection 1204.2.3.

Disposal field infiltration area: The total disposal field infiltration area available to accept the septic tank effluent. The infiltration area includes the bottom and side wall below the invert of the distribution piping.

Disposal field infiltration area, effective: The standard stone filled disposal field infiltration area or the equivalent various "approved" proprietary disposal devices.

Disposal system: See definition, "Subsurface waste water disposal system."

Disposal system permit: Written authorization issued by the plumbing inspector to construct a specific system. This authorization is attached to the application for disposal system permit.

Distribution box: A device that receives septic tank effluent and distributes such effluent in equal portions to two or more disposal fields or distribution pipes within a disposal field.

Distribution pipe: A perforated pipe or one of several perforated pipes used to carry and distribute septic tank effluent throughout the disposal field.

Distribution network: Two or more inter-connected distribution pipes.

Diversion box: A device that permits alternating use of two or more disposal fields or the diversion of septic tank effluent.

Diversion ditch: A ditch to intercept and divert surface water runoff.

Dosing tank: A water-tight receptacle located between the septic tank and disposal field and equipped with a pump or siphon, to store and deliver doses of septic tank effluent to the disposal field.

Drainage area: An area from which the surface runoff is carried away by a single watercourse.

Drainage ditch: A manmade ditch receiving and diverting surface runoff or subsurface water. This does not include diversion of a naturally occurring water body.

Drop box: A waste water distribution device where the elevation of the incoming distribution line is lower than that of the outgoing distribution line.

Drop manhole: A manhole installed in a sewer where the elevation of the incoming sewer is considerably above that of the outgoing sewer.

Dwelling unit: Any structure or portion of a structure, permanent or temporary in nature, used or proposed to be used as a residence seasonally or throughout the year.

Elevation reference point: An easily-identifiable point or object of constant elevation for establishing the relative elevation of observation holes and elevation of the components of the system.

Engineer: See Professional Engineer.

Equivalent spherical diameter: The equivalent spherical diameter of a particle is the diameter of a sphere that has a volume equal to the volume of the particle.

Expansion: The enlargement or change in use of a structure using an existing subsurface waste water disposal system that brings the total structure into a classification that requires larger subsurface waste water disposal system components. (See Chapter 14, sec. 1402).

Expansion, one time exempted: A one time expansion of a structure where the requirement for meeting first time system criteria is waived. (See sec. 1402.5).

Expansion, nonexempted: Expansions of existing structures where the requirement for meeting first time system criteria must be met. (See sec. 1402.4).

Fill material: Any soil, rock, or other material placed within an excavation or over the surface of the ground. The term "fill" is not equivalent in meaning to the term "back fill."

Finish grade: The surface of the ground after completion of final grading.

Flood plain, coastal and estuary: The land area within the V- Zone indicated by the Federal Insurance Rate Maps (FIRM) or below the 10-year storm surge elevation, whichever is more restrictive. The 10- year

storm surge elevation in Maine is approximately the 8-foot National Geodetic Vertical Datum.

Flood plain, riverine: The land area within the 10-year flood zone indicated by Soil Conservation Service Soil Maps or other sources acceptable to the Department in the absence of Soil Conservation Service Maps. Note: Some municipalities restrict new development in the 100-year flood plain.

Gpd: Gallons per day.

Gravel: A rounded or semi-rounded rock fragment that is between 2 millimeters and 3 inches in diameter.

Gray waste water: That portion of the waste water generated within a residential, commercial, or institutional facility that does not include discharges from water closets and urinals.

Grease interceptor: A device in which the grease in waste water leaving a structure is intercepted, congealed by cooling, accumulated, and stored for pump-out and disposal.

Grease trap: A device designed to retain grease from a single plumbing fixture.

Great pond: Any inland body of water that, in a natural state, has a surface area in excess of ten acres and any inland body of water artificially formed or increased that has a surface area in excess of 30 acres.

Ground water: Water below the land surface in a zone of soil saturation.

Ground water aquifer: A rock or gravel formation that contains significant recoverable quantities of water that is likely to provide drinking water supplies.

Ground water table: The upper surface of a zone of saturation.

H-20 wheel load: A wheel loading configuration as defined by the American Association of State Highway Officials for a standardized 10-ton-per-axle truck.

Hazardous waste: Any chemical substance or material, whether gas, solid, or liquid, that is designated as hazardous by the U.S. Environmental Protection Agency pursuant to the United States Resource Recovery and Conservation Act, Public Law 94-580.

Holding tank: A closed, water-tight structure designed and used to receive and store waste water or septic tank effluent. A holding tank does not discharge waste water or septic tank effluent to surface or ground water or onto the surface of the ground. Holding tanks are designed and constructed to facilitate ultimate disposal of waste water at another site.

Horizon, limiting: Any soil horizon or combination of soil horizons, within the soil profile or any parent material below the soil profile, that limits the ability of the soil to provide treatment or disposal of septic tank effluent. Limiting horizons include bedrock, hydraulically restrictive soil horizons and parent material, excessively coarse soil horizons and parent material, and seasonal ground water table.

Horizon, soil: A layer within a soil profile differing from the soil above or below it in one or more soil morphological characteristics. The characteristics of the layer include the color, texture, rock-fragment content, structure, and consistence of each parent soil material.

Horizontal reference point: A stationary, easily identifiable point to which horizontal dimensions can be related.

Hydrology: The science dealing with the properties, distribution, and circulation of water.

Industrial waste water: For purposes of these rules industrial waste water is any liquid waste not normally considered to be domestic waste water, and normally associated with industry or business, large or small.

Install: To assemble, put in place, or connect components of a system in a manner that permits their use by the occupants of the structure served.

Invert: The floor, bottom, or lowest portion of the internal cross section of a closed conduit, used with reference to pipes or fittings conveying waste water or septic tank effluent.

Lined disposal field: A filtration layer of backfill placed directly beneath and adjacent to a disposal field.

Local plumbing inspector: L.P.I. See definition, "Plumbing inspector."

Malfunctioning system: A system that is not operating or is not functioning properly. Indications of a malfunctioning system include, but are not limited to, any of the following: ponding or outbreak of waste water or septic tank effluent onto the surface of the ground; seepage of waste water or septic tank effluent into parts of buildings below ground; back-up of waste water into the building served that is not caused by a physical blockage of the internal plumbing; or contamination of nearby water wells or surface water bodies.

May: A verb denoting optional action.

Mottles, drainage: Soil color patterns caused by alternating saturated and unsaturated soil conditions. When saturation occurs while soil temperatures are above biological zero (41°F), iron and manganese will become reduced and exhibit subdued shades such as grays, greens, or blues. When unsaturated conditions occur, oxygen combines with iron and manganese to develop brighter soil colors such as yellow and reddish brown. Soils that experience seasonally fluctuating water tables usually exhibit alternating streaks, spots, or blotches of bright oxidized colors with reduced dull, or subdued, colors. The longer a soil is saturated and in an anaerobic condition, the greater is the percentage of color that will be subdued. Soils that are never or rarely exposed to free oxygen are considered totally reduced or gleyed.

Mottling: A color pattern observed in soil consisting of blotches or spots of contrasting color. The term "mottle" refers to an individual blotch or spot.

No practical alternative: Due to site conditions, lot configuration, or other constraints, the replacement, repair or alteration of an existing system, in full compliance with this code, is not achievable without the employment of extraordinary measures or cost.

Normal high water line - riverine, stream, lake, and pond: That line on the shore or bank that is apparent from visible markings, changes in the character of soil, rock, or vegetation resulting from submersion or the prolonged erosion action of the water.

Normal high water line - coastal, estuary, and tidal: The shoreline at the spring tide elevation, during the maximum spring tide level as identified in tide tables published by the National Ocean Service.

Nuisance: Any source of filth, odor, or probable cause of sickness.

Observation hole: A subsurface exploration hole dug by hand, back-hoe, or auger, or a soil core taken intact and undisturbed using a probe.

Other components: Devices, other than pipe, that receive waste water including lift stations, distribution boxes, sealed vault privies, underdrain pre-filters, grease interceptors, and drop boxes.

Person: An individual or his heirs, executor, administrator, assign, or agents; a firm, corporation, association, organization, municipal or quasi-municipal corporation, or government agency. Singular includes plural and male includes female.

Pit privy: An alternative toilet placed over an excavation where human waste is deposited.

Plumbing inspector: For the purposes of this code, a local plumbing inspector as defined in Title 30-A M.R.S.A. §4221 and Title 30-A M.R.S.A. §4451.

Potable water: Water that does not contain objectionable pollution, contamination, minerals, or infective agents, is satisfactory for human consumption, and is used for human consumption.

Pre-existing natural ground surface: The former level of the ground surface in an area of disturbed ground.

Primitive disposal field: A minimal disposal field designed specifically to treat gray waste water originating from a non-pressurized water supply.

Primitive system: See definition, "System, primitive."

Professional engineer: A person licensed to practice professional engineering in Maine, pursuant to Title 32 Chapter 19.

Proprietary disposal device: A device utilized in disposal fields as an alternative to a disposal field with a bedding of stone and one or more distribution pipes.

Public sewer: Municipal or quasi-municipal sewerage system.

Realty improvement: Any new residential, commercial, or industrial structure, or other premises, including but not limited to condominiums, garden apartments, town houses, mobile homes, stores, office buildings, restaurants, and hotels, not served by an approved public sewer, the useful occupancy of which will require the installation or construction of systems. Each dwelling unit in a proposed multiple-family dwelling unit or each commercial unit in a commercial structure shall be construed to be a separate realty improvement.

Repair: Minor repairs or replacements as required for the operation of pumps, siphons, or accessary equipment, for the clearance of a stoppage, or to seal a leak in the septic tank, holding tank, pump tank, or building sewer.

Replacement system: See definition, "System, replacement."

River: A free flowing body of water from that point at which it provides drainage for a watershed of 25 square miles to its mouth.

Rock fragment: A fragment of rock, contained within the soil, that is greater than 2 millimeters in equivalent spherical diameter or that is retained on a 2 millimeter sieve.

Sand: A particle size category consisting of mineral particles that are between 0.05 and 2 millimeters in equivalent spherical diameter. Also a soil textural class having 85% or more sand along with a maximum of 15% silt and clay. The percentage of silt may not be more than 1.5 times the percentage of clay.

Saturated: A condition in which all easily drained voids between the soil particles are temporarily or permanently filled with water.

Scum: A mass of waste water solids floating on the surface of the waste water and buoyed up by entrained gas, grease, or other substances. The term "scum layer" shall be construed accordingly.

Seasonal conversion permit: Written authorization issued by the plumbing inspector to allow the conversion of a seasonal dwelling unit located in a shoreland zone to year-round use.

Seasonal dwelling unit: A dwelling which existed on December 31, 1981, and which was not used as a principal or year-round residence during the period from 1977 to 1981. Evidence of use as a principal or year-round residence includes, but is not limited to: the listing of that dwelling as an occupant's legal residence for the purpose of voting, filing a state tax return, or automobile registration; or the occupancy of that dwelling for a period exceeding 7 months in any calendar year.

Seasonal ground water table: The upper limit of seasonal ground water. This zone may be determined by identification of soil drainage mottling, the MAPSS

(Maine Association of Professional Soil Scientists) drainage key, or by monitoring.

Separate laundry disposal field: A separate disposal field sized to handle the laundry waste water from single-family dwelling units.

Septage: All sludge, scum, liquid, or any other material removed from a septic tank or disposal field.

Septic tank: A water-tight receptacle that receives the discharge of untreated waste water. It is designed and installed so as to permit settling of settleable solids from the liquid, retention of the scum, partial digestion of the organic matter, and discharge of the liquid portion into a disposal field.

Septic tank effluent: Primary treated waste water discharged through the outlet of a septic tank and/or an approved sand, peat, or similar filter.

Septic tank filter: A device designed to keep solids and grease in the septic tank.

Serial distribution: A method of distributing septic tank effluent between or within a series of disposal fields so that each successive disposal field receives septic tank effluent only after the preceding disposal fields have become full to the bottom of the invert.

Setback distance: The shortest horizontal distance between a component of a system and certain site features or structures.

Shall: A verb denoting mandatory action under all circumstances (notwithstanding state and local waivers).

Should: A verb denoting recommended action under certain circumstances.

Shoreland zone area: All land area within 250 feet, horizontal distance, of the normal high-water line of any great pond, river or salt water body; or within 250 feet, horizontal distance, of the upland edge of a freshwater or coastal wetland; excluding any forested wetland;or within 75 feet, horizontal distance, of the normal high-water line of a stream or as designated by a municipality.

Silt: A particle size category consisting of mineral particles that are between 0.002 and 0.05 millimeters in equivalent spherical diameter. It also means a soil textural class having 80% or more of silt and 12% or less of clay.

Single-family dwelling unit: A structure or realty improvement intended for single-family use.

Site evaluation: The practice of investigating, evaluating, and reporting the basic soil and site conditions that apply to waste water treatment and disposal along with a system design in compliance with this code.

Site evaluator: A person licensed to practice Site Evaluation under Title 22 M.R.S.A. §42 subsection 3A.

Sludge: A relatively dense accumulation of waste water solids that settle to the bottom of a septic tank. These solids are relatively resistant to biological decomposition and collect in the septic tank over a period of time. The term "sludge layer" shall be construed accordingly.

Soil: The outermost surface layer of the earth. It is made up of individual soil bodies, each with its own individual characteristics. In places, soil has been modified or even made by people. It contains living matter and is capable of supporting plants out-of- doors.

Soil color: The soil color and Munsell color designation determined by comparison of the moist soil with color chips contained in a Munsell soil color book. **Soil consistence:** The resistance, in place, of a soil horizon to penetration by a soil probe.**Soil profile:** A vertical cross section of the undisturbed soil showing the characteristic soil horizontal layers or soil horizons that have formed as a result of the combined effects of parent material, topography, climate, biological activity, and time.

Soil saturation: The state when all the pores in the soil are filled with water. Water will flow from saturated soils into a observation hole.

Soil texture: The relative proportions of sand, silt, and clay.

Stone: A rock fragment that is rounded or semi-rounded in shape and greater than 10 inches in diameter.

Stream: A free-flowing body of water from the outlet of a great pond or the confluence of two perennial streams (as depicted on the most recent edition of a United States Geological Survey 7.5 minute topographical map or, if not available, a 15 minute topographic map) to the point where the body of water becomes a river.

Subsurface waste water disposal system: Any system designed to dispose of waste or waste water on or beneath the surface of the earth; includes, but is not limited to: septic tanks; disposal fields; grandfathered cesspools; holding tanks; pre-treatment filter, piping, or any other fixture, mechanism, or apparatus used for those purposes; does not include: any discharge system licensed under Title 38 M.R.S.A. §414; any surface waste water disposal system; or any municipal or quasi-municipal sewer or waste water treatment system.

System: See definition, "Subsurface waste water disposal system."

System cleaner: Any solid or liquid material intended or used primarily for the purpose of cleaning, treating, degreasing, unclogging, disinfecting, or deodorizing any part of a system. These do not include those liquid or solid products intended or used primarily for manual cleaning, scouring, treating, deodorizing, or disinfecting the surfaces of common plumbing fixtures. See section 1010.0.

System, engineered: Any subsurface waste water disposal system designed, installed, and operated as a single unit to treat and dispose of 2,000 gallons of waste

water per day or more; or any system designed to be capable of treating waste water with significantly higher BOD_5 and total suspended solid concentrations than domestic waste water in Table 703.1.

System, first time: The first system designed to serve a specific structure; a new system.

System, multi-user: For the purposes of this code, multi-user disposal systems serve or are designed to serve three or more structures under different ownerships. See Chapter 17.

System, non-conforming: A system that does not conform to the location, design, construction, or installation requirements in this code.

System, non-engineered: Any system designed, installed, and operated as a single unit to treat and dispose of less than 2,000 gallons of waste water per day.

System, primitive: A system consisting of a primitive disposal field and an alternative toilet.

System, replacement: A system designed to replace an existing system, an overboard discharge, or any ground surface discharge, without any increase in water usage, except as allowed in Section 1402.0.

Temporary Portable Toilet: A prefabricated toilet designed for temporary use, typically at social functions, worksites, outdoor gatherings, etc. No plumbing permit nor site evaluation is required.

Unit: See dwelling unit.

Unorganized area: An area subject to the jurisdiction of the Maine Land Use Regulation Commission under Title 12, Chapter 206-A.

Variance: Written authorization that permits some act or condition not otherwise permitted by this code.

Value: The relative lightness or intensity of a color, one of the three variables of soil color defined within the Munsell system of classification.

Vault privy: An alternative toilet that retains human waste in a sealed vault.

Waste water: Any liquid waste containing animal or vegetable matter in suspension or solution, or the water-carried wastes from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers, or other source of water-carried wastes of human origin. This term specifically excludes industrial, hazardous, or toxic wastes and materials.

Waste water discharge license: A waste water discharge license issued by the Maine Department of Environmental Protection under Title 38 M.R.S.A. §414.

Waste water ejector: A device to elevate and/or pump untreated waste water to a public sewer, septic tank, or other means of disposal.

Water body: A natural or artificial surface depression having standing or flowing water in excess of 250 square feet. The term water body includes, but is not limited to: natural and artificial lakes, ponds, rivers, streams, brooks, swamps, marshes, bogs and tidal marshes. It usually discharges into a larger water body and has a definite channel, bed, banks and high watermark.

Water course: A channel created by the action of surface water and characterized by the lack of upland vegetation or the presence of aquatic vegetation and by the presence of a bed devoid of top soil containing waterborne deposits on exposed soil, parent material or bedrock.

Water body/course, major: Any waterbody or water course depicted on a United States Geological Survey (USGS) 7.5 minute map, or a 15 minute map if a 7.5 minute map is not compiled.

Water body/course, minor: Any water body or water course that is not a major water course. This does not include man-made ditches, except where a ditch is dug as a diversion to a natural water course.

Water well: A bored, drilled, or driven shaft or a dug hole, that extends below the seasonal ground water table and is used as the primary drinking water supply. If there is more than one well on a property, it is presumed that one well supplies the structure(s) associated with the property with drinking water and that all other wells have either been abandoned or are spite wells.

Wetland: Area that has a predominance of hydric soils and that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

Wetland, coastal: All tidal and sub-tidal lands; all lands below any identifiable debris line left by tidal action; all lands with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, or contiguous lowland subject to tidal action during the maximum spring tide level as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal dunes.

Wetland, freshwater: Freshwater swamp, marsh, bog, or similar area that is of 10 or more contiguous acres or of less than 10 acres and adjacent to a surface water body (excluding any river, stream, or brook) such that in a natural state, the combined surface area is greater than 10 acres and is not considered part of a great pond, coastal wetland, river, or stream. Such an area is inundated or saturated by surface or ground water at a frequency and for a duration sufficient to support, and normally does support, predominantly wetland vegetation. A freshwater wetland may contain inclusions of land that do not conform to the requirements of this definition.

Wetland, great ponds and rivers: Wetland contiguous with, or adjacent to, a great pond or river and, during normal spring high water, surfically connected to the great pond or river. A wetland associated with a great pond or river is considered to be part of that great pond or river.

Work started: If the permit includes the installation of a disposal field, work has commenced when stone or chambers have been placed as specified on the HHE-200 form. If the permit is for the installation of treatment tank only, work has commenced when the tank is placed and/or connected.

CHAPTER 3

SEASONAL CONVERSION OR EXPANDING OF STRUCTURES WITHIN SHORELAND ZONE AREAS OF MAJOR WATER COURSES

SECTION 300.0 GENERAL

300.1 Scope: This Chapter governs the requirements for converting seasonal dwelling units into year-round residences or expanding structures within shoreland zone areas of water courses.

300.2 Exemptions: This Chapter is construed to exempt from seasonal conversion permit requirements a dwelling that:

300.2.1 Occupation: Will be occupied seasonally;

300.2.2 Principal dwelling: Is not the principal dwelling place of the occupant; or

300.2.3 Outside shoreland zoning: Has its system located outside the shoreland zone area.

300.3 Seasonal dwelling defined: A seasonal dwelling is a dwelling which existed on December 31, 1981, and which was not used as a principal or year-round residence during the period from 1977 to 1981. Evidence of use as a principal or year-round residence includes, but is not limited to: the listing of that dwelling as an occupant's legal residence for the purpose of voting, filing a state tax return, or automobile registration; or the occupancy of that dwelling for a period exceeding 7 months in any calendar year.

300.4 Principal or year-yound residence defined: Evidence of use as principal or year round residence includes, but is not limited to, the listing of that residence as an occupant's legal residence for the purpose of either voting, filing a state tax return, or automobile registration, or the occupancy of that residence for a period exceedig 7 months in any calendar year.

SECTION 301.0 SEASONAL CONVERSION PERMIT

301.1 Seasonal conversion permit required: Before converting a seasonal dwelling that has a system located in the shoreland zone area (as defined in Title 38 M.R.S.A. §435) to a year-round or principal dwelling, a seasonal conversion permit shall be obtained from the plumbing inspector.

301.2 Unorganized areas of the State: Seasonal conversion permits for structures within unorganized areas of the state will be issued by the LPI, or the Division of Health Engineering, Bureau of Health, Department of Human Services in coordination with the Land Use Regulatory Commission.

301.3 Holding tanks prohibited: A seasonal conversion permit shall not be approved if a holding tank is used as a means of waste water disposal or storage. (30-A § 4215 subsection 2)

301.4 Permit for seasonal conversion: The plumbing inspector shall issue a permit for conversion of a seasonal dwelling to a year-round or principal dwelling if one of the following requirements is met:

301.4.1 Existing legal system: A subsurface waste water disposal application, dated after July 1, 1974, exists showing that the dwelling's system substantially complies with this code and applicable municipal ordinances. The system shall have been installed with the required permit and a certificate of approval shall have been issued; or

301.4.2 Legal replacement system: A replacement for an existing waste water system has been installed so that it complies with Section 303.0 and applicable municipal ordinances; or

301.4.3 Public sewer available: The dwelling unit's waste water is connected to an approved sanitary sewer system.

SECTION 302.0 EXPANSIONS

302.1 General: Structures with existing disposal systems located within the shoreland zoned area of major water courses may expand provided that they meet the following requirements:

302.1.1 One time exemptions: The expansion meets the definition of a "one time exemption" in Subsection 1402.5 and substantial compliance in Section 303.0. ~~See Definitions.~~

302.1.2 Other expansions: For other expansions the requirements for first time systems shall be met. See Chapters 4 and 7.

SECTION 303.0 SUBSTANTIAL COMPLIANCE

303.1 General: A system is deemed to be in substantial compliance with this code, providing the requirements in this Section are met.

303.2 Municipal ordinances: The system meets applicable municipal ordinances;

303.3 Septic tank: The septic tank meets the requirements of Chapter 10;

303.4 Disposal field: The disposal field meets the applicable requirements of Chapter 7. See Table 700.4;

303.5 Site conditions: The site meets the siting requirements in Chapter 6;

303.6 Setbacks: The setbacks shall meet or exceed the minimum horizontal setback distances in Table 400.4.

CHAPTER 4

DISPOSAL SYSTEM SETBACKS

SECTION 400.0 GENERAL

400.1 Scope: This Chapter governs the horizontal setback distances between disposal fields and various site features.

400.2 General: The minimum setback distances set forth in Tables 400.2, 400.3 & 400.4 are designed to minimize the potential for contamination from disposal systems. The primary considerations when locating disposal fields are the natural flow of the ground water on the site, nearby water courses, the type of water well and how it is constructed, etc. This Section also provides for reductions in those distances under certain conditions.

SECTION 401.0 SINGLE FAMILY PROPERTY OWNERS' WATER WELLS

401.1 First time systems: The minimum horizontal setback between a first time disposal system and a single family water well shall comply with Table 400.2, except as authorized in 401.1.1, 401.1.2 and Table 400.1.**401.1.1 Bedrock wells:** The minimum horizontal setback distance between a first time disposal field and a single family bedrock water well is 100 feet. If the site evaluator determines there is no practical alternative, the plumbing inspector may authorize the setback reduction set forth in Table 400.1.

401.1.2 Location: If the disposal field for first time systems is less than 100 feet up ground slope of an existing water well, in addition to meeting the requirements of Table 400.1, when possible, the disposal field location should be offset and not be in a direct up slope line from the well.

TABLE 400.1

Reduction in first-time disposal field setbacks, between a single-family bedrock well and a disposal field

Depth of well casing or liner seal below ground level	Reduction in the minimum 100 ft setback distance for single-family bedrock wells.
> 40 feet to 55 feet	100 down to 90 feet
> 55 feet to 70 feet	100 down to 80 feet
> 70 feet to 86 feet	100 down to 70 feet
> 86 feet	100 down to 60 feet

401.1.3 Other types of single-family wells: The minimum horizontal setback between a first time disposal field and the other types of single-family water wells is 100 feet.

401.2 Setback reductions for replacement systems, exempted expansions, and seasonal conversions: The plumbing inspector may allow the reduction of the setback distances to owner's single family water well as set forth in Tables 400.3 or existing system setback, if less, and 400.4 if:

401.2.1 No practical alternative: The site evaluator determines there is no practical alternative;

401.2.2 Owner's agreement: All owners give their written permission for a reduction in the minimum distance between the well and replacement, seasonal conversion or expansion systems, and

401.2.3 Reductions minimized: The plumbing inspector determines that the reduction in setback distances necessary to install the field is minimized.

401.2.4 Other reductions: For setback reductions that are greater than those listed in Tables 400.1, 400.2 and 400.4 a department variance is required. See Chapter 19.

401.3 Additional replacement system setback reductions: If it is determined that reductions greater than those set forth in Table 400.3 are needed, the Department may allow a greater reductions of the setback distances to owner's single family water well if all the following are met:

401.3.1 No practical alternative: The site evaluator determines there is no practical alternative;

401.3.2 Owners agreement: All owners give written permission for a reduction in the minimum distance between their well and their replacement system;

401.3.3 Reductions minimized: The plumbing inspector determines that the reduction in setback distances necessary to install the field is minimized; and

401.3.4 Registry of Deeds: The owner has filed a statement, in a form prescribed by the Department, with the Registry of Deeds indicating that the setback distance between the property's well and disposal field are substandard. This statement shall be cross referenced to the property's deed by book and page numbers.

SECTION 402.0 SINGLE FAMILY DISPOSAL FIELDS AND ABUTTER'S SINGLE FAMILY WATER WELLS:

402.1 Abutter's water wells: The minimum distances between single family disposal fields and an abutter's single family water well shall be at least 100 feet unless the following conditions are met:

402.1.1 Wells installed after May 1, 1995: If the site evaluator determines that there is no practical alternative and the plumbing inspector agrees, the minimum distance between a single family disposal

field and an abutter's single family water well shall be at least two times the distance between the abutter's well and the common property line, except that a minimum setback distance of 60 feet shall be maintained.

402.1.2 Wells installed prior to May 1, 1995: First time systems and non-exempted expansions shall meet the setback criteria in Table 400.2. Seasonal conversion and exempted expansions within the shoreland zoned area of major water courses shall meet the setback criteria in Table 400.4. Replacement systems and exempted expansions outside the shoreland zoned area of major water courses shall meet the setback criteria in Table 400.3 unless the site evaluator determines that there is no practical alternative and the plumbing inspector agrees, then existing setback distance between an existing single family disposal field and an abutters single family water well can be used for the replacement disposal field.

402.2 Additional setback reductions: The Department may allow an additional reduction to 50 feet of the setback distances to abutter's water wells set forth in Table 400.3, when the existing system setback distance is greater than 50 feet, providing:

402.2.1 The abutter agrees: The abutter gives written permission for a reduction in the minimum distance between the well and the replacement field, and

402.2.2 Reductions minimized: The plumbing inspector determines that the proposed setback distance is the minimum reduction necessary to install the replacement field.

SECTION 403.0 WATER WELLS OTHER THAN SINGLE FAMILY AND DISPOSAL FIELDS

403.1 General: In general, the horizontal setback distance between the waste water field and well are based on the design flow of the system, and well usage.

403.2 First time systems: The minimum setback distances for non-single-family disposal fields, all septic tanks and holding tanks used in first time systems shall comply with Table 400.2.

TABLE 400.2

Setbacks for First time Systems and non-exempted expansion systems

Site features vs disposal system components of various sizes	Disposal Fields			Septic Tanks and Holding Tanks		
	Less than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd	Less Than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd
Wells with water usage of 2000 or more gpd	300 ft	300 ft	300 ft	100 ft	100 ft	100 ft
Owner's wells	100[a] ft	200 ft	300 ft	100[b] ft	100 ft	100 ft
Neighbor's wells	100 ft	200 ft	300 ft	100 ft	100 ft	100 ft
Water supply line	10 ft[g]	18 ft[g]	25 ft[g]	10 ft[g]	10 ft[g]	10 ft[g]
Water course, major	100[d] ft	200[d] ft	300[d] ft	100[b] ft	100 ft	100 ft
Water course, minor	50[e] ft	100[e] ft	150[e] ft	50[e] ft	50[e] ft	50[e] ft
Drainage ditches	25 ft	50 ft+	75 ft	25 ft	25 ft	25 ft
Wetland, DEP jurisdiction, upland edge (edge of fill extension)	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft
Slopes greater than 3:1	10[f] ft	18[f] ft	25[f] ft	N/A	N/A	N/A
No full basement [e.g. slab, frost wall, columns]	15 ft	28 ft	40 ft	8 ft	14 ft	20 ft
Full basement [below grade foundation]	20 ft	30 ft	40 ft	8 ft	14 ft	20 ft
Property lines	10[c] ft	18[c] ft	20[c] ft	10 ft	15 ft	20 ft
Burial sites or graveyards, measured from the toe of the fill extension	25 ft	25 ft	25 ft	25 ft	25 ft	25 ft

Notes:

a. Single-family well setbacks may be reduced as prescribed in Section 401.0.

b. This distance may be reduced to 75 feet if the septic or holding tank is tested in the plumbing inspector's presence and shown to be water tight. A property owner residing on a property may install a septic tank 75 feet from their well used as a water supply or a holding tank 60 feet from their well used as a water supply.

c. Additional setbacks may be needed to prevent fill material extensions from encroaching onto abutting property.

d. Additional setbacks may be required by local Shoreland zoning.

e. Natural Resource Protection Act requires a 25 feet setback, on slopes of less than 20%, from the edge of soil disturbance and 100 feet on slopes greater than 20%. See Chapter 8.

f. The fill extension shall reach the existing ground before the 3:1 slope or within 100 feet of the disposal field.

g. See Section 1102.10 for special procedures when the setbacks can not be achieved.

403.3 Replacement or exempted expansion disposal systems: For replacement or exempted expansion disposal systems, the plumbing inspector may permit the reduction of the reduced setback distances listed in Table 400.3 if:

403.3.1 No practical alternative: The proposed setback distances are equal to or greater than the setback distances of the system being replaced; no practical alternative exists; and

403.3.2 Reductions minimized: The plumbing inspector may only approve a reduction in setback

distances that is the minimum necessary to accomplish the system installation; and

403.3.3 Non-exempted "expansion" systems: For non-exempted "expansion" systems the minimum setback distances for non-single-family disposal fields, all septic tanks, and holding tanks are no less than the distances set forth in Table 400.2; and

403.3.4 "Seasonal conversion" systems: For "seasonal conversion systems" the minimum setback distances for non-single-family disposal fields, all septic tanks, and holding tanks are no less than the distances set forth in Table 400.4.

SECTION 404.0 SETBACKS FROM COASTAL WETLANDS, FRESHWATER WETLANDS, GREAT PONDS AND WATER COURSES

404.1 General: Activities in or adjacent to coastal wetlands, freshwater wetlands, great ponds and water courses are regulated by the Maine Department of Environmental Protection.

404.2 Wetlands that are not regulated by Maine Department of Environmental Protection: There is no minimum setback distance required from the upland edge or boundary of a wetland that does not come under Maine Department of Environmental Protection jurisdiction. If the wetland is subject to DEP jurisdiction, the set-back from the boundary shall comply with Tables 400.2 through 400.4.

TABLE 400.3

Setbacks for all replacement systems and for exempted expansions outside the shoreland zone of major water courses with plumbing inspector approval.

[Only if the site evaluator determines there is no practical alternative and the plumbing inspector agrees.]

Site features vs disposal system components of various sizes	Disposal Fields			Septic Tanks		
	Less than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd	Less Than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd
Wells with water usage of 2000 or more gpd	300 ft	300 ft	300 ft	100 ft	100 ft	100 ft
Owner's wells	100[a] down to 50 ft	200 down to 100 ft	300 down to 150 ft	100[b] down to 50 ft	100 down to 50 ft	100 down to 50 ft
Neighbor's wells (f)	100[f] down to 60 ft	200[f] down to 120 ft	300[f] down to 180 ft	100[f] down to 50 ft	100[f] down to 75 ft	100[f] down to 75 ft
Water supply line	10 ft[h]	20 ft[h]	25 ft[h]	10 ft[h] r	10 ft[h] (n	10 ft[h]
Water course, major - for replacements only, see Table 400.4 for exempted expansions	100 down to 60[d] ft	200 down to 120[d] ft	300 down to 180[d] ft	100 down to 50[b] ft	100 down to 50 ft	100 down to 50 ft
Water course, minor (e)	50 down to 25[e] ft	100 down to 50[e] ft	150 down to 75[e] ft	50 down to 25[e] ft	50 down to 25[e] ft	50 down to 25[e] ft
Drainage ditches	25 down to 12 ft	50 down to 25 ft	75 down to 35 ft	25 down to 12 ft	25 down to 12 ft	25 down to 12 ft
Wetland DEP Jurisdiction, upland edge (edge of fill extension) (e)	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft
Slopes greater than 3:1	10[g] ft	18[g] ft	25[g] ft	N/A	N/A	N/A
No full basement [e.g. slab, frost wall, columns]	15 down to 7 ft	30 down to 15 ft	40 down to 20 ft	8 down to 5 ft	14 down to 7 ft	20 down to 10 ft
Full basement [below grade foundation]	20 down to 10 ft	30 down to 15 ft	40 down to 20 ft	8 down to 5 ft	14 down to 7 ft	20 down to 10 ft
Property lines	10 down to 5[c] ft	18[c] ft down to 9[c] ft	20[c] ft down to 10[c] ft	10 ft down to 4[c] ft	15 ft down to 7[c] ft	20 ft down to 10[c] ft
Burial sites or graveyards, measured from the down toe of the fill extension	25 ft	25 ft	25 ft	25 ft	25 ft	25 ft

Notes:

a. Single-family well setbacks may be reduced as prescribed in Section 401.0.

b. This distance may be reduced to 25 feet if the septic or holding tank is tested in the plumbing inspector's presence and shown to be watertight. A property owner residing on a property may install a septic or holding tank 75 feet from their well used as a water supply.

c. Additional setbacks may be needed to prevent fill material extensions from encroaching onto abutting property.

d. Additional setbacks may be required by local Shoreland zoning.

e. Natural Resource Protection Act requires a 25 foot setback, on slopes with less than 20%, from the edge of disturbance and 100 feet on slopes greater than 20% except for the repair or installation of a replacement system when no practical alternative exists. See Chapter 8.

f. May not be any closer to neighbors well than the existing disposal field or septic tank unless written permission is granted by the neighbor. This setback may be reduced for single family houses with Department approval. See Section 402.0.

g. The fill extension shall reach the existing ground before the 3:1 slope or within 100 feet of the disposal field.

h. See Section 1102.10 for special procedures when these minimum setbacks can not be achieved.

404.3 Setbacks: Setbacks shall be maintained between system components and wetlands or water bodies as listed in Tables 400.2 through 400.4. This setback shall also apply to the edge of any soil disturbance activity, including fill extensions. In accordance with Chapter 8 a

setback buffer shall be designated and maintained between the upland edge or boundary of coastal wetlands, freshwater wetlands, great ponds and water courses and filling, excavating, bulldozing, or scraping of the adjacent land.

404.3.1 Slopes of less than 20%: On sustained slopes of less than 20%, a 25 foot setback shall be maintained between the upland edge of coastal wetlands, freshwater wetlands, great ponds and water courses and any soil disturbance.

404.3.2 Slopes of 20% or greater: On sustained slopes of 20% or greater, a 100 foot setback shall be maintained between the upland edge of coastal wetlands, freshwater wetlands, great ponds and water courses and any soil disturbance.

404.3.3 Replacement system setbacks: These setback requirements may be waived for replacement system installation or system maintenance, provided that the site evaluator determines no practical alternative exists and the plumbing inspector agrees.

404.4 Maine Department of Environmental Protection individual permits required: In order to reduce setback requirements of first time systems from the upland edge of coastal wetlands, freshwater wetlands, great ponds and water courses, an individual wetland alteration permit shall be obtained from Maine Department of Environmental Protection.

404.5 Wetlands: For the purpose of this code, the wetland setbacks are only for those freshwater or coastal wetlands regulated by the Maine Department of Environmental Protection. (It is always advisable to check with the U.S. Army Corps of Engineers before starting any work which may affect a wetland.)

SECTION 405.0 PRIVIES AND HOLDING TANKS

405.1 Pit privies: A pit privy is considered a "disposal field" for the purpose of setback distances in Chapter 4, except for the distance requirements from a building. Pit privies may be part of a larger building.

405.2 Sealed vault privies: A sealed vault privy is considered a "septic tank" for the purpose of setback distances in Chapter 4, except for the distance requirements from a building. Sealed vault privies may be part of a larger building.

405.2.1 Sealed vault privy replacements: When no practical alternative exists the plumbing inspector may reduce the setback distances listed Table 400.3 as necessary for the sealed vault privy installation. Reductions in the setback distances shall be the minimum necessary to accomplish the sealed vault privy installation.

405.3 Holding tanks: A holding tank is considered a "septic tank" for the purpose of setback distances.

405.3.1 Holding tank replacement systems: When no practical alternative exists and the plumbing inspector agrees, a holding tank may be used for a replacement system. When used for a replacement disposal system, the plumbing inspector may reduce the setback distances listed Table 400.3 as necessary for the holding tank installation. Reductions in the setback distances shall be the minimum necessary to accomplish the holding tank installation.

TABLE 400.4

Setbacks for seasonal conversion and exempted expansion systems located within the shoreland zone of a major water course. [Only if the site evaluator determines there is no practical alternative and the plumbing inspector agrees.]

Site features vs disposal system components of various sizes	Disposal Fields			Septic Tanks		
	Less than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd	Less Than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd
Wells with water usage of 2000 or more gpd	300 ft	300 ft	300 ft	100 ft	100 ft	100 ft
Owner's wells	100[a] down to 60 ft	200 down to 140 ft	300 down to 210 ft	100 down to 60[b] ft	100 down to 60 ft	100 down to 60 ft
Neighbor's wells(f)	100 down to 80 ft[f]	200 down to 160 ft[f]	300 down to 240 ft[f]	100 down to 80 ft[f]	100 down to 80 ft[f]	100 down to 80 ft[f]
Water supply line	10 ft[h]	20 ft[h]	25 ft[h]	10 ft[h]	10 ft[h] (	10 ft[h]
Water course, major - for replacements systems, see Table 400.3	100 down to 80[d] ft	200 down to 160[d] ft	300 down to 240[d] ft	100 down to 80[b] ft	100 down to 80 ft	100 down to 80 ft
Water course, minor (e)	50 down to 35[e] ft	100 down to 70[e] ft	150 down to 105[e] ft	50 down to 35[e] ft	50 down to 35[e] ft	50 down to 35[e] ft
Drainage ditches	25 down to 18 ft	50 down to 35 ft	75 down to 53 ft	25 down to 18 ft	25 down to 18 ft	25 down to 18 ft
Wetland DEP Jurisdiction, upland edge (edge of fill extension) (e)	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft	25[e] ft
Slopes greater than 3:1	10[g] ft	18[g] ft	25[g] ft	N/A	N/A	N/A
No full basement [e.g. slab, frost wall, columns]	15 down to 11 ft	30 down to 21 ft	40 down to 28 ft	8 down to 6 ft	14 down to 10 ft	20 down to 14 ft
Full basement [below grade foundation]	15 down to 11 ft	30 down to 21 ft	40 down to 28 ft	8 down to 6 ft	14 down to 10 ft	20 down to 14 ft
Property lines	10 down to 7[c] ft	18 down to 13[c] ft	20 down to 14[c] ft	10 down to 7[c] ft	15 down to 11[c] ft	20 down to 14[c] ft
Burial sites or graveyards, measured from the down toe of the fill extension	25 ft	25 ft	25 ft	25 ft	25 ft	25 ft

Notes:

a. Single-family well setbacks may be reduced as prescribed in Section 401.0.

b. This distance may be reduced to 50 feet if the septic or holding tank is tested in the plumbing inspector's presence. A property owner residing on a property may install a septic or holding tank 75 feet from their well used as a water supply.

c. Additional setbacks may be needed to prevent fill material extensions from encroaching onto abutting property.

d. Additional setbacks may be required by local Shoreland zoning.

e. Natural Resource Protection Act requires 25 feet, on slopes with less than 20%, from the edge of disturbance and 100 feet on slopes greater than 20%. See Chapter 8.

f. May not be any closer to neighbors well than the existing disposal field or septic tank unless written permission is granted by the neighbor.

g. The fill extension shall reach the existing ground before the 3:1 slope or within 100 feet of the disposal field.

h. See Section 1102.10 for special procedures when these minimum setbacks can not be achieved.

406.0 DEPARTMENT SETBACK VARIANCES

406.1 Department first-system variances: For first time systems, failing to meet Tables 400.1 and 400.2, the Department may issue variances to setback distances, if no practical alternative exists. In order to issue such a variance, it shall be shown that the site conditions and ground water flow are such that the disposal system design will offer at least as much protection as would be expected using the minimum setback distances prescribed in Table 400.2. See Chapter 19.

406.2 Department replacement system variances: For replacement systems, failing to meet Table 400.3, the Department may issue variances to setback distances, under Chapter 19. In order to issue such a variance, it shall be shown that there is no practical alternative.

407.0 SEPARATION DISTANCE BETWEEN DISPOSAL FIELDS

407.1 Minimum separation distance between disposal fields. Disposal fields shall be separated by a minimum of 5 feet, as measured along the contour, or one half the width of the widest adjacent disposal fields ;whichever is greater.

407.2 Multiple disposal field setbacks: The minimum separation distance between two or more disposal fields on a single property where the total design flow of the disposal fields is equal to or greater than 1,000 gallons (or 2,000 gallons per day)shall be 100 feet, or the disposal fields shall meet setbacks for 1,000 gpd to 1,999 gpd systems (or 2,000 gpd or greater) as indicated in the appropriate table.

CHAPTER 5

GENERAL REGULATIONS

SECTION 500.0 GENERAL

500.1 Scope: This Chapter governs the general regulation of all systems.

SECTION 501.0 AUTHORIZED DESIGNERS

501.1 Non-engineered systems: A site evaluator licensed in Maine shall design non-engineered systems.

501.2 Engineered systems: A site evaluator licensed in Maine shall perform the site evaluation for engineered systems. A professional engineer, licensed in Maine, shall design engineered systems, in consultation with the site evaluator.

SECTION 502.0 DESIGN REQUIREMENTS

502.1 All systems: In designing any system, the site evaluator and/or professional engineer shall take into consideration lot size and configuration, slope, surface drainage, soil characteristics, the presence and depth of limiting horizons within the soil, soil permeability, type of wastes, and the projected design flow.

502.2 Departures from the design: Departures from the approved design that become necessary due to circumstances arising during construction and installation shall be approved by the site evaluator and/or professional engineer and the plumbing inspector. Such changes shall meet or exceed the minimum requirements of this code.

502.3 Types of wastes: Systems shall be designed to receive all waste water from the structure served except in the following cases:

502.3.1 Black or gray waste waters only: Separate systems may be designed to receive only gray waste water, or only black waste water, as allowed in Chapter 15.

502.3.2 Laundry wastes: Laundry wastes from a single-family dwelling may be discharged into a separate laundry disposal field to reduce hydraulic loading on an existing or proposed disposal field. See section 1509.0.

502.3.3 Drainage water: Drainage from basement floors, footings, or roofs shall not enter into the system and shall be diverted away from the disposal field. Maine Department of Environmental Protection permits may be required for some drains.

502.3.4 Hot tubs: Hot tubs shall not discharge into any disposal system utilized for any other waste water, but may be discharged into a separate laundry disposal field.

SECTION 503.0 DEPARTMENT OF ENVIRONMENTAL PROTECTION

503.1 Special Maine Department of Environmental Protection approval required: The plumbing inspector shall not approve any system that does or will receive non-domestic waste water from photo-processing, dry cleaning, printing, furniture stripping and refinishing, manufacturing, automobile painting, or any other operation or activity that may result in discharge of industrial wastes into the system, without prior approval from the Maine Department of Environmental Protection.

SECTION 504.0 PROHIBITED

504.1 Discharging prohibited: The use of system cleaners that contain restricted chemical materials is deemed a discharge of industrial wastes and is prohibited. See section 1010.0.

504.2 Chemicals: Chemicals, other than normal household cleaners, shall not be disposed of in the disposal field. Examples of prohibited chemicals include paint, paint thinner, commercial grease and oil, darkroom chemicals, etc.

SECTION 505.0 INSTALLATION

505.1 Construction: The installer of the system shall make certain that the system and all its component parts are installed in conformance with the requirements of this code, the plan prepared by the site evaluator, and with any special engineering design requirements approved or required by the Department under Chapter 19.

505.2 Soil and backfill material: The installer of the system shall make certain that the construction and installation are performed without adversely affecting the capacity of the soil or backfill material to adequately absorb or treat the septic tank effluent. See Chapter 12.

SECTION 506.0 ROOF DRAINS, FLOOR DRAINS, MISC. DRAINS

506.1 General: Discharges from roof drains, floor drains, and foundation drains may adversely effect a system because of their potential volumes and different pollutant characteristics.

506.2 Roof drains and foundation drains: Roof drains and foundation drains shall not be connected to systems.

506.3 Floor drains: Commercial or industrial floor drains shall not be connected to a subsurface waste water disposal system.

CHAPTER 6

SITE EVALUATION REQUIREMENTS

SECTION 600.0 GENERAL

600.1 Scope: This Chapter governs the evaluation of and requirements for system sites.

600.2 General: The selection of a site for each system is based upon a licensed site evaluator's evaluation of those site characteristics that may affect the functioning of the system. Each system (and every part thereof) shall be sited and designed so that, with adequate installation and maintenance, it will function in a satisfactory manner and will not create a nuisance or source of foulness, pose a threat to public health or safety or to the environment, or otherwise adversely affect the quality of surface water or ground water.

600.3 When a site evaluation is required: A site evaluation is required for all newly designed a) subsurface sewage disposal systems, b) Pit privies, and c) Holding Tanks.

600.3 Suitable soil conditions: A disposal field shall be located upon soils with the following minimum depths to limiting factors:

600.3.1 First time and non-exempted expansion systems located outside the shoreland zone area of major water courses: First time and non-exempted expansion systems located outside the shoreland zone area of major water courses shall be located on soils with a minimum depth to seasonal groundwater table or hydraulically restrictive horizon of 12 inches and a minimum depth to bedrock of 12 inches. See Table 700.2.

600.3.2 First time and non-exempted expansion systems located within the shoreland zone area of major water courses: First time and non-exempted expansion systems located within the shoreland zone area of major water courses shall be located on soils with a minimum depth to seasonal groundwater table or hydraulically restrictive horizon of 15 inches and a minimum depth to bedrock of 15 inches. See Table 700.2.

600.3.3 Replacement and exempted expansion systems located outside the shoreland zone area of major water courses: Outside the shoreland zone of major water courses replacement and exempted expansion systems shall be located on soils with a minimum depth to seasonal groundwater table or hydraulically restrictive horizon of 12 inches and a minimum depth to bedrock of 12" unless no practical alternative exists. See Table 700.3.

600.3.4 Replacement systems located within the shoreland zone area of major water courses: Replacement systems located within the shoreland zone area of major water courses shall be located on soils with a minimum depth to seasonal groundwater table hydraulically restrictive horizon or bedrock of 15" unless no practical alternative exists. See Table 700.2 and 700.3.

600.3.5 Seasonal conversion and exempted expansion systems located within the shoreland zone area of major water courses: Seasonal conversion and exempted expansion systems located within the shoreland zone area of major water courses shall be located on soils with a minimum depth to seasonal groundwater table or hydraulically restrictive horizon of 10 inches and a minimum depth to bedrock of 15 inches. See Table 700.4.

600.4 Setback distances: For disposal system setback distances see Chapter 4 and Tables 400.2, 400.3 and 400.4.

600.5 Soil profile and condition: The soil profile and condition used for the design of a disposal field shall be based upon original soils at the site, except when the fill is considered as equivalent to original soils, as provided for in section 605.0 and Section 606.0 are met. The soil profile and condition used for the design of a disposal field shall be representative of the most limiting conditions beneath all disposal fields. In addition, the soil conditions beneath the down slope fill material extensions for engineered disposal fields shall be evaluated and reported.

600.6 Location of the system: A system shall be located entirely on property owned or controlled by the owner of the system. The owner of the proposed system may locate the system on an abutting and/or neighboring site, provided the neighboring property owner executes an easement in perpetuity for the construction, operation, replacement, and maintenance of the system, and the system's owner has authorization to cross any land or right-of-away between the two parcels. The easement shall be filed and cross-referenced in the Registry of Deeds and the municipality prior to issuance of a disposal system permit. The easement shall provide at least a 10 foot buffer around the disposal field and fill material extensions for future replacement and maintenance of the system.

600.7 Slope: The slope beneath a disposal field site shall not exceed 20% and shall accommodate the required fill material extension within 100' of the disposal field. (See footnotes in Table 400.3, 400.4, and 400.5.).

600.8 Surface runoff: The disposal field site shall not be subject to the accumulation of surface runoff. The property owner may utilize surface water diversions, provided they are installed as prescribed by the site evaluator.

600.9 Existing subsurface ground water drains: Ground that contains subsurface ground water drainage systems or the remnants of abandoned subsurface ground water drainage systems may be unsuitable for the installation of a disposal field. If determined to be a problem this may be corrected by removing the ground water drains or permanently sealing the outlets of the ground water drainage system.

SECTION 601.0 APPLICATION FOR DISPOSAL SYSTEM PERMIT

601.1 Contents: Applications for permits to install disposal systems shall include the following information:

601.2 Observation hole logs: Observation hole logs;

601.3 Design Classes: The Design Classes classified pursuant to Table 700.1;

601.4 Design flows: The projected design flow of waste water and method of calculation;

601.5 Elevations: The elevation of the bottom of the disposal field(s) and the top of the distribution pipes or proprietary disposal devices within the disposal field(s). The number of ground surface elevation measurements taken within and around a disposal field shall be sufficient to adequately determine the required elevation of the disposal field and the extent of the associated fill material extensions; and

601.6 Scaled plan: The site plan shall be drawn at a scale that clearly depicts the following site features that directly affect the system design and compliance with this code within at least a 100 foot radius around systems with design flows less than 1,000 gallons per day, 200 foot radius around systems between 1,000 and 1,999 gallons per day and at least a 300 foot radius around engineered systems (systems greater than 1,999 gallons per day).:

601.6.1 Location of system: The location of the proposed system including, but not limited to, disposal fields, pump/dosing tanks, distribution pipes, fill material extensions with their shoulders and limits, and, when their location is critical due to elevations or setbacks, septic tanks and grease interceptors;

601.6.2 Property boundaries: The boundaries of the lot as indicated by the property owner;

601.6.3 Existing manmade features: Locations of existing and proposed structures, roadways, water wells, and disposal fields on the same lot and on abutting or neighboring lots to show compliance with the setbacks in Tables 400.1, 400.2, 400.3 and 400.4;

601.6.4 Grades: Existing and finished grade within the area of engineered disposal fields, their shoulders, and fill material extensions using relative elevations referenced to a permanent system elevation reference point;

601.6.5 Water bodies: Location of all surface water bodies, natural and artificial, and all springs;

601.6.6 Surface water diversions: Location of existing and proposed surface water diversions;

601.6.7 Observation hole locations: Locations of all observation holes;

601.6.8 Wetlands: The boundaries of any potential wetland area as prescribed by Chapter 8;

601.6.9 Depths of fill material: Depths of fill material required;

601.6.10 Elevation Reference Point: The elevation and location of a system reference point set at elevation zero and located outside the fill extension areas (preferably within 100 feet of the field) Elevations shall be given in inches above or below the ERP (Elevation Reference Point) except for large systems, those greater than 1,000 GPD, which may use a reference point set to the datum for the entire project and may use elevations in feet and decimal.; and

601.6.11 System ties : Three measurements from two or more known horizontal reference points, or two horizontal reference points with a compass bearing, to a minimum of two proposed disposal field corners. System ties shall be located outside the fill extension areas and preferably within 100 feet of the disposal field(s).

601.6.12 Staked Corners: All four corners of the disposal field shall be staked by the site evaluator and/or engineer. Wooden stakes or wire flags are recommended to use as stakes.

SECTION 602.0 MINIMUM NUMBER OF OBSERVATION HOLES

602.1 General: Because Maine soil conditions can change dramatically within a few feet, more than one observation hole is often necessary to allow a site evaluator to better define the true soil conditions beneath a proposed disposal field and the down slope fill material extensions for engineered disposal fields.

602.2 Minimum number of observation holes: The number of observation holes shall be sufficient to determine the soil and site characteristics beneath the entire disposal field for all systems plus the down slope fill material extensions for engineered disposal fields.

602.3 Minimum depth of observation holes: The minimum depth of observation holes is based upon the soil horizons and conditions present at the site of a proposed disposal field, as follows:

602.3.1 Hydraulically restrictive horizons: Observation holes shall extend at least 12 inches into the hydraulically restrictive horizon to check for bedrock except that no excavation is required greater than 48 inches in depth.

602.3.2 Seasonal ground water table: Observation holes shall extend at least 12 inches below the seasonal ground water table to check for bedrock except except no excavation is required greater than 48 inches in depth.

602.4 Dig Safe Law: The "Dig Safe Law" requires notification if other than hand tools are utilized to dig observation holes (See 23 M.R.S.A. §3360-A(D)) Tel.: 1-800-225-4977.

SECTION 603.0 SOIL PROFILE DESCRIPTION

603.1 General: Observation holes are used to determine the soil and site characteristics important for subsurface waste water disposal.

603.2 Soil profile description: For each observation hole used for design purposes, the site evaluator shall indicate each recognizable soil horizon or parent material, not including bedrock. For each observation hole the site evaluator shall provide the following information:

603.3 Soil horizon thickness: Depth and thickness of each soil horizon including the organic horizon lying upon the mineral soil surface;

603.4 Soil color: Soil color;

603.5 Soil texture: Soil textural class;

603.6 Soil consistence: Soil resistance to penetration;

603.7 Soil profile: Soil profile class;

603.8 Soil drainage: Depth to seasonal water table,See section 605 regarding filled sites.

603.9 Bedrock: Depth to bedrock;

603.10 Hydraulically restrictive horizons: The presence of hydraulically restrictive soil horizons; and

603.11 Disturbed ground: The presence of disturbed ground.

603.12 Reporting: The site evaluator shall report soil profile data on a standardized application form for a disposal system permit provided by the Department.

SECTION 604.0 SEASONAL GROUND WATER TABLE VERIFICATION FOR DISPOSAL SYSTEMS

604.1 When used: If the "A" or "Ap" (plow layer) horizons are greater than 7 inches or the site evaluator is unable to determine the seasonal ground water table depth at the proposed disposal field site the site evaluator shall use Table 600.1. Alternatively, the applicant may provide ground water monitoring documentation that soil mottling, or other color patterns, at a particular site is not an indication of soil saturation. Documentation shall be made by directly observing water levels by monitoring in accordance with the procedures cited in this Section.

604.1.1 Groundwater monitoring: The applicant shall be responsible for providing documentation that soil mottling or other color patterns at a specific site are not a true indication of seasonally saturated soil conditions or high groundwater levels or that site modification has successfully drained a particular site to make it suitable for subsurface waste water disposal in compliance with these Rules. The applicant shall be responsible for proper abandonment and sealing of monitoring wells constructed for any monitoring program.

604.1.2 Monitor: A Maine Licensed Site Evaluator shall be responsible for establishing and conducting the monitoring program. The Licensed Site Evaluator shall be responsible to accurately determine site conditions and to report all data in a timely manner to the client and the Department of Human Services.

604.1.3 Monitoring program: A Maine Licensed Site Evaluator shall submit a completed proposal to the Department prior to initiating any monitoring program. A preliminary scaled plan shall be submitted by the Licensed Site Evaluator which illustrates the location of monitoring wells, property lines, dwelling(s) location, disposal system(s), terrain slopes, existing well(s), artifical drainage, surface drainage, log of soil profile observed and other pertinent information. The Department, LPI and Applicant shall receive a copy of the proposed design layout plus all pertinent communications.

604.1.4 Departmental approval: The Division of Health Engineering shall approve the monitoring program prior to its initiation. Failure to request prior approval from an applicant is considered cause not to accept any results of a monitoring program.

604.1.5 Monitoring well construction: Monitoring wells shall penetrate to a depth of 48 inches below ground surface and extend 24 inches above grade. However, in cases where a mottled soil horizon lies above an impermeable or restrictive horizon, some wells must terminate in the lower part of the mottled layer. Site conditions may require modifications of monitoring well design; in which case the Division of Health Engineering shall be consulted. The monitoring well shall consist of a 4" diameter solid PVC pipe, (perforated within the stone) which extends above the soil surface for ease of location. This pipe shall be placed over 6 inches of clean stone or gravel which has been placed as the base of the excavation and have a vented cover to prevent direct entry of precipitation or other contaminants.

604.2 Monitoring well observation period: Groundwater level monitoring shall be done at a time of the year when the highest seasonal ground water table occurs. The first observation shall be made on or before April 1st. Subsequent groundwater level readings shall be made at least every seven days until June 15th or until the site is determined to be unacceptable, whichever comes first. Seasonal ground water table depths below the mineral soil surface and the soil water temperatures shall be recorded.

604.3 Site conditions: Sites to be monitored shall be carefully checked for ground water drainage tile and open ditches that may have altered natural seasonal ground water table.

604.4 Witnessing the location and installation of monitoring wells: The property owner shall give the plumbing inspector permission to witness the excavation and installation of the monitoring wells. The plumbing inspector may require a maximum of 15 days written notice prior to witnessing the location and installation of the monitoring wells.

604.5 Minimum number and location of monitoring wells: There shall be at least two monitoring wells plus

an additional well for every 300 gpd design flow above 300 gpd. The site evaluator shall locate the monitoring wells so that the wells are representative of the soils beneath the proposed disposal field and fill material extensions.

604.6 Monitoring well depth: At least one monitoring well shall extend to a depth of at least 3 feet below the ground surface. However, in permeable soils that overlie a hydraulically restrictive soil horizon, at least one monitoring well shall terminate within the mottled soil horizon above the hydraulically restrictive soil horizon. The site evaluator shall determine the depth of the monitoring wells for each site, however, for complex situations, the Division of Health Engineering shall be consulted prior to the installation of the monitoring wells.

604.7 Monitoring well data calibration: Some sites are subject to significant year to year fluctuations in the highest seasonal ground water table. In such cases, data obtained from the United States Geological Survey is used to determine whether the observed high seasonal ground water table is at or near its normal level.

604.7.1 Water table observed: If the water table is found to be at a more shallow depth than allowed in Table 700.2 or 700.4, another observation shall be made within 7 days of that first finding. Unusual climatological events shall be recorded, such as a heavy rainfall.

604.7.2 Water table is found at depths greater than allowed in Table 700.2 or 700.4: If the water table is found at depths greater than allowed in Table 700.2 or 700.4 on the second observation, monitoring shall continue until June 15th or until the site has been determined to be unacceptable as prescribed in Subsection 604.7.3. and 604.7.4.

604.7.3 Soil water temperature at or above 41°F: If the water table is found at a depth shallower than allowed in Tables 700.2 and 700.4 and the soil water temperature is at or above 41°F, the site shall be considered unacceptable, and the applicant shall notify the plumbing inspector in writing.

604.7.4 Soil water temperature below 41°F: If the water table is found to be a depths greater than allowed in Tables 700.2 and 700.4 and the soil water temperature is below 41°F, the monitoring shall continue until June 15th or until the site has been determined to be unacceptable as prescribed in Subsection 604.7.3.

604.8 Reporting findings: If monitoring discloses that a site is acceptable, the applicant may submit an application for a disposal system permit that includes a written monitoring well report. The report shall provide test locations, ground elevations at the monitoring wells, soil profile descriptions, dates observed, depths to observed water tables, and soil water temperatures for those dates as well as supporting data indicating that monthly precipitation amounts are within the normal range.

SECTION 605.0 FILLED SITES

605.1 Bedrock and soil drainage conditions: Where the surface of the ground has been raised by the addition of fill material over original soil, the Design Class is to be determined based upon the depth to the most limiting soil horizon. Measurement is to be from the pre-existing ground surface determined as prescribed in Subsection "Determination of the pre-existing natural ground surface," or from the existing ground surface, whichever is the shallowest, except as provided for in Section 605.2.

605.2 Fill considered equivalent to original soil: The plumbing inspector shall review and approve the use of existing fill soil as the equivalent to original soil for design purposes when the site evaluator demonstrates that:

a) The fill material is of suitable texture, consistency, depth, extent and structure to be equivalent of original soil for design purposes,

b) The fill has been in placed since July 1, 1974,

c) The area of the fill soils include, at a minimum, the disposal field and it's extensions; and

d) The texture of fill is sandy loam or coarser, and the fill is relatively free of foreign material including organic material.

TABLE 600.1 KEY TO DRAINAGE CLASSES

Maine Association of Professional Soil Scientists

Use this key starting at the first drainage class listed (very poorly drained). If the soil being evaluated does not exhibit the soil morphological features for that drainage class, go to the next drainage class. Continue through each drainage class until the soil being evaluated meets the soil morphological features for a particular drainage class.

DRAINAGE CLASS AND MOISTURE REGIME	DRAINAGE CRITERIA OPTIONS	POSITION IN THE LANDSCAPE	COMMON PLANT SPECIES
Very Poorly Drained	1) Has organic soil materials that extend from the surface[1] to a depth of 16 inches or more. (Histosols)[2] or, 2) Has organic soil materials that extend from the surface to a depth of 8 to 16 inches. (Histic Epipedon)[3] or, 3) Has organic soil materials that extend from the surface to a depth of 4 to 8 inches and the cambic horizon has a low chroma matrix[4]or; 4) Mineral soils with sulfidic materials within 20 inches of the mineral soil surface; Alluvial soils with an umbric epipedon, or,	Level or nearly level; occupies lowest position in the landscape. Commonly in depressions and is seasonally ponded or flooded.	Rushes, cattails, sedges, sphagnum moss, tamarack, willow, black spruce, northern white cedar, and red maple.
Poorly Drained	1) Has an albic horizon that has texture of loamy fine sand or coarser that lies just above an illuvial horizon having a texture of loamy fine sand or coarser; and has redoximorphic features in the albic horizon or in the upper part of an illuvial horizon that is less than 7 inches below the mineral soil surface. or, 2) Has an Ap horizon that is 7 inches thick or greater with a value of 3 or less and chroma of 2 or less and a texture in all subhorizons within 20 inches of the mineral soil surface of loamy fine sand or coarser and have redoximorphic features directly beneath the Ap horizon. or, 3) Has a low chroma matrix within 20 inches of the mineral soil surface and redoximorphic features that are less than 7 inches below the mineral soil surface. or, 4) Has an "Ap" horizon that is 7 inches thick or greater with value of 3 or less and chroma 2 or less and has a low chroma matrix within 20 inches of the mineral soil surface and has redoximorphic features or a low chroma matrix directly beneath the Ap horizon. or,	Level to gently sloping; sideslopes, toe slopes, depressions and seepage areas.	Sedges, alder, willow, red mable, gray birch and aspen
Somewhat poorly drained	1) Has redoximorphic features at a depth of 7 inches to less than 16 inches below the mineral soil surface. or	Level to strongly sloping; long smooth side slopes, broad depressions and seepage areas.	Red osier dogwood, alders, willow, spruce, balsn fir, red mable, elm, aspen, grey and yellow birch.
Moderately well drained	Has redoximorphic features at a depth of 16 inches to less than 40 inches below the mineral soil surface. or,	Level to steep; crests and upper part of long smooth slopes and broad terraces.	Northern hardwoods, white and red pine, hemlock and grasses.
Well drained	Soil depth is at least 20 inches to bedrock and has a texture of loamy very fine sand or finer and redoximorphic features, if present, are greater than 40 inches below the mineral soil surface.[5] or	Level to very steep; knolls, complex slopes and terraces.	Northern hardwoods, white and red pine, hemlock and grasses.
Somewhat excessively drained	1) Soil depth is 10 to 20 inches to bedrock with a loamy or loamy-skeletal particle-size class. 2) Soil depth is 20 inches or greater to bedrock with a sandy or sandy-skeletal particle-size class with a loamy cap 10 inches thick or greater.	Level to very steep; knolls, convex slopes and terraces.	Northern hardwoods, white and red pine, white and red spurce, hemlock, and grasses.
Excessively well drained	1) Soil depth is less than 10 inches to bedrock. 2) Sandy or sandy-skeletal particle-size class with a loamy cap less than 10 inches thick.	Level to very steep; knolls, convex slopes and terraces.	Northern hardwoods, white and red pine, white and red spruce, hemlock and grasses. Vegetation also includes shrubs, ferns, kmosses, and lichens.

1 Surface excludes loose leaves, needles, and twigs.
2 Twenty-four inches or more if 75 percent or more of the volume is sphagnum peat fibers. Organic soil excludes Folists in this key.
3. Eight to 24 inches if 75 percent or more of the volume is sphagnum fibers.
4. Low chroma matrix is defined as matrix with chroma of 2 or less.
5. Soils that are coarse-loamy over sandy or sandy-skeletal and lack redoximorphic features within 40 inches of the mineral soil surface also are well drained.
Note: Folists soils need on-site evaluation for drainage class determination.

4/11/95

CHAPTER 7

DISPOSAL FIELDS

SECTION 700.0 GENERAL

700.1 Scope: This Chapter governs the requirements for disposal field design.

700.2 General: The design of a disposal field is dependent on the soil profile, type of the most limiting factor plus the volume and quality of the waste water and depth to the most limiting factor. Design Classes are used to describe both the soil limitations observed within the proposed disposal field and the required minimum design features. Design Classes are described in Table 700.1.

700.3 Owner/operator: The owner/operator shall accurately describe the intended uses (present and future) for the system. The owner shall operate the system within the design parameters, except as provided for in Section 1402, Expansion of Existing Structures, following the designer's recommendations for inspection and maintenance, as well as any State or local regulations.

700.4 Disposal field required: An approved disposal field is needed for all structures requiring subsurface waste water disposal, unless the structure is served by a holding tank complying with optional Chapter 22 or Section 1404.0 or is served by an alternative toilet with no gray water generated.

700.5 Kinds of disposal fields: For the purposes of this code, disposal fields include leach trenches, leach beds, proprietary disposal devices, peat disposal fields, or privies designed and installed in compliance with this code.

700.6 Sizing requirements: The size of a disposal field's required infiltration area is determined using design factors in compliance with Section 703.0 and Table 700.1 and design flows in compliance with Chapter 9.

700.7 Installation: A disposal field may be installed on any site that is in compliance with Tables 700.2 through 700.4 and is in compliance with Section 2005.0.

700.8 Vehicular traffic: Except where site limitations make it impractical, no driveway or parking or turning area may be located over any disposal field. When a system is placed under an area receiving vehicular traffic, H-20 loading components shall be installed.

700.9 Infiltration: Rain, surface, and ground water shall not be drained into any component of a system.

SECTION 701.0 LIMITING FACTORS

701.1 General: For the purpose of determining the design class, the soils in the area beneath the proposed disposal field(s) shall meet or exceed the criteria of the design class, as specified in Table 700.1 and Tables 700.2 through 700.4." See Section 1602.4 (Engineered disposal systems) for additional soil data requirements.

SECTION 702.0 SPECIAL CONSIDERATIONS

702.1 Soil profile 10: Disposal fields on Profile 10 soils shall comply with Table 700.3 and they shall receive prior approval of the plumbing inspector and the Department. First time systems and non-exempted expansion systems are not allowed on Profile 10 soils.

702.2 Soil profile 11: Soil profile 11 is an alluvial soil and its texture varies with the deposition process that laid it down. Therefore, for design purposes, use the soil profile class that best fits the observed soil textures.

702.3 Sites with two or more soil profiles: When two or more soil or profile classes are observed under a proposed disposal field, the design shall be based on the soil profile class which requires the largest disposal field.

702.4 Elevated disposal fields: All disposal fields designed entirely in fill material shall be sized using the disposal field size category of the original soil profile class observed below the fill material or the fill material which ever requires the largest disposal field.

702.5 Lined disposal field: Disposal fields designed with liners shall be sized using the medium large disposal field size category in Table 700.1.

702.6 Serial distribution: Serial distribution may be utilized when the following conditions have been met:

702.6.1 Pitch of connecting pipes: The pitch of the connecting pipes is 1/4 inch per foot or greater.

702.6.2 Separation distance: The separation distance between rows shall be as indicated in Appendix B.

SECTION 703.0 WASTEWATER STRENGTH ADJUSTMENTS FACTORS

703.1 General: When, as a result of an approved pre-treatment technique, the waste water entering a disposal field has a combined 5-day biochemical oxygen demand (BOD5) and total suspended solid (TSS) concentration of less than 175 milligrams per liter, the size of the disposal field may be adjusted by multiplying by the adjustment factors prescribed in Table 703.1. When the combined BOD5 and TSS are greater than 320 milligrams per liter, the size of the disposal field shall be adjusted, again using Table 703.1. In either case, all requirements in Subsections 703.7 and 703.8 shall apply.

TABLE 703.1

Adjustment factor for waste water strengths different from typical domestic waste water

Strength of waste water entering the disposal field (BOD_5 plus TSS)	Adjustment factor (AF)
30 or less milligrams/liter	0.5
52	0.6
82	0.7
122	0.8
175	0.9
240	1.0
320	1.1
420	1.2
530	1.3
660	1.4
810	1.5
985	1.6
1180	1.7
1400	1.8
1645	1.9
1920	2.0

703.2 Application: The applicant shall submit a proposal that is prepared, signed, and sealed by a Maine Professional Engineer or Site Evaluator. The proposal shall include at least the following:

703.2.1 Description: A description of the project and all factors that are involved in the design;

703.2.2 Waste water quality data: The data shall include at least four sets of BOD and TSS samples from the subject facility. The samples shall be taken when the designer expects the TSS and BOD levels to be at their highest. If data from a similar facility are used, there shall be at least two such facilities sampled. The reports for all samples shall be submitted from a certified laboratory. The rate of flow of waste water at the time of sampling shall also be determined and reported;

703.2.3 Analysis: The most restrictive set of data shall be used. That is, the worst case encountered shall be applied to Table 703.1; and

703.2.4 Reserve area for first time system: A design that uses additional pretreatment in order to lower the strength of the waste water shall include a designated reserve area to allow construction of a replacement system that meets "first time system" sizing and design criteria with no size reductions.

703.3 State approval: An adjustment factor shall not be used unless the proposal has been approved in writing by the Department and the owner has agreed to all conditions (if any) included in the letter of approval.

703.3.1 State review: The application shall be reviewed for compliance with this code, good engineering practice, use of the best acceptable technologies, and protection of the public welfare.

703.3.2 Acceptable technology: The use of pretreatment to lower the expected waste water strength shall be reviewed by the Department.

SECTION 704.0 SIZING DISPOSAL FIELDS USING AN ADJUSTMENT FOR DIFFERENT WASTEWATER STRENGTHS

704.1 Interface area: The area of the stone/soil interface shall be calculated by using Equation 704.1.

Equation 704.1

MAI = DF x AF x HLR

where:

MAI is the minimum square feet of stone/soil interface bottom and sidewall area below the invert of the distribution system required.

DF is the design flow adjusted for peak days as determined from Chapter 9.

AF is the adjustment factor for waste water strength entering the disposal field, taken from Table 703.1, if applicable.

HLR is the minimum hydraulic loading rate, in square feet per gallon per day, for the applicable soil profile in Table 700.1.

704.2 Sizing proprietary devices: Proprietary disposal devices may be substituted for stone filled disposal fields pursuant to Appendix B.

SECTION 705.0 SEPARATION DISTANCE BETWEEN THE BOTTOM OF DISPOSAL FIELDS AND LIMITING HORIZONS

705.1 Elevation of the bottom of disposal field: The elevation of the bottom of the disposal field shall be determined by the depth to the most limiting factor observed under the proposed disposal field area.

705.2 Seasonal ground water tables: The required minimum vertical separation distances between the bottom of disposal fields and the seasonal ground water table varies with the Design Class. The required minimum vertical separation distances between the bottom of disposal fields and seasonal ground water tables are prescribed in Tables 700.2 through 700.4.

705.3 Hydraulically restrictive horizons: The required minimum vertical separation distances between the bottom of disposal fields and hydraulically restrictive horizons varies with the Design Class. The required minimum vertical separation distances between the bottom of the disposal field and hydraulically restrictive horizons are prescribed in Tables 700.2 through 700.4.

705.4 Bedrock horizons: The required minimum vertical separation distance between the bottom of disposal fields and bedrock for all disposal fields is 24 inches. See Tables 700.2 through 700.4.

SECTION 706.0 FLOOD PLAINS

706.1 Assumptions: This Section assumes the major impact of flooding is a reduction in the life expectancy of

a system. Ten (10) years is a realistic frequency to allow for partial flood water inundation of a system. More frequent flooding can be expected to reduce the design life of the system.

706.2 First time systems: First time systems are not allowed in:

706.2.1 Riverine flood plains: First time systems shall not be installed within the 10-year flood zone. (Note: Some municipalities restrict new development in the 100-year flood plain. Check local ordinances.)

706.2.2 Coastal flood plains: First time systems shall not be installed within the V-Zone indicated by the most current Federal Insurance Rate Maps or below the 10-year storm surge elevation, whichever is more restrictive. The 10-year storm surge elevation in Maine is approximately the 8 foot National Geodetic Vertical Datum.

706.3 Replacement systems: Replacement systems may be permitted on flood plains, if no practical alternative exists and the LPI agrees.

SECTION 707.0 USE OF GARBAGE DISPOSALS IN SUBSURFACE DISPOSAL DESIGNS

707.1 Garbage disposal: Garbage disposals should not be used with disposal fields. However, if such units are proposed to be used, other measures shall be taken such as a) increasing additional septic tank capacity by a minimum of 30%, b) the installation of a second septic tank installed in series, or c) the use of septic tank outlet filters and shall be included in the system design to prevent suspended solids from entering the disposal field.

SECTION 708.0 DISPOSAL FIELD "FOOTPRINT"

Section 708.1 Definition of footprint: For purposes of these Rules, the disposal field "footprint" shall mean that area identified as a "disposal field" for setback or separation measurement purposes.

708.1.1 Conventional (stone) system: The horizontal measurement location shall be at the interface of the stone and soil. The top (vertical) measurement shall be from the top of the hay layer or fabric. The bottom measurement shall be from the interface of the stone and soil.

708.1.2 Proprietary device system (no stone or gravel utilized): The horizontal measurement location shall be at the interface of the proprietary device and the soil. The top (vertical) measurement shall be from the top of the ~~hay layer~~ proprietary device or fabric. The bottom measurement shall be from the interface of the ~~stone~~ proprietary device and soil.

708.1.3 Proprietary device with stone adjacent to devices: The measurement location shall be at the interface of the stone and soil.

708.1.4 Proprietary device with stone beneath devices: The measurement location shall be at the interface of the stone and soil.

SECTION 709 CURTAIN DRAINS

709.1 Requirements: Curtain drains, when required, shall be up-slope of the disposal field, approximately perpendicular to the flow of ground water, intercepting and diverting ground water away from the disposal field.

709.2 Setbacks: The minimum distance between the disposal field and a curtain drain shall be as follows:

709.3 Setback up-slope: A minimum setback distance of 10 feet shall be maintained between a curtain drain and the up-slope edge of a disposal field. The curtain drain shall be located beyond the toe of the uphill fill extension if the uphill extension is greater than 10 feet and constructed so that the curtain drain is located to prevent any underdrain of the disposal field.

709.4 Setback cross slope: A minimum setback distance of 15 feet shall be maintained between a curtain drain and the ends of a disposal field and constructed so that the curtain drain is located to prevent any underdrain of the disposal field.

709.5 Free-flowing outlets: Free-flowing outlets shall be provided down-slope of the curtain drain extensions. Outlets shall meet the following requirements:

709.5.1 Discharge point: Outlets may empty into a drainage swale discharging to a surface water body, a ground water recharge basin, or a gravel bed;

709.5.2 Outlet design: Outlets shall be designed, installed, located, and maintained in a manner that does not cause soil erosion, surface flooding, or damage to adjacent properties, does not create a public nuisance, and does not violate any applicable Federal, State, or local laws or regulations; and

709.6 Rodent control: Adequate measures shall be taken to protect each outlet from the entry of rodents or other small animals.

709.7 Fill Requirements: Fill material over the curtain drain discharge pipes shall be of earth of a texture that is similar to or coarser than that found at the site and free of large stones, stumps, broken masonry, or other waste construction material.

TABLE 700.1

SOIL PROFILE SOIL CONDITION DESIGN CLASS

DESIGN CLASS to be used with Table 700.2 "Minimum Permitting Conditions and Design Requirements"

Disposal Area Sizing

Multiply the hydraulic loading rate (square feet per gallon per day) times the design flow (gallons per day). This gives the minimum square feet of bottom and side wall area below the invert needed for a standard stone filled disposal field. Proprietary devices may be used in lieu of stone filled fields. See Appenidx P.

SOIL CONDITION			Bedrock class			Soil drainage class				
			AI	AII	AIII	B	C	D	E	
Parent Material	Soil Profile	Textural Classification and description	Inches from ground surface to the mineral soil to bedrock			Inches from the surface of the mineral soil to seasonal high ground water table or hydraulically restrictive horizon when mottling is not present				
			0-<12	12-<15	15-48	> 48	48-15	<15-7	<7-0	
Basil Glacial Till	1	Silt loam textured soils throughout the entire profile. The lower horizons usually have prismatic or platy structures. This profile tends to become firm dense and impervious with depth thus this profile may have a hydraulically restrictive horizon. Angular rock fragments are usually present. Occasionally cobbles and stones maybe present	5	4	1	1	1	3	5	4.10 sqft/gpd Large
Ablation Till	2	Loam to sandy loam textured soils throughout the entire profile. This profile does not have a hydraulically restrictive horizon. Angular rock fragments are present. Occasionally cobbles and stones maybe present	5	4	1	1	1	3	5	3.30 sqft/gpd Medium Large
Basal Glacial Till	3	Loam to loamy sand textured soils throughout the entire profile. The lower soil horizons usually have well defined prismatic or platy structures that are very compact and are difficult to excavate. These lower horizons are considered hydraulically restrictive. Angular rock fragments are present. Occasionally cobbles and stones are present	5	4	1	1	1	3	5	3.30 sqft/gpd Medium Large
Ablation Till	4	Sandy loam to loamy sand textured upper horizon(s) overlying loamy sand textured lower horizon. This profile tends to be loose and easy to excavate. Lower horizons tend not to be firm and are not considered hydraulically restrictive. Angular rock fragments are present along with partially water-worn cobbles and stones	5	4	1	1	1	3	5	2.60 ft^2/gpd Medium
Stratified Glacial Drift	5	Loam to loamy sand textured upper horizons overlying fine and medium sand parent materials. Stratified horizons of water-sorted materials may be present. Lower horizons tend to be granular or massive. Entire profile tends to be loose except that saturated horizons may be cemented and therefore firm and are considered hydraulically restrictive. Horizons with rounded rock fragments are common	5	4	2	2	2	3	5	2.60 ft^2/gpd Medium
Stratified Glacial Drift	6	Loamy sand to sand textured upper horizons overlying stratified coarse sands or gravel parent materials. Stratified horizons of water-sorted materials maybe present. Entire profile tends be to loose except that saturated horizons may be cemented and therefore firm and are considered hydraulically restrictive. Horizons with rounded rock fragments are common.	5	4	2	2	2	3	5	2.00 ft^2/gpd Small
Mixed geologic-al origins	7	Fifteen (15) or more inches of sandy loam to loamy sand glacial till or loamy sand to sand stratified drift parent material overlying marine or lacustrine deposited silt to silty clay or fifteen (15) or more inches of loamy sand to sand stratified drift parent material overlying firm basal till. The upper horizons tend to be granular in structure. The lower horizons tend to be firm and massive in structure and are considered to be hydraulically restrictive. Rock fragments may be present in upper horizons but are usually absent in lower horizons, except for basal till.	5	4	1	1	1	3	5	3.30 ft^2/gpd Medium Large
Lacus-trine deposits	8	Loam to fine sandy loam upper horizon(s) overlying firm silt loam to silt textured lower horizons. The upper horizons tend to be granular in structure. The lower horizons tend to be firm and massive in structure and are considered to be hydraulically restrictive. Stratified lenses of fine sand and sandy loam may be present in the lower horizons. Coarse rocks are usually absent throughout entire profile.	5	4	1	1	1	3	5	4.10 ft^2/gpd Large
Marine deposits	9	Silt loam textured upper horizons overlying firm silt loam to silty clay textured lower horizons. The lower horizons tend to be very firm and are considered to be hydraulically restrictive. Coarse rock are usually absent throughout entire profile. Thin lenses of very fine sand to silt may be present in the lower horizons.	5	4	1	1	1	3	5	5.00 ft^2/gpd Extra Large
Organic deposits	10	Partially decomposed organic material at least 16" in thickness.	5							
Alluvial dune beach deposits	11	These soils have no typical profile. Variable in texture and exhibit very little weathering. They are deposited in flood plains sand dunes or beach environments.	Use the Soil Profile Bedrock Class Soil drainage Class and minimum hydraulic loading rate that best describes the observed profile.							
Filled Site	12	These soils have no typical profile. Variable in texture. May contain man-made materials.	Use the Soil Profile Bedrock Class Soil drainage Class and minimum hydraulic loading rate that best describes the observed profile. For first time and non-exempt expansion systems see Section 605.0 .							

TABLE 700.2 MINIMUM PERMITTING CONDITIONS AND MINIMUM DESIGN REQUIREMENTS

FIRST TIME SYSTEMS AND NON-EXEMPTED EXPANSIONS					
Design Factors	**Minimum Requirements vs Design Class**				
	Design Class as determined from Table 700.1 Soil Profile and Design Class+				
	1	**2**	**3**	**4**	**5**
DESIGN FLOWS: Systems with design flows of less than 2000 gallons per day in **non-shoreland zoned areas** of major water courses**.**	Allowed.		Allowed if the seasonal water table and hydraulically restrictive horizon are at 12 inches or greater. For sites with less than 12 inches see Appendix H.	Allowed.	Not allowed.
DESIGN FLOWS: Systems with design flow greater than 2,000 gallons per day in **non-shoreland zoned areas** of major water courses	Allowed with department approval see Chapter 17.		Allowed if the seasonal water table and the hydraulically restrictive horizon are at 12 inches or greater. Department approval is also required see Chapter 17.	Allowed with department approval see Chapter 17.	Not allowed.
DESIGN FLOWS: Systems with design flows of less than 2,000 gallons per day on sites **within the shoreland zoned area** of major watercourses.	Allowed.		May be allowed by variance. See Appendix H.	Not Allowed.	Not allowed.
DESIGN FLOWS: Systems with design flow greater than 2,000 gallons per day on sites **within the shoreland zoned area** of major watercourses.	Allowed with department approval see Chapter 17.		May be allowed by variance. See Appendix H.	Not Allowed	Not allowed.
WETLAND PERMIT: No wetland permit required if in accordance with Section 404.0 and Appendix N.	No Departmental of Environmental Protection (DEP) permit is required if in compliance with Sec. 404.0 and Appendix N.				Not allowed.
SEASONAL GROUND WATER TABLE: Separation distance (original soil and fill) between bottom of disposal field and seasonal high ground water table.	12 inch minimum	24 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11 18 inch minimum for all other profiles, where allowed.		Not allowed.
HYDRAULICALLY RESTRICTIVE HORIZON: Separation distance (original soil and fill) between bottom of disposal field and hydraulically restrictive horizon.	12 inch minimum	24 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11, 18 inch minimum for all other profiles, where allowed.		Not allowed.
BEDROCK: Separation distance (original soil and fill) between bottom of disposal field and bedrock.	24 inch minimum where allowed				Not allowed.
FILL MATERIAL SHOULDER WIDTHS (berms):	3 foot minimum where allowed				Not allowed.
FILL EXTENSIONS:..Slope fill extensions beyond the edge of the shoulder (berm) are specified in the number of horizontal feet for each vertical foot of drop.	The fill extension must be at least 4 horizontal feet for each vertical foot drop, where allowed.				Not allowed.
SETBACK DISTANCES: Maximum percent reduction in the setback distances set forth in Chapter 4 which can be authorized by the plumbing inspector.	No reductions in setback distances in Table 400.2 is allowed without a variance in accordance with Chapter 19, where allowed.				Not allowed.
PRE-TREATMENT: Pre-treatment (sand filters, peat liners, etc.) as set forth in Appendix L.	Not required		Pre-treatment may be required in Appendix H, New System Variances	Not required.	Not allowed.
LINED DISPOSAL FIELDS:	Required for any disposal field located on Soil Profile 6 soils in Shoreland Zoned Areas of major watercourses, where allowed. See Chapter 13.				Not allowed
MOUNDING ANALYSIS:	Required for systems with design flows greater than 2,000 gallons per day. (see Appendix G) Not required for systems with design flows less than 2,000 gallons per day.				Not allowed.

Table 700.2 4/12/95

TABLE 700.3 MINIMUM PERMITTING CONDITIONS AND MINIMUM DESIGN REQUIREMENTS

ALL REPLACEMENT SYSTEMS AND EXEMPTED EXPANSIONS OUTSIDE THE SHORELAND ZONE OF MAJOR WATERCOURSES

Design Factors	Minimum Requirements vs Design Class				
	Design Class as determined from Table 700.1 Soil Profile and Design Class+				
	1	2	3	4	5
DESIGN FLOWS: Systems with design flows of less than 1,000 gallons per day.	Allowed.		Allowed. If the seasonal water table or hydraulically restrictive layer are at less than 12 inches, requires prior plumbing inspector approval.	Allowed	Allowed with plumbing inspector approval and a department variance.
DESIGN FLOWS: Systems with design flows of 1,000 to 2,000 gallons per day.	Allowed.		Allowed. If the seasonal water table or hydraulically restrictive layer are at less than 12 inches, requires prior plumbing inspector approval.	Allowed.	Allowed with plumbing inspector approval and a department variance
DESIGN FLOWS: Systems with design flow greater than 2,000 gallons per day.	Allowed. Department approval is required. See Chapter 17\				
WETLAND PERMIT: No wetland permit required if in accordance with Section 404.0 and Appendix N.	No Department of Environmental Protection (DEP) permit is required if in compliance with Sec. 404.0 and Appendix N.				
SEASONAL GROUND WATER TABLE: Separation distance (original soil and fill) between bottom of disposal field and seasonal high ground water table.	12 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11. 18 inch minimum for all other profiles unless the site evaluator determines there is no practical alternative and the plumbing inspector agrees. However, the separation distance must be at least 12 inches.			24 inch minimum
HYDRAULICALLY RESTRICTIVE HORIZON: Separation distance (original soil and fill) between bottom of disposal field and hydraulically restrictive horizon.	12 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11. 18 inch minimum for all other profiles unless the site evaluator determines there is no practical alternative and the plumbing inspector agrees. However, the separation distance must be at least 12 inches.			24 inch minimum
BEDROCK: Separation distance (original soil and fill) between bottom of disposal field and bedrock.	24 inch minimum				
FILL MATERIAL SHOULDER WIDTHS (berms):	3 foot minimum				
FILL EXTENSIONS:..Slope fill extensions beyond the edge of the shoulder (berm) are specified in the number of horizontal feet for each vertical foot of drop.	The fill extension must be at least 4 horizontal feet for each vertical foot drop unless the site evaluator determines there is no practical alternative and the plumbing inspector agrees.				
SETBACK DISTANCES: Maximum percent reduction in the setback distances set forth in Chapter 4 which can be authorized by the plumbing inspector.	If possible, the setbacks must meet the distances set forth in Table 400.2. If the setbacks cannot be met, the plumbing inspector is authorized to reduce the setback distances as set forth in Table 400.3. Lesser setbacks require a variance from the department and the plumbing inspector. See Chapter 19.				
PRE-TREATMENT: Pre-treatment (sand filters, peat liners, etc.) as set forth in Appendix L.	May be required by the department on sites with severe ;imitations.				
LINED DISPOSAL FIELDS:	Required for any disposal field located on Soil Profile 6 soils in Shoreland Zoned Areas of Major Watercourses. See Chapter 13.				
MOUNDING ANALYSIS:	Required for systems with design flows greater than 2,000 gallons per day. (see Appendix G) Not required for systems with design flows less than 2,000 gallons per day.				

Table 700.3 4/12/95

TABLE 700.4 MINIMUM PERMITTING CONDITIONS AND MINIMUM DESIGN REQUIREMENTS

SEASONAL CONVERSIONS AND EXEMPTED EXPANSIONS WITHIN THE SHORELAND ZONE OF MAJOR WATERCOURSES

Design Factors	Minimum Requirements vs Design Class+				
	Design Class as determined from Table 700.1 Soil Profile and Design Class+				
	1	2	3	4	5
DESIGN FLOWS: Systems with design flows of less than 2,000 gallons per day.	Allowed.		Allowed. Requires LPI approval if the seasonal high water table and restrictive layer is at 10 inches or greater. Not allowed if less than 10".	Not Allowed.	Not allowed
DESIGN FLOWS: Systems with design flows of greater than 2,000 gallons per day.	Allowed. with department approval. See Chapter 17.		Allowed. Requires LPI approval, if seasonal water table and the hydraulically restrictive horizon is at 10 inches or greater. Not allowed if < 10 inches. Departmental approval is also required. See Chapter 17.	Not Allowed.	Not allowed
WETLAND PERMIT: No wetland permit required if in accordance with Section 404.0 and Appendix N.	No Department of Environmental Protection (DEP) permit is required if in compliance with Sec. 404.0 and Appendix N.			Not Allowed	
SEASONAL GROUND WATER TABLE: Separation distance (original soil and fill) between bottom of disposal field and seasonal high ground water table.	12 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11. 18 inch minimum for all other profiles.		Not allowed	Not Allowed
HYDRAULICALLY RESTRICTIVE HORIZON: Separation distance (original soil and fill) between bottom of disposal field and hydraulically restrictive horizon.	12 inch minimum	24 inch minimum for Profiles 5 and 6 and sandy textured Profile 11. 18 inch minimum for all other profiles.		Not allowed	Not Allowed
BEDROCK: Separation distance (original soil and fill) between bottom of disposal field and bedrock.	Must be 24 inches			Not allowed	Not allowed
FILL MATERIAL SHOULDER WIDTHS (berms):	3 foot minimum			Not allowed	Not allowed
FILL EXTENSIONS:..Slope fill extensions beyond the edge of the shoulder (berm) are specified in the number of horizontal feet for each vertical foot of drop.	The fill extension must be at least 4 horizontal feet for each vertical foot drop.			Not allowed	Not allowed
SETBACK DISTANCES: Maximum percent reduction in the setback distances set forth in Chapter 4 which can be authorized by the plumbing inspector.	If possible, the setbacks must meet the distances set forth in Table 400.2. If the setbacks cannot be met, the plumbing inspector is authorized to reduce the setback distances as set forth in Table 400.4.			Not allowed	Not allowed
PRE-TREATMENT: Pre-treatment (sand filters, peat liners, etc.) as set forth in Appendix L.	Not required			Not allowed	Not allowed
LINED DISPOSAL FIELDS:	Required for any disposal field located on Soil Profile 6 soils in Shoreland Zoned Areas of Major Watercourses. See Chapter 13.			Not allowed	Not allowed
MOUNDING ANALYSIS: Systems with design flow greater than 2,000	Required for systems with design flows greater than 2,000 gallons per day. (see Appendix G) Not required for systems with design flows less than 2,000 gallons per day.			Not allowed	Not allowed

Table 700.4 4/12/95

CHAPTER 8

WETLANDS

SECTION 800.0 GENERAL

800.1 Scope: This Chapter governs the installation of disposal systems in wetlands and in areas adjacent to wetlands.

800.2 Intent: The filling of or the alteration of wetlands for any purpose, including activities associated with the installation of systems, is prohibited unless such filling or alteration is specifically approved by all relevant agencies. This includes adjacent activities which may cause material to wash into the wetland.

800.3 Wetland jurisdiction: The Army Corps of Engineers makes jurisdictional determinations and issues wetland permits for filling, dredging, and other construction in certain wetlands under Section 10 of the Rivers and Harbors Act of 1899. The Army Corps of Engineers provides the same function under Section 404 of the Clean Waters Act for all other wetlands, with program oversight by the U.S. Environmental Protection Agency (EPA). With the combination of these two acts, all wetlands, regardless of size, are regulated by EPA and the Army Corps of Engineers. The Maine Department of Environmental Protection regulates activities in, or adjacent to, coastal or freshwater wetlands, as defined in Chapter 2 under the Natural Resource Protection Act, Title 38 M.R.S.A. §480-A through §480-V.

800.4 Permit by Rule: The installation or repair of a system does not require a Natural Resources Protection Act permit from the Department of Environmental Protection provided all Sections of this code are met. The requirements contained in Section 804.20 of this code are designed to meet the same requirements contained in DEP's Permit by Rule program for soil disturbance adjacent to or within a protected natural resource.

SECTION 801.0 WETLAND DELINEATION

801.1 Individuals who may delineate wetlands: Although certification is presently not required to perform wetland boundary delineations, people who do so should have sufficient scientific expertise to perform such delineations.

801.2 Wetlands suspected to be present: When site evaluators suspect wetlands may affect the proposed location of a system they have designed, they should advise their clients that:

801.2.1 Wetland alteration permit may be necessary: Wetlands may be involved and that a wetlands alteration permit may be necessary;

801.2.2 System design is preliminary: The system design and location is preliminary as it is dependent on applicable wetland rules and setbacks; and

801.2.3 Wetland delineation is needed: The client needs to hire an expert to identify and delineate the wetland boundary (if the site evaluator does not have sufficient scientific expertise to do so him/herself).

801.3 Wetlands present: If a wetland is present, the applicant should contact the Maine Department of Environmental Protection and the U.S. Army Corps of Engineers regarding the possible need for State and Federal Wetland Alteration Permits.

SECTION 802.0 DISPOSAL SYSTEMS INSTALLED WITHIN WETLANDS

802.1 First time systems: First time systems may not be installed within a wetland. First time systems installed outside the wetland boundary, but which require fill material extensions that are adjacent to or cross into wetlands, may be allowed provided that permits are obtained by the property owner from applicable regulatory agencies and no reasonable alterative exists.

802.2 Replacement systems: Replacement systems may be installed partially or wholly within wetlands, provided that: no reasonable alternative exists; the amount of fill material placed in the wetland is minimized to the fullest extent possible; and all the necessary permits have been obtained by the property owner from applicable regulatory agencies.

SECTION 803.0 SOIL DISTURBANCE WITHIN 100 FEET OF WATER BODIES AND WETLANDS

803.1 Minimum standards: All ground disturbance occurring within 100 feet of a coastal wetland, freshwater wetland, great pond, or water course shall comply with the minimum standards set forth in Section 804.0.

803.2 If unable to meet minimum standards: Activities that cannot meet all the minimum standards set forth in this chapter are subject to permit requirements under the Natural Resources Protection Act administered by the Maine Department of Environmental Protection.

SECTION 804.0 WORK ADJACENT TO WETLANDS AND WATER BODIES

804.1 Runoff prevention: In order to prevent runoff which may carry sediment from the disturbance activity from directly entering water bodies the standards in this section apply to all ground disturbance occurring within 100 feet of a coastal wetland, freshwater wetland, great pond or water course.

804.2 Permits required: Soil disturbance activities that cannot meet all of the following standards are subject to

permit requirements under the Natural Resources Protection Act administered by the Maine Department of Environmental Protection. Compliance with the following sections is considered a permit by rule

804.3 Sites with slopes of less than 20%: Where sustained slopes are less than 20% a 25 foot setback shall be maintained between the normal high water line or upland edge of a coastal wetland, freshwater wetland, great pond, or water course (whichever is more restrictive) and any soil disturbance activity; and

804.4 Sites with slopes exceeding 20%: Where sustained slopes exceed 20%, a 100 foot setback shall be maintained between the normal high water line or upland edge of the coastal wetland, freshwater wetland, great pond, or water course (whichever is more restrictive) and any soil disturbance activity; and

804.5 Runoff diverted: Upland surface water runoff shall be diverted around the soil disturbance activity.

804.6 Replacement systems: The setback requirements for removal, replacement or maintenance of waste water disposal systems, authorized by this code, can be waived when no practical alternative exists and the LPI agrees.

804.7 Buffers with vegetation: Existing vegetation within the 25 foot setback zone shall remain undisturbed except when removal is required for the maintenance, repair or installation of a replacement system.

804.8 Buffers with no vegetation: For soil disturbance activities where the setback from the protected natural resource is not vegetated and the slope between the activity and the protected natural resource is 3% or greater, a row of hay bales or silt fencing shall be installed between the activity and the edge of the setback. The hay bales or silt fencing shall be maintained until the activity area is fully stabilized.

804.9 Wetland disturbance: Wetlands vegetation shall not be destroyed or permanently removed. If wetlands vegetation shall be disturbed during the project, it shall be reestablished immediately upon completion of the work and shall be maintained. This standard shall not apply to fill or disposal areas required for replacement of waste water disposal systems.

804.10 Wet soils: No soil shall be disturbed during any period when soils are saturated due to rain or snow melt, except for repair or installation of a replacement system in accordance with Chapter 12.

804.11 Erosion control barriers: Prior to the start of a soil disturbance activity, erosion control measures such as staked hay bales, or silt fence shall be properly installed and adequately maintained for the duration of the project, to prevent the wash of materials into the resource.

804.12 Time limit: All soil disturbance activities shall start and finish within a one month time frame.

804.13 Site Stabilization: Disturbed soil shall be immediately stabilized, upon activity completion or if the area is not to be actively worked for more than one week, using temporary or permanent measures such as placement of riprap (in accordance with this code), sod, mulch or erosion control blankets, or other comparable measures.

804.14 Mulch: Hay or straw mulch, where used, shall be applied at a rate of at least one bale per 500 square feet (1 1/2 to 2 tons per acre).

804.15 Mulch anchoring: Mulch shall be anchored with netting, peg and twine, or other suitable method and shall be maintained until a catch of vegetation is established over the entire disturbed area.

804.16 Additional: In addition to placement of riprap, sod, erosion control blankets or mulch, additional steps shall be taken where necessary, in order to prevent sedimentation of the water. Evidence of sedimentation includes visible gully erosion, discoloration of water by suspended particles and slumping of banks. Silt fences, staked hay bales and other sedimentation control measures, where planned for, shall be in place prior to commencement of work, but shall also be installed whenever necessary due to sedimentation.

Note: The discharge of sediment to a water body violates §413 of Title 38 M.R.S.A..

804.17 Duration of temporary erosion control: Mulch or other temporary erosion control measures shall be maintained until the site is permanently stabilized with vegetation or other permanent control measures.

804.18 Final vegetative cover: Permanent revegetation or seeding of all disturbed areas shall occur, immediately upon project completion or, if temporary stabilization measures were used, within 30 days from the time the areas were last actively worked except where precluded by the type of activity (e.g. riprap, road surfaces, etc.). For fall or winter activities, in addition to other temporary erosion controls, all disturbed areas shall be covered with a layer of mulch. A row of hay bales or silt fence shall also be installed between the activity and the upland edge of the wetland or normal high water line (whichever applies). Permanent revegetation measures shall be undertaken by June 15th. Temporary erosion and sedimentation controls (e.g. mulch, hay bale barriers, etc.) shall be maintained in the interim. The vegetative cover shall be maintained.

804.19 Lime and fertilizer: Lime and fertilizer may be applied based on requirements determined through a soil test; or in lieu of a soil test, application rates shall not exceed the following:

Ground limestone: 3 tons/acre (130 lbs./1000 Sqft.)

Fertilizer, 10-10-10 or equivalent: 600 lbs./acre (14 lbs./1000 Sqft.)

Fertilizer shall not be applied before the start of the growing season, nor after September 30th. Fertilized areas shall be mulched to reduce off_site transport of nutrients until used by vegetative growth.

Note: Erosion and sedimentation control measures should comply with ~~Soil Conservation Service~~ U.S.D.A., Natural Resource Conservation Service/Soil and Water Conservation District specifications.

CHAPTER 9

DESIGN FLOWS

SECTION 900.0 GENERAL

900.1 Scope: This Chapter governs the calculation of the design flow used for sizing disposal fields and septic tanks.

900.2 General: The design flows provided in this Chapter are based on empirical data collected over many years by numerous researchers. These design flows reflect system designs proven to function adequately over long periods of time. As such, these design flows anticipate variations in flow among different establishments of the same class as well as flow variations over time in the same establishment. These design flows also assume waste water with strengths typical of the class of establishment. The calculation of design flows based on water saving devices is a variance and requires prior approval of the Department.

900.3 Design flow: Each component of the system shall be designed and installed to adequately treat and dispose of the amount of waste water expected to be discharged from the premises to be served. Design flows for private residencies are prescribed in Section 901.0 and Table 901.1. Design flows for commercial or institutional establishments are prescribed in Section 902.0 and Section 903.0 and Table 901.2.

SECTION 901.0 DESIGN FLOWS FOR DWELLING UNITS

901.1 General assumptions: Typically, the waste water flow from a single-family dwelling unit falls within 10 to 300% of the average daily flows for dwelling units. Typically, the daily flow is within 50 to 150% of average daily flows. At the extreme, however, minimum and maximum daily waste water flows can range between 0 and 900% of the average daily flow. The minimum design flows, required by this code, reflect these variations.

901.2 Individual single-family dwelling units: The design flows for single-family dwelling units connected to individual systems shall be calculated based on Table 901.1.

901.3 Two or more dwelling units on a shared system: The design flow for two or more dwelling units on a shared system shall be calculated according to the design flow standards given in Table 901.1.

SECTION 902.0 OTHER FACILITIES USING DESIGN TABLES

902.1 General: The design flow shall be the maximum flow that may reasonably be expected to be discharged from a residential, commercial, or institutional facility on any day of operation. It shall be expressed in gallons per day. The design flow shall not be considered as an average daily flow. It incorporates a factor of safety over the average flows to accommodate peak waste water flows or facilities that discharge greater than the average flows of waste water either occasionally or on a regular basis. The design flow shall be calculated as follows:

902.2 Base flow: Multiply the number of gallons per person by the maximum number of persons expected per day, or multiply the number of gallons per facility per day by the number of facilities present or proposed.

902.3 Employee contribution: When employees will be present at the establishment, estimate the maximum number of employees who may be present during a single day of operation. Then add 15 gallons per employee per 8 hour shift, except where otherwise indicated.

902.4 Design flows: The requirements listed in Table 902.4 are minimum requirements for average facilities in the categories listed. In cases where a facility does not fall within any of the categories listed, or where actual water use data is available relating to the facility, the Department may approve the use of other documented criteria. In such a case, the value used for the design flow shall meet the requirements in Section 903.0.

SECTION 903.0 OTHER FACILITIES USING WATER METERS

903.1 Water meter records: The design flow may be calculated by actual water meter readings, provided the following procedures are used:

903.1.1 Acceptable records: Copies of billing records of the service provider or from water meters certified to be accurate within 2% by the water district;

903.1.2 One year minimum: Continuous records over the period of at least one year (or other period acceptable to the Department);

903.1.3 Like establishments: Records from the applicant's demonstrated use of the facilities or from two or more like establishments.

903.2 Adjustments for peak days: The average daily flows shall be adjusted for peak flow days as follows:

903.2.1 Daily monitoring: If water meter records are recorded on a daily basis, the day with largest recorded waste water flow shall be used for the design flow. If an applicant believes that the day with the highest flow is inappropriate, supporting data shall be submitted to the Department for review and approval.

903.2.2 Weekly monitoring: If water meter records are recorded on a weekly basis, the design flow shall be calculated by dividing the highest weekly flow by the number of days the facility was in use during the week with the highest flow and then multiplying by

1.2. If an applicant believes a 1.2 multiplying factor is inappropriate, supporting data shall be submitted to the Department for review and approval.

903.2.3 Monthly monitoring: If water meter records are recorded on a monthly basis, the design flow shall be calculated by dividing the highest monthly flow by the number of days the facility was in use during the month with the highest flow and then multiplying by 1.5. If an applicant believes a 1.5 multiplying factor is inappropriate, supporting data shall be submitted to the Department for review and approval.

903.2.4 Quarterly monitoring: If water meter records are recorded on a quarterly basis, the design flow shall be calculated by dividing the highest quarterly flow by the number of days the facility was in use during the quarter with the highest flow and then multiplying by 2.0. If an applicant believes a 2.0 multiplying factor is inappropriate, supporting data shall be submitted to the Department for review and approval.

903.3 Adjustments for Effluent Quality: Facilities, other than residential, using water records to determine design flow must also comply with Section 703.0.

TABLE 901.1
Design flows for dwellings

Bedrooms	GPD per dwelling
2 or less	180
3	270
4	360
5	450
6	540
Each additional bedroom	90
Primitive disposal field	25

TABLE 901.2
Design flows for other facilities

Note: The design flows calculated in this table represent the design flow for purposes of calculating the septic tank capacity (section 1006.0) and the size of the disposal field (Table 700.1), unless otherwise noted

Type of facility	Design flow per user or unit
Airports	5 gpd per passenger plus 15 gpd per employee [1]
Assembly areas	2 gpd per seat
Bakery	100 gpd per bakery plus 15 gpd per employee [1, 2]
Barber shop	100 gpd per chair
Beauty salon	100 gpd per chair
Bed and breakfast	225 gpd per establishment and 75 gpd per rental room
Boarding houses with meals	225 gpd per house plus 50 gpd per boarder
Bottle club	10 gpd per seat
Bunkhouses	20 gpd per bed
Bus service areas	5 gpd per passenger plus 15 gpd per employee [1]
Butcher shop or department	100 gpd per shop plus 15 gpd per employee [1,2]
Cafeteria,open general public	30 gpd per seat plus 15 gpd per employee [1,2]
Cafeteria, private	5 gpd per meal per seat plus 15 gpd/ employee [1,2]
Campground sites served by central toilets	60 gpd per site and includes dump station
Campground sites served by individual water and sewer hookups	75 gpd per site
Campground dump station	10 gpd per site for each trailer site not served by individual water and sewer hookups
Campground park model trailer sites	225 gpd per site
Car wash	See Subsection 506.3.
Catch basin garages etc.	See Subsection 506.3.
Children's camps day use only	15 gpd per camper plus 15 gpd per staff person
Children's camps day and night	20 gpd per camper plus 15 gpd per staff person
Churches	4 gpd per seat for general seating and 8 gpd per seat for seats in a dining area
Dance hall	5 gpd per attendee plus 15 gpd per employee [1]
Day care facilities serving meals	20 gpd per child plus 15 gpd per adult
Day care facilities not serving meals	15 gpd per child plus 15 gpd per adult
Delicatessen food prepared and no seats	100 gpd per deli or 1 gpd per meal served plus 15 gpd per employee [1, 2] (whichever is larger)
Delicatessen no food prepared and no seats	50 gpd per deli plus 15 gpd per employee [1]
Drive-in no full meals and no china service	30 gpd per car space plus 15 gpd/ employee [1, 2]
Eating place, fast food, no seats, no full meals, and no china service	100 gpd or 1 gpd per meal served plus 15 gpd per employee [1, 2] whichever is larger
Eating place, fast food, no full meals, and no china service	20 gpd per inside seat plus 7 gpd per outside seat plus 15 gpd/ employee [1, 2]

Type of facility	Design flow per user or unit
Employees at place of employment with no showers	15 gpd per employee [1]
Employees at place of employment with showers	20 gpd per employee [1]

Fairgrounds	2 gpd per attendee based on average daily attendance
Gyms, not associated with schools	10 gpd per participant plus 3 gpd per spectator plus 15 gpd per employee [1]
Health clubs	10 gpd per participant plus 3 gpd per spectator plus 15 gpd per employee [1]
Hospitals	150 gpd per bed plus 15 gpd per employee [1]
Hotels and motels with shared baths	80 gpd per bedroom plus 15 gpd per employee [1]
Hotels and motels with private baths	100 gpd per bedroom plus 15 gpd per employee [1]
Laundry, self-service	600 gpd per machine plus 15 gpd per employee [1]
Marina	100 gpd plus 10 gpd per slip or mooring (clothes washers are not included; design flow for clothes washers shall be calculated separately)
Medical offices, clinics, and dental offices	80 gpd per medical staff plus 5 gpd per patient plus 15 gpd/office employee [1]
Nursing Homes	150 gpd per bed plus 15 gpd per employee [1]
Parks and picnic areas, public rest rooms and no showers	5 gpd per attendee plus 15 gpd per employee [1]
Parks and picnic areas, public rest rooms and showers	10 gpd per attendee plus 15 gpd per employee [1]
Rooming houses, no meals	180 gpd per house plus 30 gpd per roomer
Rental cabins and cottages	50 gpd per bed plus 15 gpd per employee [1]
Rental cabins, housekeeping	50 gpd per cabin, plus 50 gpd per bed
Restaurant, one or two meals per day (e.g. breakfast and lunch)	20 gpd per indoor seat plus 7 gpd/outdoor seat plus 15 gpd per employee [1, 2]
Restaurant, three or more meals per day (e.g. breakfast, lunch, and dinner)	30 gpd per indoor seat plus 10 gpd per outdoor seat plus 15 gpd/employee [1, 2]
School, elementary	7 gpd per student plus 15 gpd per teacher and other employees [1]
School, junior high	9 gpd per student plus 15 gpd per teacher and other employees [1]
School, high	12 gpd per student plus 15 gpd per teacher and other employees [1]
School, boarding	75 gpd per student plus 15 gpd per teacher and other employees [1]
Service stations	500 gpd per 1st set of fuel pumps plus 300 gpd per each additional set of fuel pumps plus 15 gpd per employee [1]
Shopping centers or stores,public rest rooms and showers	400 gpd per water closet plus 20 gpd per shower plus 15 gpd per employee [1] Design flows for any eating places or butcher shops shall be determined and added to total design flow.
Shopping centers or stores, no public rest rooms	1 gpd per parking space plus 15 gpd per employee [1] Design flows for any eating places or butcher shops shall be determined and added to total design flow. NOTE: Title 22 M.R.S.A. §270 requires a public rest room for shopping centers containing 6 or more separate retail establishments
Stands, ice cream only with no seats	150 gpd per stand plus 15 gpd per employee. [1, 2]
Tennis and racquetball courts	300 gpd per court plus 15 gpd per employee [1] Design flows for any eating places shall be determined and added to the total design flow
Visitors center	6 gpd per visitor plus 15 gpd/ employee (This includes libraries, museums, similar uses) [1]

NOTE: 1. The design flow for employees is based on the total number of employees present in any 24-hour period.

2. Multiply the design flows ~~of Table 901.2~~ by 1.8 for sizing the disposal field. The initial value taken from the table is used to size the septic tank and for minimum lot size determinations.

CHAPTER 10

SEPTIC TANKS, DOSING TANKS, HOLDING TANKS AND GREASE INTERCEPTORS

SECTION 1000.0 GENERAL

1000.1 Scope: This Chapter governs the design, installation, repair, and maintenance of septic tanks, holding tanks, dosing tanks and grease interceptors.

SECTION 1001.0 SEPTIC TANK REQUIRED

1001.1 General: Waste water shall be treated by an approved septic tank prior to being discharged into a disposal field, unless the applicant receives a primitive system permit as described in Section 1501.0, a separate laundry waste water disposal system permit as described in Section 1509.0 or a holding tank permit as described in Section 1404.0 or optional Chapter 22. The use of an aerobic treatment unit or any other device in lieu of a septic tank shall not be approved by the plumbing inspector without prior approval by the Department.

SECTION 1002.0 SEPTIC TANK CONSTRUCTION MATERIALS

1002.1 General: Metal septic tanks are prohibited. Septic tanks may be constructed of the following materials: reinforced poured-in-place concrete, precast reinforced concrete, fiberglass, or polyethylene approved by the Department.

1002.2 Concrete: Concrete used in the construction of septic tanks shall meet the American Concrete Institute (ACI) standards for frost resistance (ACI 318-16-4.5.1) and water-tightness (ACI 318-16- 4.5.2).

1002.3 Fiberglass: Pre-fabricated fiberglass septic tanks shall meet the American Society for Testing and Materials (ASTM) Standard ASTM D4021.

1002.4 Polyethylene: Pre-fabricated polyethylene septic tanks shall meet the standards for materials, wall thickness, fastening of fittings, and maximum deformation under load prescribed by the Canadian Standards Association (CSA) in CSA Standard CAN3-B66-M79.

SECTION 1003.0 SEPTIC TANK DIMENSIONS

1003.1 Liquid depth: When the tank is filled to its maximum capacity, the depth of the liquid in the septic tank shall be at least 30 inches.

1003.2 Air space: The interior distance between the top of the outlet pipe tee or baffle and the top of the septic tank shall be at least 1 inch.

1003.3 Configuration: Tanks shall be constructed such that the direction of flow is along the longest inside dimensions.

1003.4 Rectangular septic tanks: The inside length, measured from inside wall to inside wall, shall not be less than 74 inches.

1003.5 Cylindrical septic tanks: Upright cylindrical septic tanks shall have a minimum diameter of 52 inches. Horizontal cylindrical septic tanks shall have a minimum length of 72 inches. Their minimum width at the maximum liquid level shall be 36 inches.

SECTION 1004.0 INLET AND OUTLET CONNECTIONS

1004.1 General: Inlet and outlet connections of each septic tank or compartment shall be designed to obtain effective retention of scum and sludge. All connections and baffles shall be fastened with and constructed of, or coated with, materials that are resistant to corrosion. Where pipe tees are used, the pipe tees shall be sanitary pipe tees and installed in a manner that provides a lasting water- tight seal between the pipe tee and the wall of the septic tank. To obtain a water-tight seal, a manufactured water-proof coupling may be incorporated into the wall of the septic tank. Expanding grout that will adhere both to the pipe tee and to the body of the septic tank where the pipe tee is installed may be used instead.

1004.2 Baffles: A baffle or pipe tee not less than 4 inches in diameter is required at both the inlet and the outlet of a septic tank. The bottom of the baffle or of the vertical leg of the pipe tee at the inlet end of the tank shall extend below the maximum liquid level at least 20 to 30% of the total liquid depth. The baffle or pipe tee at the outlet shall extend from within 1 or 2 inches of the top of the tank to at least 16 inches below the maximum liquid level. It shall block the outlet so that solids and scum cannot exit from the tank. A septic tank filter may be used in lieu of the outlet baffle.

1004.3 Inlet connections: The invert elevation of the septic tank inlet shall be at least 2 inches higher than the invert elevation of the septic tank outlet or the outlet of the first compartment. The inverts of the inlets of subsequent compartments shall be at least 1 inch above their outlets. When a baffle is used, the inlet pipe shall be flush with the inside wall of the tank to prevent a buildup of solids between the inlet and the baffle.

1004.4 Outlet connections: Outlet connections shall be permanently fastened in place.

SECTION 1005.0 ACCESS OPENINGS - ALL SEPTIC TANKS

1005.1 All septic tanks: Access openings for septic tanks shall meet the following requirements:

1005.1.1 Minimum access opening: All septic tanks shall be constructed to provide an access to each tank compartment. Each access shall be: at

least 18 inches along the side, if square; at least 18 inches in diameter, if round; and as nearly as possible centered over the compartment.

1005.1.2 Additional openings: Additional inspection openings, at least 6 inches square or 6 inches in diameter shall be located on the top of the tank directly above the tank inlet and outlet connections.

1005.2 Single-family dwelling units: Access opening for septic tanks serving single-family dwelling units shall meet the following requirements:

1005.2.1 Access openings: Access openings for septic tanks serving single-family dwelling units may be buried, although risers to grade are encouraged in order to simplify location and maintenance.

1005.2.2 Septic tank covers: Buried septic tank covers shall be removable and flush with the tank top. Concrete tank covers shall be chamfered on all edges. They shall have a steel lifting loop equal to a #2 reinforcing bar which is cast in place and projects enough for a 1-1/2 inch diameter object to pass through the loop. Tank covers made from other materials shall be lift out, screwed, or bolted. They shall have 2 pieces of 12 inch reinforcing bar laid in an "X" over each opening so a metal finder can locate the openings.

1005.3 Other facilities: Access to all septic tanks serving facilities other than single family dwellings shall be located at grade as described in this Section. Grade shall slope away from the openings.

1005.3.1 Compartment manholes: Manholes shall have a water-tight riser of the same material as the tank. Use H-20 construction in traffic areas. Provide bolted, gas tight, or locking covers where appropriate.

SECTION 1006.0 LIQUID CAPACITY OF SEPTIC TANKS

1006.1 One to three family dwelling unit septic tank size: The minimum liquid capacity of the septic tanks serving one to three-family dwelling units shall meet the capacity requirements of Table 1006.1.

1006.2 Septic tank size for other than one to three family dwelling units: When serving residential structures other than one to three family dwelling units, the liquid capacity shall be a minimum of 150% of the design flow prescribed in Chapter 9 or as specified in Section 1006.3;whichever is greatest. For non-residential use the liquid septic tank capacity shall be a minimum of 150% of the design flow prescribed in Chapter 9.

TABLE 1006.1
One to three family dwelling unit septic tank capacity

Number of bedrooms	Minimum septic tank liquid capacity
1 Bedroom	750 gallons
2 Bedrooms	1,000 gallons
3 Bedrooms	1,000 gallons
4 Bedrooms	1,500 gallons [1]
5 Bedrooms	1,500 gallons or greater [1]
For each additional bedroom	250 gallons per bedroom

Note 1: Dual compartment 1,250 gallon tank may be used.

1006.3 Minimum septic tank size: The minimum liquid capacity of a septic tank shall be 750 gallons for any use. The minimum liquid capacity for residential use shall be 500 gallons per residential unit.

1006.4 Septic tanks for engineered systems: Multiple compartment or multiple septic tanks are required for institutional and commercial installations where the design flow (determined as prescribed in Chapter 9) is greater than 2,000 gallons.

1006.5 Multiple septic tanks: Two or more septic tanks may be connected in series to obtain the minimum required liquid capacity, provided each septic tank has a capacity at least as great as the succeeding septic tank.

1006.6 Multiple compartment septic tanks or septic tanks in series: Multiple compartment septic tanks or multiple septic tanks shall meet the following requirements:

1006.6.1 Minimum liquid capacity: The total liquid capacity of the multiple compartments/tanks shall be at least 750 gallons;

1006.6.2 Sizing the first compartment or tank: The first compartment or tank shall have a minimum liquid capacity at least 66% of the total required liquid capacity, determined pursuant to Subsection 1006.2;

1006.6.3 Number of compartments: Septic tanks with total liquid capacities of less than 1,250 gallons may have only one or two compartments, while septic tanks with total liquid capacities greater than 1,250 gallons may be provided with more than two compartments; and

1006.6.4 Connecting compartments or multiple septic tanks: Multiple compartments may be provided by connecting individual septic tanks in series. Where a single partitioned septic tank is used, vent holes shall be installed near the top of each partition to allow free exchange of evolved gases between compartments. The two compartments shall be connected by means of a pipe tee, baffle, or septic solids retainer.

SECTION 1007.0 TANK INSTALLATION

1007.1 Fill requirements for tank installations: The fill material around septic tanks, dosing tanks, holding tanks, aerobic treatment tanks and external grease interceptors shall be free of large stones, roots, or

foreign objects. It shall be placed in layers and shall be thoroughly tamped in a manner that will avoid undue strain on the septic tank. For pre- fabricated plastic or fiberglass septic tanks, the fill material shall not be thicker than the thickness recommended by the manufacturer.

1007.2 Minimum setback distances: Septic tanks shall be located with a minimum distance between system, structure(s), and any other site elements pursuant to Chapter 4.

1007.3 Anti-floatation: Provisions shall be made to prevent the tanks from floating if empty.

1007.4 Leakage: Provisions shall be made to prevent surface and subsurface water from entering the tanks.

1007.5 Traffic loading: When tanks are installed under a driveway, parking lot, in a heavily saturated soil, or other areas subject to heavy loads, the tanks shall be able to withstand an H-20 wheel load.

1007.6 Bedding: All tanks shall be bedded on a layer of clean sand, gravel, or stone. The bedding material shall extend at least 4 inches beyond the base of the tank.

1007.7 Level and accessible: All tanks shall be set level and at the elevation determined by the designer. Tanks shall be readily accessible for maintenance and cleaning.

SECTION 1008.0 AEROBIC TREATMENT TANKS

1008.1 General: The use of an aerobic treatment unit or any other device in lieu of a septic tank shall not be approved by the plumbing inspector without prior approval by the Department. Any aerobic treatment tank use in lieu of a septic tank shall bear the endorsement of the National Sanitation Foundation's Standard 40. The size of the aerobic tank shall meet the recommendations provided by the National Sanitation Foundation. No reduction in the size of the disposal field will be allowed.

SECTION 1009.0 MAINTENANCE AND SLUDGE DISPOSAL

1009.1 Maintenance: Septic tanks and other treatment tanks should be regularly maintained. As a general rule, the tank contents should be removed whenever the sludge and scum occupies one-third of the tank's liquid capacity.

1009.2 Septage disposal: All septage shall be disposed of at a location approved by the Maine Department of Environmental Protection.

SECTION 1010.0 SEPTIC TANK CLEANERS AND DEGREASERS

1010.1 The use of septic tank degreasers prohibited: The Department does not recognize any product as being beneficial to the operation of a disposal system. The use of septic tank additives containing halogenated hydrocarbon compounds is prohibited by law. See Title 38 M.R.S.A. Section 1602.

SECTION 1011.0 DOSING TANKS

1011.1 General: All dosing tanks shall be water-tight. Materials and construction specifications are the same as those specified for septic tanks in this Chapter. Manholes for dosing tanks shall terminate a minimum of 4 inches above the ground surface.

1011.2 Frost protection: In cases where the dosing tanks will be installed above the maximum expected depth of frost penetration, dosing tanks shall be protected with at least 2 inches of high density expanded rigid polystyrene.

1011.3 Additional requirements: See Sections 1106.0 1107.0.

SECTION 1012.0 EXTERNAL GREASE INTERCEPTORS

1012.1 General: Any new commercial or institutional food preparation facility, such as a restaurant, cafeteria, or institutional kitchen served by a subsurface waste water disposal system, shall install an external grease interceptor. Any converted or expanded facility requires an external grease interceptor except when not practical as determined by the Local Plumbing Inspector (LPI);. in which case an internal grease interceptor shall be used meeting the requirements of the Maine Plumbing Code.

1012.2 Location: The external grease interceptor shall be installed in a separate line serving that part of the plumbing system into which the external grease will be discharged. The external grease interceptor shall be located close to the source of the waste water, (to keep the grease from solidifying). External grease interceptors shall be installed with an access cover to the surface and located, designed and installed in a manner that will permit easy access for inspection, repair, and cleaning.

Equation 1012.3

Q=[D][HR/2][GL][ST][LF]

where:

Q is the liquid capacity of external grease interceptor, gallons;

D is the number of seats in dining area;

HR is the number of hours open per day;

GL is the gallons of waste water per meal, typ. 2.5 gallons;

ST is the storage capacity, normally 2; and

LF is a loading factor depending on restaurant location:

LF is 1.25 for interstate freeways;

LF is 1.0 for recreation areas;

LF is 0.8 for State numbered roads; and

LF is 0.5 for other roads and highways.

1012.3 Sizing the external grease interceptors for restaurants: Equation 1012.3 shall be used to determine the minimum size of external grease interceptors serving restaurants.

1012.4 Sizing the external grease interceptors for cafeterias and institutional kitchens: Equation 1012.4

shall be used to determine the minimum size of external grease interceptors serving cafeterias and institutional kitchens.

Equation 1012.4

Q=[M][GL][ST][LF]

where:

Q is the liquid capacity of external grease interceptor; gallons

M is the total number of meals served per day;

GL is the gallons of waste water per meal, typ. 2.0 gallons;

ST is the storage capacity, typ. 2; and

LF is a loading factor depending on type of facilities present:

LF is 1.0 with dish washing; and

LF is 0.5 without dish washing.

1012.5 Minimum size: In no case may an external grease interceptor serving a restaurant, cafeteria, or institutional kitchen be smaller than 750 gallons liquid capacity.

1012.6 Construction: The minimum requirements for construction, materials, and foundations of external grease interceptors are the same as those required for septic tanks. The installation shall be in accordance with section 1007.0.

1012.7 Outlet baffle of grease trap: The outlet of the external grease interceptor shall be provided with pipe tee baffle extending to a depth of 12 inches above the tank floor and well above the maximum liquid level. A septic tank filter may be used in lieu of the outlet baffle.

1012.8 Maintenance: All external grease interceptors shall be routinely inspected to determine the volume present. All external grease interceptors shall be cleaned when the volume of external grease equals no more than 50% of the liquid capacity of the tank.

SECTION 1013.0 SPECIFICATIONS FOR HOLDING TANKS

1013.1 Construction: Holding tanks shall be constructed of the same materials and to the same structural specifications as septic tanks, as specified in this Chapter. They shall be either: a) of monolithic construction (effective May 1, 1999) below the top of the inlet to the holding tank, or b) epoxy sealed at the joint with a non-water soluble epoxy compound and all holding tanks shall have, at a minimum, an 18 inch diameter cleanout cover and a 13 by 17 inch inspection cover over the inlet.

1013.2 Installation: Holding tank shall be installed in accordance with Section 1007.0.

1013.3 Setbacks: See Subsection 405.3.

1013.4 Alarm provisions: The holding tank shall have a visual and audible alarm device. The device shall be located and adjusted in a manner that assures the tank is always pumped before it is full.

1013.5 Number and size of holding tanks: A holding tank shall have a minimum capacity of at least 1,500 gallons. If more than one holding tank is installed, they shall be installed in series.

1013.6 When allowed: Holding tanks are allowed for replacement systems when no other practical alternative exists or for temporary use (see Section 1404.0) and for new construction under Chapter 22. Holding tanks can not be used for seasonal conversion, see Subsection 301.3

1013.7 Permitting and use: See Sections 1404.0, 1405.0 and 2201.0 for permitting and use requirements.

CHAPTER 11

DISTRIBUTION NETWORKS

SECTION 1100.0 GENERAL

1100.1 Scope: This Chapter governs the design and installation of the piping systems used to distribute waste water between the septic tank and disposal field and within the disposal field.

SECTION 1101.0 DISTRIBUTION NETWORKS

1101.1 Methods of distribution: The allowed methods for discharge of septic tank effluent to the disposal field and distribution of septic tank effluent within the disposal field are as follows:

a) Gravity flow method

b) Gravity dosing method

c) Low pressure dosing method and

d) Serial dosing method

1101.2 Alternating pumps: Alternating pumps may be used to alternately dose a field or portion of a field. However, no disposal field or portion of a disposal field may receive more than the maximum daily disposal design flow allowed in Chapter 7. Alternating pumps shall be installed in pump-dosed systems with design flows of more than 2,000 gpd. See Section 1108.0.

SECTION 1102.0 CONNECTING PIPES AND DELIVERY PIPES

1102.1 Sizing: The connecting pipes between the components of a system shall meet the following requirements:

1102.1.1 Gravity flow piping: The pipes shall be sized to serve the connected fixtures but in no case may be less than 3 inches in diameter (1.5 inches for primitive systems);

1102.1.2 Pump discharge piping: The pipes shall be sized to serve the pump but in no case may have a diameter less than that required by the manufacturer.

1102.1.3 Siphon discharge piping: The pipes from dosing tanks using siphons shall be one nominal pipe size larger than the siphon to facilitate venting.

1102.2 Piping materials: Pipes shall be constructed of:

1102.2.1 Plastic pipe: Polyvinyl Chloride plastic (ASTM D 2665), Schedule 40, SDR-21, SDR-26, or SDR-35; or Acrylonitrile-Butadiene- Styrene plastic (ASTM 2661); or Polyethylene, straight wall (ASTM D-1248)

1102.2.2 Iron pipe: Ductile cast-iron; or

1102.2.3 Other pipe: Other material permitted by the Department.

1102.3 Joints: All pipe joints shall be made water-tight. All joints should be tight enough to prevent entry by roots.

1102.4 Bedding the pipe: Pipes shall be laid on a firm foundation satisfactory to the plumbing inspector. Pipes shall be protected from freezing if there is any possibility of liquid remaining in the pipes.

1102.4.1 Cleanouts: At least one cleanout shall be provided for every 100 feet of connecting pipe.

1102.5 Alignment and grade: The alignment and grade of connecting pipes shall meet the following requirements:

1102.6 Minimum pitch: Connecting pipes shall have a minimum grade as follows:

1102.6.1 Building sewer: The minimum pitch of the building sewer is 1/4 inch per foot. For pipes 4 inches in diameter or larger, 1/8 inch per foot may be authorized by the plumbing inspector. The building sewer may not be smaller in diameter than the building drain.

1102.6.2 Effluent line (gravity): The minimum pitch of the gravity effluent line is 1/8 inch per foot.

1102.6.3 Pipe alignment: Connecting pipes shall be laid in a continuous grade and as nearly as possible in a straight line. Drop manholes may be installed if found necessary. Horizontal bends, where required, shall not be sharper than 45 degrees. The inside angle between adjacent sections of pipe shall be no less than 135 degrees.

1102.7 Frost protection: In cases where the delivery pipe from the dosing tank will be installed higher than the maximum expected depth of frost penetration, the design shown in the application for a disposal system permit shall insure that the delivery pipe will drain at the end of each dosing cycle or be provided with 2 inches of high density expanded rigid polystyrene insulation.

1102.8 Plastic pipe thickness: All plastic piping between the building drain and the disposal field shall be at least SDR 35.

1102.9 Separation of a structure's water service and building sewer: A structure's water service pipe and the building sewer shall be separated by undisturbed or compacted earth. The water service pipe may only be placed in the same trench as the building drain and building sewer when installed in compliance with the following requirements:

1102.9.1 Minimum vertical separation: The bottom of the water service pipe at all points shall be a minimum of 12 inches above the top of the sewer at its highest point;

1102.9.2 A Separate shelf for water service: The water service pipe shall be placed on a solid shelf excavated at one side of the common trench; and

1102.9.3 Piping requirements: The drainage pipe shall conform to one of the standards for ABS plastic pipe, ductile cast iron pipe, or PVC plastic pipe listed in Subsection 1102.2.

1102.10 Separation between public water mains and building sewers: A building sewer or force main shall be at least 10 feet horizontally from any existing or proposed public water main, measured edge to edge. In cases where it is not practical to maintain a 10 feet separation, the design shown in the application for a disposal system permit shall insure that a leak in the building sewer will not contaminate the public water main. The allowed methods for protecting public water mains are described below:

1102.10.1 Separate trenches: The building sewer is laid in a separate trench, or

1102.10.2 Same trench: If the building sewer and public water main are in the same trench, the public water main shall be on an undisturbed earth shelf at such an elevation that the bottom of the public water main is at least 18 inches above the top of the building sewer. Concrete encasement of the building sewer joints is required.

1102.11 Building sewers crossing a public water main: When a building sewer or force main crosses a public water main, the design shown in the application for a disposal system permit shall insure that a leak in the building sewer will not contaminate the public water main. The allowed methods for protecting public water mains are described below:

1102.11.1 Gravity building sewer: One 10-foot length of building sewer pipe shall be located so that both joints will be as far from the public water main as possible. The building sewer shall be supported to prevent sagging and damage from backfilling. It shall be protected from freezing.

1102.11.2 Force mains: At least 10 feet of the force main perpendicular to the public water main shall be encased in a second sewer pipe of like material with the ends sealed with concrete. The force main shall be supported to prevent sagging and damage from backfilling. It shall be protected from freezing.

SECTION 1103.0 DISTRIBUTION PIPES

1103.1 Gravity flow and gravity dose distribution networks: Gravity flow and gravity dosing distribution networks may consist of a single distribution pipe, two or more distribution pipes connected by means of elbows or tees, or two or more separate distribution pipes connected independently to a distribution box. Distribution pipes shall meet all the requirements of this Section.

1103.2 Minimum diameter: Distribution pipes shall be a minimum of 3 inches in diameter (1.5 inches for primitive systems).

1103.3 Piping: Distribution pipes shall consist of lengths of rigid, perforated pipes connected with tight joints.

1103.4 Perforations: There shall be two rows of evenly spaced perforations running the length of the distribution pipe. The rows shall be on each side of the pipe, midway between the invert and the center line that separates the upper and lower halves of the pipe. Perforations shall be no smaller than 3/8 inch and no larger than 3/4 inch in diameter.

1103.5 Pitch: Each individual distribution pipe shall be set level, not to exceed a slope of 2 inches in 100 feet. It shall be capped at the end, unless the distribution pipes are connected together by loops.

1103.6 Spacing: The distance between pipes shall be no greater than 5 feet and no less than 1 foot. Pipes shall be no more than 5 feet and no less than 1 foot from the sidewalls.

1103.7 Pipe material: The following materials are acceptable for distribution pipes: Plastic pipe meeting the following: Acrylonitrile-Butadiere-Styrene (ASTM D-2751); Polyvinyl Chloride (ASTM D-2729, D-3034); Styrene-Rubber (ASTM D-2852, D-3298); or Polyethylene, straight wall (ASTM D-1248).

1103.8 Low pressure dosing standards: This code does not include requirements for low pressure dosing. For additional information see EPA's Design Manual for On-Site Wastewater Treatment and Disposal Systems.

SECTION 1104.0 DISTRIBUTION BOXES

1104.1 General: The use of distribution boxes is optional .but is encouraged to enhance uniform distribution of wastewater to the distribution pipe network and to allow access for maintenance and troubleshooting purposes.

1104.2 Construction: Distribution boxes shall be constructed of sound and durable materials that will resist decay or corrosion, frost damage, cracking, or buckling due to backfilling or other anticipated stresses.

1104.3 Installation: The distribution box shall be set perfectly level, on a firm base, carefully backfilled to prevent settlement or other movements and shall be installed as follows:

1104.3.1 Disposal fields: When possible, the distribution box should be installed directly on the disposal field stone to minimize frost disturbance.

1104.3.2 Minimum footings: For engineered systems, the distribution box shall be set on a layer of gravel or on a concrete footing extending downward below the maximum expected depth of frost penetration. Where gravel is used, the gravel shall extend laterally a minimum of 6 inches beyond the sides of the distribution box.

1104.4 Outlets: A separate outlet shall be provided for each distribution pipe. The inverts of all outlets shall be rigidly set at the same level a minimum of 1 inch above the bottom of the distribution box. When installation is complete, the distribution box shall be filled with water, at which time the installation shall be checked to make sure that it is level. No outlet pipe may receive more water than any other. Check to make sure that the water rests equally at the invert of each pipe. Necessary adjustments shall be made to ensure that all outlets are permanently and securely fixed at exactly the same elevation prior to backfilling.

1104.5 Inlets: For gravity fed distribution boxes, the invert of the inlet shall be at least 1 inch above the invert of the outlets. When dosing is employed or when the connecting pipe from the septic tank has a steep slope, measures shall be taken to prevent direct flow of septic tank effluent across the distribution box. Such a flow will result in unequal distribution of septic tank effluent among the distribution box outlets. This direct flow may be prevented by installing a baffle or elbow to direct the flow to the bottom of the box within the distribution box, by connecting the inlet to the bottom of the distribution box, or by using two distribution boxes connected in series. In the latter case, all outlets of the first distribution box shall be sealed off except for the outlet that discharges to the second distribution box.

1104.6 Access: Distribution boxes shall be provided with a means of access. In the case of smaller boxes, access may be made by a removable lid. Access to larger boxes may be provided by means of manholes and inspection ports with removable, water-tight covers. In all cases, the following requirements shall be met:

1104.6.1 Size and location: Access openings shall be adequate in size and located to facilitate removal of accumulated solids and inspection of the inlet and all outlets.

1104.6.2 Access opening extensions: All access openings shall be extended to within 12 to 18 inches of the finished grade surface.

1104.6.3 Water-tightness: Access openings shall be constructed in a manner that prevents the entrance of water.

1104.7 Frost protection: In cases where the distribution boxes will be installed higher than the maximum expected depth of frost penetration, distribution boxes shall be protected by 2 inches of high density expanded rigid polystyrene to give protection against frost penetration and freezing.<u>In addition, entering through the bottom of the distribution box is recommended to prevent freezing associated with forced main inlets.</u>

SECTION 1105.0 DROP BOXES

1105.1 General: The use of drop boxes is optional. Drop boxes provide an effective way to assure that serial distribution stone filled disposal fields are properly loaded. They also provide a means for monitoring the water levels in respective disposal fields. When drop boxes are used:

1105.1.1 Overflow elevation: The overflow pipe to the next disposal field shall be installed so that the upper disposal field is full to the invert of the distribution piping of septic tank effluent before flow spills over to the next disposal field being served from the box;

1105.1.2 Overflow piping: The overflow pipe between drop boxes shall be water-tight. Drop boxes shall be placed in a trench dug only deep enough to allow connection to the next lower drop box. The soil backfilled around the overflow pipe shall be carefully compacted below and around it to prevent seepage along the pipe between disposal fields;

1105.1.3 Installation: The drop boxes shall be set on a firm base and carefully backfilled to prevent settlement or other movements; and

1105.1.4 Bypass capability: The drop boxes shall be of such design that a disposal field can be removed from service and the flow shunted to the next disposal field if necessary.

1105.2 Frost protection: In cases where the drop boxes will be installed higher than the maximum expected depth of frost penetration, drop boxes shall be surrounded by 2 inches of high density expanded rigid polystyrene to protect against frost penetration and freezing.

SECTION 1106.0 DOSING TANKS FOR ENGINEERED SYSTEMS

1106.1 When required: If a dosing tank with a siphon or pump is required for engineered systems using gravity or low pressure dosing, it shall meet the requirements of this Section.

1106.2 Minimum liquid capacity: The minimum liquid capacity of dosing tanks using pumps shall be determined as follows:

1106.2.1 Minimum capacity: Dosing tanks using pumps shall have sufficient liquid capacity to distribute septic tank effluent equally to all parts of the disposal field during each dosing cycle. They shall also provide adequate reserve storage capacity (at least equal to the minimum dosing volume) in the event of a pump malfunction. The total liquid capacity shall be great enough to accommodate the minimum required dose volume, plus the minimum required reserve storage capacity determined as prescribed in Subsection 1106.3. Additional volume shall be provided above the pumping level to accommodate the volume of water displaced by the pump and controls as well as any quantity of septic tank effluent that will drain back into the dosing tank when the pump shuts off at the end of a dosing cycle. To summarize, minimum dosing tank capacity is the sum of dose volume, reserve storage, pump and control displacement, and effluent drain-back.

1106.2.2 Solid storage: Additional volume shall be provided below the pumping level so that the pump may be placed on a pedestal, above the dosing tank bottom, to prevent the pump from drawing in air or whatever solids may accumulate in the bottom of the dosing tank.

1106.3 Reserve capacity when using pumps: Reserve capacity is the inside volume of the dosing tank that lies between the level at which the high water alarm switch is set and the invert elevation of the tank inlet. A minimum reserve capacity equal to the design flow is required except where a standby pump is provided that is equivalent in performance capacity to the primary pump and that will switch on automatically in the event that the primary pump malfunctions.

1106.4 Dose volume and minimum reserve capacity: The dose volume and minimum reserve capacity for gravity-dosed disposal fields shall be 15 to 25% of the design flow, the pump dose off switch shall be at least 6 inches above the pump intake.

1106.5 Dosing tanks using a single siphon: The liquid capacity of dosing tanks using siphons shall be adequate to provide the required dose volume determined as prescribed in Subsection 1106.4. No reserve capacity is required when a siphon is used.

1106.6 Requirements for all dosing tanks: All dosing tanks shall meet the following requirements regardless of whether a pump or siphon is used.

1106.7 Construction: The requirements for the construction of dosing tanks shall comply with those prescribed for septic tanks in Chapter 10. Dosing tanks may be constructed as a separate unit or may share a common wall with the septic tank.

1106.8 Installation: Installation requirements for pre-fabricated dosing tanks shall comply with those for septic tanks, as prescribed in Section 1007.0.

1106.9 Inlet elevation: Inlets shall be at least 1 inch above the highest water level attained when the entire reserve capacity is full.

1106.10 Access openings: Dosing tanks shall be readily accessible for service and repair. See Section 1005.0.

1106.11 Backfilling: Requirements for backfilling around dosing tanks are the same as for septic tanks, as prescribed in Subsection 1007.1.

SECTION 1107.0 SPECIFIC REQUIREMENTS FOR DOSING WITH SIPHONS

1107.1 General: Dosing may be accomplished by means of an automatic siphon when the low water level in the dosing tank is at a higher elevation than the invert of the highest distribution pipe. All requirements in this Section shall be met.

1107.2 Siphon tank outlets: Outlets for dosing tanks using siphons shall conform to the manufacturer's recommendations;

1107.3 Corrosion control: Siphons shall be constructed of durable materials not subject to corrosion by acid or alkali;

1107.4 Sizing dosing tanks: The horizontal dimensions of the dosing tank shall be adjusted so that the volume obtained by multiplying the manufacturer's rated siphon drawing depth by the internal horizontal area of the dosing tank will be equal to the required dose volume determined as prescribed in Subsection 1106.4 or 1602.14; and

1107.5 Starting siphons: When installation is complete, the siphon shall be primed and checked in the presence of the plumbing inspector by filling it with water. At this time the siphon shall be checked for leaks as evidenced by air bubbles rising from the bell casing or piping. Any leaks shall be repaired before final approval is given.

1107.6 Gravity dosing: In gravity dosing systems, when the delivery pipe between the dosing tank and the distribution box or distribution network is long, the siphon invert shall be set at an elevation sufficiently higher than the invert of the highest distribution pipe to compensate for any head losses due to friction in the connecting pipe. Friction head shall be determined using Table 1107.7.

1107.7 Low pressure dosing: In low pressure dosing systems, the invert of the siphon shall be set higher than the invert of the distribution pipes by a distance equal to the total operating head . See EPA's On-site Wastewater Design Manual for additional guidance.

1107.8 Peak inflow check: For facilities from which large quantities of septic tank effluent may be discharged at one time, the designer shall make certain that the siphon discharge rate will not be exceeded by the maximum expected rate of inflow at time of peak volume.

1107.9 Cycle counter: Each siphon-equipped dosing tank shall employ a cycle counter, activated by a weighted float or switch, to monitor siphon performance.

1107.10 High water alarm: Dosing tanks using siphons shall be equipped with an overflow to the distribution box (or distribution network) and a high-water alarm meeting the requirements of Section 1108.0. The invert of the overflow shall be just above the level of the high-water alarm switch which, in turn, shall be several inches above the normal high- water level of the dosing tank.

SECTION 1108.0 SPECIFIC REQUIREMENTS FOR DOSING WITH PUMPS

1108.1 General: Dosing may be accomplished by means of a pump when either gravity dosing or low pressure dosing is used. All requirements in this Section shall be met.

1108.2 Duplicate pumps required: Duplicate pumps are required for systems serving multi-family residential structures or systems.

1108.3 Pump rating: The pump shall be rated by the manufacturer to handle septic tank effluent.

1108.4 Minimum pump performance: Pumps used for gravity dosing systems shall be rated by the manufacturer (as indicated by the manufacturer's pump performance curve) to be capable of delivering the total required dose volume within a period of 15 minutes or less when working against a total dynamic head equal to the total design operating head. For the purpose of making this determination, the total design operating head shall be considered as the sum of the elevation head and the friction head calculated using Table 1107.7.

1108.5 Pump selection for low pressure dosing: Selection of an adequate pump for low pressure dosing is part of the design procedure for low pressure dosing systems.

1108.6 Solid storage: Pumps shall be set on a pedestal or have legs, so that the intake is elevated several inches above the bottom of the dosing tank.

1108.7 Couplings: Easy or "quick disconnect" couplings should be used to facilitate removal of the pump for servicing.

1108.8 Peak inflow check: For facilities from which large quantities of septic tank effluent may be discharged at one time, the design shall make certain that the pump discharge rate will not be exceeded by the maximum expected rate of inflow at times of peak volume.

1108.9 Pump switches: The operation of the pump shall be controlled by means of automatic switches that are activated by the rising and falling level of septic tank effluent in the dosing tank. Such switches shall meet the following requirements:

1108.9.1 Switches: Switches shall be able to withstand the humid and corrosive atmosphere in the dosing tank. Mercury or weighted float type switches are suitable for this purpose. Pressure diaphragm type switches are prohibited.

1108.9.2 Dose volume: For single-family dwellings the dose volume for gravity-dosed disposal fields shall be as per manufacturers' specifications.

1108.10 High-water alarm: A high-water alarm switch shall be set 4 inches above the pump-on switch and shall activate visible and audible alarms that can be readily seen and heard by occupants within the structure served. The high-water alarm switch shall meet the requirements prescribed for pump-control switches in Subsections 1108.9 and 1108.9.1. The alarm and its switch shall not be on the same electrical circuit as the pump and its switch.

SECTION 1109.0 VENTING

1109.1 General: Vents are not required but may be used in disposal systems. If used, vents should meet the following design and construction standards.

1109.1.1 Location: A vent should be installed in the distribution system at a point or points farthest from the septic tank;

1109.1.2 Size: A vent diameter should be equal to or greater than the diameter of the dosing piping;

1109.1.3 Height: A vent shall extend at least 3 feet above the finished grade; and

1109.1.4 Protection: All vents should be screened to prevent entry of foreign objects and installed in a matter which prevents entry of rainwater.

TABLE 1107.7
Friction loss in schedule 40 plastic pipe
Feet of head loss per 100 feet of pipe

Flow	Pipe diameter in inches		
	1 1/2"	2"	3"
3 gpm	0.07 ft		
4 gpm	0.12 ft		
5 gpm	0.18 ft		
6 gpm	0.25 ft	0.07 ft	
7 gpm	0.36 ft	0.10 ft	
8 gpm	0.46 ft	0.14 ft	
9 gpm	0.58 ft	0.17 ft	
10 gpm	0.70 ft	0.21 ft	
11 gpm	0.84 ft	0.25 ft	
12 gpm	1.01 ft	0.30 ft	
13 gpm	1.17 ft	0.35 ft	
14 gpm	1.33 ft	0.39 ft	
15 gpm	1.45 ft	0.44 ft	0.07 ft
16 gpm	1.65 ft	0.50 ft	0.08 ft
17 gpm	1.86 ft	0.56 ft	0.09 ft
18 gpm	2.07 ft	0.62 ft	0.10 ft
19 gpm	2.28 ft	0.68 ft	0.11 ft
20 gpm	2.46 ft	0.74 ft	0.12 ft
25 gpm	3.75 ft	1.10 ft	0.16 ft
30 gpm	5.22 ft	1.54 ft	0.23 ft
35 gpm		2.05 ft	0.30 ft
40 gpm		2.62 ft	0.39 ft
45 gpm		3.27 ft	0.48 ft
50 gpm		3.98 ft	0.58 ft

TABLE 1107.8
Holding capacity of pipes

Diameter	Pipe volume	
	gallons/foot	length/gallon
1 1/4 in	0.0776 gal	12' 10 5/8"
1 1/2 in	0.1057 gal	9' 5 1/2"
2 in	0.1632 gal	6' 1 1/2"
2 1/2 in	0.2549 gal	3' 11 3/4"
3 in	0.3672 gal	2' 8 3/4"
4 in	0.6528 gal	1' 6"
5 in	1.0199 gal	1' 0"

6 in	1.469 gal	8"
7 in	1.999 gal	6"
8 in	2.611 gal	4 1/2"

1 gallon of water = 8.35 pounds

1 cubic foot of water = 7.48 gallons

CHAPTER 12

DISPOSAL FIELD CONSTRUCTION TECHNIQUES

SECTION 1200.0 GENERAL

1200.1 Intent: This Chapter governs the installation of disposal fields.

1200.2 General: On sites with fine soil textures, excavations that expose the bottom and sidewall area of the disposal field shall not be carried out when the soil moisture content is above the plastic limit except when correcting a nuisance, there is no practical alternative, the plumbing inspector agrees and special construction techniques are used. The absolute plastic limit can be estimated by rolling the soil with the fingers. If the soil forms a wire or rod 1/8th of an inch in diameter and does not crumble when handled, the soil moisture content is too high to proceed with the excavation. Additionally, disposal fields should not be installed in frozen ground or when the ambient air temperature is below freezing, especially if construction will take place over several days.

1200.3 Dig Safe Law: The "Dig Safe Law" 23 M.R.S.A. §3360-A(D) places certain notification requirements on any person doing excavations. Excavation is broadly defined to mean any operation in which earth, rock or other material on or below the ground is moved or otherwise displaced by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, auguring, tunnelling, scraping and cable or pipe driving, except tilling of the soil and gardening or agricultural purposes. Tel.: 1-800-225-4977.

SECTION 1201.0 SITE PREPARATION

1201.1 Site preparation requirements: Prior to the placement of any backfillmaterial, the ground surface shall be prepared as follows:

1201.2 Soil erosion and sediment control: In areas adjacent to a water body or wetlands, preventative erosion and sediment control measures should be employed consistent with section 804.0.

1201.3 Clearing: Vegetation shall be cut and removed from the area where backfill material is to be placed.

1201.4 Scarify the site: Where possible, the area under the disposal field and backfill extensions shall be plowed or disked to produce a thoroughly roughened surface. Plowing shall be done parallel to the topographic contour in such a direction that each plow furrow will be thrown up-slope. The soil should be broken up to a depth of 6 to 8 inches. Alternatively, a rototiller or the teeth of a backhoe may be used.

1201.5 Transitional horizon: On sites where the backfill material is coarser than the original soil, a minimum of 4 inches of backfill materials must be mixed (by plowing, disking, or rototilling) into the original soil to form a transitional horizon.

1201.6 Fill large holes: If large holes are left as a result of stump removal, these holes shall be filled with suitable backfill material that meets the requirements of Subsection 1205.4.

1201.7 Surface water diversion: Surface water shall be diverted away from the disposal field site.

SECTION 1202.0 EXCAVATION

1202.1 Excavation requirements: Any excavation required for the installation of a disposal field shall comply with all the requirements in this Section.

1202.2 Bottom of disposal field: The bottom of each disposal field shall be installed at the elevation specified on the permit. It shall be maintained to a level grade no greater than 2 inches within 100 feet. Note: The bottom of a disposal field serves as the final stage of the distribution network.

1202.3 Avoid unnecessary compaction: Excavation shall be carried out in a manner that will avoid unnecessary compaction of both sidewalls and bottom area. Heavy equipment especially rubber tired vehicles such as front-end loaders, should not be driven over the exposed bottom of the disposal field. Excavation should be carried out, when possible, by a back-hoe operating from outside the perimeter of the previously excavated portions of the disposal fields.

1202.4 Reopen smeared or compacted bottom or sidewall surfaces: If any portion of the bottom or sidewalls becomes smeared or compacted, that portion must be scarified to reopen soil pores. Rototilling may be necessary to reach the limit of compacted soil depth.

1202.5 Weather conditions: Work should be scheduled so that excavated areas are not exposed to rainfall or wind-blown silt. Any loose soil or debris that is washed or otherwise deposited within the excavation shall be carefully removed prior to backfilling.

SECTION 1203.0 DISTRIBUTION NETWORK

1203.1 Distribution network installation: The construction of the distribution network shall comply with Section 1102.0.

SECTION 1204.0 DISPOSAL FIELDS

1204.1 Installation requirements: Disposal fields shall be installed in compliance with all the requirements in this Section.

1204.1.1 Pitch of distribution pipes or proprietary disposal devices: Maximum tolerance of

distribution pipes or proprietary disposal devices shall be no more than 2 inches in 100 feet.

1204.1.2 Spacing between distribution pipes: The space between distribution pipes for low pressure distribution shall be from 75 to 80% of the hole spacing. Spacing shall be equal and uniform.

1204.1.3 Holes in low pressure distribution pipes: The holes in low pressure distribution pipes shall be equal and uniform. The holes shall be aligned so that holes in adjacent distribution pipes are offset by 50% of the hole spacing.

1204.1.4 Proprietary devices: Proprietary disposal devices approved by the Department as substitutes for disposal field stone and perforated distribution pipes shall be installed per the manufacturer's instructions.

1204.2 Disposal field stone: The stone used in disposal fields shall meet the following requirements:

1204.2.1 General: Where used, the stone shall cover the distribution pipes and extend the full width and length of the disposal field.

1204.2.2 Minimum thickness: The disposal field stone depth shall extend at least 7 inches beneath the bottom of the distribution pipes and shall extend at least 1 inch above the top of the distribution pipes.

1204.2.3 Stone requirements: The disposal field stone shall be clean, uniform in size and free of fines, dust, ashes, or clay. It shall be no smaller than 3/4 inch and no larger than 2 1/2 inches in size.

1204.2.3.1 Stone specifications: A site evaluator may define a more stringent standard for stone size for any particular system.

1204.2.4 Placing stone: The disposal field stone may be loaded onto the disposal field site using a back-hoe, front-end loader, or dump truck. This operation shall be carried out from the sides of the disposal field rather than by driving onto the prepared area of the disposal field. In the case of large disposal fields, tracked equipment may be operated within the disposal field. This equipment shall not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone shall be pushed in front of the vehicle such that a minimum of one foot of stone is maintained beneath the vehicle track and the original soil surface.

1204.3 Covering the disposal field stone: The disposal field stone shall be covered with a layer of filter fabric or two (2) inches of compressed hay as the laying of the distribution pipes progresses. Filter fabric may be used, provided the following requirements are met:

1204.3.1 Overlapping filter fabric sheets: Edges of adjacent sheets of fabric shall be overlapped by a minimum of 6 inches; and

1204.3.2 Fabric requirements: The filter fabric specified in the system design shall have: adequate tensile strength to prevent ripping during installation and backfilling; adequate air permeability to allow free passage of gases; and adequate particle retention to prevent downward migration of soil particles into the disposal field. The minimum physical properties for the fabric shall be 4.0 ounces/square yard (per ASTM D-3776).

1204.3.3 Prohibited: The use of water-proof paper is prohibited.

SECTION 1205.0 BACKFILLING AND FINAL GRADING

1205.1 General: Backfilling and final grading shall be carried out in compliance with the requirements of this Section.

1205.2 Cover Material: At least 4 inches of soil or soil/soil amendment mix, suitable for establishment of a good vegetative cover shall be placed over the entire filled area including the fill material extensions.

1205.3 Backfill material placement:

1205.3.1 Above disposal system: Immediately above the filter fabric, hay or proprietary device, backfill is required. It shall be a minimum of 8" in thickness, (including cover material).

1205.3.2 Beneath or beside disposal system: Coarser material may be placed immediately adjacent to the disposal field provided that the rest of the backfill material meets the requirements of Subsection 1205.4.

1205.4 Backfill standards: The Backfill material shall be a coarse sand to a gravely coarse sand which meets the following requirements:

1205.4.1 Rock fragments: The upper limit of rocks greater than 3 inches in diameter shall be approximately 5% by volume; and

1205.4.2 Textural analysis: The soil texture for backfill, unless otherwise authorized by this code, is coarse sand to gravelly coarse sand with approximately 4 to 8 percent of the sand, silt and clay fraction passing a #200 sieve. The upper limit of clay sized particles in the sand, silt, and clay fraction shall be approximately 2%. The backfill shall contain approximately 15% to 30% (by weight) coarse fragments (gravel 2mm to 3 inches).

1205.4.2.1 Field Determination of backfill: Due to the difficulty of obtaining sieve analyses and the variability of backfill material, the following procedures can be used in the field to determine the suitability of backfill material. The backfill is suitable if the soil texture is loose single grains, the individual sand grains can be readily seen (similar to salt or sugar grains) and felt, and the following conditions are observed: If squeezed in the hand when dry, it will fall apart when the pressure is released but has enough fines to stain the lines in the palm of the hand; or, if squeezed when moist, it will form a cast that will crumble when touched and bears very

careful handling; and it does not form a ribbon between the thumb and forefinger but has enough fines to stain the lines in the palm of the hand.

1205.5 Disposal fields installed completely in the original ground: If the disposal field is completely installed in original ground, the backfill material shall completely cover the disposal fields. Fill material extensions shall be graded smoothly into the surrounding topography on all sides. The disposal field shall be adequately crowned on level disposal fields (3% minimum grade) to allow for settling so that surface water will be allowed to drain from the site without ponding.

1205.6 Disposal fields installed partially in the original ground: Disposal fields partially installed in the original ground shall meet the following requirements:

1205.6.1 Extent of backfill material: The fill layer shall include any backfillbeneath the disposal field, the shoulders, and the backfill material extensions surrounding the disposal field on all sides;

1205.6.2 Shoulder width and slope: The minimum required shoulder width is 3 feet. The finished grade of the shoulder shall be sloped at 3% away from the disposal field or conform to the slope of the finish grade of the disposal field.

1205.6.3 Sloping sites: On sloping sites, the width of the shoulder may be reduced on the up-slope side of the disposal field. In this case, the top surface of the backfill material shall be kept level with or higher than the invert of the distribution pipes up to the point where the top surface of the fill material intersects with existing slope;

1205.6.4 Backfill material extension: At the outside edge of the shoulder, the backfill material shall be terminated by sloping the top of the backfill layer downward at a slope specified in Tables 700.2 through 700.4; and

1205.6.5 Final grading: Final grading shall be completed in such a manner that surface water will not collect over the disposal field.

1205.7 Erosion control: Immediately after completion of final grading, the fill material surface shall be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

1205.7.1 Vegetative covers: Grass, clover, trefoil, vetch, perennial wild flowers, or other herbaceous perennials may be utilized for disposal field surfaces.

1205.7.2 Woody shrubs and trees: Woody shrubs or trees are unacceptable on disposal field surfaces. They may be used in conjunction with a hardy perennial ground cover on backfill material extensions only.

CHAPTER 13

DISPOSAL FIELDS ON VERY PERMEABLE SITES IN THE SHORELAND ZONE OF MAJOR WATERCOURSES

SECTION 1300.0 GENERAL

1300.1 Scope: This Chapter governs the installation of lined disposal fields on very permeable sites in the shoreland zone of major watercourses.

1300.2 Intent: The intent of these provisions is to provide better phosphorous retention on extremely coarse sites by replacing the extremely coarse soils below and around the disposal field, when the site is excavated into the very coarse sub-horizon soils.

1300.3 Very permeable sites: For the purposes of this Chapter, sites with Soil Profile 6 soils are considered to be very permeable.

SECTION 1301.0 LINED DISPOSAL FIELDS

1301.1 Construction: Lined disposal fields shall be installed as follows:

1301.1.1 Area to be excavated: An excavation shall be made to the required depth. This shall extend throughout the entire area to be occupied by the disposal field and beyond the perimeter of the disposal field a minimum of 1 foot in all directions;

1301.1.2 Backfill material: The excavation shall be backfilled with material meeting the requirements of Subsection 1205.4 which constitutes the disposal field liner for the purposes of this Chapter;

1301.1.3 Liner: . The liner shall extend a minimum of 12 inches beyond the foot print of the disposal field stone or proprietary devices.

1301.1.4 : Backfill material shall be spread and compacted in layers of not more than 12 inches in thickness.

SECTION 1303.0 DISPOSAL FIELD

1303.1 Requirements: The installation of the disposal field and distribution network shall comply with Chapter 7 and Chapter 11. The disposal field shall be sized using a minimum hydraulic loading rate for a medium large system in Table 700.1.

CHAPTER 14

EXISTING DISPOSAL SYSTEMS AND HOLDING TANK REPLACEMENT SYSTEMS

SECTION 1400.0 GENERAL

1400.1 Scope: This Chapter governs the design, modification, and replacement of systems existing prior to the effective date of this code.

1400.2 Intent: The intent of this Chapter is to provide methods to bring nonconforming systems into conformity with this code. All alterations of existing systems shall conform as closely as possible to this code.

SECTION 1401.0 EXISTING DISPOSAL SYSTEMS

1401.1 Alterations: Alterations made to a system for reasons other than a change of use, as described in Section 1402.0, may be approved by the plumbing inspector provided that all requirements of this Section are met.

1401.1.1 Application for disposal system permit: .. Any modification, repair or alteration of the disposal field, other than the addition of fill requires prior notification of the Division of Health Engineering as to whether or not a permit is required. Such modification, repair or alteration shall be as prescribed by a Maine Registered Professional Engineer or a Maine Licensed Site Evaluator and shall be considered a disposal field for permitting purposes, if a permit is required.

1401.1.2 Conformity with this code: Alterations to any system shall be made such that the components being altered conform to the requirements of this code as closely as possible, as determined by the plumbing inspector.

1401.2 Existing overboard discharge: Any individual discharging treated or untreated waste water or having a valid license to discharge waste water to the waters of the state may install a system as a replacement system.

SECTION 1402.0 EXPANSION OF EXISTING STRUCTURES

1402.1 General: Title 30-A §4211 subsection 3.B states that, "No person may expand a structure using an existing subsurface waste water disposal system until documentation is provided to the municipal offices and a notice of the documentation is recorded in the appropriate registry of deeds so that, in the event of a future malfunction of the system, the disposal system can be replaced or enlarged to comply with the rules adopted under Title 22, §42, [this code] and any municipal ordinances governing subsurface waste water disposal systems. No requirements of this code or ordinances may be waived for an expanded structure."

1402.2 Expansion: As defined in Chapter 2, an expansion requires larger system components as prescribed in this code. Changes to a structure that are not expected to increase the design flow such as the addition of a living room, a screen porch, sun room, etc. are exempt from the requirements of this Chapter.

1402.3 Evaluating system components: Chapter 9 shall be used to evaluate the capacity of the existing system and to project the increases in capacity needed to serve the proposed expansion.

1402.4 Design criteria: Expanded systems shall meet first-time system design criteria in Tables 400.2 and 700.2. One-time exempted structures shall meet the design criteria setforth in Tables 400.3 and 400.4 and Tables 700.3 and 700.4.

1402.5 One-time exemptions (see definitions): One-time increases in the size of a structure or a change in use are allowed, provided they meet the requirements of this Section. The following systems are considered one time exemptions if

1402.5.1 Single family dwellings: The addition or alteration to a single family dwelling when no more than one additional bedroom, or no more than one alternative toilet is being replaced with a conventional water closet;

1402.5.2 Other structures: The addition to and change in use of a structure does not result in more than 25% additional waste water; and,

1402.5.3 Design criteria: The design criteria can meet the requirements of Tables 400.3, 400.4, 700.3 and 700.4.

SECTION 1403.0 SYSTEMS NOT UPGRADED AT THE TIME OF EXPANSION

1403.1 General: If the property owner elects not to install an approved backup system at the time of the expansion, the expansion can only occur after the requirements of this Section are met. **Note:** Systems designed for seasonal conversion purposes shall be installed prior to converting the structure's use.

1403.2 Documentation: The applicant shall provide documentation for the plumbing inspector showing that, if the existing system malfunctions in the future, the existing system can be replaced or enlarged to comply with this code and any municipal ordinances that apply to systems. The documentation shall include a site plan showing:

1403.2.1 System: The location of the existing system and the location of the replacement or enlarged system;

1403.2.2 Lot lines: The approximate location of the lot lines; and

1403.2.3 Wells: The location of existing wells serving the lot on which the replacement system will

be located as well as those within the applicable well setback distances.

1403.3 Functional system: The existing disposal system shall be shown to be functioning properly and installed with applicable permits and approval.

1403.4 Registry of deeds: A notice of the documentation required in Subsection 1403.2, shall be recorded in the appropriate registry of deeds. The Department will prescribe the form of the notice to be recorded in the County Registry of Deeds.

1403.5 Notify abutters: The person seeking to expand a structure shall send a copy of the notice of documentation, by certified mail, return receipt requested, to all owners of abutting lots.

1403.6 Protection of future installation: After the notice of documentation required in this Section is recorded, no owner of abutting property may install a well in a location that would prevent the installation of the replacement system. The owner of the lot on which the replacement system will be installed may not erect any structure on the proposed site of the replacement system or conduct any activity that would prevent the use of the designated site for the replacement system.

SECTION 1404.0 REQUIREMENTS FOR PERMITTING HOLDING TANKS FOR REPLACEMENT DISPOSAL SYSTEMS

1404.1 Intent: The intent of this Section is to provide standards for the use of holding tanks to replace malfunctioning systems or an alternative toilet when there is no other option.

1404.2 Approval criteria: The plumbing inspector may approve the permanent use of a holding tank proposed by a site evaluator to replace a malfunctioning system or an alternative toilet. This approval may be granted only when all of the following facts have been established to the satisfaction of the plumbing inspector:

1404.2.1 Malfunctioning system: The present system poses a threat or a potential threat to ground or surface water quality, to public health or safety, or to the environment;

1404.2.2 No practical alternative: Due to site conditions, lot configuration, or other constraints, the repair or alteration of the system in a manner that will eliminate the present threat, or potential threat, is not feasible;

1404.2.3 Anticipated public sewer: Public sewers and/or multi-user systems are, by practical means, not available;

1404.2.4 Alternative toilet replacement: The gray water is either discharged to full size disposal field or to the holding tank;

1404.2.5 Signed agreement: Has a signed agreement as required in Section 1405.0;

1404.2.6 Holding tank specifications: The proposed holding tank meets the specifications set forth in Section 1013.0; and

1404.2.7 Water conservation: The plumbing in the structure will be modified for maximum water conservation and all water closets shall meet or exceed ASME standard A112.19.2 for 1.6 gallons per flush (maximum).

1404.2.8 Deed Covenant: A deed covenant shall be required for any residential structure served by a holding tank. As a minimum, the covenant shall include a statement that a holding tank is serving the structure for the disposal of human sewage and wastewater. The aforementioned statement shall be a separate standalone section or paragraph.

1404.3 Seasonal conversion: Holding tanks may not be used for a seasonal conversion permit.

1404.4 Temporary use: As a temporary means of waste water disposal during alteration or repair of an existing system, the plumbing inspector may approve the use of a waste water holding tank or a septic tank temporarily modified to serve as a holding tank. This use may not exceed 60 days.

SECTION 1405.0 USE OF HOLDING TANKS

1405.1 Holding tank/pumper agreements: When a holding tank is used as replacement system, the owner shall have an agreement, signed both by the property owner and a tank pumper, to pump and maintain the tank.

1405.2 Annual reporting: The owners of replacement system holding tanks shall be able to demonstrate to the LPI, upon request, that the holding tank is being pumped and regularly maintained.

CHAPTER 15

PRIMITIVE DISPOSAL SYSTEMS AND ALTERNATIVE TOILETS

SECTION 1500.0 GENERAL

1500.1 Scope: This Chapter governs the design and installation of primitive systems and alternative toilets.

1500.1.1 Definition: A primitive disposal system consists of a gray-water disposal field designed to handle hand carried or hand pumped water only and an alternative toilet.

1500.1.2 Use of alternative toilets: An alternative toilet shall be used if a primitive disposal field is used. An alternative toilet may also be used with a conventional disposal system or in a situation where there is no other structure.

1500.2 Design flows: The design flow for a primitive system shall be at least 25 gallons of gray waste water per fixture.

1500.3 Sizing primitive disposal fields: A primitive disposal field shall be sized pursuant to Chapter 7. It shall be installed in compliance with requirements of Chapter 12.

1500.4 Building sewer: The building sewer between the kitchen sink and the primitive disposal field shall have a minimum diameter of 1.5 inches, a maximum diameter of 2 inches, and a minimum pitch of 1/4 inch per foot.

SECTION 1501.0 PRIMITIVE DISPOSAL SYSTEM REQUIREMENTS

1501.1 Requirement: Primitive systems are intended to serve structures in a primitive setting. A primitive system may be allowed where the site evaluator demonstrates the primitive system will serve a structure for which the water supplied to not more than three (3) gray water fixtures is hand carried or hand pumped, or in which less than 25 gallons/day/fixture of gray waste water is generated. Allowable fixtures are limited to lavatory, shower\tub or sink. No other plumbing fixtures may be connected to the primitive disposal field. A septic tank is not required.

1501.2 Organized townships and/or temporary use: A full size system design is required to avoid conflict with Title 30-A M.R.S.A. §4211 and §1402.0.

1501.3 Unorganized areas: In unorganized areas regulated by the Land Use Regulation Commission primitive disposal systems may be designed. The application to LURC must show that the subsurface waste water system can be constructed in compliance with the applicable rules, and that the design flows of 1500.2 are met.

1501.3.1 Backup system design required: A full size backup system design is required unless the Land Use Regulation Commission grants a waiver to this requirement.

1501.3.2 System upgrades: The property owner's application shall show that a conventional disposal field system can be designed and installed in compliance with this code.

SECTION 1502.0 ALTERNATIVE TOILETS FOR PERMANENT USE

1502.1 General: Non-discharging or non-water carriage "alternative toilets" may be used for the collection and treatment of human excreta provided such toilets comply with the provisions of this Section. In such cases, a site evaluation is not required for these waterless or non-discharge toilets.

1502.1.1 Permits required: Permits are required for all alternative toilet installations. Portable alternative toilets do not require a permit. See section 1508.1.

1502.1.2 Types of alternative toilets: Alternative toilets include chemical toilets and privies, composting toilets, incineration toilets, pit privies, and vault privies.

1502.2 Disposal of contents: The contents of an alternative toilet shall be removed and disposed of in a legal and sanitary manner whenever they reach the recommended capacity of the alternative toilet.

1502.3 Non-discharging toilets providing treatment and stabilization: Only non-discharging toilets that do not use water carriage, but that do provide treatment or stabilization of the wastes, may be approved for permanent on-site use. All alternative toilets shall meet the requirements of this Subsection in addition to specific requirements that apply to each type of alternative toilet, given in Sections 1503.0 through 1507.0.

1502.3.1 Insects and vermin: The design and installation of all alternative toilets shall prevent access by insects and vermin. Each toilet area shall have a fly-tight, self-closing door and a self- closing toilet seat cover.

1502.3.2 Venting: All vents shall either be gas tight or operate by means of natural convection to keep odors from the structure within which the vents function. Mechanical vents to the outside atmosphere shall be screened to prevent insects and vermin from entering.

SECTION 1503.0 CHEMICAL TOILETS

1503.1 General: A chemical toilet is designed to receive, store, and stabilize human wastes through the use of chemical agents. More chemical agent shall be added as needed. Access to the holding tank or vault

shall be available for cleaning purposes. The requirements of this Section are in addition to the general requirements for alternative toilets in Section 1502.0.

1503.2 Storage: A chemical toilet shall have a watertight holding tank or vault for storage of wastes. The holding tank or vault shall be manufactured of impervious materials.

1503.3 Venting: Chemical toilets shall be vented to the outside atmosphere above the roof line of the structure housing them.

1503.4 Chemical flush toilets: Chemical flush toilets shall meet the following additional requirements:

1503.4.1 Chemical flushing agents: The bowl of a chemical flush toilet shall be flushed with chemical agent from a storage tank;

1503.4.2 Traps: A trap shall be installed between each toilet and the holding tank that stores the wastes. If a trap is not feasible, another method of excluding odors may be installed with the approval of the Department; and

1503.4.3 Recirculation: Chemical flushing agents shall pass into a holding tank where solids are removed before the flushing agents can be recirculated.

1503.5 Chemical privies: Chemical privies shall meet the following additional requirements:

1503.5.1 Addition of chemicals: Chemicals shall be added to the vault from outside the toilet area whenever odors or other objectionable conditions occur; and

1503.5.2 Access to vault: There shall be access to the vault from outside the structure for the purpose of cleaning the vault.

SECTION 1504.0 COMPOSTING TOILETS

1504.1 General: A composting toilet is designed to receive, store, and compost human wastes. Stabilized (that is, composted) wastes shall be removed for disposal when the toilet's storage capacity is reached. The requirements of this Section are in addition to the general requirements for alternative toilets in Section 1502.0.

1504.2 Interior capacity: The minimum interior volume of a composting toilet shall be large enough to allow complete stabilization of all wastes when the toilet is used continuously at its proposed usage level.

1504.3 Waste area: Toilet wastes shall be deposited into a receiving area with a self-closing, tightly fitting lid.

1504.4 Access opening: There shall be a separate access, with a tightly fitting lid, through which food wastes, or other materials needed for the composting process, are routed to the composting compartment.

1504.5 Waste removal: Composted material shall be removed from the storage area through a cleanout opening fitted with a tight door or lid. No cleanout may be located in a food storage or preparation area.

1504.6 Overflow: Any liquid overflow shall be discharged to a primitive or conventional disposal field.

1504.7 Large capacity composting toilets: Large capacity composting toilets shall meet the following additional requirements:

1504.7.1 Construction: Large capacity composting toilets shall be configured to permit the contents to move from one area to another without spillage and without escape of odors within the structure; and

1504.7.2 Venting: The toilets shall be vented to the atmosphere through a screened conduit with a minimum cross sectional area of 28 square inches. Venting may be by mechanical means or by extension of the vent's outlet at least 20 feet above the opening into receiving and composting areas.

1504.8 Heat-assisted composting toilets: Heat-assisted composting toilets shall meet the following additional requirements:

1504.8.1 Construction: Heat-assisted composting toilets shall have a single compartment with a tight, self-closing toilet lid;

1504.8.2 Venting: There shall be mechanical ventilation to the outside atmosphere through a screened vent. The mechanical ventilation shall control humidity and remove odors through the vent; and

1504.8.3 External heat source: A heating element shall be installed to maintain temperature in the optimum range for composting.

SECTION 1505.0 INCINERATION TOILETS

1505.1 General: An incineration toilet is designed to receive and evaporate/incinerate human wastes and store the sterile ash until it is removed for disposal. In addition to the general requirements for alternative toilets in Section 1502.0, incineration toilets shall meet the following requirements:

1505.2 Other codes: Incineration toilets shall meet all applicable fire and building codes;

1505.3 Incineration: Ignition and incineration shall occur only when the tightly fitting toilet lid is closed;

1505.4 Makeup air: A blower shall operate whenever incineration occurs; and

1505.5 Combustion temperature: The toilet shall maintain a combustion temperature of at least 1400^{o}F.

1505.6 Venting: To minimize odors, the vents shall terminate a minimum of 24 inches above the roof or as per manufacturers specifications, whichever is greatest.

SECTION 1506.0 PIT PRIVIES

1506.1 General: Pit privies are intended to receive and store human wastes in an excavation below the toilet(s). A pit privy is considered to be a disposal field and shall be installed in compliance with the requirements in this Section, in addition to the general requirements for alternative toilets in Section 1502.0.

1506.2 Elevation of the pit bottom: The elevation of the bottom of pit shall maintain the vertical separation distances for disposal fields prescribed in Tables 700.2 through 700.4.

1506.3 Setback distances: A pit privy shall meet "disposal field" setback requirements in accordance with Chapter 4 and Tables 400.2 through 400.4. Exempted is the setback distances from structures where the pit privies may be part of the structure.

1506.4 Maintenance: Proper sanitation shall be maintained in a pit privy. The pit privy building shall be ventilated.

1506.5 Human excreta only: Only human body wastes may be disposed of in a pit privy.

SECTION 1507.0 VAULT PRIVIES

1507.1 General: Vault privies are intended to receive and store human wastes until the wastes are removed for disposal. A vault privy shall be installed in compliance with the requirements in this Section, in addition to the general requirements for alternative toilets in Section 1502.0, "Alternative toilets for permanent use."

1507.2 Setback distances: A vault privy shall meet the setback requirements established in Subsection 405.2 and 405.2.1 and Tables 400.2-400.4. Exempted is the setback distances from structures where seal vault privies may be part of the structure.

1507.3 Sealed vault construction: Seal vaults shall be constructed of materials meeting the requirements of Subsection 1002.0.

1507.4 Sizing sealed vaults: Seal vaults shall have a minimum liquid capacity of at least 500 gallons.

1507.5 Installations: Seal vaults shall be installed in accordance with the requirements of Subsection 1007.0.

1507.6 Maintenance: Proper sanitation shall be maintained in a vault privy. The privy building shall be ventilated.

1507.7 Human excreta only: Only human body wastes may be disposed of in a vault privy.

1507.8 Preventing flotation: When vault privies are installed at or below the seasonal high water table, the installer shall make sure that flotation of the vault and entrance of surface or ground water will not occur.

1507.9 Venting: Dry vault privies shall provide air venting in through the toilet lid. The vent pipe shall be screened to prevent entry of flies.

1507.10 Access for cleaning: The vault shall be arranged for easy cleaning from outside the toilet area.

SECTION 1508.0 TEMPORARY ALTERNATIVE TOILETS

1508.1 Temporary alternative toilets, usually portable, are not regulated by this code. ~~This also includes incinerating and chemical toilets.~~

SECTION 1509.0 SEPARATED LAUNDRY DISPOSAL SYSTEMS

1509.1 General: The plumbing inspector may approve a separated laundry system for single-family dwelling units. A separated laundry field requires an application for subsurface waste water disposal system completed by a licensed site evaluator and a permit to install the system.

1509.2 Minimum requirements: Separated laundry systems shall meet the requirements of this Section.

1509.3 Only washing waste water: Only waste water from a washing machine may be discharged to the separate laundry disposal field designed for that purposes. Separate laundry disposal fields may be designed and used for hot tubs or backwash water. ~~See Subsection 502.3.4 and 502.3.5.~~

1509.4 Septic tank not required: A separated laundry disposal field does not require a septic tank.

1509.5 Design flow: Fifty five gallons per day (55 gpd) shall be used as the design flow for sizing a single-family separated laundry disposal field. The maximum design flow that may be subtracted from the design flow for the black-waste water system serving the structure is 55 gpd.

1509.6 Disposal field design and construction: Separated laundry disposal fields shall meet all the requirements prescribed in this code for other disposal fields.

1509.7 Drain line size: The discharge line between the washing machine and separated laundry disposal field shall be 2 inches in diameter with a grade of not less than 1/4 inch per foot.

CHAPTER 16

ENGINEERED DISPOSAL SYSTEMS

SECTION 1600.0 GENERAL

1600.1 Scope: This Chapter governs the design and installation of engineered systems with design flows in excess of 2,000 gpd.

SECTION 1601.0 RESPONSIBILITIES

1601.1 General: The size and/or complexity of engineered systems require that analysis, design construction, operation, and maintenance be undertaken at a level that is higher than the minimum requirements for small residential systems.

1601.2 Owner/operator: The owner/operator shall accurately describe the intended uses (present and future) for the system. The owner shall operate the system within the design parameters, except as provided for in section 1402, Expansion of existing structures. following the designer's recommendations for inspection and maintenance, as well as any State or local regulations.

1601.3 Design engineer: The design engineer is responsible for defining the needs of the client, investigating the site, designing the system, overseeing construction, and recommending operation and maintenance practices at an appropriate level of professional practice. The design engineer shall assure that the system, if installed and operated within the design parameters, will function properly and in compliance with all pertinent regulations in effect or known at the time of construction. The design engineer shall review the proposed design to assure proper functioning under expected conditions, including, but not limited to, peak effluent flows, high water levels, minimum recharge, deep frost, power failure, etc.

1601.4 Department of Human Services: The Department will conduct a desk review of the proposal, check for completeness of submittal (all necessary documents and signatures, etc.), review the reasonableness of data and assumptions, spot-check calculations, check for compliance with minimum requirements of this code and this Section, and give permission to the local government to issue the necessary permits. The Department is not responsible for the accuracy of the field data, assumptions or conclusions of the designer, the suitability of the design, or its performance.

1601.5 Local government: The local government, operating through the plumbing inspector(s), will issue the necessary permit(s) after it has received permission from the Department to do so and when it is satisfied that the pre-construction conditions shown on the design are representative of the actual conditions. The local official shall inspect the site in a timely manner in order to be able to state with reasonable assurance that the system was installed as described in the approved plans. A copy of the application shall be submitted to the town office at least 10 days before the permit(s) may be issued.

SECTION 1602.0 REQUIREMENTS FOR ENGINEERED DISPOSAL SYSTEM DESIGNS

1602.1 Department approval: An engineered system requires Department approval.

1602.2 Plan submission: The plans submitted to the Department shall contain all the information required in Chapter 6 in addition to meeting the requirements in this Section.

1602.3 Definition of the facility served: The submission shall define the facility to be served, the flow of the effluent (including variations in quality and quantity), and the current and projected uses of the facility. Design flows should be measured, estimated, and compared to historical (code) values, and safety factors should be used.

1602.4 Determination of soil and site conditions: The soil conditions shall be determined by a Maine Licensed Site Evaluator. The submission shall show site data that represents the soil conditions under the proposed disposal field as indicated in Section 701.1 and the soils conditions in the down slope fill extension of engineered disposal systems. The level of investigation is a function of the basic quality of the site (topography and soils) and the relative size of the system and disposal fields. There shall be sufficient knowledge of the site to determine how the system will perform.

1602.5 State of the art designs: The submission shall be based on current acceptable practices as it relates to the design of systems.

1602.6 Contour lines: The submission shall include: surficial contours, elevation of observation holes, and location of all site features within 300 feet that require consideration. Pre- development and post-development contours shall be shown both in the areas to be occupied by parts of a system and for a distance of 100 feet beyond the system. The contour intervals shall be no greater than 2 feet.

1602.7 Elevations: The elevation of the bottom of the disposal field(s), the original ground surface at each observation hole, and the top of the distribution pipes or proprietary disposal devices within the disposal field(s), shall be established.

1602.8 Localized mounding analysis: The submission shall include an analysis of the proposed system design showing that there is an adequate vertical separation between the bottom of the disposal field and any

mounded water table. The designer shall conduct the mounding analysis as prescribed by the department.

1602.9 Site transmission analysis: The submission shall include an analysis of the proposed system design showing that there are sufficient soils down-gradient to prevent the effluent from surfacing within 50 feet of the disposal field.

1602.10 Pertinent laws, etc.: The submission shall include evidence of compliance with all pertinent laws, ordinances, and regulations.

1602.11 Signatures: The submission and plans shall bear the seal of a professional engineer licensed in Maine and the signature of a site evaluator licensed in Maine.

1602.12 System: The proposed system shall be sized in compliance with Chapter 7, Chapter 9 and Chapter 10. It shall meet the minimum setback distances in Chapter 4.

1602.13 Reserve area for first time systems: A reserve area with suitable soil conditions shall be delineated on the plan and reserved for the possible expansion or replacement of the proposed engineered system.

1602.14 Pump dose volume: For engineered systems the pump-on and pump-off switches shall be set at appropriate levels to provide a dose volume as required by the manufacturer. The pump-off switch shall be set 6 inches above the pump intake. The pump- on switch shall be set at a distance "d," in inches above the pump-off switch, that is calculated by means of Equation 1602.14.

Equation 1602.14

$$D = [1.6][V_d+V_{cp}+V_{pd}]/[A]$$

where:

D is the inches above the pump-off switch;

V_d is the required dose volume, in gallons, determined as prescribed in Subsection 1106.4;

V_{cp} is the internal volume of all distribution pipes and connecter piping that will drain back into the dosing tank at the end of a dosing cycle, in gallons;

V_{pd} is the volume displacement, in gallons, of the pump and controls; and

A is the internal horizontal area of the dosing tank, in square feet.

1602.15 Review fee: A review fee, as indicated in Table 110.2 shall be submitted to the Department to defray the cost of reviewing an engineered system.

1602.16 Other information: The Department may request additional information from the applicant. If the applicant fails to provide any additional information requested by the Department within 180 days of the request, the request will automatically be denied.

SECTION 1603.0 INSTALLATION AND INSPECTION

1603.1 Engineered system permit issuance: The plumbing inspector may not issue a permit for an engineered system without first receiving a letter of approval from the Department.

1603.2 Construction inspections: The Local Plumbing Inspector shall inspect engineered disposal systems in accordance with Section 111.0. In addition, the property owner shall retain the professional engineer to inspect the construction of the system. The inspection shall be sufficient for the engineer to determine that the system was installed as designed.

1603.3 Engineer's statement of compliance: The State shall provide ~~a form for~~ the LPI with a form to be given to the homeowner, or the homeowner's agent, at the time of issing the permit. ~~This form will allow for the installer or inspector, in the case of an engineered system or a multi-user system, to provide a written statement to the owner, or agent, that the system was installed in compliance with this code and the conditions of the permit.~~ This form may be used by the owner or owners agent to obtain a written statement from the installer or inspector, in the case of an engineered system or multi-user system, that the system was installed in compliance with this code and the conditions of the permit.

CHAPTER 17

MULTI-USER DISPOSAL SYSTEMS

SECTION 1700.0 GENERAL

1700.1 Scope: This Chapter governs multi-user systems designed to serve three or more parcels with structures under three or more different ownerships when the disposal system is not owned by one party or entity.

1700.2 Intent: Ideally, each structure should have its own disposal system. Multi-user systems have many unique problems, including the determination of the responsible parties for repairs and other costs. Therefore, this Chapter sets forth requirements for multi-user systems in response to these unique problems.

SECTION 1701.0 OWNERSHIP

1701.1 General: Ownership of all parts of the facility beyond the building sewer shall be vested in an independent, legally established entity under Maine law.

1701.2 Maintenance fees: The entity may charge a maintenance or other fee adequate to assure sufficient capitalization to meet its responsibility to maintain the multi-user system.

1701.3 Maintenance: The entity shall be liable for the operation, maintenance, repair, or replacement of all parts of the system beyond the individual building sewers. It shall keep the system free of any nuisance or threat to public health or contamination of the environment.

1701.4 Right of entry: The entity shall have the right by easement to enter upon properties that are tied to the system for the purpose of servicing, maintaining, repairing, or replacing all parts of the common system.

1701.5 Authority to maintain system: The entity shall also have an access easement recorded against the properties associated with or necessary for the system. This easement shall provide for servicing, repairing, or replacing all parts of the common system. The easement shall also provide the authority to enter upon the area of the disposal field(s) and to enlarge or replace the disposal field(s) should such enlargement or replacement be deemed necessary or if the plumbing inspector orders such action for the purpose of abating a public nuisance.

SECTION 1702.0 INSTALLATION AND INSPECTION

1702.1 Multi-user disposal system permit issuance: The plumbing inspector may not issue a permit for a multi-user disposal system without first receiving a letter of approval from the Department.

1702.2 Review fee: A review fee, as indicated in Table 110.3 shall be submitted to the Department to defray the cost of review of a multi-user disposal system.

1702.3 Construction inspections: The Local Plumbing Inspector shall inspect the multi-user disposal system in accordance with Section 111.0. In addiiton, the property owner shall retain the site evaluator or designer to inspect the construction of the system. The inspection shall be sufficient for the site evaluator to determine that the system was installed as designed.

1702.4 Inspectors statement of compliance: The State shall provide the LPI with a form to be given to the homeowner, or the homeowner's agent, at the time of issuing the permit. This form may be used by the owner or owner's agent to obtain a See section 111.10.

CHAPTER 18

EXPERIMENTAL TECHNOLOGY AND PRODUCT APPROVAL REQUESTS

SECTION 1800.0 GENERAL

1800.1 Scope: This Chapter governs applications for new or experimental technology and requests for product approval.

1800.2 Intent: This Chapter provides a procedure to review the installation, operation, and long term requests for monitoring of experimental technologies and requests for new product approval.

SECTION 1801.0 REQUIREMENTS FOR NEW OR EXPERIMENTAL TECHNOLOGY

1801.1 General: Any permit issued to allow an experimental technology system shall require, as a condition of issuance, the establishment of a monitoring program by which system performance can be demonstrated. At a minimum, all experimental technology systems shall be capable of operating at the same degree of efficacy and reliability as any authorized alternative appropriate for the site. Any variance issued will require that the system be altered if such efficacy and reliability are not obtained, in order to bring performance up to standard, or, if such alteration is not feasible, that the system shall be abandoned.

1801.2 Applicants shall demonstrate: Requests for the installation experimental technology systems may be granted by Department if it is demonstrated that the conditions set forth in this Section can be met.

1801.3 Backup design: An authorized design can be installed on the property for which an experimental technology system is proposed. The backup system design shall be recorded with the county registry of deeds;

1801.4 Meets the intent of this code: The proposal is designed to protect public health, prevent the creation of any nuisance, and prevent environmental pollution to the same extent as the authorized system approved for the property;

1801.5 Sound engineering principles: The proposed design is shown to be based on sound engineering principles and can be expected to provide the same level of protection to public health and the environment as offered by the authorized system that could be installed on the property; and

1801.6 System performance: If the system does not perform so that it meets the purposes of this code, the applicant (or current owner) will expeditiously abandon the experimental system and install the backup system meeting all the requirements of this code.

SECTION 1802.0 REQUIREMENTS FOR PRODUCT APPROVAL

1802.1 General: Any manufacturer or distributor submitting new product (disposal system components, pre-filters or proprietary disposal devices) to the Department for code approval shall demonstrate that the conditions set forth in this Section are met.

1802.2 Meets the intent of this code: The product is designed to protect public health, prevent the creation of any nuisance, and prevent environmental pollution to the same extent as comparable products presently authorized by Department for use in this code;

1802.3 Sound engineering principles: The product is based on sound engineering principles and can be expected to provide the same level of protection to public health and the environment as offered by the authorized products presently authorized by the Department for use in this code; and

1802.4 Application fee: An application fee for product approval, as indicated in Table 110.3, shall be submitted to the Department to defray the cost of the review.

CHAPTER 19

VARIANCES

SECTION 1900.0 GENERAL

1900.1 Scope: This Chapter governs the requests for: 1) all variances for replacement systems, and 2) non-soil variances for first-time systems,. See Chapter 20 for guidance on New System Variances and the Minimum Lot Size Law .

1900.2 Intent: This Chapter provides a procedure for seeking a variance or exception to certain requirements of the Rules.

SECTION 1901.0 GENERAL: The procedure for processing a variance request depends upon whether it is for a first time or replacement system variance request and whether or not it is within the limit of authority of the LPI for final dispositions.

SECTION 1902.0 FIRST TIME SYSTEM VARIANCE REQUESTS

1902.1 Request for variance: Request for first time system variances shall include a completed application submitted to the Department by the applicant. The completed application shall be on a form prescribed by the Department, signed by the LPI and municpal officer(s) and accompanied by the appropriate application fee.

1902.2 Contents of applications: An application for a first time system variance shall include the following:

1902.2.1 Completed application for a disposal system permit: A completed application for a permit to install a system or part of a system. It shall include complete plans and specifications for the proposed system and other pertinent information as required on the HHE-200 and HHE-215 forms;

1902.2.2 Requirements that cannot be met: The application shall indicate the section(s) and/or provision(s) of the rules for which a variance is being requested;

1902.2.3 Basis for variance request: The reason(s) why the condition(s) set forth in the Rules cannot be met as well as justification for the variance request. Justification shall include a discussion of why the variance will not have an impact upon wastewater treatment including how additional measures may be used to offset reductions to conditions required by the rules;

1902.2.4 No conflict with local ordinances: For variance that fall under this chapter the applicant shall provide statement(s) that the completed application has been reviewed and signed by the LPI and municipal officer(s) on the HHE-215 form indicating that the application is complete and does not conflict with local ordinances.

1902.2.5 Application review fee: The application review fee, as indicated in Table 110.3 shall be submitted to the department to defray the costs of variance reviews.

1902.2.6 Additional engineering or measures: If pretreatment or additional measures are being proposed the application shall show how the proposed system and measures meet applicable sections of the rules, including the pre-treatment requirements found in Chapter 7.

1902.2.7 Other information: The Department may request additional information from the applicant for a first time system variance request. If the applicant fails to provide additional information requested by the Department within 60 days of the request, the variance request will automatically be denied.

SECTION 1903.0 REPLACEMENT SYSTEM VARIANCE REQUEST

1903.1. Request for variance The procedure for processing replacement system variance requests depends upon whether or not it is within the limit of authority of the LPI for final dispositions.

1903.2 Conditions applicable to all replacement system variance requests: The following conditions apply to all replacement system variance requests regardless of whether final disposition is with the LPI or the Department.

1903.2.1 Completed application for a disposal system permit: A completed application for a permit to install a system or part of a system. It shall include complete plans and specifications for the proposed system and other pertinent information as required on the HHE-200 and HHE-204 or HHE-233 (holding tank) forms.

1903.2.2 Requirement which cannot be met: The application shall indicate the section(s) and/or provision(s) of the rules for which a variance is being requested.

1903.2.3 Basis for a variance request: The reasons why the condition(s) set forth cannot be met.

1903.2.4 Application Review Fee: The replacement system application review fee, as indicated in Table 110.2 and Table 110.3 shall be submitted to the LPI or Department to defray the cost of the variance review.

1903.2.5 Minimum reduction necessary: The variance request is for the minimum reduction necessary to any requirement of the rules to accomplish the replacement system installation.

1903.2.6 No conflict with local ordinances: The request for a replacement system variance does not conflict with any local ordinance(s) or other rule(s) or statute(s).

1903.2.7 Meets definitions of replacement system: The replacement system variance request is to correct an existing, legal system which is malfunctioning or to replace an overboard discharge system or qualifies as an exempted expansion outside the shoreland zone of major water course.

1903.2.8 No reduction in vertical separation distance: No reduction is allowed in the vertical separation distance between the bottom of the disposal field and limiting factor except as authorized in Table 700.3.

1903.2.9 Additional engineering or measures: If pretreatment or other additional measures are being proposed, the application shall show how the proposed system and measures meet applicable sections of the rules, including Chapter 7.

1903.3 Replacement system variance requests which are within the limit of the LPI's authority: Replacement System Variance Requests may be decided upon by the LPI, without Department review, if the following conditions are met:

1903.3.1 Standard conditions: All of the conditions of subsection 1903.2 are met:

1903.3.2 Setback reductions: Setback reductions are no greater than allowed in Table 400.3

1903.3.3 Minimum soil conditions: Reductions in minimum soil conditions are no greater than allowed in Table 700.3

1903.3.4 Fill extension slope: The fill extension slope is no greater than 3:1 or 33%

1903.3.5 Design flow: The design flow for the structure is 500 gallons per day or less.

1903.3.6 Wastewater strength: The BOD 5 plus suspended solids content of the wastewater is no greater than that of normal domestic effluent.

Section 1903.4 Replacement system variance requests which are beyond the limit of the LPI's authority: Replacement System Variance Requests which are beyond the LPI's limit of authority must be submitted to the Department for review and disposition. They must meet the following conditions:

1903.4.1 Standard Conditions:

All of the conditions of subsection 1903.2 are met.

1903.4.2 LPI signature: The completed application, including HHE-204 or HHE-234 form, has been reviewed and signed by the LPI.

1903.4.3 Flexibility: The Department may be as flexible as is necessary to correct an existing, public health hazard.

SECTION 1904.0 DISPOSITION OF A VARIANCE BY THE DEPARTMENT

1904.1 General: **The Department may approve a variance, deny it, or approve it with conditions. The disposition of the variance request will be in writing and state the specifications and conditions of any approval or the reasons for denial. The conditions may include deed covenants, inspections and mandatory installation of a holding tank if the system fails in the future.SECTION 1905.0 TIME LIMIT**

1905.1 General: Any disposal system variance issued after the effective date of this code shall become invalid if the system has not been installed in compliance with any conditions established with the variance within two years after issuance of the disposal system variance except that any malfunction shall be replaced at the earliest opportunity.

SECTION 1906.0 OWNER/APPLICANT'S UNDERSTANDING

6 1906.1 Applicant responsibilities: Approval of a variance under this Chapter shall not relieve the applicant of the responsibilities of complying with all other applicable federal, state and local laws, rules, or ordinances.

1906.2 Owner's understanding: The owners' signature affixed on the application for variance means that it is understood that the proposed system is not in total compliance with the rules. The owner releases all concerned, provided that they have performed their duties in a reasonable and proper manner, considering the owners' request for a variance to the rules.

7SEASONAL CONVERSIONS**1907.1 Seasonal conversion:** Reviews for Seasonal Conversion requests by the Local Plumbing Inspectors are addressed in Chapter 3.

CHAPTER 20

NEW SYSTEM VARIANCE ~~AND~~ (SOIL CONDITION VARIANCES FOR FIRST TIME SYSTEMS) AND MINIMUM LOT SIZE WAIVER REQUESTS

SECTION 2000.0 GENERAL

2000.1 Background: Prior to 1980, first time subsurface waste water disposal systems were not allowed on soils with less than 15 inches to the limiting factor. In 1980, a New System Variance procedure was developed where first time system applicants could apply for a waiver to the 15 inch soil depth requirement, based upon the site, soil and engineering potential to treat waste water. To qualify, an application had to be for a site where the seasonal water table or restrictive layer were between 6 inches and 15 inches below the mineral soil surface. Department approval was mandatory. **This code does not change that procedure except that municipalities, choosing to do so, can permit New System Variances without Department approval. Those municipalities not choosing to take total responsibility for New System Variances, can still forward them to the Department for final approval.**

2001.0 LOCAL APPROVAL

2001.1 Municipal Review: This Chapter authorizes the municipality to make a final disposition of a request for a New System Variance through the Local Plumbing Inspector. A municipality shall review all requests for a New System Variance unless the municipal officers advise the Department in writing that this alternative is not desired. Upon written notification from the municipality, the Department shall perform this service. The intent of this section is that all decisions regarding New System Variances be made at the local level, with no requirement for Department review. However, if a municipality so chooses, it may request, in writing , that the Department make final decisions regarding New System Variances. When so notified, the Department will review and make final disposition upon all New System Variance requests within a municipality's jurisdiction.

2001.2 Evaluation: The plumbing inspector or Department will evaluate the merits of New System Variance requests based on the criteria set forth in this Section.

2001.3 Soil conditions: For a site that does not comply with the minimum soil conditions in Table 700.2 , the plumbing inspector or Department will use the criteria contained in Section 2003.0 and Table 2000.1 to evaluate the potential for a variance, except that sites with less than 12 inches of original soil over bedrock outside shoreland zoned areas of major water courses or 15 inches within the shoreland zoned area and sites with less than 7 inches over hydraulically restrictive horizon or seasonal water table will not be considered.

2001.4 Setbacks: For a site that does not comply with the minimum first time system setback distances in Chapter 4, variances shall be processed in accordance with Chapter 19.

2002.0 REVIEW FEE

2002.1 Fee: A review fee, as prescribed in Table 110.2 or 110.3 shall be submitted to the municipality or the Department, whichever agency performs the review process, to defray the cost of review and processing a New System Variance request.

2003.0 CRITERIA USED BY THE PLUMBING INSPECTOR OR DEPARTMENT FOR APPROVAL

2003.1 General: An Application, a New System Variance Form and Review Fee shall be submitted to the LPI or Department demonstrating the criteria set forth in this Section.

2003.2 Municipal ordinances: The Municipal Officers or Land Use Regulatory Commission indicate by their signature that the Application is in compliance with their regulations or ordinances relating to disposal systems.

2003.3 No practical alternative: There is no practical alternative for waste water disposal, such as access to public sewer;

2003.4 Seasonal conversion: No conflict with Chapter 3.

2003.5 Shoreland zoning: No conflict with Shoreland Zoning;

2003.6. Relative point value: The relative suitability of a proposed first time disposal system is determined by summing the points, from Table 2000.1, for the various soil, site and engineering features associated with the proposed installation.

2003.6.1 Minimum point value for sites outside the shoreland zoned area~~s~~ of major water courses: Any proposed first time disposal system located beyond the Mandatory Zoning Area shall have a relative point value of at least 50 points to be considered acceptable, unless a local ordinance requires a higher minimum point value to be acceptable or it is part of a subdivision (see subsection 2003.6.3).

2003.6.2 Minimum point value for sites within the shoreland zoned area~~s~~ of major water courses: Any proposed first time disposal system located within the Mandatory Zoning Area shall have a relative value of at least 65 points to be considered acceptable, unless a local ordinance requires a higher minimum point value to be acceptable.

2003.6.3 Minimum point value for subdivisions: Any proposed first time disposal system located within a proposed or existing subdivision as defined under 30 MRSA §4956 or 38 MRSA §482 shall have a relative value of at least 75 points to be considered acceptable, unless a local ordinance requires a higher minimum point value to be acceptable..

2003.7 Owner's understanding: The owners' signatures affixed on the application for variance means that it is understood that the proposed system is not in total compliance with the rules. The owners' release all concerned, provided that they have performed their duties in a reasonable and proper manner considering the owners' request for a variance to the rules.

2003.7.1 Awareness of costs: The property owner is aware of the variance, its limitations and costs;

2003.7.2 Additional engineering: Additional engineering has been proposed to overcome limitations of the existing soils, such as increased separation distance for limiting factor, increased design flow, curtain drain, etc.

2003.8 Deed covenant: A deed covenant may be required for any property which obtains additional points for lot size prior to final approval of a New System Variance. The covenant shall stipulate that the subject property shall not be subdivided without prior approval from the plumbing inspector or the Department.

2003.9 Map: An 8-1/2 by 11 inch sized map from the Maine Atlas or a U.S.G.S. Topographic Survey Map shall accompany each variance request and shall indicate sufficient identification to locate the property.

2003.10 Prior approved sites: A variance shall not be approved for a lot that had a disposal site approved during Municipal or Department of Environmental Protection subdivision reviewing unless the applicant can prove that the site requiring a variance will provide equal or better treatment of the waste water than the previously approved site.

2004.0 INSPECTIONS

2004.1 Plumbing inspector: The local plumbing inspector (LPI) shall be responsible for the final inspection and approval of the system.

The Department or LPI shall have authority to enter onto a property at any reasonable time for the purpose of performing an inspection to determine compliance with the requirements for a "New System Variance" request, or to verify the accuracy of the information provided by the request.

2004.2 Permission: By signing the "New System Variance" form, the owner acknowledges permission for the plumbing inspector or Department to enter onto the premises to perform such duties necessary to evaluate the variance request.

Table 2000.1 Soil, site and engineering factors used in assessing potential for a new system variance

SOILS

Soil Profile from Table 700.1	Points
Profiles 2, 3, & 7	15 pts
Profiles 1, 8, & 9	10 pts
Profile 4	7 pts
Profiles 5, 6, & 11	5 pts
Profile 10	Not permitted
AI bedrock class outside shoreland zone	Not permitted
AI & AII bedrock classes within shoreland zone	Not permitted

SEASONAL GROUNDWATER OR RESTRICTIVE LAYER

Depth to seasonal groundwater or restrictive layer	Points
14 inches*	20 pts
13 inches*	15 pts
12 inches*	9 pts
11 inches	6 pts
10 inches	3 pts
<10 to 7 inches	0 pts
Less than 7 inches	Not permitted

*For sites within the shoreland zoned area of major water courses

SIZE OF PROPERTY

Total acreage	Points
More than 10 acres	20 pts
6 to 10 acres	15 pts
5 to 6 acres	10 pts
4 to 5 acres	8 pts
3 to 4 acres	6 pts
2 to 3 acres	4 pts
1 to 2 acres	2 pts
1/2 to 1 acre	minus 10 pts
Less than 20000 ft^2	Not permitted

TERRAIN

Position in the landscape	Points
Knoll upland (no watershed)	5 pts
Side slope	3 pts
Lowland	minus 5 pts

Depression	Not permitted

WATER BODY SETBACK

Setback distance from water bodies	Points
Greater than 250 feet	5 pts
150 to 250 feet	3 pts
100 to 149 feet	0 pts
Less than 100 feet	Not permitted

WATER SUPPLY & ZONING

Type	Points
Off-site public water supply	5 pts
On-site private drilled well	3 pts
On-site other private supply	0 pts
Zoned for resource protection	Not permitted

TYPE OF DEVELOPMENT

Type	Points
Commercial less 100 gpd	5 pts
Commercial 100 to 300 gpd	3 pts
Single-family residential	0 pts
Commercial 301 to 750 gpd	minus 5 pts
Commercial greater than 750 gpd	minus 10 pts

DESIGN FLOW ADJUSTMENT

Increase in minimum design flow as determined from Chapter 9	Points
Minimum design flow plus 66%	10 pts
Minimum design flow plus 33%	5 pts
Minimum design flow	0 pts

VERTICAL SEPARATION DISTANCE ADJUSTMENT

Increase in minimum vertical separation distances between bottom of the disposal field and limiting soil horizon as determined from Tables 700.2 and 700.3	Points
*Minimum separation distance plus 100%	10 pts
*Minimum separation distance plus 50%	5 pts
Minimum separation distance	0 pts

* Minimum separation distance based upon design class 1 and 2 as indicated in Table 700.2 (First time systems)

ADDITIONAL TREATMENT (One or more may be used)

Type of treatment	Points
Sand filters	5 pts
Peat filters	5 pts
Curtain drains for Profiles 1, 3, 7 & 8	5 pts
Backfill liner (See Subsection 1205.3) for Profiles 5 ,6, & 11, (if 11 is sandy)	3 pts
Zabel Filter (Septic tank outlet filter)	3 pts

SECTION 2005.0 MINIMUM LOT SIZE LAW

2005.1 Scope: This Chapter governs the Department's administration of the Minimum Lot Size Law, 12 M.R.S.A. Section 4807 et al. Other regulations exist pertaining to minimum lot size in Shoreland Zoning for modular home parks.

2005.2 Intent: This Chapter sets forth the provisions for approval of subsurface waste water disposal on lots which do not comply with 12 MRSA 4807-A and are not exempted by 12 MRSA 4807-D.

2005.3 Departmental approval: Title 12 §4807-B states:

"A lot of less than the size required in §4807-A may be used for subsurface waste water disposal if approved in writing by the Department of Human Services. Approval shall be granted if the applicant demonstrates to the Department of Human Services that, based upon the amount and nature of wastes, construction of the subsurface disposal system, soil types and slopes, percolation rates, depth to bedrock and groundwater, density of any proposed development, and other relevant factors, the proposed subsurface waste disposal will not lower the water quality of or otherwise pose a threat to any lake, pond, stream, river or tidal waters, any underground water supply, or to the public health, safety and general welfare."

2005.4 Single family lots of record: This Chapter

"shall not apply to any lot which prior to January 1, 1970, was specifically described as an identifiable and separate lot either in the instrument conveying such lot to the then owner or in a valid and enforceable agreement for purchase and sale or was shown on a plan recorded in accordance with law, prior to January 1, 1970; provided that contiguous undeveloped lots in the same ownership on or after October 3, 1973 shall be considered as one lot for purposes hereof." (Quoted from 12 M.R.S.A. Section 4807-D "Exemptions.")

2005.5 Other lots of record: Undeveloped lots where the use will be other than single-family residential are not exempt from the provisions of this Chapter.

2005.6 Existing structures: This Chapter does not apply to any structure in existence and in place on or before October 3, 1973, which then or theretofore disposed of wastes by means of subsurface waste water disposal; except that no person shall reduce the size of the lot upon which such structure is located to a size or frontage less than that allowed in section 2005.8.1. The division of a lot upon which a number of such structures existed on or before October 3, 1973 into a number of lots not exceeding the number of structures, with one or more structures on each new lot is not subject to this Chapter, if the size of the lot, and/or the frontage has not been reduced since October 3, 1973.

2005.7 Public sewers: This Chapter does not apply to lots served by a municipal or quasi-municipal sewer system.

2005.8 Minimum lot size and frontage requirements: No person shall dispose of waste water by means of a subsurface waste water disposal system, unless the lot meets the minimum lot size and frontage requirements in this Chapter.

2005.8.1 Single-family dwelling units: A lot on which a single-family dwelling unit is located shall contain at least 20,000 square feet. If the lot abuts a lake, pond, stream, river, or tidal area, it shall have a minimum frontage of 100 feet on the water body and any greater frontage required by local zoning. For purposes of this Chapter, a single family residential unit shall be determined to be 300 gallons per day of waste water.

2005.8.2 Other land use activities: Other land uses that generate waste water shall require a lot containing at least 20,000 square feet and 100 feet of frontage. For waste water generated in excess of 300 gallons per day the lot shall be in the same proportion as that required in 2005.8.1. Determine the minimum lot size and frontage required based on the requirements in this Section.

2005.8.3 Multiple unit housing: For multiple unit housing, calculate the daily waste water flows based on 120 gallons per bedroom per day.

2005.8.4 Other new land uses: For other new land use activities, calculate the daily waste water flows based on the design flow requirements prescribed in Table 902.4.

2005.8.5 Other existing land uses: For other existing land use activities, calculate the daily waste water flows based on the design flow requirements prescribed in Table 902.4 or actual water meter readings as set forth in Section 903.0.

2005.9 Application required: An application for a minimum lot size waiver is required for any subsurface waste water disposal system on a lot not meeting the minimum area or frontage requirements of the Minimum Lot Size Law unless grandfathered pursuant to section 2005.

2005.10 Application form: The application for a minimum lot size waiver shall be on the form prescribed by the Department. A completed application shall include the following:

2005.10.1: a signed application form;

2005.10.2 A completed HHE 200 form;

2005.10.3: the review fee as prescribed in Table 110.3.

CHAPTER 21

MEANS OF APPEAL

SECTION 2100.0 GENERAL

2100.1 Scope: This Chapter governs the means of appealing a decision made by the Department pertaining to a variance to this code, a minimum lot size reduction request, or a code interpretation. Any appeal to a decision made by a Local Plumbing Inspector is made through the municipal officers.

2100.2 Appellant: For the purpose of this Chapter, the "appellant" is any party wishing to contest a decision by the Department on a variance request, Minimum Lot Size Law waiver request or code interpretation, or a person lawfully acting on the behalf of an appellant.

2100.3 Grounds for appeal: For the purpose of this Chapter, the grounds for appeal are limited to: (1) violation of the law or rules; (2) misapplication of the law or rules; or (3) a factual mistake that is likely to affect the decision.

2100.4 Settlement: Parties to a Formal Conference or a Formal Administrative Hearing may negotiate a mutually acceptable settlement at any point during the proceedings.

2100.5 Stopping Work: A formal, written request for a Formal Conference or Formal Administrative Hearing shall be cause for the Local Plumbing Inspector (LPI) to be notified by the department to issue a Stop Work Order pending completion of the review process.

SECTION 2101.0 NOTICE

2101.1 General: The Department shall inform the appellant and any entitled abutters, in writing, of its intention to grant, deny, terminate, or suspend a variance or waiver issued pursuant to this code or code interpretation.

2101.2 Written Decision: Granting or denial of a variance, waiver or the issuance of a code interpretation shall be provided in writing.

SECTION 2102.0 APPEAL PROCEDURE

2102.1 General: The appeal procedure shall consist of three (3) levels of appeals. It shall proceed in the following sequence:

2102.1.1 Step 1: A formal conference;

2102.1.2 Step 2: A formal administrative hearing; and

2102.1.3 Step 3: A judicial review.

SECTION 2103.0 APPEAL FEES

2103.1 General: An administrative appeal fee for a formal conference or a formal administrative hearing shall be levied as follows:

2103.1.1 Formal conference fee: An administrative appeal fee of $50.00;

2103.1.2 Formal administrative hearing fee: An administrative appeal fee of $75.00; and

2103.1.3 Judicial review fee: Subject to judicial procedures.

2103.2 Exemption: Individuals who can prove they are qualified to receive public benefits, such as medicaid or AFDC are exempt from the administrative fees listed in 2103.1.1, "Formal conference fee," and 2103.1.2, "Formal administrative hearing fee." Procedures for demonstrating eligibility shall be consistent with those utilized in the benefit programs. The Commissioner of the Department of Human Services may grant a fee exemption when it is determined to be appropriate.

2103.3 Administrative Fee Payment. A check for the appropriate amount shall be made out for the "Treasurer of State." The check shall be sent to: Department of Human Services, Division of Health Engineering, Plumbing Control Program. Payment shall be made prior to scheduling any Formal Conference or Administrative Hearing.

SECTION 2104.0 REQUEST FOR FORMAL CONFERENCE

2104.1 General: To appeal a decision of the Department, the appellant shall submit a written request for a formal conference. The appellant shall submit the request to the Department within thirty (30) days of the date of the Department's written decision. The request shall include the following:

2104.1.1 Intention: The intended/requested appeal action; and

2104.1.2 Reason(s): The reasons that support the intended action, including: (1) violation of the law or rules; (2) misapplication of the law or rules; and/or (3) factual mistake that is likely to affect the decision.

2104.2 Limiting the issues: Before the formal conference, the appellant shall raise all issues upon which he or she appeals the decision.

SECTION 2105.0 FORMAL CONFERENCE

2105.1 Intent: This Section sets forth the procedures to be used for formal conferences.

2105.2 Written request: The written request must be mailed to:

Director, Division of Health Engineering
State House Station 10
Augusta, Maine 04333-0010

2105.3 Scheduling the conference: As soon as practicable, the Department shall notify the appellant of the date, time, and place of the formal conference.

2105.4 Conference officer: The formal conference will be conducted by the Director of the Division of Health Engineering, or his or her designee.

2105.5 Conference Location: The Conference Officer shall schedule a Conference in Augusta, Maine

2105.6 Representation: At the formal conference, the appellant may be represented by legal counsel or any other representative on his or her behalf.

2105.7 Disputed issues: The appellant or representative shall raise all issues about which he or she disagrees with the Department's decision. He or she may present new evidence or information or otherwise present arguments in response to the Department's intended action. Failure to raise any issues at the formal conference shall be deemed a waiver of any appeal rights on those issues.

2105.8 Written decision: Following the formal conference, the Director shall issue a written decision to the appellant which shall affirm, modify, or revoke the initial and intended decision of the Department.

SECTION 2106.0 FORMAL ADMINISTRATIVE HEARING

2106.1 Intent: This Section sets forth the procedures to be used for formal administrative hearings.

2106.2 Hearing request: If the appellant is dissatisfied with the written decision of the formal conference, he or she may appeal that decision by submitting a written "Request For Administrative Hearing" within thirty (30) days of the date of the written ~~in~~formal conference decision to:

Chief Hearings Officer
Office of Administrative Hearings
State House Station 11
Augusta, Maine 04333-0011

The request to the office of Administrative Hearings shall be accompanied by a copy of the fair hearing report.

If the appellant does not request the hearing withing the thirty (30) day time period absent good cause, the hearing may be denied by the Office of Administrative Hearings.

If the appellant does not set forth the issues aggrieved, the request for hearing may be denied by the Office of Administrative Hearings.

2106.3 Issues on appeal: The request shall state the specific issues being appealed.

2106.4 Hearing officer: An impartial hearing officer shall conduct the administrative hearing.

2106.5 Representation: At the hearing, the appellant may be represented by legal counsel or any other representative on his or her behalf.

2106.6 Hearing conduct: The hearing will be conducted pursuant to the rules of the Office of Administrative Hearings, as set forth in the Administrative Hearing Manual, and in conformity with the administrative procedure action 5 M.R.S.A. Section 8001, et. seq.

2106.7 Hearing location and date: A notice will inform the appellant of the time, date, and place of the hearing. The hearing will be held in Augusta, Maine unless otherwise noted. The hearing date will be at least twenty (20) days following the date of the notice of the administrative hearing.

2106.8 Decision: The hearing officer shall issue a written decision of administrative hearing to all parties. The Hearing Officer shall submit recommended findings of facts and a recommended decision to the Commissioner. Parties have twenty (20) days to file written exceptions and responses with the Office of the Commissioner. The Commissioner may reserve jurisdiction to issue the final decision.

SECTION 2207.0 JUDICIAL REVIEW

2207.1 Judicial review: Any person or party dissatisfied with the hearing officer's decision has the right of judicial review under the Maine Rules of Civil Procedure, Rule 80C.

CHAPTER 22

HOLDING TANKS FOR FIRST TIME DISPOSAL SYSTEMS

SECTION 2200.0 GENERAL

2200.1 Scope: This Chapter governs the approval and installation of holding tanks utilized as first time disposal systems. For replacement systems see Section 1404.0.

2200.2 Optional: The provisions of this Chapter are optional on the part of a municipality.

2200.3 Applicability: This Chapter is applicable only in those municipalities that have enacted a holding tank ordinance similar to the model ordinance in Appendix A.

2200.4 Not permitted: Holding tanks can not be used to satisfy the requirements for a Seasonal Conversion Permit under Title 30-A M.R.S.A. §4215 Subsection 2 or a first time system located within the shoreland zoned area of major water courses..

2200.5 Background: Holding tanks are designed to receive and hold all the domestic waste water leaving a structure. This waste water, in turn, is pumped out and transported to a municipal treatment plant or to an approved land spreading site. The average person generates 45 to 75 gallons of waste water per day. Thus, a family of three can expect to fill a 1,500 gallon holding tank every two to three weeks. Holding tanks may be a viable alternative for those properties with very poor site and soil conditions. However, holding tank pumping is costly and the holding tanks require continuous supervision on the part of the municipality to assure proper maintenance and pumping.

2200.6 Discontinuance of Holding Tank: Any structure which utilizes a holding tank as a first time system shall be required to meet first time criteria for alternate means of subsurface wastewater disposal.

SECTION 2201.0 APPLICATION PROCEDURE

2201.1 Plumbing inspector approval: A holding tank application requires plumbing inspector approval.

2201.2 Application for a holding tank: A completed application for a holding tank shall contain the following:

2201.2.1 Application form: A completed holding tank application form or other suitable documentation prepared by a Site Evaluator; and

2201.2.2 Owner/Municipality agreement: A completed holding tank agreement with the necessary owner/municipality statements is required.

SECTION 2202.0 REQUIREMENTS FOR APPROVAL FOR FIRST TIME HOLDING TANKS

2202.1 Approval criteria: The plumbing inspector may approve the permanent use of a holding tank as a first time system, provided all the following requirements are met:

2202.1.1 Local ordinance: The municipality has a holding tank ordinance similar to the model ordinance in Appendix A, and has adopted this Section or an ordinance with similar or more strict provisions; and

2202.1.2 No practical alternative: Due to site conditions, lot configuration, or other constraints, the installation of a system with a disposal field is not feasible; and

2202.1.3 Public sewers not available: Public sewers and/or multi-user systems are, by practical means, not immediately available; and

2202.1.4 Water conservation: The plumbing in the structure will be modified for maximum water conservation, and all water closets shall meet or exceed ASME A112.19.2 for 1.6 gallons per flush.

2202.2 Water monitoring and reporting: The owner or agent of replacement system holding tanks shall retain for a period of three years the copies of the pumping records and the current agreement between the owner and tank pumper.

CHAPTER 23

PEAT DISPOSAL SYSTEMS

SECTION 2300.0 CONSTRUCTION TECHNIQUES

2300.1 General: See Chapter 12 for general construction techniques.

2300.2 Suitable sites: Suitable sites for installing peat disposal fields are the same as for other types of disposal fields. See Chapters 4, 6, and 7.

2300.3 Site preparation: Site preparation for peat disposal fields shall be the same as it is for any disposal field authorized under this code. See Chapter 12.

SECTION 2301.0 PEAT DISPOSAL FIELD DESIGN AND INSTALLATION

2301.1 Weather: Peat disposal fields shall not be installed when the ground or the peat material is frozen.

2301.2 Low pressure distribution: Low pressure distribution is not allowed in peat disposal fields.

2301.3 Minimum width: The minimum width of a peat disposal field is 5 feet.

2301.4 Maximum width: The maximum width of a peat disposal field is 20 feet.

2301.5 Maximum length: The maximum length of a peat disposal field is 50 feet with end manifold and 100 feet with central manifold.

2301.6 Distribution pipe sizing: Gravity dosed distribution pipes shall consist of 4 inch diameter perforated pipe.

2301.7 Distribution pipe dosing: Dose to a maximum of 1/2 gallon per linear foot of 4 inch diameter pipe.

2301.8 Distribution pipe placement and bedding: The distribution pipes and bedding in peat disposal fields shall meet the following requirements:

2301.8.1 Distance from outer limits: The distribution pipes shall be installed 2.5 feet from the outer limits of the peat disposal field;

2301.8.2 Distances center-to-center: The distribution pipes shall be 2.5 feet on center;

2301.8.3 Connecting the ends of each distribution pipe: The distribution pipes shall be connected at each end with solid piping;

2301.8.4 Distribution box: If a distribution box is used it shall be located out side the limits of the peat and meet the requirements of section 1104.0;

2301.8.5 Stone beneath and on the sides of the distribution piping: The distribution pipes shall be installed over the center line of a 10 inch wide and 4 inch deep layer of 3/8 inch washed crushed rock. Additional 3/8 inch washed stone shall be placed on either side of the pipe to a 3 inch width. All stone shall be washed before its delivery to the site. No stone may be placed above the pipe;

2301.8.6 Stone under the peat: A minimum of 6 inches of 3/8 inch clean crushed rock or clean coarse sand shall be placed at the bottom of the peat disposal field; and

2301.8.7 Depth of peat: There shall be a minimum of 24 inches of peat below the bottom of the distribution lines and a minimum of 8 inches of peat above the top of the distribution lines.

2301.9 Compaction of the peat: The depth of peat layers depends on the moisture content at the time of the installation. At 50% moisture content (on a dry weight basis) install in 8 to 12 inch lifts. At 60% moisture, install in 12 to 16 inch lifts. The peat lifts should be hand raked and compacted by an adult walking on it with snowshoes until an in-place bulk density of 6.2 to 9.4 pounds/cubic foot (on a dry-weight basis) is reached. No construction equipment or lawn rollers may be used to compact the peat.

2301.10 Surface treatment: No fill material may be placed over the top of the peat. Instead, the peat shall extend to the mineral soil surface of the original ground, or the fill on each side, and shall be crowned at a slope of 3%. The surface of the peat may be left bare, seeded with lawn grasses, or planted with shallow rooted vegetation so as to blend into the natural surroundings. Deep-rooted vegetation shall not be allowed to grow on the surface of a peat disposal field.

2301.11 Vehicular and pedestrian traffic: No portion of any peat disposal field may be located under a paved area, driveway, or roadway.

SECTION 2302.0 PEAT TYPE AND CONDITION

2302.1 Type of peat: The peat should be air-dried, milled, unscreened, bulk-loaded Sphagnum peat with a pH of 3.5 to 4.5, a von Post degree of decomposition of H4, a moisture content of 50% to 60%, an organic content of 95% or greater, and an ash content of 5% or less. The peat shall not have been dried to less than 40% at any time during production.

SECTION 2303.0 SIZING PEAT DISPOSAL FIELDS

2303.1 Soil profile vs peat disposal field application rates: The required bottom area of peat disposal fields shall be determined using the following:

2303.1.1 Soil profile 6: Soil profile 6 require a peat disposal field application rate of 1 square foot per gallon per day;

2303.1.2 Soil profiles 4 and 5: Soil profiles 4 and 5 require a peat disposal field application rate of 1.25 square feet per gallon per day;

2303.1.3 Soil profiles 2, 3, and 7: Soil profiles 2, 3, and 7 require a peat disposal field application rate of 1.50 square feet per gallon per day;

2303.1.4 Soil profiles 1 and 8: Soil profiles 1 and 8 require a peat disposal field application rate of 1.75 square feet per gallon per day;

2303.1.5 Soil profile 9: Soil profile 9 requires a peat disposal field application rate of 2.0 square feet per gallon per day;

2303.1.6 Soil profile 11: Soil profile 11 is for alluvial soils that vary in texture. For design purposes, use the peat disposal field application rate from a soil profile listed above which best describes the texture encountered; and

2303.1.7 Site suitability: Site suitability for peat disposal fields is as prescribed in Chapter 7.

2303.2 All other aspects: In all other aspects, construction of a peat disposal field shall comply with Chapter 7, unless otherwise specified.

SECTION 2304.0 UNDER-DRAINED PEAT FILTERS

2304.1 Scope: Under-drained peat filters are designed to pre- treat septic tank effluent prior to its ultimate disposal in any disposal field authorized under this code..

2304.2 Polyethylene liner: The under-drained peat filter is placed in an excavation or fill material that is lined with an 18 mil polyethylene sheeting or equivalent.

2304.3 Final disposal in a disposal field: The effluent from the peat filter is conveyed to a separate disposal field for final disposal.

2304.4 Sizing the disposal field: The disposal field used for final disposal is sized according to Chapter 9 and sized at 90% of the minimum hydraulic loading rate required in Table 700.1. Field size may be further reduced based on Subsection 703.0.

SECTION 2305.0 OPERATION AND MAINTENANCE

2305.1 Garbage disposal: Garbage disposals should not be used with peat disposal fields. See section 707 for additional requirements if they are to be used or designed to be used.

2305.2 Chemicals: Chemicals, other than normal household cleaners, shall not be disposed of in the disposal peat field. Examples of prohibited chemicals include paint, paint thinner, commercial grease and oil, darkroom chemicals, etc.

2305.3 Non-biodegradable materials: Non-biodegradable materials, such as diapers, sanitary napkins, etc., shall not be disposed of in a peat disposal system.

2305.4 Fencing: Fencing is required in heavy foot traffic areas such as school playgrounds, commercial establishments, or vehicular-traffic travel areas.

2305.5 Mowing: If a peat disposal field is planted with lawn grasses it should be mowed on a regular basis during the growing season with a walk-behind power or manual mower.

2305.6 Traffic: In addition to the above, peat disposal fields should be protected from the type of heavy foot traffic found on a school yard, playground, or ball court. Riding mowers, ATVs, snowmobiles, and other vehicles should not be allowed on peat disposal fields.

2305.7 Maintenance instructions: System owners shall be provided with a copy of the operation & maintenance requirements by the site evaluator.

APPENDIX A

MODEL HOLDING TANK ORDINANCE

This Appendix is not intended to be enforced as part of the code's minimum requirements.

BE IT ENACTED AND ORDAINED by the [Selectmen][Councilmen] of the [Town][City][Township], [County Name], and it is hereby enacted and ordained as follows:

Section 1. Purpose. The purpose of this Ordinance is to establish procedures for the use and maintenance of holding tanks designed to receive and retain waste water from residential or commercial uses. It is hereby declared that the enactment of this Ordinance is necessary for the protection, benefit, and preservation of the health, safety, and welfare of the inhabitants of this municipality.

Section 2. Definitions. Unless the context specifically and clearly indicates otherwise, the meaning of terms used in this Ordinance shall be as follows:

"Authority" shall mean [Selectmen][Councilmen] of [Town] [City] [Township], [County Name] County, Maine.

Holding tank: A closed, water-tight structure designed and used to receive and store waste water or septic tank effluent. A holding tank does not discharge waste water or septic tank effluent to surface or ground water or onto the surface of the ground. Holding tanks are designed and constructed to facilitate ultimate disposal of waste water at another site.

"Improved property" shall mean any property within the municipality upon which there is a structure intended for continuous or periodic habitation, occupancy, or use by humans or animals and from which structure waste water shall or may be discharged.

"Municipality" shall mean [Town] [City] [Township], [County Name] County, Maine.

"Owner" shall mean any person vested with ownership, legal or equitable, sole or partial, of any property located in the municipality.

"Person" shall mean any individual, partnership, company, association, corporation, or other group or entity.

"Waste water" shall mean any liquid waste containing animal or vegetable matter in suspension or solution, or the water-carried wastes from the discharge of water closets, laundry tubs, washing machines, sinks, dishwashers, or other source of water-carried wastes of human origin. This term specifically excludes industrial, hazardous, or toxic wastes and materials.

Section 3. Rights and privileges granted. The Authority is hereby authorized and empowered to undertake, within the municipality, the control of and methods of disposal of holding tank waste water and the collection and transportation thereof.

Section 4. Rules and regulations to be in conformity with applicable law. All such rules and regulations adopted by the Authority shall be in conformity with the provisions herein, all other ordinances of the [Town] [City] [Township], all applicable laws, and applicable rules and regulations of the administrative agencies of the State of Maine. Holding tanks can not be used for seasonal conversion, see Subsection 301.3, or new construction within the shoreland zone of a major water course.

Section 5. Rates and charges. The Authority shall have the right and power to fix, alter, charge, and collect rates, assessments, and other charges in the area served by its facilities at reasonable and uniform rates as authorized by applicable law.

Section 6. Exclusiveness of rights and privileges. The collection and transportation of all waste water from any improved property utilizing a holding tank shall be done solely by, or under the direction and control of, the Authority, and the disposal thereof shall be made at such site or sites as may approved by the Maine Department of Environmental Protection.

Section 7. Duties of owner of improved property. The owner of an improved property that utilizes a holding tank shall:

A. Maintain the holding tank in conformance with this or any other Ordinance of this [Town] [City] [Township], the provisions of any applicable law, the rules and regulations of the Authority, and any administrative agency of the State of Maine; and

B. Permit only the Authority, or its agent, to collect, transport, and dispose of the contents therein.

Section 8. Violations. Any person who violates any provisions of Section 7 shall, upon conviction thereof by summary proceedings, be sentenced to pay a fine of not less than One Hundred and not more than Three Hundred dollars, plus costs.

Section 9. Abatement of nuisances. In addition to any other remedies provided in this ordinance, any violation of Section 7 above shall constitute a nuisance and shall be abated by the municipality or Authority by seeking appropriate equitable or legal relief from a court of competent jurisdiction.

Section 10 Alternative disposal: An alternative means of waste water disposal shall meet first time system criteria. Replacement system criteria shall not be considered.

Section 11. Repeal. All ordinances or resolutions, or parts of ordinances or resolutions, insofar as they are inconsistent herewith, are hereby repealed.

Section 12. Severability. If any sentence, clause, Section, or part of this ordinance is for any reason found

to be unconstitutional, illegal, or invalid, such unconstitutionality, illegality, or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or parts of this ordinance.

Section 13. Effective date. This ordinance shall become effective five days after its adoption.

ENACTED AND ORDAINED into an Ordinance this [Day] day of [Month] A.D., [Year] of the [Selectmen][Councilmen] of the [Town] [City] [Township] of [County] County in lawful session duly assembled.

[Selectmen] [Councilmen] of the [Town] [City] [Township] of

_____

_____

_____

_____

Appendix B

MINIMUM LOT SIZE LAW

SECTION B-100.0 GENERAL

B-100.1 Scope: This Appendix addresses the Department's administration of the Minimum Lot Size Law, 12 M.R.S.A. Section 4807 et al.

B-100.2 Intent: This Appendix describes the general provisions for approval of subsurface waste water disposal on lots which do not comply with 12 MRSA 4807-A and are not exempted by 12 MRSA 4807-D.

SECTION B-101.0 EXEMPTIONS

B-101.1 Single family lots of record: The guidance in this Appendix "shall not apply to any lot which prior to January 1, 1970, was specifically described as an identifiable and separate lot either in the instrument conveying such lot to the then owner or in a valid and enforceable agreement for purchase and sale or was shown on a plan recorded in accordance with law, prior to January 1, 1970; provided that contiguous undeveloped lots in the same ownership on or after October 3, 1973 shall be considered as one lot for purposes hereof." (Quoted from 12 M.R.S.A. Section 4807-D "Exemptions.")

B-101.2 Other lots of record: Undeveloped lots where the use will be other than single-family residential are not exempt from the provisions of this Appendix.

B-101.3 Existing structures: This Appendix does not apply to any structure in existence and in place on or before October 3, 1973, which then or theretofore disposed of wastes by means of subsurface waste water disposal; except that no person shall reduce the size of the lot upon which such structure is located to a size or frontage less than that allowed in Subsection B-102.1. The division of a lot upon which a number of such structures existed on or before October 3, 1973 into a number of lots not exceeding the number of structures, with one or more structures on each new lot is not subject to this Chapter, if the size of the lot, and/or the frontage has not been reduced since October 3, 1973.

B-101.4 Public sewers: This Chapter does not apply to lots served by a municipal or quasi-municipal sewer system.

SECTION B-102.0 MINIMUM LOT SIZE DETERMINATION

B-102.1 Minimum lot size and frontage requirements: No person shall dispose of waste water by means of a subsurface waste water disposal system, unless the lot meets the minimum lot size and frontage requirements in this Appendix.

B-102.1.1 Single-family dwelling units: A lot on which a single-family dwelling unit is located shall contain at least 20,000 square feet. If the lot abuts a lake, pond, stream, river, or tidal area, it shall have a minimum frontage of 100 feet on the water body and any greater frontage required by local zoning. For purposes of this Chapter, a single family residential unit shall be determined to be 300 gallons per day of waste water.

B-102.1.2 Other land use activities: Other land uses that generate waste water shall require a lot containing at least 20,000 square feet and 100 feet of frontage. For waste water generated in excess of 300 gallons per day the lot shall be in the same proportion as that required in Section B-102.1.1. Determine the minimum lot size and frontage required based on the requirements in this Section.

B-102.1.2.1 Multiple unit housing: For multiple unit housing, calculate the daily waste water flows based on 120 gallons per bedroom per day.

B-102.1.2.2 Other new land uses: For other new land use activities, calculate the daily waste water flows based on 70% of the design flow requirements prescribed in Table 902.4.

B-102.1.2.3 Other existing land uses: For other existing land use activities, calculate the daily waste water flows based on 70% of the design flow requirements prescribed in Table 902.4 or actual water meter readings as set forth in Section 903.0.

B-102.2. Other regulations: Other regulations exist pertaining to minimum lot size in Shoreland Zoning for modular home parks.

SECTION B-103.0 STATUTORY REQUIREMENTS

B-103.1 General: Title 12 §4807-B states "A lot of less than the size required in §4807-A may be used for subsurface waste water disposal if approved in writing by the Department of Human Services. Approval shall be granted if the applicant demonstrates to the Department of Human Services that, based upon the amount and nature of wastes, construction of the subsurface disposal system, soil types and slopes, percolation rates, depth to bedrock and groundwater, density of any proposed development, and other relevant factors, the proposed subsurface waste disposal will not lower the water quality of or otherwise pose a threat to any lake, pond, stream, river or tidal waters, any underground water supply, or to the public health, safety and general welfare."

SECTION B-104.0 APPLICATION PROCEDURE

B-104.1 Application required: An application for a minimum lot size waiver is required for any subsurface waste water disposal system on a lot not meeting the minimum area or frontage requirements of the Minimum Lot Size Law unless grandfathered pursuant to §B-101.0.

B-104.2 Application form: The application for a minimum lot size waiver shall be on the form prescribed by the Department. A completed application shall include the following:

B-104.2.1:a signed application form;

B-104.2.2A completed HHE 200 form**B-104.23:** the review fee.

APPENDIX B

PROPRIETARY DISPOSAL DEVICES

P-100.0 ALL DEVICES

P-100.1 General:This Appendix is intended to be enforced as part of the code's minimum requirements. Approved proprietary disposal devices may be used in lieu of a stone filled disposal field. A potential purchaser is advised to obtain information pertaining to the relative cost, availability, installation procedures, method of waste water distribution, and specific design considerations.

P-100.2 Requirements: The use of proprietary disposal devices may be approved, provided they meet the following conditions:

P-100.2.1 Condition 1: The square footage of the bottom and sidewall area of proprietary disposal devices varies from one manufacturer to another. Therefore, the required number of proprietary disposal devices from a specific manufacturer is determined by dividing its standard stone-filled square-footage equivalent into the total bottom and sidewall area, determined by multiplying the appropriate minimum hydraulic loading rate, from Table 700.1 and the design flow, from Chapter 9;

P-100.2.2 Condition 2: When proprietary disposal devices are used in a cluster configuration, only the unshielded bottom area can be used to determine its standard stone-filled disposal-field equivalent;

P-100.2.3 Condition 3: When proprietary disposal devices are used in a trench configuration, only the sum of its unshielded bottom and sidewall area can be used to determine its standard stone-filled disposal-field equivalent;

P-100.2.4 Condition 4: The number of proprietary disposal devices shall be rounded up to the nearest whole disposal device;

P-100.2.5 Condition 5: The separation distance between groups of proprietary disposal devices is identical to the distances required for a standard stone filled disposal field;

P-100.2.6 Condition 6: Gravity, low pressure, or serial distribution may be used;

P-100.2.7 Condition 7: Proprietary disposal devices shall be installed level and shall be bedded and covered per each manufacturer's recommendations; and

P-100.2.8 Condition 8: In all other respects, each proprietary disposal device installation shall comply with this code.

P-101.0 FOUR FOOT BY EIGHT FOOT AND EIGHT FOOT BY EIGHT FOOT CONCRETE DISPOSAL DEVICES

P-101.1 Manufacturers/distributors:

American Concrete Industries, Bangor, ME.
Downeast Concrete Products, Bangor, ME.
Gagne & Son Precast Chambers, Belgrade, ME.
G.E. Godding & Son, Inc., Lincoln, ME.
George R. Roberts, Inc., Alfred, ME.
Pre-Cast Concrete Products of Maine, Inc., Topsham, ME.
Superior Concrete Co., Inc., Auburn, ME.

P-101.2 Sizing requirements of 4 ft x 8 ft chambers:

When used in clusters, the disposal fields are sized according to bottom area only. Each 4 foot by 8 foot disposal device has an effective disposal infiltration area of 64 square feet.

When used in trenches with one foot of stones along the 4 foot sidewalls, each 4 foot by 8 foot disposal device has an effective disposal infiltration area of 77 square feet. A separation distance of 3' from edge of stone to edge of stone is required when used in trench configuration.

When used in trenches with one foot of stone along the 8 foot sidewalls, each 4 foot by 8 foot disposal device has an effective disposal infiltration area of 90 square feet. A separation distance of 3' from edge of stone to edge of stone is required when used in trench configuration.

P-101.3 Sizing requirements of 8 ft x 8 ft chambers:

When use in clusters, each 8 foot by 8 foot disposal device has an effective disposal infiltration area of 128 square feet.

When used in trenches with one foot of stones along two sidewalls, each 8 foot by 8 foot disposal device has an effective disposal infiltration area of 154 square feet. A separation distance of 3' from edge of stone to edge of stone is required when used in trench configuration.

P-102.0 FOUR FOOT BY TEN FOOT CONCRETE DISPOSAL DEVICES

P-102.1 Manufacturers/distributors:

Genest Bros., Inc., Sanford, ME 04073

P-102.2 Sizing requirements: When use in clusters, each 4 foot by 10 foot disposal device has an effective disposal infiltration area of 80 square feet.

When used in trenches with one foot of stones along the 4 foot sidewalls, each 4 foot by 10 foot disposal device has an effective disposal infiltration area of 93 square feet. When used in trenches with one foot of stones along the 10 foot sidewalls, each 4 foot by 10 foot disposal device has an effective disposal infiltration area of 113 square feet. A separation distance of 3' from edge of stone to edge of stone is required when used in trench configuration.

P-103.0 PLASTIC DISPOSAL DEVICES

P-103.1 Trade names:

Infiltrator (Eco-Tec, Inc, Gardiner, ME)
Bio-Diffusor (Superior Concrete Co., Inc., Auburn, ME)
Contactor (Cultec Inc., Brookfield CT)

P-103.2 Sizing requirements: These devices have an effective disposal infiltration areas in square feet per unit as shown in Tables P-103.2 and P-103.3

TABLE P-103.2

Sizing for "Infiltrator and Bio-Diffusor" proprietary disposal devices

Device	Model	Configuration+	
		Cluster	Trench[a]
Bio-Diffusor	Low profile	36 Sq ft/unit	44 Sq ft/unit
Bio-Diffusor	Standard	36 Sq ft/unit	50 Sq ft/unit
Infiltrator	Standard	36 Sq ft/unit	44 Sq ft/unit
Infiltrator	High capacity	36 Sq ft/unit	50 Sq ft/unit

[a] 3' from edge to edge (stone to stone, if stone is used)

TABLE P-103.3

Sizing for "Contactor" proprietary disposal system

Device	Model	Configuration+	
		Cluster	Trench[a]
Contactor 75	Contactor "C"	30 Sq ft/unit	38 Sq ft/unit
Contactor 125	Contactor	30 Sq ft/unit	40 Sq ft/unit
Contactor 275	Tripdrain	64 Sq ft/unit	90 Sq ft/unit

[a] 6' from center to center

P-104.0 USE OF GRAVEL-LESS CLOTH FABRIC DISPOSAL TUBING

P-104.1 Trade names:

GeoFlow (Waterfall Distributors, Mechanic Falls, ME)
SB2 (Advanced Drainage Systems, Inc, Lewiston, ME)
Eljen In-Drains (Huber Design Associates, Hancock, N.H.)

P-104.2 Configuration: Use of gravel-less fabric covered disposal field tubing (GeoFlow and SB2) is restricted to trench configurations. The use of Eljen In-Drains is restricted to the "Eljen In-Drain Leaching Design and Installation for the State of Maine" approved by the Department.

P-104.3 Sizing requirements: These devices have an effective disposal infiltration area in square feet per linear foot as shown in Tables P-104.3 and P-104.4.

TABLE P-104.2

Sizing for "GeoFlow" and "SB2" gravel-less cloth fabric disposal tubing

Device	Model	Configuration+	
		Cluster	Trench[a]
Geoflow	10"	N/A	5.0 Sq ft. per linear ft.
SB2	8"	N/A	2.0 Sq ft. per linear ft.
SB2	10"	N/A	2.6 Sq ft. per linear ft.

[a] 3.5' center to center

TABLE P-104.3

Sizing for "Eljen In-Drain" gravel-less cloth disposal system

Device	Model	Configuration	
		Cluster[b]	Trench[a]
In-drain	Type A	24 Sq ft per unit	24 Sq ft per unit
In-drain	Type B	48 Sq ft per unit	48 Sq ft per unit

[a] 6' and 9', center to center, type A units and type B units, respectively.

[b] 3' and 4', center to center, type A units and type B units, respectively. A minimum of 12" of sand between must be between rows. For first time systems the HHE-200 form must indicate that there is sufficient area with suitable soils to allow a system utilizing the trench configuration.

B-105.0 PRE-TREATMENT

B-105.1 Sand filters: Pre-treatment sand filters shall be designed, installed and maintained in conformance with the guidelines set forth in the United States Environmental Protection Agency's Design Manual On-site Waste water Treatment and Disposal Systems, EPA-625/1-80-012.

The specific guidance Sections are:

B-105.1.1 Intermittent sand filters:EPA-625/1-80-012 Section 6.3.

B-105.1.2 Buried sand filters:EPA-625/1-80-012 Section 6.3.

B-105.1.3 Free Access sand filters (Non-recirculating):EPA-625/1- 80-012 Section 6.3.

B-105.1.4 Recirculating sand filter:EPA-625/1-80-012 Section 6.3.

B-105.2 Proprietary Filters: The following proprietary filter systems are authorized:

B-105.2.1 Puraflo™: A peat based biofiltration system manufactured by Bordnanona, Environmental Products, Newbridge, Co. Kildare, Ireland.

B-105.2.1.1 Single family structures: A minimum of four Puraflo modules is required for one to 4 bedroom dwellings.

B-105.2.1.2 Other structures: The minimum number of puraflo modules shall be at least one module for each 100 gpd of domestic type waste water. For other types of waste water the minimum number of modules shall be increased per manufacturer's recommendations.

B-105.2.1.3 Design and installation: The system shall be designed, installed and maintained per the manufacturer's, department approved, instructions.

B-105.3 Other Peat filters: See Chapter 23.

B-106.0 SEPTIC TANK FILTERS

B-106.1 General: Septic tank filters perform two primary functions; retains the solids in the tank and lowers the BOD. A potential purchaser is advised to obtain information pertaining to the recommended model, relative cost, availability, installation and maintenance procedures and flow rates from the manufacturer or distributor.

B-106.2 Manufacturers:

B-106.2.1 Zabel Septic Tank Filter:, Model A1800, Zabel Industries International, Ltd., 3600 Chamberlain Lane, Suite 612, Louisville, Kentucky 40241 1-800-221-5742 Fax (502) 339-8669.

B-106.2.1 Orenco Septic Tank effluent Filter: Orenco Systems, Inc., 2826 Colonial Road, Roseburg, Oregon 97470 (503) 673-0165 Fax (503) 673-1126.

B-106.3 Approved model numbers:

B-106.3.1 Zabel Filter Models A100 and A300.

B-106.3.2 Orenco Filter Models 0842, 1248, and 1548.