



# INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE®

*A Member of the International Code Family®*

# 2012 IPSDC®





2012

# INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE®

*A Member of the International Code Family®*

# IPSDC®

**Become a Building Safety Professional Member  
and Learn More about the Code Council**

**GO TO [WWW.ICCSAFE.ORG](http://WWW.ICCSAFE.ORG) for All Your Technical and  
Professional Needs Including:**

- › Codes, Standards and Guidelines
- › Membership Benefits
- › Education and Certification
- › Communications on Industry News



**Documents**

Document Sharing Hub

2012 International Private Sewage Disposal Code®

First Printing: April 2011

ISBN: 978-1-60983-055-7 (soft-cover edition)

COPYRIGHT © 2011  
by  
INTERNATIONAL CODE COUNCIL, INC.

ALL RIGHTS RESERVED. This 2012 *International Private Sewage Disposal Code*® is a copyrighted work owned by the International Code Council, Inc. Without advance written permission from the copyright owner, no part of this book may be reproduced, distributed or transmitted in any form or by any means, including, without limitation, electronic, optical or mechanical means (by way of example, and not limitation, photocopying, or recording by or in an information storage retrieval system). For information on permission to copy material exceeding fair use, please contact: Publications, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795. Phone 1-888-ICC-SAFE (422-7233).

Trademarks: “International Code Council,” the “International Code Council” logo and the “International Private Sewage Disposal Code” are trademarks of the International Code Council, Inc.

PRINTED IN THE U.S.A.

# PREFACE

## Introduction

Internationally, code officials recognize the need for a modern, up-to-date code addressing the safe and sanitary installation of individual sewage disposal systems. The *International Private Sewage Disposal Code*®, in this 2012 edition, is designed to meet these needs through model code regulations that safeguard the public health and safety in all communities, large and small.

This comprehensive sewage disposal code establishes minimum regulations for sewage disposal systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new sewage disposal designs. This 2012 edition is fully compatible with all of the *International Codes*® (I-Codes®) published by the International Code Council (ICC)®, including the *International Building Code*®, *International Energy Conservation Code*®, *International Existing Building Code*®, *International Fire Code*®, *International Fuel Gas Code*®, *International Green Construction Code*™ (to be available March 2012), *International Mechanical Code*®, *ICC Performance Code*®, *International Plumbing Code*®, *International Property Maintenance Code*®, *International Residential Code*®, *International Swimming Pool and Spa Code*™ (to be available March 2012), *International Wildland-Urban Interface Code*® and *International Zoning Code*®.

The *International Private Sewage Disposal Code* provisions provide many benefits, among which is the model code development process that offers an international forum for plumbing professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

## Development

The first edition of the *International Private Sewage Disposal Code* (1995) was the culmination of an effort initiated in 1994 by a development committee appointed by the ICC and consisting of representatives of the three statutory members of the International Code Council at that time, including: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of regulations for sewage disposal systems consistent with and inclusive of the scope of the existing model codes. Technical content of the latest model codes promulgated by BOCA, ICBO and SBCCI was used as the basis for the development. This 2012 edition presents the code as originally issued, with changes reflected in the 1997 through 2009 editions and further changes approved through the ICC Code Development Process through 2010. A new edition such as this is promulgated every three years.

This code is founded on principles intended to establish provisions consistent with the scope of a sewage disposal code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

## Adoption

The *International Private Sewage Disposal Code* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page xi addresses several key elements of a code adoption ordinance including the information required for insertion into the code text.

## Maintenance

The *International Private Sewage Disposal Code* is kept up to date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the Code Development Cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Codes and Standards Development Department of the International Code Council.

While the development procedure of the *International Private Sewage Disposal Code* assures the highest degree of care, ICC, its members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

## Code Development Committee Responsibilities (Letter Designations in Front of Section Numbers)

In each code development cycle, proposed changes to this code are considered at the Code Development Hearing by the International Plumbing Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Proposed changes to a code section that has a number beginning with a letter in brackets are considered by a different code development committee. For example, proposed changes to code sections that have [B] in front of them (e.g., [B] 309.2) are considered by one of the International Building Code Development Committees (IBC-General) at the Code Development Hearings.

The content of sections in this code that begin with a letter designation is maintained by another code development committee in accordance with the following:

- [A] = Administrative Code Development Committee;
- [B] = International Building Code Development Committee (IBC-Fire Safety, General, Means of Egress or Structural); and
- [P] = International Plumbing Code Development Committee.

Note that, for the development of the 2015 edition of the I-Codes, there will be two groups of code development committees and they will meet in separate years. The groupings are as follows:

| <b>Group A Codes</b><br><b>(Heard in 2012, Code Change Proposals</b><br><b>Deadline: January 3, 2012)</b> | <b>Group B Codes</b><br><b>(Heard in 2013, Code Change Proposals</b><br><b>Deadline: January 3, 2013)</b>                                                   |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| International Building Code                                                                               | Administrative Provisions (Chapter 1 all codes except IRC and ICC PC, administrative updates to currently referenced standards, and designated definitions) |
| International Fuel Gas Code                                                                               | International Energy Conservation Code                                                                                                                      |
| International Mechanical Code                                                                             | International Existing Building Code                                                                                                                        |
| International Plumbing Code                                                                               | International Fire Code                                                                                                                                     |
| International Private Sewage Disposal Code                                                                | International Green Construction Code                                                                                                                       |
|                                                                                                           | ICC Performance Code                                                                                                                                        |
|                                                                                                           | International Property Maintenance Code                                                                                                                     |
|                                                                                                           | International Residential Code                                                                                                                              |
|                                                                                                           | International Swimming Pool and Spa Code                                                                                                                    |
|                                                                                                           | International Wildland-Urban Interface Code                                                                                                                 |
|                                                                                                           | International Zoning Code                                                                                                                                   |

Code change proposals submitted for code sections that have a letter designation in front of them will be heard by the respective committee responsible for such code sections. Because different committees will hold its code development hearings in different years, it is possible that some proposals for this code will be heard by a committee in a different year than the year in which the primary committee for this code meets.

For instance, every section of Chapter 1 of this code is designated as the responsibility of the Administrative Code Development Committee, and that committee is part of the Group B portion of the hearings. This committee will hold its code development hearings in 2013 to consider all code change proposals for Chapter 1 of this code and proposals for Chapter 1 of all I-Codes except the *International Residential Code* and *ICC Performance Code*. Therefore, any proposals received for Chapter 1 of this code will be assigned to the Administrative Code Development Committee for consideration in 2013.

It is very important that anyone submitting code change proposals understand which code development committee is responsible for the section of the code that is the subject of the code change proposal. For further information on the code development committee responsibilities, please visit the ICC web site at [www.iccsafe.org/scoping](http://www.iccsafe.org/scoping).

## Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2009 edition. Deletion indicators in the form of an arrow (➡) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a table or list of items has been deleted.

A single asterisk [\*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk \*\*[\*\*] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code. The following table indicates such relocations in the 2012 *International Private Sewage Disposal Code*.

| 2012 LOCATION       | 2009 LOCATION         |
|---------------------|-----------------------|
| 304.1 through 304.6 | 105.4 through 105.4.6 |

## Italicized Terms

Selected terms set forth in Chapter 2, Definitions, are italicized where they appear in code text. Such terms are not italicized where the definition set forth in Chapter 2 does not impart the intended meaning in the use of the term. The terms selected have definitions which the user should read carefully to facilitate better understanding of the code.



# EFFECTIVE USE OF THE INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE

The *International Private Sewage Disposal Code* (IPSDC) is a model code that regulates minimum requirements for the installation of new or the alteration of existing private sewage disposal systems. Where a building cannot be served by a public sewer system, the building site must be provided with a system for treating the waste water generated from the use of plumbing fixtures in the building. The IPSDC addresses site evaluations, materials, various soil absorption systems, holding tanks, cesspools and onsite waste water treatment systems. The IPSDC provides a total approach for the onsite, safe disposal of the waste flow discharged to the plumbing fixtures in a building.

The IPSDC is a specification- (prescriptive- ) oriented code with very few occurrences of performance-oriented text. The site soil must be evaluated in a prescribed manner to determine its ability to accept the waste flow. The chosen waste treatment method must be designed in a prescribed manner for the soil conditions at the building site, constructed using prescribed materials and installed according to prescribed dimensions. The IPSDC sets forth the minimum acceptable requirements for private sewage disposal systems in order to protect humans and the environment from insanitary conditions that would develop if waste flows were not rendered harmless.

## Arrangement and Format of the 2009 IPSDC

The format of the IPSDC allows each chapter to be devoted to a particular subject with the exception of Chapter 3 which contains general subject matters that are not extensive enough to warrant their own independent chapter. The IPSDC is divided into 11 different parts:

| Chapters         | Subjects                                     |
|------------------|----------------------------------------------|
| 1-2              | Administration and Definitions               |
| 3                | General Regulations                          |
| 4                | Site Evaluation and Requirements             |
| 5                | Materials                                    |
| 6, 7, 9 &10      | Effluent Absorption and Distribution Systems |
| 8                | Tanks                                        |
| 11               | Waste Water Treatment Systems                |
| 12               | Inspections                                  |
| 13               | Nonliquid Saturated Treatment Systems        |
| 14               | Referenced Standards                         |
| Appendices A & B | Appendices                                   |

The following is a chapter-by-chapter synopsis of the scope and intent of the provisions of the *International Private Sewage Disposal Code*:

**Chapter 1 Scope and Administration.** This chapter contains provisions for the application, enforcement and administration of subsequent requirements of the code. In addition to establishing the scope of the code, Chapter 1 identifies which buildings and structures come under its purview. Chapter 1 is largely concerned with maintaining “due process of law” in enforcing the requirements contained in the body of this code. Only through careful observation of the administrative provisions can the building official reasonably expect to demonstrate that “equal protection under the law” has been provided.

**Chapter 2 Definitions.** Chapter 2 is the repository of the definitions of terms used in the body of the code. Codes are technical documents and every word, term and punctuation mark can impact the meaning of the code text and the intended results. The code often uses terms that have a unique meaning in the code and the code meaning can differ substantially from the ordinarily understood meaning of the term as used outside of the code.

The terms defined in Chapter 2 are deemed to be of prime importance in establishing the meaning and intent of the code text. The user of the code should be familiar with and consult this chapter because the definitions are essential to the correct interpretation of the code and the user may not be aware that a term is defined.

Where understanding of a term's definition is especially key to or necessary for understanding of a particular code provision, the term is shown in *italics* wherever it appears in the code. This is true only for those terms that have a meaning that is unique to the code. In other words, the generally understood meaning of a term or phrase might not be sufficient or consistent with the meaning prescribed by the code; therefore, it is essential that the code-defined meaning be known.

Guidance regarding tense, gender and plurality of defined terms, as well as guidance regarding terms not defined in this code, is provided.

**Chapter 3 General Regulations.** The content of Chapter 3 is often referred to as “miscellaneous,” rather than general regulations. Chapter 3 received that label because it is the only chapter in the code whose requirements do not interrelate. If a requirement cannot be located in another chapter, it can be found in this chapter. Specific requirements concerning flood hazard areas are in this chapter.

**Chapter 4 Site Evaluation and Requirements.** A private sewage disposal system has an effluent which cannot be directly discharged into waterways or open ponds. Soil of the right consistency and water content provides a natural filtering and treatment of this discharge. Because soil conditions vary widely, even on the same building site, tests and inspections of the soils must be performed to evaluate the degree to which the soil can accept these liquids. The results of the tests provide necessary information to design an adequate private sewage disposal system. Chapter 4 provides the methods for evaluating the building site.

**Chapter 5 Materials.** Private sewage disposal systems depend on the strength, quality and chemical resistance of the components that make up the system. To that end, the purpose of Chapter 5 is to specify the minimum material and component standards to ensure that the private sewage disposal system will correctly perform for its intended life.

**Chapter 6 Soil Absorption Systems.** The design of soil absorption systems depends heavily on the result of the tests and evaluation of the site soil conditions required in Chapter 4. Where soil is less permeable, the area of the soil absorption must be large as compared to that required for soils that are highly permeable. The type of building that is being served by the private sewage disposal system also affects the size of the planned soil absorption area. This chapter provides the methods for computing the required absorption area and details for the proper installation of the soil absorption systems.

**Chapter 7 Pressure Distribution Systems.** Chapter 6 deals with gravity-type soil absorption systems or systems where the effluent is allowed to drain out of the distribution piping by gravity. This chapter offers an alternative method of discharging the effluent into the ground by pressure means. As such, Chapter 7 provides the necessary details for designing the piping and pumping systems for pressure distribution systems.

**Chapter 8 Tanks.** Tanks are an integral part of any private sewage disposal system whether they serve as treatment (septic) tanks or merely just holding tanks for leveling the peaks in flow to the system. Where tanks are used for treatment, the dimensions, volume and location of internal features are very important to ensure that the solid wastes are kept within the tank so as to not clog the effluent distribution system. Where tanks are used for holding purposes, they must be sized large enough to accommodate the total of peak flows coming from a building. Chapter 8 provides the necessary requirements for tanks.

**Chapter 9 Mound Systems.** Mound systems are another method for applying the effluent from a private sewage disposal system to the soil. This type of system may be advantageous in some localities due to the existing soil conditions. Chapter 9 has specific requirements for soil and site evaluations for mound systems.

**Chapter 10 Cesspools.** Although prohibited from being installed as a permanent private sewage disposal system, cesspools may be necessary where permanent systems are under repair, or are being built. Chapter 10 provides the details for constructing a cesspool.

**Chapter 11 Residential Waste Water Systems.** Another method of private sewage disposal is a small waste water treatment plant. Where permitted, these systems can discharge effluent directly to streams and rivers. Chapter 11 specifies the standard to which waste water treatment plants must conform.

**Chapter 12 Inspections.** The best soil and site analysis along with the best design will be rendered useless if the system is not installed according to the plans for the system. Chapter 12 provides requirements for inspection of private sewage disposal systems.

**Chapter 13 Nonliquid Saturated Treatment Systems.** In some locations, water for the flushing of wastes into and through a sanitary piping system is not available. For example, a toilet facility provided for a remote campground without running water would require such a system. Chapter 13 specifies the standard to which nonliquid saturated treatment systems must conform.

**Chapter 14 Referenced Standards.** The code contains numerous references to standards that are used to regulate materials and methods of construction. Chapter 14 contains a comprehensive list of all standards that are referenced in the code. The standards are part of the code to the extent of the reference to the standard. Compliance with the referenced standard is necessary for compliance with this code. By providing specifically adopted standards, the construction and installation requirements necessary for compliance with the code can be readily determined. The basis for code compliance is, therefore, established and available on an equal basis to the code official, contractor, designer and owner.

Chapter 14 is organized in a manner that makes it easy to locate specific standards. It lists all of the referenced standards, alphabetically, by acronym of the promulgating agency of the standard. Each agency's standards are then listed in either alphabetical or numeric order based upon the standard identification. The list also contains the title of the standard; the edition (date) of the standard referenced; any addenda included as part of the ICC adoption; and the section or sections of this code that reference the standard.

**Appendix A System Layout Illustrations.** Because each chapter of this code uses only words to describe requirements, illustrations can offer greater insight as to what the words mean. Appendix A has a number of illustrations referenced to specific sections of the code to help the reader gain a better understanding of the code's requirements.

**Appendix B Tables for Pressure Distribution Systems.** The design of a pressure distribution system is accomplished by the use of several complex formulas found in Chapter 7. Because a user of the code may not have the necessary experience to manipulate the formulas, a tabular approach for designing pressure distribution systems is provided in Appendix B.



# LEGISLATION

The *International Codes* are designed and promulgated to be adopted by reference by legislative action. Jurisdictions wishing to adopt the 2012 *International Private Sewage Disposal Code* as an enforceable regulation governing individual sewage disposal systems should ensure that certain factual information is included in the adopting legislation at the time adoption is being considered by the appropriate governmental body. The following sample adoption legislation addresses several key elements, including the information required for insertion into the code text.

## SAMPLE LEGISLATION FOR ADOPTION OF THE *INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE* ORDINANCE NO. \_\_\_\_\_

A[N] [ORDINANCE/STATUTE/REGULATION] of the [JURISDICTION] adopting the 2012 edition of the *International Private Sewage Disposal Code*, regulating and governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of individual sewage disposal systems in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefor; repealing [ORDINANCE/STATUTE/REGULATION] No. \_\_\_\_\_ of the [JURISDICTION] and all other ordinances or parts of laws in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

**Section 1.** That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as the *International Private Sewage Disposal Code*, 2012 edition, including Appendix Chapters [FILL IN THE APPENDIX CHAPTERS BEING ADOPTED] (see *International Private Sewage Disposal Code* Section 101.2.1, 2012 edition), as published by the International Code Council, be and is hereby adopted as the Private Sewage Disposal Code of the [JURISDICTION], in the State of [STATE NAME] regulating and governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of individual sewage disposal systems as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Private Sewage Disposal Code on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this legislation, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

**Section 2.** The following sections are hereby revised:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 106.4.2. Insert: [APPROPRIATE SCHEDULE]

Section 106.4.3. Insert: [PERCENTAGES IN TWO LOCATIONS]

Section 108.4. Insert: [OFFENSE, DOLLAR AMOUNT, NUMBER OF DAYS]

Section 108.5. Insert: [DOLLAR AMOUNT IN TWO LOCATIONS]

Section 405.2.5. Insert: [DATE IN THREE LOCATIONS]

Section 405.2.6. Insert: [DATE IN TWO LOCATIONS]

**Section 3.** That [ORDINANCE/STATUTE/REGULATION] No. \_\_\_\_\_ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

**Section 4.** That if any section, subsection, sentence, clause or phrase of this legislation is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

**Section 5.** That nothing in this legislation or in the Private Sewage Disposal Code hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 3 of this law; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this legislation.

**Section 6.** That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this legislation to be published. (An additional provision may be required to direct the number of times the legislation is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

**Section 7.** That this law and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

# TABLE OF CONTENTS

|                                                     |                                                          |                  |                                                               |
|-----------------------------------------------------|----------------------------------------------------------|------------------|---------------------------------------------------------------|
| <b>CHAPTER 1</b>                                    | <b>SCOPE AND ADMINISTRATION... 1</b>                     | 406              | Site Requirements ..... 16                                    |
| <b>PART 1—SCOPE AND APPLICATION..... 1</b>          |                                                          | <b>CHAPTER 5</b> | <b>MATERIALS..... 19</b>                                      |
| Section                                             |                                                          | Section          |                                                               |
| 101                                                 | General ..... 1                                          | 501              | General..... 19                                               |
| 102                                                 | Applicability..... 1                                     | 502              | Identification ..... 19                                       |
| <b>PART 2—ADMINISTRATION AND ENFORCEMENT..... 2</b> |                                                          | 503              | Performance Requirements ..... 19                             |
| 103                                                 | Department of Private Sewage Disposal Inspection ..... 2 | 504              | Tanks ..... 19                                                |
| 104                                                 | Duties and Powers of the Code Official..... 2            | 505              | Pipe, Joints and Connections ..... 20                         |
| 105                                                 | Approval..... 3                                          | 506              | Prohibited Joints and Connections..... 21                     |
| 106                                                 | Permits ..... 3                                          | <b>CHAPTER 6</b> | <b>SOIL ABSORPTION SYSTEMS..... 23</b>                        |
| 107                                                 | Inspections ..... 5                                      | Section          |                                                               |
| 108                                                 | Violations ..... 6                                       | 601              | General..... 23                                               |
| 109                                                 | Means of Appeal..... 7                                   | 602              | Sizing Soil Absorption Systems..... 23                        |
| 110                                                 | Temporary Equipment, Systems and Uses..... 8             | 603              | Residential Sizing ..... 23                                   |
| <b>CHAPTER 2</b>                                    | <b>DEFINITIONS..... 9</b>                                | 604              | Other Building Sizing ..... 23                                |
| Section                                             |                                                          | 605              | Installation of Conventional Soil Absorption Systems ..... 23 |
| 201                                                 | General ..... 9                                          | <b>CHAPTER 7</b> | <b>PRESSURE DISTRIBUTION SYSTEMS..... 27</b>                  |
| 202                                                 | General Definitions ..... 9                              | Section          |                                                               |
| <b>CHAPTER 3</b>                                    | <b>GENERAL REGULATIONS..... 11</b>                       | 701              | General..... 27                                               |
| Section                                             |                                                          | 702              | Design Loading Rate ..... 27                                  |
| 301                                                 | General ..... 11                                         | 703              | System Design ..... 27                                        |
| 302                                                 | Specific Limitations ..... 11                            | 704              | Bed and Trench Construction ..... 28                          |
| 303                                                 | Flood Hazard Areas ..... 11                              | 705              | Pumps..... 28                                                 |
| 304                                                 | Alternative Engineered Design..... 11                    | 706              | Dosing ..... 28                                               |
| <b>CHAPTER 4</b>                                    | <b>SITE EVALUATION AND REQUIREMENTS..... 13</b>          | <b>CHAPTER 8</b> | <b>TANKS..... 31</b>                                          |
| Section                                             |                                                          | Section          |                                                               |
| 401                                                 | General ..... 13                                         | 801              | General..... 31                                               |
| 402                                                 | Slope..... 13                                            | 802              | Septic Tanks and Other Treatment Tanks ..... 31               |
| 403                                                 | Soil Borings and Evaluation..... 13                      | 803              | Maintenance and Sludge Disposal..... 32                       |
| 404                                                 | Percolation or Permeability Evaluation ..... 14          | 804              | Chemical Restoration..... 32                                  |
| 405                                                 | Soil Verification ..... 15                               | 805              | Holding Tanks ..... 34                                        |

## TABLE OF CONTENTS

|                    |                                                           |           |
|--------------------|-----------------------------------------------------------|-----------|
| <b>CHAPTER 9</b>   | <b>MOUND SYSTEMS .....</b>                                | <b>35</b> |
| Section            |                                                           |           |
| 901                | General .....                                             | 35        |
| 902                | Soil and Site Requirements .....                          | 35        |
| 903                | System Design .....                                       | 35        |
| 904                | Construction Techniques .....                             | 46        |
| <b>CHAPTER 10</b>  | <b>CESSPOOLS .....</b>                                    | <b>47</b> |
| Section            |                                                           |           |
| 1001               | General .....                                             | 47        |
| <b>CHAPTER 11</b>  | <b>RESIDENTIAL WASTE<br/>WATER SYSTEMS.....</b>           | <b>49</b> |
| Section            |                                                           |           |
| 1101               | General .....                                             | 49        |
| <b>CHAPTER 12</b>  | <b>INSPECTIONS.....</b>                                   | <b>51</b> |
| Section            |                                                           |           |
| 1201               | General .....                                             | 51        |
| 1202               | Inspections .....                                         | 51        |
| <b>CHAPTER 13</b>  | <b>NONLIQUID SATURATED<br/>TREATMENT SYSTEMS .....</b>    | <b>53</b> |
| Section            |                                                           |           |
| 1301               | General .....                                             | 53        |
| <b>CHAPTER 14</b>  | <b>REFERENCED STANDARDS.....</b>                          | <b>55</b> |
| <b>APPENDIX A</b>  | <b>SYSTEM LAYOUT<br/>ILLUSTRATIONS.....</b>               | <b>59</b> |
| <b>APPENDIX B</b>  | <b>TABLES FOR PRESSURE<br/>DISTRIBUTION SYSTEMS .....</b> | <b>65</b> |
| <b>INDEX .....</b> |                                                           | <b>69</b> |

# CHAPTER 1

## SCOPE AND ADMINISTRATION

### PART 1—SCOPE AND APPLICATION

#### SECTION 101 GENERAL

[A] **101.1 Title.** These regulations shall be known as the Private Sewage Disposal Code of [NAME OF JURISDICTION] hereinafter referred to as “this code.”

[A] **101.2 Scope.** Septic tank and effluent absorption systems or other treatment tank and effluent disposal systems shall be permitted where a public sewer is not available to the property served. Unless specifically approved, the *private sewage disposal system* of each building shall be entirely separate from and independent of any other building. The use of a common system or a system on a parcel other than the parcel where the structure is located shall be subject to the full requirements of this code as for systems serving public buildings.

[A] **101.2.1 Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

[A] **101.3 Public sewer connection.** Where public sewers become available to the premises served, the use of the *private sewage disposal system* shall be discontinued within that period of time required by law, but such period shall not exceed 1 year. The building sewer shall be disconnected from the *private sewage disposal system* and connected to the public sewer.

[A] **101.4 Abandoned systems.** Abandoned *private sewage disposal systems* shall be plugged or capped in an approved manner. Abandoned treatment tanks and *seepage pits* shall have the contents pumped and discarded in an approved manner. The top or entire tank shall be removed and the remaining portion of the tank or excavation shall be filled immediately.

[A] **101.5 Failing system.** When a *private sewage disposal system* fails or malfunctions, the system shall be corrected or use of the system shall be discontinued within that period of time required by the code official, but such period shall not exceed 1 year.

[A] **101.5.1 Failure.** A failing *private sewage disposal system* shall be one causing or resulting in any of the following conditions:

1. The failure to accept sewage discharges and backup of sewage into the structure served by the *private sewage disposal system*.
2. The discharge of sewage to the surface of the ground or to a drain tile.
3. The discharge of sewage to any surface or ground waters.

4. The introduction of sewage into saturation zones adversely affecting the operation of a *private sewage disposal system*.

[A] **101.6 Intent.** The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of *private sewage disposal systems*.

[A] **101.7 Severability.** If any section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code.

#### SECTION 102 APPLICABILITY

[A] **102.1 General.** Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[A] **102.2 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

[A] **102.3 Application of references.** Reference to chapter section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

[A] **102.4 Existing installations.** *Private sewage disposal systems* lawfully in existence at the time of the adoption of this code shall be permitted to have their use and maintenance continued if the use, maintenance or repair is in accordance with the original design and no hazard to life, health or property is created by the system.

[A] **102.5 Maintenance.** *Private sewage disposal systems*, materials and appurtenances, both existing and new, and all parts thereof shall be maintained in proper operating condition in accordance with the original design in a safe and sanitary condition. Devices or safeguards that are required by this code shall be maintained in compliance with the code edition under which they were installed. The owner or the owner's designated agent shall be responsible for maintenance of *private sewage disposal systems*. To determine compliance with this provision, the code official shall have the authority to require reinspection of any *private sewage disposal system*.

[A] **102.6 Additions, alterations or repairs.** Additions, alterations, renovations or repairs to any *private sewage disposal system* shall conform to that required for a new system without requiring the existing system to comply with all the requirements of this code. Additions, alterations or repairs

shall not cause an existing system to become unsafe, insanitary or overloaded.

Minor additions, alterations, renovations and repairs to existing systems shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is approved.

**[A] 102.7 Change in occupancy.** It shall be unlawful to make any change in the occupancy of any structure that will subject the structure to any special provision of this code applicable to the new occupancy without approval of the code official. The code official shall certify that such structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any hazard to the public health, safety or welfare.

**[A] 102.8 Historic buildings.** The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings when such buildings or structures are judged by the code official to be safe and in the public interest of health, safety and welfare regarding any proposed construction, alteration, repair, enlargement, restoration, relocation or moving of buildings.

**[A] 102.9 Moved buildings.** Except as determined by Section 102.4, *private sewage disposal systems* that are a part of buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new installations.

**[A] 102.10 Referenced codes and standards.** The codes and standards referenced in this code shall be those that are listed in Chapter 14 and such codes and standards shall be considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.10.1 and 102.10.2.

**Exception:** Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and the manufacturer's installation instructions shall apply.

**[A] 102.10.1 Conflicts.** Where conflicts occur between provisions of this code and the referenced standards, the provisions of this code shall apply.

**[A] 102.10.2 Provisions in referenced codes and standards.** Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

**[A] 102.11 Requirements not covered by code.** Any requirements necessary for the proper operation of an existing or proposed *private sewage disposal system*, or for the public safety, health and general welfare, not specifically covered by this code, shall be determined by the code official.

## PART 2—ADMINISTRATION AND ENFORCEMENT

### SECTION 103 DEPARTMENT OF PRIVATE SEWAGE DISPOSAL INSPECTION

**[A] 103.1 General.** The Department of Private Sewage Disposal Inspection is hereby created and the executive official in charge thereof shall be known as the code official.

**[A] 103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction.

**[A] 103.3 Deputies.** In accordance with the prescribed procedures of the jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official.

**[A] 103.4 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

Any suit instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

### SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL

**[A] 104.1 General.** The code official is hereby authorized and directed to enforce the provisions of this code. The code official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

**[A] 104.2 Applications and permits.** The code official shall receive applications, review construction documents and issue permits for the installation and alteration of *private sewage disposal systems*, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

**[A] 104.3 Inspections.** The code official shall make all of the required inspections, or shall accept reports of inspection by approved agencies or individuals. All reports of such inspection

tions shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official is authorized to engage such expert opinion as deemed necessary to report on unusual technical issues that arise, subject to the approval of the appointing authority.

**[A] 104.4 Right of entry.** Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in any building or upon any premises any conditions or violations of this code that make the building or premises unsafe, insanitary, dangerous or hazardous, the code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed on the code official by this code. If such building or premises is occupied, the code official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the code official has recourse to every remedy provided by law to secure entry.

When the code official shall have first obtained a proper inspection warrant or other remedy provided by law to secure entry, no owner or occupant or person having charge, care or control of any building or premises shall fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

**[A] 104.5 Identification.** The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

**[A] 104.6 Notices and orders.** The code official shall issue all necessary notices or orders to ensure compliance with this code.

**[A] 104.7 Department records.** The code official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

## SECTION 105 APPROVAL

**[A] 105.1 Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative provided that the code official shall first find that special individual reason makes the strict letter of this code impractical, the modification is in conformity with the intent and purpose of this code and such modification does not lessen health and fire- and life-safety requirements. The details of action granting modifications shall be recorded and entered in the files of the Private Sewage Disposal Inspection Department.

**[A] 105.2 Alternative materials, methods and equipment.** The provisions of this code are not intended to prevent the

installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and 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, fire resistance, durability and safety.

**[A] 105.2.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

**[A] 105.3 Required testing.** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternate materials or methods, the code official shall have the authority to require testing as evidence of compliance at no expense to the jurisdiction.

**[A] 105.3.1 Test methods.** Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

**[A] 105.3.2 Testing agency.** All tests shall be performed by an approved agency.

**[A] 105.3.3 Test reports.** Reports of tests shall be retained by the code official for the period required for retention of public records.

**[A] 105.4 Used material and equipment.** The use of used materials which meet the requirements of this code for new materials is permitted. Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and approved by the code official.

**[A] 105.5 Approved materials and equipment.** Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

## SECTION 106 PERMITS

**[A] 106.1 When required.** Work on a *private sewage disposal system* shall not commence until a permit for such work has been issued by the code official.

**[A] 106.2 Application for permit.** Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall contain a description of the type of system, the system location, the occupancy of all parts of the structure and all portions of the site or lot not covered by the structure, and such additional information as is required by the code official. The maximum number of bedrooms for residential occupancies shall be indicated.

**[A] 106.2.1 Construction documents.** An application for a permit shall be accompanied by not less than two copies of construction documents drawn to scale, with sufficient clarity and detail dimensions showing the nature and character of the work to be performed. Specifications shall include pumps and controls, dose volume, elevation differences (vertical lift), pipe friction loss, pump performance curve, pump model and pump manufacturer. The code official is permitted to waive the requirements for filing construction documents where the work involved is of a minor nature. Where the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term “legal” or its equivalent used as a substitute for specific information.

**[A] 106.2.2 Preliminary inspection.** Before a permit is issued, the code official is authorized to inspect and evaluate the systems, equipment, buildings, devices, premises and spaces or areas to be used.

**[A] 106.2.3 Time limitation of application.** An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

**[A] 106.2.4 Previous approvals.** This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

**[A] 106.2.5 Soil data.** Soil test reports shall be submitted indicating *soil boring* and percolation test data related to the undisturbed and finished grade elevations, vertical elevation reference point and horizontal reference point. Surface elevations shall be given for all *soil borings*. Soil reports shall bear the signature of a soil tester.

**[A] 106.2.6 Site plan.** A site plan shall be filed showing to scale the location of all septic tanks, holding tanks or other treatment tanks; building sewers; wells; water mains; water service; streams and lakes; *flood hazard areas*; dosing or pumping chambers; distribution boxes; effluent systems; dual disposal systems; replacement system areas; and the location of all buildings or structures. All separating distances and dimensions shall be shown, including any distance to adjoining property. A vertical elevation reference point and a horizontal reference point shall be indicated. For other than single-family dwellings, grade slope with contours shall be shown for the grade elevation of the entire area of the soil absorption system and the area on all sides for a distance of 25 feet (7620 mm).

**[A] 106.3 Permit issuance.** The application, construction documents and other data filed by an applicant for permit shall be reviewed by the code official. If the code official

finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 106.4 have been paid, a permit shall be issued to the applicant. A *private sewage disposal system* permit shall not be transferable.

**[A] 106.3.1 Approved construction documents.** When the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped “APPROVED.” Such approved construction documents shall not be changed, modified or altered without authorization from the code official. All work shall be done in accordance with the approved construction documents.

The code official shall have the authority to issue a permit for the construction of a part of a *private sewage disposal system* before the construction documents for the whole system have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire system will be granted.

**[A] 106.3.2 Validity.** The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. No permit presuming to give authority to violate or cancel the provisions of this code shall be valid.

The issuance of a permit based on construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations being carried on thereunder when in violation of this code or of other ordinances of the jurisdiction.

**[A] 106.3.3 Expiration.** Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of the permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work can be recommenced, a new permit shall first be obtained and the fee therefor shall be one-half the amount required for a new permit for such work, provided no changes have been or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded 1 year.

**[A] 106.3.4 Extensions.** Any permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work cannot be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. No permit shall be extended more than once. The fee for an extension shall be

one-half the amount required for a new permit for such work.

**[A] 106.3.5 Suspension or revocation of permit.** The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

**[A] 106.3.6 Retention of construction documents.** One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

**[A] 106.3.7 Posting of permit.** The permit or a copy shall be kept on the site of the work until the completion of the project.

**[A] 106.4 Fees.** A permit shall not be issued until the fees prescribed in Section 106.4.2 have been paid, and an amendment to a permit shall not be released until the additional fee, if any, due to an increase of the *private sewage disposal system*, has been paid.

**[A] 106.4.1 Work commencing before permit issuance.** Any person who commences any work on a *private sewage disposal system* before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

**[A] 106.4.2 Fee schedule.** The fees for all private sewage disposal work shall be as indicated in the following schedule: [JURISDICTION TO INSERT APPROPRIATE SCHEDULE].

**[A] 106.4.3 Fee refunds.** The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee no later than 180 days after the date of fee payment.

## SECTION 107 INSPECTIONS

**[A] 107.1 Required inspections.** After issuing a permit, the code official shall conduct inspections from time to time during and upon completion of the work for which a permit has been issued. A record of all such examinations and inspections and of all violations of this code shall be maintained by the code official.

**[A] 107.1.1 Concealed work.** It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

**[A] 107.1.2 Other inspections.** The code official is authorized to make or require other inspections to ascertain compliance with the provisions of this code and other laws that are enforced by the department.

**[A] 107.1.3 Approved inspection agencies.** The code official shall accept reports of approved inspection agencies provided such agencies satisfy the requirements as to qualifications and reliability.

**[A] 107.2 Special inspections.** Special inspections of alternative engineered design *private sewage disposal systems* shall be conducted in accordance with Sections 107.2.1 and 107.2.2.

**[A] 107.2.1 Periodic inspection.** The registered design professional or designated inspector shall periodically inspect and observe the alternative engineered design to determine that the installation is in accordance with the approved plans. All discrepancies shall be brought to the immediate attention of the *private sewage disposal system* contractor for correction. Records shall be kept of all inspections.

**[A] 107.2.2 Written report.** The registered design professional shall submit a final report in writing to the code official upon completion of the installation, certifying that the alternative engineered design conforms to the approved construction documents. A notice of approval for the *private sewage disposal system* shall not be issued until a written certification has been submitted.

**[A] 107.3 Contractor's responsibilities.** It shall be the duty of every contractor who enters into contracts for the installation or repair of *private sewage disposal systems* for which a permit is required to comply with adopted state and local rules and regulations concerning licensing.

**[A] 107.3.1 Inspection requests.** It shall be the duty of the holder of the permit or their duly authorized agent to notify the code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

**[A] 107.4 Approval required.** Work shall not be done beyond the point indicated in each successive inspection

code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the code official.

**[A] 107.5 Evaluation and follow-up inspection services.** Prior to the approval of a prefabricated construction assembly having concealed work and the issuance of a permit, the code official shall require the submittal of an evaluation report on each prefabricated construction assembly, indicating the complete details of the *private sewage disposal system*, including a description of the system and its components, the basis upon which the system is being evaluated, test results and similar information and other data as necessary for the code official to determine conformance to this code.

**[A] 107.5.1 Evaluation service.** The code official shall designate the evaluation service of an approved agency as the evaluation agency, and review such agency's evaluation report for adequacy and conformance to this code.

**[A] 107.5.2 Follow-up inspection.** Except where ready access is provided to *private sewage disposal systems*, service equipment and accessories for complete inspection at the site without disassembly or dismantling, the code official shall conduct the in-plant inspections as frequently as necessary to ensure conformance to the approved evaluation report or shall designate an independent, approved inspection agency to conduct such inspections. The inspection agency shall furnish the code official with the follow-up inspection manual and a report of inspections upon request, and the installation shall have an identifying label permanently affixed to the system indicating that factory inspections have been performed.

**[A] 107.5.3 Test and inspection records.** Required test and inspection records shall be available to the code official at all times during the fabrication of the installation and the erection of the building; or such records as the code official designates shall be filed.

**[A] 107.6 Testing.** Installations shall be tested as required in this code and in accordance with Sections 107.6.1 through 107.6.3. Tests shall be made by the permit holder and observed by the code official.

**[A] 107.6.1 New, altered, extended or repaired installations.** New installations and parts of existing installations, which have been altered, extended, renovated or repaired, shall be tested as prescribed herein to disclose leaks and defects.

**[A] 107.6.2 Apparatus, instruments, material and labor for tests.** Apparatus, instruments, material and labor required for testing an installation or part thereof shall be furnished by the permit holder.

**[A] 107.6.3 Reinspection and testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then

be resubmitted to the code official for inspection and testing.

**[A] 107.7 Approval.** After the prescribed inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

**[A] 107.7.1 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, on the basis of incorrect information supplied, or where it is determined that the building or structure, premise or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

**[A] 107.8 Temporary connection.** The code official shall have the authority to allow the temporary connection of an installation to the sources of energy for the purpose of testing the installation or for use under a temporary certificate of occupancy.

**[A] 107.9 Connection of service utilities.** No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

## SECTION 108 VIOLATIONS

**[A] 108.1 Unlawful acts.** It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove, demolish or use any *private sewage disposal system*, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

**[A] 108.2 Notice of violation.** The code official shall serve a notice of violation or order to the person responsible for the erection, installation, alteration, extension, repair, removal or demolition of private sewage disposal work in violation of the provisions of this code; in violation of a detailed statement or the approved construction documents thereunder or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

**[A] 108.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful system in violation of the provisions of this code or of the order or direction made pursuant thereto.

**[A] 108.4 Violation penalties.** Any person who shall violate a provision of this code or fail to comply with any of the requirements thereof or who shall erect, install, alter or repair private sewage disposal work in violation of the approved construction documents or directive of the code official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both.

imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

**[A] 108.5 Stop work orders.** Upon notice from the code official, work on any *private sewage disposal system* that is being done contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, to the owner's agent or to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

**[A] 108.6 Abatement of violation.** The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation; to prevent illegal occupancy of a building, structure or premises or to stop an illegal act, conduct, business or use of the *private sewage disposal system* on or about any premises.

**[A] 108.7 Unsafe systems.** Any *private sewage disposal system* regulated by this code that is unsafe or constitutes a health hazard, insanitary condition or is otherwise dangerous to human life is hereby declared unsafe. Any use of *private sewage disposal systems* regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe equipment is hereby declared to be a public *nuisance* and shall be abated by repair, rehabilitation, demolition or removal.

**[A] 108.7.1 Authority to condemn equipment.** Whenever the code official determines that any *private sewage disposal system*, or portion thereof, regulated by this code has become hazardous to life, health or property or has become insanitary, the code official shall order in writing that such system be either removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. No person shall use or maintain a defective *private sewage disposal system* after receiving such notice. When such system is to be disconnected, written notice as prescribed in Section 108.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

**[A] 108.7.2 Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by the technical codes in case of emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior

to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service systems shall be notified in writing as soon as is practical thereafter.

## SECTION 109 MEANS OF APPEAL

**[A] 109.1 Application for appeal.** Any person shall have the right to appeal a decision of the code official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder has been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.

**[A] 109.2 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

**[A] 109.2.1 Qualifications.** The board of appeals shall consist of five individuals, one from each of the following professions or disciplines.

1. Registered design professional that is a registered architect; or a builder or superintendent of building construction with at least 10 years' experience, 5 years of which shall have been in responsible charge of work.
2. Registered design professional with structural engineering or architectural experience.
3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with at least 10 years' experience, 5 years of which shall have been in responsible charge of work.
4. Registered design professional with electrical engineering experience; or an electrical contractor with at least 10 years' experience, 5 years of which shall have been in responsible charge of work.
5. Registered design professional with fire protection engineering experience; or a fire-protection contractor with at least 10 years' experience, 5 years of which shall have been in responsible charge of work.

**[A] 109.2.2 Alternate members.** The chief appointing authority shall appoint two alternate members who shall be called by the board chairman to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for 5 years or until a successor has been appointed.

**[A] 109.2.3 Chairman.** The board shall annually select one of its members to serve as chairman.

[A] **109.2.4 Disqualification of a member.** A member shall not hear an appeal in which that member has any personal, professional or financial interest.

[A] **109.2.5 Secretary.** The chief administrative officer shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings in the office of the chief administrative officer.

[A] **109.2.6 Compensation of members.** Compensation of members shall be determined by law.

[A] **109.3 Notice of meeting.** The board shall meet upon notice from the chairman, within 10 days of the filing of an appeal or at stated periodic meetings.

[A] **109.4 Open hearing.** Hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.

[A] **109.4.1 Procedure.** The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

[A] **109.5 Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

[A] **109.6 Board decision.** The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] **109.6.1 Resolution.** The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] **109.6.2 Administration.** The code official shall take immediate action in accordance with the decision of the board.

[A] **109.7 Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.

[A] **110.3 Temporary utilities.** The code official is authorized to give permission to temporarily supply utilities before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.

[A] **110.4 Termination of approval.** The code official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

## SECTION 110

### TEMPORARY EQUIPMENT, SYSTEMS AND USES

[A] **110.1 General.** The code official is authorized to issue a permit for temporary equipment, systems and uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] **110.2 Conformance.** Temporary equipment, systems and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

## CHAPTER 2

# DEFINITIONS

### SECTION 201 GENERAL

**201.1 Scope.** Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

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

**201.3 Terms defined in other codes.** Where terms are not defined in this code and are defined in the *International Building Code* or the *International Plumbing Code*, such terms shall have meanings ascribed to them as in those codes.

**201.4 Terms not defined.** Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

### SECTION 202 GENERAL DEFINITIONS

**AGGREGATE.** Graded hard rock that has been washed with water under pressure over a screen during or after grading to remove fine material and with a hardness value of 3 or greater on Mohs' Scale of Hardness. Aggregate that will scratch a copper penny without leaving any residual rock material on the coin has a hardness value of 3 or greater on Mohs' Scale of Hardness.

**[P] AIR BREAK (Drainage System).** A piping arrangement in which a drain from a fixture, appliance or device discharges indirectly into another fixture, receptacle or interceptor at a point below the flood level rim and above the trap seal.

**ALLUVIUM.** Soil deposited by floodwaters.

**BEDROCK.** The rock that underlies soil material or is located at the earth's surface. Bedrock is encountered when the weathered in-place consolidated material, larger than 0.08 inch (2 mm) in size, is more than 50 percent by volume.

**CESSPOOL.** A covered excavation in the ground receiving sewage or other organic wastes from a drainage system that is designed to retain the organic matter and solids, permitting the liquids to seep into the soil cavities.

**CLEAR-WATER WASTES.** Cooling water and condensate drainage from refrigeration compressors and air-conditioning equipment, water used for equipment chilling purposes, liquid having no impurities or where impurities have been reduced below a minimum concentration considered harmful, and cooled condensate from steam-heating systems or other equipment.

**[A] CODE OFFICIAL.** The officer or other designated authority charged with administration and enforcement of this code or a duly authorized representative.

**COLLUVIUM.** Soil transported under the influence of gravity.

**COLOR.** The moist color of the soil based on Munsell soil color charts.

**[A] CONSTRUCTION DOCUMENTS.** All the written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of the project necessary for obtaining a building permit. The construction drawings shall be drawn to an appropriate scale.

**CONVENTIONAL SOIL ABSORPTION SYSTEM.** A system employing gravity flow from the septic or other treatment tank and applying effluent to the soil through the use of a *seepage trench*, bed or pit.

**[B] DESIGN FLOOD ELEVATION.** The elevation of the "design flood," including wave height, relative to the datum specified on the community's legally designated flood hazard map.

**DETAILED SOIL MAP.** A map prepared by or for a state or federal agency participating in the National Cooperative Soil Survey showing soil series, type and phases at a scale of not more than 2,000 feet to the inch (24 m/mm) and which includes related explanatory information.

**DOSING SOIL ABSORPTION SYSTEM.** A system employing a pump or automatic siphon to elevate or distribute effluent to the soil through the use of a *seepage trench* or bed.

**EFFLUENT.** Liquid discharged from a septic or other treatment tank.

**[B] FLOOD HAZARD AREA.** The greater of the following two areas:

1. The area within a flood plain subject to a 1-percent or greater chance of flooding in any given year.
2. The area designated as a flood hazard area on a community's flood hazard map or as otherwise legally designated.

**HIGH GROUND WATER.** Soil saturation zones, including perched water tables, shallow regional ground water tables or aquifers, or zones seasonally, periodically or permanently saturated.

**HOLDING TANK.** An approved water-tight receptacle for collecting and holding sewage.

**HORIZONTAL REFERENCE POINT.** A stationary, easily identifiable point to which horizontal dimensions are related.

## DEFINITIONS

**LEGAL DESCRIPTION.** An accurate metes and bounds description, a lot and block number in a recorded subdivision, a recorded assessor's plat or a public land survey description to the nearest 40 acres (16 ha).

**MANHOLE.** An opening of sufficient size to permit a person to gain access to a sewer or any portion of a private sewage disposal system.

**MOBILE UNIT.** A structure of vehicular, portable design, built on a chassis and designed to be moved from one site to another and to be used with or without a permanent foundation.

**MOBILE UNIT PARK.** Any plot or plots of ground owned by a person, state or local government upon which two or more units, occupied for dwelling or sleeping purposes regardless of mobile unit ownership, are located and whether or not a charge is made for such accommodation.

**[P] NUISANCE.** Public *nuisance* as known in common law or equity jurisprudence; whatever is dangerous to human life or detrimental to health; whatever building, structure or premises is not sufficiently ventilated, sewered, drained, cleaned or lighted, in reference to its intended use; and whatever renders the air, human food, drink or water supply unwholesome.

**PAN.** A soil horizon cemented with any one of a number of cementing agents such as iron, organic matter, silica, calcium, carbonate, gypsum or a combination of chemicals. Pans will resist penetration from a knife blade and are slowly permeable horizons or are impermeable.

**PERCOLATION TEST.** The method of testing absorption qualities of the soil (see Section 404).

**PERMEABILITY.** The ease with which liquids move through the soil. One of the soil qualities listed in soil survey reports.

**PRESSURE DISTRIBUTION SYSTEM.** A soil absorption system using a pump or automatic siphon and smaller diameter distribution piping with small-diameter perforations to introduce effluent into the soil.

**PRIVATE SEWAGE DISPOSAL SYSTEM.** A sewage treatment and disposal system serving a single structure with a septic tank and soil absorption field located on the same parcel as the structure. This term also means an alternative sewage disposal system, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure. A private sewage disposal system is permitted to be owned by the property owner or a special-purpose district.

**PRIVY.** A structure not connected to a plumbing system and which is used by persons for the deposition of human body waste.

**[A] REGISTERED DESIGN PROFESSIONAL.** An individual who is registered or licensed to practice their respective design profession, as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

**SEEPAGE BED.** An excavated area more than 5 feet (1524 mm) wide that contains a bedding of aggregate and has more than one distribution line.

**SEEPAGE PIT.** An underground receptacle constructed to permit disposal of effluent or clear wastes by soil absorption through its floor and walls.

**SEEPAGE TRENCH.** An area excavated 1 foot to 5 feet (305 mm to 1524 mm) wide containing a bedding of aggregate and a single distribution line.

**SEPTAGE.** All sludge, scum, liquid and any other material removed from a private sewage treatment and disposal system.

**SEPTIC TANK.** A tank that receives and partially treats sewage through processes of sedimentation, flotation and bacterial action to separate solids from the liquid in the sewage, and which discharges the liquid to a soil absorption system.

**SOIL.** The unconsolidated material over bedrock, 0.08 inch (2 mm) and smaller.

**SOIL BORING.** An observation pit dug by hand or backhoe, a hole dug by augering or a soil core taken intact and undisturbed with a probe.

**SOIL MOTTLES.** Spots, streaks or contrasting soil colors usually caused by soil saturation for one period of a normal year, with a color value of 4 or more and a chroma of 2 or less. Gray-colored mottles are called low chroma; reddish-brown, red- and yellow-colored mottles are called high chroma.

**SOIL SATURATION.** The state in which all pores in a soil are filled with water. Water will flow from saturated soil into a bore hole.

**VENT CAP.** An approved appurtenance used for covering the vent terminal of an effluent disposal system to avoid closure by mischief or debris and still permit circulation of air within the system.

**VERTICAL ELEVATION REFERENCE POINT.** An easily identifiable stationary point or object of constant elevation for establishing the relative elevation of percolation tests, soil borings and other locations.

**WATERCOURSE.** A stream usually flowing in a particular direction, though it need not flow continually and is sometimes dry. A *watercourse* flows in a definite channel, with a bed, sides or banks, and usually discharges itself into some other stream or body of water. It must be something more than mere surface drainage over the entire face of a tract of land, occasioned by unusual freshets or other extraordinary cause. It does not include the water flowing in the hollows or ravines in land, which is the mere surface water from rains or melting snows, and is discharged through them from a higher to a lower level, but which at other times are destitute of water. Such hollows or ravines are not, in legal contemplation, *watercourses*.

**WORKMANSHIP.** Work of such character that will fully secure the results sought in all the sections of this code as intended for the health, safety and welfare protection of all individuals.

## CHAPTER 3

# GENERAL REGULATIONS

### SECTION 301 GENERAL

**301.1 Scope.** The provisions of this chapter shall govern the general regulations of *private sewage disposal systems*, including specific limitations and *flood hazard areas*.

### SECTION 302 SPECIFIC LIMITATIONS

**302.1 Domestic waste.** All wastes and sewage derived from ordinary living uses shall enter the septic or treatment tank unless otherwise specifically exempted by the code official or this code.

**302.2 Cesspools and privies.** Privies shall be prohibited. Cesspools shall be prohibited, except where approved by the code official. Where approved, cesspools shall be designed and installed in accordance with Chapter 10.

**302.3 Industrial wastes.** The code official shall approve the method of treatment and disposal of all waste products from manufacturing or industrial operations, including combined industrial and domestic waste.

**302.4 Detrimental or dangerous waste.** Material such as ashes, cinders or rags; flammable, poisonous or explosive liquids or gases; oil, grease or other insoluble material that is capable of obstructing, damaging or overloading the private sewage disposal system, or is capable of interfering with the normal operation of the private sewage disposal system, shall not be deposited, by any means, into such systems. The code official shall approve the method of treatment and disposal.

**302.5 Clear water.** The discharge of surface, rain or other clear water into a private sewage disposal system shall be prohibited.

**302.6 Water softener and iron filter backwash.** Water softener or iron filter discharge shall be indirectly connected by means of an air gap to the private sewage disposal system or discharge onto the ground surface, provided that a nuisance is not created.

**302.7 Food waste disposals.** Where a food waste disposal connects to a private sewage disposal system, the system shall be designed to accommodate the solids loading from the disposal unit.

### SECTION 303 FLOOD HAZARD AREAS

**[B] 303.1 General.** Soil absorption systems shall be located outside of flood hazard areas.

**Exception:** Where suitable soil absorption sites outside of the flood hazard area are not available, the soil absorption site is permitted to be located within the flood hazard area.

The soil absorption site shall be located to minimize the effects of inundation under conditions of the design flood.

**[B] 303.2 Tanks.** In flood hazard areas, tanks shall be anchored to counter buoyant forces during condition of the design flood. The vent termination and service manhole of the tank shall be not less than 2 feet (610 mm) above the design flood elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood.

**[B] 303.3 Mound systems.** Mound systems shall be prohibited in flood hazard areas.

### SECTION 304 ALTERNATIVE ENGINEERED DESIGN

**304.1 Alternative engineered design.** The design, documentation, inspection, testing and approval of an alternative engineered design *private sewage disposal system* shall comply with Sections 304.1.1 through 304.6. \*\*

**304.1.1 Design criteria.** An alternative engineered design shall conform to the intent of the provisions of this code and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Material, equipment or components shall be designed and installed in accordance with the manufacturer's instructions.

**304.2 Submittal.** The registered design professional shall indicate on the permit application that the *private sewage disposal system* is an alternative engineered design. The permit and permanent permit records shall indicate that an alternative engineered design was part of the approved installation.

**304.3 Technical data.** The registered design professional shall submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of this code.

**304.4 Construction documents.** The registered design professional shall submit to the code official two complete sets of signed and sealed construction documents for the alternative engineered design.

**304.5 Design approval.** Where the code official determines that the alternative engineered design conforms to the intent of this code, the *private sewage disposal system* shall be approved. If the alternative engineered design is not approved, the code official shall notify the registered design professional in writing, stating the reasons therefor.

**304.6 Inspection and test.** The alternative engineered design shall be inspected in accordance with the requirements of Section 107.



## CHAPTER 4

# SITE EVALUATION AND REQUIREMENTS

### SECTION 401 GENERAL

**401.1 Scope.** The provisions of this chapter shall govern the evaluation of and requirements for private sewage disposal system sites.

**401.2 Site evaluation.** Site evaluation shall include soil conditions, properties and permeability, depth to zones of soil saturation, depth to bedrock, slope, landscape position, all setback requirements and the presence of flood hazard areas. Soil test data shall relate to the undisturbed elevations, and a vertical elevation reference point or benchmark shall be established. Evaluation data shall be reported on approved forms. Reports shall be filed within 30 days of the completion of testing for all sites investigated.

**401.3 Replacement system area.** On each parcel of land being initially developed, sufficient area of suitable soils based on the soil tests and system location and site requirements of this code for one replacement system shall be established. Where bore hole test data in the replacement system area are equivalent to data in the proposed system area, the percolation test is not required.

**401.3.1 Nonconforming site conditions.** Where site conditions do not permit replacement systems in accordance with this code and an alternative system is used, the alternative system shall be approved in accordance with Section 105.

**401.3.2 Undisturbed site.** The replacement system shall not be disturbed to the extent that the site area is no longer suitable. The replacement system area shall not be used for construction of buildings, parking lots or parking areas, below-ground swimming pools or any other use that will adversely affect the replacement area.

### SECTION 402 SLOPE

**402.1 General.** A *conventional soil absorption system* shall not be located on land with a slope greater than 20 percent. A *conventional soil absorption system* shall be located a minimum of 20 feet (6096 mm) from the crown of land with a slope greater than 20 percent, except where the top of the aggregate of a system is at or below the bottom of an adjacent roadside ditch. Where a more restrictive land slope is to be observed for a soil absorption system, other than a *conventional soil absorption system*, the more restrictive land slope specified in the design sections of this code shall apply.

### SECTION 403 SOIL BORINGS AND EVALUATION

**403.1 Soil borings and profile descriptions.** *Soil borings* shall be conducted on all sites, regardless of the type of pri-

vate sewage system planned to serve the parcel. Borings shall extend at least 3 feet (914 mm) below the bottom of the proposed system. Borings shall be of sufficient size and extent to determine the soil characteristics important to an on-site liquid waste disposal system. Borehole data shall be used to determine the suitability of soils at the site with respect to zones of seasonal or permanent soil saturation and the depth to bedrock. Borings shall be conducted prior to percolation tests to determine whether the soils are suitable to warrant such tests and, if suitable, at what depth percolation tests shall be conducted. The use of power augers for *soil borings* is prohibited. *Soil borings* shall be conducted and reported in accordance with Sections 403.1.1 through 403.1.5. Where it is not practical to have borings made with a backhoe, such borings shall be augered or dug by hand.

**403.1.1 Number.** There shall be a minimum of three borings per soil absorption site. Where necessary, more *soil borings* shall be made for an accurate evaluation of a site. Borings shall be constructed to a depth of at least 3 feet (914 mm) below the proposed depth of the system.

**Exception:** On new parcels, the requirement of six borings (three for initial area and three for replacement area) shall be reduced to five where the initial and replacement system areas are contiguous and one boring is made on each outer corner of the contiguous area and the fifth boring is made between the system areas (see Appendix A, Figure A-1).

**403.1.2 Location.** Each borehole shall be accurately located and referenced to the vertical elevation and horizontal reference points. Reports of boring location shall either be drawn to scale or have the horizontal dimensions clearly indicated between the borings and the horizontal reference point.

**403.1.3 Soil description.** Soil profile descriptions shall be written for all borings. The thickness in inches (mm) of the different soil horizons observed shall be indicated. Horizons shall be differentiated on the basis of color, texture, soil mottles or bedrock. Depths shall be measured from the ground surface.

**403.1.4 Soil mottles.** Seasonal or periodic soil saturation zones shall be estimated at the highest level of soil mottles. The code official shall require, where deemed necessary, a detailed description of the soil mottling on a marginal site. The abundance, size, contrast and color of the soil mottles shall be described in the following manner:

Abundance shall be described as “few” if the mottled color occupies less than 2 percent of the exposed surface; “common” if the mottled color occupies from 2 to 20 percent of the exposed surface; or “many” if the mottled color occupies more than 20 percent of the exposed surface. Size refers to length of the mottle measured along the lon-