

2 0 1 8

INTERNATIONAL CODES

ISPSC[®]

A Member of the International Code Family

INCLUDES

APSP-7 Standard for Suction
Entrapment Avoidance

INTERNATIONAL
SWIMMING POOL AND SPA CODE[®]



Copyright International Code Council
Provided by IHS Markit under license with ICC
No reproduction or networking permitted without license from IHS

Licensee: University of Texas Revised Sub Account#5620001114, User=yasi, an
Not for Resale, 07/04/2018 09:57:38 MDT



Documents
Document Sharing Hub

2018

INTERNATIONAL CODES®

2018 I-CODE BONUS OFFER

Get a **free 45-day online subscription** to ICC's *premiumACCESS™* 2018 I-Codes Complete Collection. Test drive many powerful, time-saving tools available to you from *premiumACCESS*. To activate your bonus, visit www.iccsafe.org/codebonus.

ISPSC®

A Member of the International Code Family®

INCLUDES

APSP-7 Standard for Suction
Entrapment Avoidance

INTERNATIONAL SWIMMING POOL AND SPA CODE®



The Association of
Pool & Spa Professionals®



Copyright International Code Council
Provided by IHS Markit under license with ICC
No reproduction or networking permitted without license from IHS

Licensee=University of Texas Revised Sub Account/5620001114, User=yasi, am
Not for Resale, 07/04/2018 09:57:38 MDT



Documents

Document Sharing Hub

2018 International Swimming Pool and Spa Code®

First Printing: August 2017

ISBN: 978-1-60983-746-4 (soft-cover edition)

COPYRIGHT © 2017
by
INTERNATIONAL CODE COUNCIL, INC.

Date of First Publication: August 31, 2017

ALL RIGHTS RESERVED. This 2018 *International Swimming Pool and Spa 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 use rights and permissions, please contact: Publications, 4051 Flossmoor Road, Country Club Hills, IL 60478. Phone 1-888-ICC-SAFE (422-7233).

Trademarks: “International Code Council,” the “International Code Council” logo, “ICC,” the “ICC” logo, “International Swimming Pool and Spa Code,” “ISPSC” and other names and trademarks appearing in this book are trademarks of the International Code Council, Inc., and/or its licensors (as applicable), and may not be used without permission.

PRINTED IN THE U.S.A.

PREFACE

Introduction

The *International Swimming Pool and Spa Code*® (ISPSC®) establishes minimum requirements for the design, construction, alteration, repair and maintenance of swimming pools, spas, hot tubs and aquatic facilities. This 2018 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*®, *International Mechanical Code*®, *International Plumbing Code*®, *International Private Sewage Disposal Code*®, *International Property Maintenance Code*®, *International Residential Code*®, *International Wildland-Urban Interface Code*®, *International Zoning Code*® and *International Code Council Performance Code*®.

The I-Codes, including this *International Swimming Pool and Spa Code*, are used in a variety of ways in both the public and private sectors. Most industry professionals are familiar with the I-Codes as the basis of laws and regulations in communities across the U.S. and in other countries. However, the impact of the codes extends well beyond the regulatory arena, as they are used in a variety of nonregulatory settings, including:

- Voluntary compliance programs such as those promoting sustainability, energy efficiency and disaster resistance.
- The insurance industry, to estimate and manage risk, and as a tool in underwriting and rate decisions.
- Certification and credentialing of individuals involved in the fields of building design, construction and safety.
- Certification of building and construction-related products.
- U.S. federal agencies, to guide construction in an array of government-owned properties.
- Facilities management.
- “Best practices” benchmarks for designers and builders, including those who are engaged in projects in jurisdictions that do not have a formal regulatory system or a governmental enforcement mechanism.
- College, university and professional school textbooks and curricula.
- Reference works related to building design and construction.

In addition to the codes themselves, the code development process brings together building professionals on a regular basis. It provides an international forum for discussion and deliberation about building design, construction methods, safety, performance requirements, technological advances and innovative products.

Development

This 2018 edition presents the code as originally issued, with changes as reflected in the 2015 edition and further changes approved by the ICC Code Development Process through 2017. A new edition such as this is promulgated every 3 years.

This code is founded on principles intended to establish provisions consistent with the scope of a swimming pool and spa 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.

Maintenance

The *International Swimming Pool and Spa Code* is kept up to date through the review of proposed changes submitted by code enforcement 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 ICC Code Development Process reflects principles of openness, transparency, balance, due process and consensus, the principles embodied in OMB Circular A-119, which governs the federal government's use of private-sector standards. The ICC process is open to anyone; there is no cost to participate, and people can participate without travel cost through the ICC's cloud-based app, cdp-Access[®]. A broad cross section of interests are represented in the ICC Code Development Process. The codes, which are updated regularly, include safeguards that allow for emergency action when required for health and safety reasons.

In order to ensure that organizations with a direct and material interest in the codes have a voice in the process, the ICC has developed partnerships with key industry segments that support the ICC's important public safety mission. Some code development committee members were nominated by the following industry partners and approved by the ICC Board:

- Association of Pool and Spa Professionals (APSP)
- American Institute of Architects (AIA)

The code development committees evaluate and make recommendations regarding proposed changes to the codes. Their recommendations are then subject to public comment and council-wide votes. The ICC's governmental members—public safety officials who have no financial or business interest in the outcome—cast the final votes on proposed changes.

The contents of this work are subject to change through the code development cycles and by any governmental entity 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 I-Code development procedure is thorough and comprehensive, the ICC, its members and those participating in the development of this code disclaim any liability resulting from the publication or use of the I-Codes, or from compliance or noncompliance with their provisions. The ICC does not have the power or authority to police or enforce compliance with the contents of this code.

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

In each code development cycle, code change proposals to this code are considered at the Committee Action Hearing by the International Swimming Pool and Spa Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Code change proposals to sections of the code that are preceded by a bracketed letter designation, such as [A], will be considered by a committee other than the Swimming Pool and Spa Code Development Committee. For example, proposed changes to Section [A] 102.1 will be considered by the Administrative Code Development Committee during the Committee Action Hearings in the 2019 (Group B) code development cycle.

The bracketed letter designations for committees responsible for portions of this code are as follows:

- [A] = Administrative Code Development Committee; and
- [BS] = IBC—Structural Code Development Committee

For the development of the 2021 edition of the I-Codes, there will be two groups of code development committees and they will meet in separate years. Note that these are tentative groupings.

Group A Codes (Heard in 2018, Code Change Proposals Deadline: January 8, 2018)	Group B Codes (Heard in 2019, Code Change Proposals Deadline: January 7, 2019)
International Building Code – Egress (Chapters 10, 11, Appendix E) – Fire Safety (Chapters 7, 8, 9, 14, 26) – General (Chapters 2–6, 12, 27–33, Appendices A, B, C, D, K, N)	Administrative Provisions (Chapter 1 of all codes except IECC, IRC and IgCC, administrative updates to currently referenced standards, and designated definitions)
International Fire Code	International Building Code – Structural (Chapters 15–25, Appendices F, G, H, I, J, L, M)
International Fuel Gas Code	International Existing Building Code
International Mechanical Code	International Energy Conservation Code—Commercial
International Plumbing Code	International Energy Conservation Code—Residential – IECC—Residential – IRC—Energy (Chapter 11)
International Property Maintenance Code	International Green Construction Code (Chapter 1)
International Private Sewage Disposal Code	International Residential Code – IRC—Building (Chapters 1–10, Appendices E, F, H, J, K, L, M, O, Q, R, S, T)
International Residential Code – IRC—Mechanical (Chapters 12–23) – IRC—Plumbing (Chapters 25–33, Appendices G, I, N, P)	
International Swimming Pool and Spa Code	
International Wildland-Urban Interface Code	
International Zoning Code	
Note: Proposed changes to the ICC <i>Performance Code</i> ™ will be heard by the code development committee noted in brackets [] in the text of the ICC <i>Performance Code</i> ™.	

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 hold Committee Action Hearings in different years, proposals for this code will be heard by committees in both the 2018 (Group A) and the 2019 (Group B) code development cycles.

Note that 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 code hearings. This committee will hold its code development hearings in 2019 to consider all code change proposals for Chapter 1 of this code and proposals for Chapter 1 of all I-Codes except the *International Energy Conservation Code*, *International Residential Code* and *International Green Construction Code*. Therefore, any proposals received for Chapter 1 of this code will be assigned to the Administrative Code Development Committee for consideration in 2019.

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 website at 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 2015 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 list of items or a table has been deleted.

Coordination of the International Codes

The coordination of technical provisions is one of the strengths of the ICC family of model codes. The codes can be used as a complete set of complementary documents, which will provide users with full integration and coordination of technical provisions. Individual codes can also be used in subsets or as stand-alone documents. To make sure that each individual code is as complete as possible, some technical provisions that are relevant to more than one subject area are duplicated in some of the model codes. This allows users maximum flexibility in their application of the I-Codes.

Italicized Terms

Words and terms defined in Chapter 2, Definitions, are italicized where they appear in code text and the Chapter 2 definition applies. Where such words and terms are not italicized, common-use definitions apply. The words and terms selected have code-specific definitions that the user should read carefully to facilitate better understanding of the code.

Adoption

The International Code Council maintains a copyright in all of its codes and standards. Maintaining copyright allows ICC to fund its mission through sales of books, in both print and electronic formats. The ICC welcomes adoption of its codes by jurisdictions that recognize and acknowledge the ICC's copyright in the code, and further acknowledge the substantial shared value of the public/private partnership for code development between jurisdictions and the ICC.

The ICC also recognizes the need for jurisdictions to make laws available to the public. All I-Codes and I-Standards, along with the laws of many jurisdictions, are available for free in a nondownloadable form on the ICC's website. Jurisdictions should contact the ICC at adoptions@iccsafe.org to learn how to adopt and distribute laws based on the *International Swimming Pool and Spa Code* in a manner that provides necessary access, while maintaining the ICC's copyright.

To facilitate adoption, several sections of this code contain blanks for fill-in information that needs to be supplied by the adopting jurisdiction as part of the adoption legislation. For this code, please see:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 105.6.2. Insert: [APPROPRIATE SCHEDULE]

Section 105.6.3: [PERCENTAGE IN TWO LOCATIONS]

Section 107.4. Insert: [OFFENSE]

Section 107.4. Insert: [DOLLAR AMOUNT]

Section 107.4. Insert: [NUMBER OF DAYS]

Section 107.5. Insert: [DOLLAR AMOUNT IN TWO LOCATIONS]

EFFECTIVE USE OF THE INTERNATIONAL SWIMMING POOL AND SPA CODE

The *International Swimming Pool and Spa Code* (ISPSC) is a model code that regulates the minimum requirements for the design, construction, alteration, repair and maintenance of swimming pools, spas, hot tubes and aquatic facilities. This includes public swimming pools, public spas, public exercise spas, aquatic recreation facilities, onground storable residential pools, permanent inground residential pools, permanent residential spas, permanent residential exercise spas, portable residential spas and portable residential exercise spas.

In many jurisdictions, in addition to code officials having the responsibility for reviewing plans and inspecting the construction of pools and spas, environmental health officials also have a responsibility for oversight of the operation of pools and spas. In order to prevent disease and prevent injuries, environmental health officials conduct operational evaluations (inspections). This may include water chemistry, credentials and training of pool operators and lifeguards, proper water circulation, facility staff's preparedness to respond to injuries and accidents, and proper sanitation and safety of the facility.

Code officials and environmental health officials commonly work closely in the plan review and inspection of pools and spas. This collaboration between departments to jointly review plans and inspect pools and spas is critical in order to achieve a safe and healthy environment for all that utilize these facilities.

The Association of Pool & Spa Professionals (APSP), a cooperating sponsor with ICC in the development and update of the ISPSC, further notes: "While it is recognized that proper construction and installation are essential, safe use of pools and spas requires common sense, including constant adult supervision of children, and proper maintenance. It is assumed and intended that pool users will exercise appropriate personal judgment and responsibility (including constant adult supervision of children) and that operators will create and enforce rules and warning appropriate for their pool/spa."

Arrangement and Format of the 2018 ISPSC

The format of the ISPSC allows each chapter to be devoted to a particular subject with the exception of Chapter 3 which contains general compliance subject matter that is coordinated with the provisions for each type of pool and spa regulated in Chapters 4–10. The ISPSC is divided into eleven different parts:

Chapter	Subject
1	Scope and Administration
2	Definitions
3	General Compliance
4	Public Swimming Pools
5	Public Spas and Public Exercise Spas
6	Aquatic Recreation Facilities
7	Onground Storable Residential Swimming Pools
8	Permanent Inground Residential Swimming Pools
9	Permanent Residential Spas and Permanent Residential Exercise Spas
10	Portable Residential Spas and Portable Residential Exercise Spas
11	Referenced Standards

The following is a chapter-by-chapter synopsis of the scope and intent of the provisions of the *International Swimming Pool and Spa Code*:

Chapter 1 Scope and Administration. This chapter contains provisions for the application, enforcement and administration of subsequent requirements of the code. Chapter 1 identifies which swimming pools and spas come under its purview. It is largely concerned with maintaining “due process of law” in enforcing the design and construction criteria contained in the body of the code. Only through careful observation of the administrative provisions can the code official reasonably expect to demonstrate that “equal protection under the law” has been provided.

Chapter 2 Definitions. Terms that are defined in the code are listed alphabetically in Chapter 2. While a defined term may be used in one chapter or another, the meaning provided in Chapter 2 is applicable throughout the code.

Where understanding of a term’s definition is especially key to or necessary for the 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 Compliance. Chapter 3 is broad in scope. It includes a variety of requirements for pools and spas. This chapter provides requirements that are intended to maintain a minimum level of safety and sanitation for both the general public and the users of pools or spas. Chapter 3 provides specific criteria for electrical, plumbing, mechanical and fuel gas requirements; energy savings requirements; construction in flood hazard areas; barrier requirements; decks around pools and spas; general design; dimensional design; equipment; suction entrapment avoidance; circulation systems; filters; pumps and motors; return and suction fittings; skimmers; heaters; air blowers and air induction systems; water supply; sanitizing equipment; wastewater disposal; lighting; ladders and recessed treads; and safety. It is important to note that Chapter 3 is intended to provide general requirements not found in Chapters 4–10. Chapters 4–10 specifically reference Chapter 3 in order to coordinate the general provisions with the specific provisions based on the type of pool or spa.

Chapter 4 Public Swimming Pools. The purpose of Chapter 4 is to set forth specific requirements in the code for public swimming pools with regard to diving equipment, bather load limitations, rest ledges, wading pools, decks, deck equipment, filters, dressing and sanitary facilities, special features and signage. The term “public swimming pool” is defined in Chapter 2 and includes the different classes of pools (Class A – Class F).

Chapter 5 Public Spas and Public Exercise Spas. Chapter 5 establishes the specific criteria for public spas and public exercise spas with regard to materials, structure and design, pumps and motors, return and suction fittings, heater and temperature requirements, water supply, sanitation, oxidation equipment and chemical feeders, and safety features. The term “spa” is defined in Chapter 2.

Chapter 6 Aquatic Recreation Facilities. The purpose of Chapter 6 is to establish specific requirements for aquatic recreation facilities with regard to floors, markings and indications, circulation systems, handholds and ropes, depths, barriers, number of occupants, toilet rooms and bathrooms, special features and signage. The term “aquatic recreation facility” is defined in Chapter 2 and includes wave pools, leisure rivers, inner tube rides and body slides, to name a few.

Chapter 7 Onground Storable Residential Swimming Pools. The purpose of Chapter 7 is to establish specific requirements for onground storable residential swimming pools with regard to ladders and stairs, decks and circulation systems. The term “onground storable pool” is defined in Chapter 2. This chapter applies to what has been commonly referred to in past standards and codes as onground or above-ground pools. The application of the provisions for onground residential pools is limited to pools associated with detached one- and two-family dwellings and townhouses not more than three stories high in accordance with the definition of the term “residential” in Chapter 2.

Chapter 8 Permanent Inground Residential Swimming Pools. The purpose of Chapter 8 is to establish specific requirements for permanent inground residential swimming pools with regard to design, construction tolerances, diving water envelopes, walls, offset ledges, pool floors, diving equipment, special features, circulation systems and safety features. The application of the provisions for inground residential pools is limited to pools associated with detached one- and two-family dwellings and townhouses not more than three stories high in accordance with the definition of the term “residential” in Chapter 2.

Chapter 9 Permanent Residential Spas and Permanent Residential Exercise Spas. The purpose of Chapter 9 is to establish specific requirements for permanent residential spas and permanent residential exercise spas with regard to safety features. The application of the provisions for residential spas (“spa” is defined in Chapter 2) is limited to spas associated with detached one- and two-family dwellings and townhouses not more than three stories high in accordance with the definition of the term “residential” in Chapter 2.

Chapter 10 Portable Residential Spas and Portable Residential Exercise Spas. The purpose of Chapter 10 is to establish specific requirements for portable residential spas and portable residential exercise spas with regard to standards that the equipment must meet. The application of the provisions for residential spas (“spa” is defined in Chapter 2) is limited to spas associated with detached one- and two-family dwellings and townhouses not more than three stories high in accordance with the definition of the term “residential” in Chapter 2.

Chapter 11 Referenced Standards. The code contains numerous references to standards that are used to regulate materials and methods of construction. Chapter 11 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 11 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 on 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.

100

2018 INTERNATIONAL SWIMMING POOL AND SPA CODE®

Licensee=University of Texas Revised Sub Account/5620001114, User=yasi, amne
Not for Resale, 07/04/2018 09:57:38 MDT



Documents

Document Sharing Hub

TABLE OF CONTENTS

CHAPTER 1 SCOPE AND ADMINISTRATION 1

PART 1—SCOPE AND APPLICATION..... 1

Section

101	General.....	1
102	Applicability.....	1

PART 2—ADMINISTRATION AND ENFORCEMENT..... 2

Section

103	Department of Building Safety.....	2
104	Duties and Powers of the Code Official.....	2
105	Permits.....	3
106	Inspections.....	4
107	Violations.....	6
108	Means of Appeal.....	7

CHAPTER 2 DEFINITIONS 9

Section

201	General.....	9
202	Definitions.....	9

CHAPTER 3 GENERAL COMPLIANCE 13

Section

301	General.....	13
302	Electrical, Plumbing, Mechanical and Fuel Gas Requirements.....	13
303	Energy.....	13
304	Flood Hazard Areas.....	14
305	Barrier Requirements.....	14
306	Decks.....	16
307	General Design.....	17
308	Dimensional Design.....	17
309	Equipment.....	18
310	Suction Entrapment Avoidance.....	18
311	Circulation Systems.....	18
312	Filters.....	19
313	Pumps and Motors.....	19
314	Return and Suction Fittings.....	20
315	Skimmers.....	20
316	Heaters.....	21
317	Air Blower and Air Induction System.....	21

318	Water Supply.....	21
319	Sanitizing Equipment.....	22
320	Wastewater Disposal.....	22
321	Lighting.....	22
322	Ladders and Recessed Treads.....	23
323	Safety.....	23

CHAPTER 4 PUBLIC SWIMMING POOLS..... 25

Section

401	General.....	25
402	Diving.....	25
403	Bather Load.....	27
404	Rest Ledges.....	27
405	Wading Pools.....	27
406	Decks and Deck Equipment.....	27
407	Circulation Systems.....	28
408	Filters.....	28
409	Specific Safety Features.....	28
410	Sanitary Facilities.....	29
411	Special Features.....	29
412	Signage.....	30

CHAPTER 5 PUBLIC SPAS AND PUBLIC EXERCISE SPAS..... 31

Section

501	General.....	31
502	Materials.....	31
503	Structure and Design.....	31
504	Pumps and Motors.....	31
505	Return and Suction Fittings.....	31
506	Heater and Temperature Requirements.....	31
507	Water Supply.....	32
508	Sanitizing, Oxidation Equipment and Chemical Feeders.....	32
509	Safety Features.....	32

CHAPTER 6 AQUATIC RECREATION FACILITIES..... 33

Section

601	General.....	33
602	Floors.....	33
603	Markings and Indicators.....	33

TABLE OF CONTENTS

604	Circulation Systems	33
605	Handholds and Ropes	34
606	Depths	34
607	Barriers	34
608	Number of Occupants	34
609	Toilet Rooms and Bathrooms	35
610	Special Features	35
611	Signage	36

CHAPTER 7 ONGROUND STORABLE RESIDENTIAL SWIMMING POOLS 39

Section

701	General	39
702	Ladders and Stairs	39
703	Decks	41
704	Circulation System	42
705	Safety Signs	43

CHAPTER 8 PERMANENT INGROUND RESIDENTIAL SWIMMING POOLS 45

801	General	45
802	Design	45
803	Construction Tolerances	45
804	Diving Water Envelopes	45
805	Walls	45
806	Offset Ledges	45
807	Pool Floors	46
808	Diving Equipment	47
809	Special Features	47
810	Circulation Systems	48
811	Safety Features	48

CHAPTER 9 PERMANENT RESIDENTIAL SPAS AND PERMANENT RESIDENTIAL EXERCISE SPAS 49

901	General	49
902	Safety Features	49

CHAPTER 10 PORTABLE RESIDENTIAL SPAS AND PORTABLE RESIDENTIAL EXERCISE SPAS 51

1001	General	51
------	-------------------	----

CHAPTER 11 REFERENCED STANDARDS 53

INDEX 57

CHAPTER 1

SCOPE AND ADMINISTRATION

User note:

About this chapter: Chapter 1 establishes the limits of applicability of this code and describes how the code is to be applied and enforced. Chapter 1 is in two parts: Part 1—Scope and Application (Sections 101–102) and Part 2—Administration and Enforcement (Sections 103–108). Section 101 identifies which buildings and structures come under its purview and references other I-Codes as applicable. Standards and codes are scoped to the extent referenced (see Section 102.8).

This code is intended to be adopted as a legally enforceable document and it cannot be effective without adequate provisions for its administration and enforcement. The provisions of Chapter 1 establish the authority and duties of the code official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner.

PART 1—SCOPE AND APPLICATION

SECTION 101 GENERAL

[A] 101.1 Title. These regulations shall be known as the Swimming Pool and Spa Code of [NAME OF JURISDICTION], hereinafter referred to as “this code.”

[A] 101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, renovation, replacement, repair and maintenance of aquatic recreation facilities, pools and spas. The pools and spas covered by this code are either permanent or temporary, and shall be only those that are designed and manufactured to be connected to a circulation system and that are intended for swimming, bathing or wading.

101.2.1 Flotation tanks. Flotation tank systems intended for sensory deprivation therapy shall not be considered to be included in the scope of this code.

[A] 101.3 Intent. The purpose of this code is to establish minimum standards to provide a reasonable level of safety and protection of health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas.

[A] 101.4 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 Existing installations. Any pool or spa and related mechanical, electrical and plumbing systems lawfully in exis-

tence 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.

[A] 102.3 Maintenance. Pools and spas and related mechanical, electrical and plumbing systems, both existing and new, and 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 edition of the code under which they were installed.

The owner or the owner’s authorized agent shall be responsible for maintenance of systems. To determine compliance with this provision, the code official shall have the authority to require any system to be reinspected.

[A] 102.4 Additions, alterations or repairs. Additions, alterations, renovations or repairs to any pool, spa or related system shall conform to that required for a new system without requiring the existing systems to comply with the requirements of this code. Additions, alterations or repairs shall not cause existing systems to become unsafe, insanitary or overloaded.

Minor additions, alterations, renovations and repairs to existing systems shall be permitted in the same manner and arrangement as in the existing system, provided that such repairs or replacement are not hazardous and are approved.

[A] 102.5 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of pools, spas or systems shall not be mandatory for existing pools, spas or systems identified and classified by the state or local jurisdiction as part of a historic structure where such pools, spas or systems 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 such pool or spa.

[A] 102.6 Moved pools and spas. Except as determined by Section 102.2, systems that are a part of a pool, spa or system moved into or within the jurisdiction shall comply with the provisions of this code for new installations.

SCOPE AND ADMINISTRATION

[A] 102.7 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 11 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. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements.

[A] 102.7.1 Application of the International Codes.

Where the *International Residential Code* is referenced in this code, the provisions of the *International Residential Code* shall apply to related systems in detached one- and two-family dwellings and townhouses not more than three stories in height. Other related systems shall comply with the applicable International Code or referenced standard.

[A] 102.8 Requirements not covered by code. Any requirements necessary for the strength, stability or proper operation of an existing or proposed system, or for the public safety, health and general welfare, not specifically covered by this code shall be determined by the code official.

[A] 102.9 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

[A] 102.10 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

PART 2—ADMINISTRATION AND ENFORCEMENT

SECTION 103 DEPARTMENT OF BUILDING SAFETY

[A] 103.1 Creation of enforcement agency. The department of building safety is hereby created and the 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, the related technical officers, inspectors, plans examiners 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 civilly or criminally liable personally and is hereby relieved from 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.

[A] 103.4.1 Legal defenses. Any suit or criminal complaint instituted against an 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 legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for cost 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 erection, alteration, demolition and moving of pools, spas and related mechanical, electrical and plumbing systems. The code official shall inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code.

[A] 104.4 Inspections. The code official shall make the required inspections, or the code official shall have the authority to accept reports of inspection by *approved* agencies or individuals. Reports of such inspections 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] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to the remedies provided by law to secure entry.

[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.

[A] 104.8 Modifications. Where 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 authorized agent, provided that the code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen sustainability, health, accessibility, life safety and structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.9 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any design or 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, design 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, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 104.10 Required testing. Where 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 alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

[A] 104.10.1 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] 104.10.2 Testing agency. Tests shall be performed by an *approved* agency.

[A] 104.10.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

[A] 104.11 Alternative engineered design. The design, documentation, inspection, testing and approval of an alternative engineered design shall comply with Sections 104.11.1 through 104.11.6.

[A] 104.11.1 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, durability and safety. Material,

equipment or components shall be designed and installed in accordance with the manufacturer's instructions.

[A] 104.11.2 Submittal. The registered design professional shall indicate on the permit application that the 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.

[A] 104.11.3 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.

[A] 104.11.4 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.

[A] 104.11.5 Design approval. Where the code official determines that the alternative engineered design conforms to the intent of this code, the 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 why the alternative was not *approved*.

[A] 104.11.6 Inspection and testing. The alternative engineered design shall be tested and inspected in accordance with the requirements of Section 106.12.

[A] 104.12 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested, placed in good and proper working condition and *approved*.

SECTION 105 PERMITS

[A] 105.1 When required. Any owner, or owner's authorized agent who desires to construct, enlarge, alter, repair, move, or demolish a pool or spa or to erect, install, enlarge, alter, repair, remove, convert or replace any system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the code official and obtain the required permit for the work.

[A] 105.2 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 be signed by the owner or the owner's authorized agent. The permit application shall contain such other information required by the code official.

[A] 105.3 Construction documents. Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code.

SCOPE AND ADMINISTRATION

[A] 105.4 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 is authorized 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] 105.5 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 laws and ordinances applicable thereto, and that the fees specified in Section 105.6 have been paid, a permit shall be issued to the applicant.

[A] 105.5.1 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. 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 system before the entire construction documents for the whole system have been submitted or *approved*, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holders of such permit shall proceed at their own risk without assurance that the permit for the entire system will be granted.

[A] 105.5.2 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 any other ordinance of the jurisdiction. Any permit presuming to give authority to violate or cancel the provisions of this code shall not 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 where in violation of this code or of other ordinances of this jurisdiction.

[A] 105.5.3 Expiration. Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The code official is authorized to grant, in writing, one or more extensions of time, for a period not more than 180 days. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.5.4 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 is unable to 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. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 105.5.5 Suspension or revocation of permit. The code official shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents on which the permit or approval was based.

[A] 105.5.6 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] 105.6 Fees. A permit shall not be valid until the fees prescribed by law have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid.

[A] 105.6.1 Work commencing before permit issuance. Any person who commences any work on a system before obtaining the necessary permits shall be subject to a fee as indicated in the adopted fee schedule and would be in addition to the required permit fees.

[A] 105.6.2 Fee schedule. The fees for work shall be as indicated in the following schedule:

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

[A] 105.6.3 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 not later than 180 days after the date of fee payment.

SECTION 106 INSPECTIONS

[A] 106.1 General. Construction or work for which a permit is required shall be subject to inspection by the code official and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an

approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. 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] 106.2 Preliminary inspection. Before issuing a permit, the code official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

[A] 106.3 Required inspections and testing. Pool and spa installations or alterations thereto, including equipment, piping, and appliances related thereto, shall be inspected by the code official to ensure compliance with the requirements of this code.

[A] 106.4 Other inspections. In addition to the inspections specified in Sections 106.2 and 106.3, the code official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced.

[A] 106.5 Inspection request. 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] 106.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the code official. The code official, upon notification, shall make the requested inspection 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] 106.7 Approved agencies. Test reports submitted to the code official for consideration shall be developed by *approved* agencies that have satisfied the requirements as to qualifications and reliability.

[A] 106.8 Evaluation and follow-up inspection services. Prior to the approval of a closed, prefabricated system and the issuance of a permit, the code official shall require the submittal of an evaluation report on each prefabricated system indicating the complete details of the system, including a description of the system and its components, the basis on 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] 106.9 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] 106.10 Follow-up inspection. Except where ready access is provided to systems, service equipment and accessories for complete inspection at the site without disassembly

or dismantling, the code official shall conduct the frequency of in-plant inspections 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 on request, and the system shall have an identifying label permanently affixed to the system indicating that factory inspections have been performed.

[A] 106.11 Test and inspection records. Required test and inspection records shall be available to the code official at all times during the fabrication of the system and the installation of the system, or such records as the code official designates shall be filed.

[A] 106.12 Special inspections. Special inspections of alternative engineered design systems shall be conducted in accordance with Sections 106.12.1 and 106.12.2.

[A] 106.12.1 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* construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. Records shall be kept of inspections.

[A] 106.12.2 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 system shall not be issued until a written certification has been submitted.

[A] 106.13 Testing. Systems shall be tested as required by this code. Tests shall be made by the permit holder and the code official shall have the authority to witness such tests.

[A] 106.14 New, altered, extended or repaired systems. New systems and parts of existing systems that have been altered, extended or repaired shall be tested as prescribed by this code.

[A] 106.15 Equipment, material and labor for tests. Equipment, material and labor required for testing a system or part thereof shall be furnished by the permit holder.

[A] 106.16 Reinspection and testing. Where any work or installation does not pass any initial test or inspection, the necessary corrections shall be made to comply with this code. The work or installation shall then be resubmitted to the code official for inspection and testing.

[A] 106.17 Approval. After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

[A] 106.17.1 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, or on the basis of the incorrect information supplied, or where it is determined that the building or structure, premise, system or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

SCOPE AND ADMINISTRATION

[A] 106.18 Temporary connection. The code official shall have the authority to authorize the temporary connection of the building or system to the utility source for the purpose of testing systems.

[A] 106.19 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

SECTION 107 VIOLATIONS

[A] 107.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize any system, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 107.2 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 work in violation of the provisions of this code, or in violation of a detail statement or the *approved* construction documents there under, 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] 107.3 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 pool or spa in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] 107.4 Violation penalties. Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter or repair a pool or spa 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 such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

[A] 107.5 Stop work orders. Upon notice from the *code official*, work on any system that is being performed 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, or to the owner's authorized agent, or to the person performing 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 in or about the structure 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] 107.6 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 violation, or to prevent illegal use of a pool or spa, or to stop an illegal act, conduct, business or utilization of the plumbing on or about any premises.

[A] 107.7 Unsafe systems. Any system regulated by this code that is unsafe or that constitutes a fire or health hazard, insanitary condition, or is otherwise dangerous to human life is hereby declared unsafe. Any use of a system regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe system is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

[A] 107.7.1 Authority to condemn a system. Where the code official determines that any 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 either be removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective system after receiving such notice.

Where such a system is to be disconnected, written notice as prescribed in Section 107.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

[A] 107.7.2 Authority to disconnect service utilities. The code official shall have the authority to authorize disconnection of utility service to the pool or spa regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building where the pool or spa is located shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or the occupant of the building shall be notified in writing, as soon as practical thereafter.

[A] 107.7.3 Connection after order to disconnect. A person shall not make connections from any energy, fuel, power supply or water distribution system, or supply energy, fuel or water to any equipment regulated by this code that has been disconnected or ordered to be disconnected by the code official or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment.

When any system is maintained in violation of this code, and in violation of any notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.

SECTION 108 MEANS OF APPEAL

[A] 108.1 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 there under have 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] 108.2 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] 108.2.1 Qualifications. The board of appeals shall consist of five individuals, one from each of the following professions or disciplines:

1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 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 not less than 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 not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
5. Registered design professional with pool or spa experience; or a contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.

[A] 108.2.2 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] 108.2.3 Chairman. The board shall annually select one of its members to serve as chairman.

[A] 108.2.4 Disqualification of member. A member shall not hear an appeal in which that member has any personal, professional or financial interest.

[A] 108.2.5 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 proceedings in the office of the chief administrative officer.

[A] 108.2.6 Compensation of members. Compensation of members shall be determined by law.

[A] 108.3 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] 108.4 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] 108.4.1 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] 108.5 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] 108.6 Board decision. The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] 108.6.1 Resolution. The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] 108.6.2 Administration. The code official shall take immediate action in accordance with the decision of the board.

[A] 108.7 Court review. Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court 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.

2018 International Code Council

CHAPTER 2

DEFINITIONS

User note:

About this chapter: Codes, by their very nature, are technical documents. Every word, term and punctuation mark can add to or change the meaning of a technical requirement. It is necessary to maintain a consensus on the specific meaning of each term contained in the code. Chapter 2 performs this function by stating clearly what specific terms mean for the purpose of the code.

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 shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated 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*, *International Energy Conservation Code*, *International Fire Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code* or *International Residential Code*, such terms shall have the 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 DEFINITIONS

ACCESSIBLE. Signifies access that requires the removal of an access panel or similar removable obstruction.

ACTIVITY POOL. A pool designed primarily for play activity that uses constructed features and devices including lily pad walks, flotation devices, small slide features, and similar attractions.

AIR INDUCTION SYSTEM. A system whereby a volume of air is introduced into hollow ducting built into a spa floor, bench, or hydrotherapy jets.

[A] ALTERATION. Any construction or renovation to an existing pool or spa other than repair.

[A] APPROVED. Acceptable to the code official or authority having jurisdiction.

[A] APPROVED AGENCY. An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, or furnishing product certification where such agency has been *approved* by the code official.

AQUATIC RECREATION FACILITY. A facility that is designed for free-form aquatic play and recreation. The facilities may include, but are not limited to, wave or surf action

pools, leisure rivers, sand bottom pools, vortex pools, activity pools, inner tube rides, body slides and interactive play attractions.

BACKWASH. The process of cleansing the filter medium or elements by the reverse flow of water through the filter.

BACKWASH CYCLE. The time required to backwash the filter medium or elements and to remove debris in the pool or spa filter.

BARRIER. A permanent fence, wall, building wall, or combination thereof that completely surrounds the pool or spa and obstructs the access to the pool or spa. The term “permanent” shall mean not being able to be removed, lifted, or relocated without the use of a tool.

BATHER. A person using a pool, spa or hot tub and adjoining deck area for the purpose of water sports, recreation, therapy or related activities.

BATHER LOAD. The number of persons in the pool or spa water at any given moment or during any stated period of time.

BEACH ENTRY. Sloping entry starting above the waterline at deck level and ending below the waterline. The presence of sand is not required. Also called “zero entry.”

CHEMICAL FEEDER. A floating or mechanical device for adding a chemical to pool or spa water.

CIRCULATION EQUIPMENT. The components of a circulation system.

CIRCULATION SYSTEM. The mechanical components that are a part of a recirculation system on a pool or spa. Circulation equipment may be, but is not limited to, categories of pumps, hair and lint strainers, filters, valves, gauges, meters, heaters, surface skimmers, inlet fittings, outlet fittings and chemical feeding devices. The components have separate functions, but where connected to each other by piping, perform as a coordinated system for purposes of maintaining pool or spa water in a clear and sanitary condition.

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

[A] CONSTRUCTION DOCUMENTS. Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.

DEFINITIONS

DECK. An area immediately adjacent to or attached to a pool or spa that is specifically constructed or installed for sitting, standing, or walking.

DEEP AREA. Water depth areas exceeding 5 feet (1524 mm).

DESIGN PROFESSIONAL. An individual who is registered or licensed to practice his or her respective design profession as defined by the statutory requirements of the professional registration or licensing laws of the state or jurisdiction in which the project is to be constructed.

DESIGN RATE OF FLOW. The rate of flow used for design calculations in a system.

DESIGN WATERLINE. The centerline of the *skimmer* or other point as defined by the designer of the pool or spa.

DIVING AREA. The area of a swimming pool that is designed for diving.

DIVING BOARD. A flexible board secured at one end that is used for diving such as a spring board or a jump board.

DIVING PLATFORM. A stationary platform designed for diving.

DIVING STAND. Any supporting device for a springboard, jump board or diving board.

EXERCISE SPA (Also known as a swim spa). Variants of a spa in which the design and construction includes specific features and equipment to produce a water flow intended to allow recreational physical activity including, but not limited to, swimming in place. Exercise spas can include peripheral jetted seats intended for water therapy, heater, circulation and filtration system, or can be a separate distinct portion of a combination spa/exercise spa and can have separate controls. These spas are of a design and size such that they have an unobstructed volume of water large enough to allow the 99th Percentile Man as specified in APSP 16 to swim or exercise in place.

EXISTING POOL OR SPA. A pool or spa constructed prior to the date of adoption of this code, or one for which a legal building permit has been issued.

FILTER. A device that removes undissolved particles from water by recirculating the water through a porous substance such as filter medium or elements.

FILTRATION. The process of removing undissolved particles from water by recirculating the water through a porous substance such as filter medium or elements.

[BS] 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 year.
2. The area designated as a *flood hazard area* on a community's flood hazard map, or otherwise legally designated.

FLUME. A trough-like or tubular structure, generally recognized as a water slide, that directs the path of travel and the rate of descent by the rider.

GUTTER. Overflow trough in the perimeter wall of a pool that is a component of the circulation system or flows to waste.

HAIR AND LINT STRAINER. A device attached on or in front of a pump to which the influent line (suction line) is connected for the purpose of entrapping lint, hair, or other debris that could damage the pump.

HANDHOLD. That portion of a pool or spa structure or a specific element that is at or above the *design waterline* that users in the pool grasp onto for support.

HANDRAIL. A support device that is intended to be gripped by a user for the purpose of resting or steadying, typically located within or at exits to the pool or spa or as part of a set of steps.

HYDROTHERAPY JET. A fitting that blends air and water, creating a high-velocity turbulent stream of air-enriched water.

JUMP BOARD. A manufactured diving board that has a coil spring, leaf spring, or comparable device located beneath the board that is activated by the force exerted by jumping on the board's end.

[A] JURISDICTION. The governmental unit that has adopted this code.

[A] LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an *approved* agency and that indicates that the representative sample of the product or material has been tested and evaluated by an *approved* agency.

[A] LABELED. Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, *approved* agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose *labeling* indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

LADDER. A structure for ingress and egress that usually consists of two long parallel side pieces joined at intervals by crosspieces such as treads.

Type A double access ladder. An "A-Frame" ladder that straddles the pool wall of an above-ground pool and provides ingress and egress and is intended to be removed when not in use.

Type B limited access ladder. An "A-Frame" ladder that straddles the pool wall of an above-ground/onground pool. Type B ladders are removable and have a built-in feature that prevents entry to the pool when the pool is not in use.

Type C ladder. A "ground to deck" staircase ladder that allows access to an above-ground pool deck and has a built-in entry-limiting feature.

Type D in-pool ladder. Located in the pool to provide a means of ingress and egress from the pool to the deck.

Type E or F in-pool staircase ladder. Located in the pool to provide a means of ingress and egress from the pool to the deck.

LIFELINE. An anchored line thrown to aid in rescue.

[A] LISTED. Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of *listed* equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

MAINTAINED ILLUMINATION. The value, in foot-candles or equivalent units, below which the average illuminance on a specified surface is not allowed to fall. *Maintained illumination* equals the initial average illuminance on the specified surface with new lamps, multiplied by the light loss factor (LLF), to account for reduction in lamp intensity over time.

NEGATIVE EDGE. See “Vanishing edge.”

NONENTRY AREA. An area of the deck from which entry into the pool or spa is prohibited.

ONGROUND STORABLE POOL. A pool that can be disassembled for storage or transport. This includes portable pools with flexible or nonrigid walls that achieve their structural integrity by means of uniform shape, a support frame or a combination thereof, and that can be disassembled for storage or relocation.

OVERFLOW GUTTER. The *gutter* around the top perimeter of the pool or spa, which is used to skim the surface.

[A] OWNER. Any person, agent, operator, entity, firm or corporation having any legal or equitable interest in the property; or recorded in the official records of the state, county or municipality as holding an interest or title to the property; or otherwise having possession or control of the property, including the guardian of the estate of any such person, and the executor or administrator of the estate of such person if ordered to take possession of real property by a court.

[A] PERMIT. An official document or certificate issued by the authority having jurisdiction that authorizes performance of a specified activity.

POOL. See “Public swimming pool” and “Residential swimming pool.”

POWER SAFETY COVER. A pool cover that is placed over the water area, and is opened and closed with a motorized mechanism activated by a control switch.

PUBLIC SWIMMING POOL (Public Pool). A pool, other than a *residential* pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use. Public pools shall be further classified and defined as follows:

Class A competition pool. A pool intended for use for accredited competitive aquatic events such as Federation Internationale De Natation (FINA), USA Swimming, USA Diving, USA Synchronized Swimming, USA Water Polo, National Collegiate Athletic Association (NCAA), or the National Federation of State High School Associations (NFHS).

Class B public pool. A pool intended for public recreational use that is not identified in the other classifications of public pools.

Class C semi-public pool. A pool operated solely for and in conjunction with lodgings such as hotels, motels, apartments or condominiums.

Class D-1 wave action pool. A pool designed to simulate breaking or cyclic waves for purposes of general play or surfing.

Class D-2 activity pool. A pool designed for casual water play ranging from simple splashing activity to the use of attractions placed in the pool for recreation.

Class D-3 catch pool. A body of water located at the termination of a manufactured waterslide attraction. The body of water is provided for the purpose of terminating the slide action and providing a means for exit to a deck or walkway area.

Class D-4 leisure river. A manufactured stream of water of near-constant depth in which the water is moved by pumps or other means of propulsion to provide a river-like flow that transports bathers over a defined path that may include water features and play devices.

Class D-5 vortex pool. A circular pool equipped with a method of transporting water in the pool for the purpose of propelling riders at speeds dictated by the velocity of the moving stream of water.

Class D-6 interactive play attraction. A manufactured water play device or a combination of water-based play devices in which water flow volumes, pressures or patterns can be varied by the bather without negatively influencing the hydraulic conditions for other connected devices. These attractions incorporate devices or activities such as slides, climbing and crawling structures, visual effects, user-actuated mechanical devices and other elements of bather-driven and bather-controlled play.

Class E. Pools used for instruction, play or therapy and with temperatures above 86°F (30°C).

Class F. Class F pools are wading pools and are covered within the scope of this code as set forth in Section 405.

Public pools are either a diving or nondiving type. Diving types of public pools are classified into types as an indication of the suitability of a pool for use with diving equipment.

Types VI–IX. Public pools suitable for the installation of diving equipment by type.

Type O. A nondiving public pool.

RECESSED TREADS. A series of vertically spaced cavities in a pool or spa wall creating tread areas for step holes.

RECIRCULATION SYSTEM. See “Circulation system.”

[A] REPAIR. The reconstruction or renewal of any part of a pool or spa for the purpose of its maintenance or to correct damage.

RESIDENTIAL. For purposes of this code, *residential* applies to detached one- and two-family dwellings and townhouses not more than three stories in height.

DEFINITIONS

RESIDENTIAL SWIMMING POOL (Residential Pool).

A pool intended for use that is accessory to a *residential* setting and available only to the household and its guests. Other pools shall be considered to be public pools for purposes of this code.

Types I–V. *Residential* pools suitable for the installation of diving equipment by type.

Type O. A nondiving *residential* pool.

RETURN INLET. The aperture or fitting through which the water under positive pressure returns into a pool.

RING BUOY. A ring-shaped floating buoy capable of supporting a user, usually attached to a throwing line.

ROPE AND FLOAT LINE. A continuous line not less than $\frac{1}{4}$ inch (6 mm) in diameter that is supported by buoys and attached to opposite sides of a pool to separate the deep and shallow ends.

RUNOUT. A continuation of water slide flume surface where riders are intended to decelerate and come to a stop.

SAFETY COVER. A structure, fabric or assembly, along with attendant appurtenances and anchoring mechanisms, that is temporarily placed or installed over an entire pool, spa or hot tub and secured in place after all bathers are absent from the water.

SHALL. The term, where used in the code, is construed as mandatory.

SHALLOW AREAS. Portions of a pool or spa with water depths less than 5 feet (1524 mm).

SKIMMER. A device installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

SLIP RESISTANT. A surface that has been treated or constructed to significantly reduce the chance of a user slipping. The surface shall not be an abrasion hazard.

SLOPE BREAK. Occurs at the point where the slope of the pool floor changes to a greater slope.

SPA. A product intended for the immersion of persons in temperature-controlled water circulated in a closed system, and not intended to be drained and filled with each use. A spa usually includes a filter, an electric, solar or gas heater, a pump or pumps, and a control, and can include other equipment, such as lights, blowers, and water-sanitizing equipment.

Permanent residential spa. A spa, intended for use that is accessory to a *residential* setting and available to the household and its guests and where the water heating and water-circulating equipment is not an integral part of the product. The spa is intended as a permanent plumbing fixture and not intended to be moved.

Portable residential spa. A spa intended for use that is accessory to a *residential* setting and available to the household and its guests and where it is either self-contained or nonself-contained.

Public spa. A spa other than a permanent *residential* spa or portable *residential* spa that is intended to be used for

bathing and is operated by an owner, licensee or concessionaire, regardless of whether a fee is charged for use.

Self-contained spa. A factory-built spa in which all control, water heating and water-circulating equipment is an integral part of the product. Self-contained spas may be permanently wired or cord connected.

Nonself-contained spa. A factory-built *spa* in which the water heating and circulating equipment is not an integral part of the product. Nonself-contained spas may employ separate components such as an individual filter, pump, heater and controls, or they can employ assembled combinations of various components.

SPRAY POOL. A pool or basin occupied by construction features that spray water in various arrays for the purpose of wetting the persons playing in the spray streams.

SUBMERGED VACUUM FITTING. A fitting intended to provide a point of connection for suction side automatic swimming pool, *spa*, and hot tub cleaners.

SUCTION OUTLET. A submerged fitting, fitting assembly, cover/grate and related components that provide a localized low-pressure area for the transfer of water from a swimming pool, *spa* or hot tub. Submerged suction outlets have been referred to as main drains.

SURFACE SKIMMING SYSTEM. A device or system installed in the pool or spa that permits the removal of floating debris and surface water to the filter.

SURGE CAPACITY. The storage volume in a surge tank, gutter, and plumbing lines.

SURGE TANK. A storage vessel within the pool recirculating system used to contain the water displaced by bathers.

SWIMOUT. An underwater seat area that is placed completely outside of the perimeter shape of the pool. Where located at the deep end, swimouts are permitted to be used as the deep-end means of entry or exit to the pool.

TUBE RIDE. A gravity flow attraction found at a waterpark designed to convey riders on an inner-tube-like device through a series of chutes, channels, flumes or pools.

TURNOVER RATE. The period of time, usually in hours, required to circulate a volume of water equal to the pool or spa capacity.

UNDERWATER LEDGE. A narrow shelf projecting from the side of a vertical structure whose dimensions are defined in the appropriate standard.

UNDERWATER SEAT. An underwater ledge that is placed completely inside the perimeter shape of the pool, generally located in the shallow end of the pool.

VANISHING EDGE. Water-feature detail in which water flows over the edge of not fewer than one of the pool walls and is collected in a catch basin. Also called "Negative edge."

WATERLINE. See "Design waterline."

WAVE POOL CAISSON. A large chamber used in wave generation. This chamber houses pulsing water and air surges in the wave generation process and is not meant for human occupancy.

ZERO ENTRY. See "Beach entry."

CHAPTER 3

GENERAL COMPLIANCE

User note:

About this chapter: Chapter 3 covers general regulations for pool and spa installations. As many of these requirements would need to be repeated in Chapters 3 through 10, placing such requirements in only one location eliminates code development coordination issues with the same requirement in multiple locations. These general requirements can be superseded by more specific requirements for certain applications in Chapters 3 through 10.

SECTION 301 GENERAL

301.1 Scope. The provisions of this chapter shall govern the general design and construction of public and *residential* pools and spas and related piping, equipment, and materials. Provisions that are unique to a specific type of pool or spa are located in Chapters 4 through 10.

301.1.1 Application of Chapters 4 through 10. Where differences occur between the provisions of this chapter and the provisions of Chapters 4 through 10, the provisions of Chapters 4 through 10 shall apply.

SECTION 302 ELECTRICAL, PLUMBING, MECHANICAL AND FUEL GAS REQUIREMENTS

302.1 Electrical. Electrical requirements for aquatic facilities shall be in accordance with NFPA 70 or the *International Residential Code*, as applicable in accordance with Section 102.7.1.

Exception: Internal wiring for portable *residential* spas and portable *residential* exercise spas.

302.2 Water service and drainage. Piping and fittings used for water service, makeup and drainage piping for pools and spas shall comply with the *International Plumbing Code*. Fittings shall be *approved* for installation with the piping installed.

302.3 Pipe, fittings and components. Pipe, fittings and components shall be *listed* and *labeled* in accordance with NSF 50 or NSF 14. Plastic jets, fittings, and outlets used in public spas shall be *listed* and *labeled* in accordance with NSF 50.

Exceptions:

1. Portable *residential* spas and portable *residential* exercise spas *listed* and *labeled* in accordance with UL 1563 or CSA C22.2 No. 218.1.
2. *Onground storable pools* supplied by the pool manufacturer as a kit that includes all pipe, fittings and components.

302.4 Concealed piping inspection. Piping, including process piping, that is installed in trenches, shall be inspected prior to backfilling.

302.5 Backflow protection. Water supplies for pools and spas shall be protected against backflow in accordance with the

International Plumbing Code or the *International Residential Code*, as applicable in accordance with Section 102.7.1.

302.6 Wastewater discharge. Where wastewater from pools or spas, such as backwash water from filters and water from deck drains discharge to a building drainage system, the connection shall be through an air gap in accordance with the *International Plumbing Code* or the *International Residential Code* as applicable in accordance with Section 102.7.1.

302.7 Tests. Tests on water piping systems constructed of plastic piping shall not use compressed air for the test.

302.8 Maintenance. Pools and spas shall be maintained in a clean and sanitary condition, and in good repair.

302.8.1 Manuals. An operating and maintenance manual in accordance with industry-accepted standards shall be provided for each piece of equipment requiring maintenance.

SECTION 303 ENERGY

303.1 Energy consumption of pools and permanent spas. The energy consumption of pools and permanent spas shall be controlled by the requirements in Sections 303.1.1 through 303.1.3.

303.1.1 Heaters. The electric power to heaters shall be controlled by a readily accessible on-off switch that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

303.1.2 Time switches. Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- or waste-heat recovery pool heating systems.

GENERAL COMPLIANCE

303.1.3 Covers. Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other *approved* vapor-retardant means in accordance with Section 104.11.

Exception: Where more than 70 percent of the energy for heating, computed over an operating season, is from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.

303.2 Portable spas. The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP 14.

303.3 Residential pools and permanent residential spas. The energy consumption of *residential* swimming pools and permanent *residential* spas shall be controlled in accordance with the requirements of APSP 15.

SECTION 304 FLOOD HAZARD AREAS

304.1 General. The provisions of Section 304 shall control the design and construction of pools and spas installed in *flood hazard areas*.

[BS] 304.2 Determination of impacts based on location. Pools and spas located in *flood hazard areas* indicated within the *International Building Code* or the *International Residential Code* shall comply with Section 304.2.1 or 304.2.2.

Exception: Pools and spas located in riverine *flood hazard areas* that are outside of designated floodways and pools and spas located in *flood hazard areas* where the source of flooding is tides, storm surges or coastal storms.

[BS] 304.2.1 Pools and spas located in designated floodways. Where pools and spas are located in designated floodways, documentation shall be submitted to the code official that demonstrates that the construction of the pools and spas will not increase the design flood elevation at any point within the jurisdiction.

[BS] 304.2.2 Pools and spas located where floodways have not been designated. Where pools and spas are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool or spa and any associated grading and filling, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

[BS] 304.3 Pools and spas in coastal high-hazard areas. Pools and spas installed in coastal high-hazard areas shall be designed and constructed in accordance with ASCE 24.

[BS] 304.4 Protection of equipment. Equipment shall be elevated to or above the design flood elevation or be anchored to prevent flotation and protected to prevent water from entering or accumulating within the components during conditions of flooding.

304.5 GFCI protection. Electrical equipment installed below the design flood elevation shall be supplied by branch circuits that have ground-fault circuit interrupter protection for personnel.

SECTION 305 BARRIER REQUIREMENTS

305.1 General. The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.

305.2 Outdoor swimming pools and spas. Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7.

305.2.1 Barrier height and clearances. Barrier heights and clearances shall be in accordance with all of the following:

1. The top of the barrier shall be not less than 48 inches (1219 mm) above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier.
2. The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches (51 mm) for grade surfaces that are not solid, such as grass or gravel, where measured on the side of the barrier that faces away from the pool or spa.
3. The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the required barrier shall not exceed 4 inches (102 mm) where measured on the side of the required barrier that faces away from the pool or spa.
4. Where the top of the pool or spa structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool or spa structure. Where the barrier is mounted on the top of the pool or spa, the vertical clearance between the top of the pool or spa and the bottom of the barrier shall not exceed 4 inches (102 mm).

305.2.2 Openings. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

305.2.3 Solid barrier surfaces. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.

305.2.4 Mesh fence as a barrier. Mesh fences, other than chain link fences in accordance with Section 305.2.7, shall be installed in accordance with the manufacturer's instructions and shall comply with the following:

1. The bottom of the mesh fence shall be not more than 1 inch (25 mm) above the deck or installed surface or grade.
2. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not permit

the fence to be lifted more than 4 inches (102 mm) from grade or decking.

3. The fence shall be designed and constructed so that it does not allow passage of a 4-inch (102 mm) sphere under any mesh panel. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall be not greater than 4 inches (102 mm) from grade or decking.
4. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143 mm) above grade. Common attachment devices include, but are not limited to, devices that provide the security equal to or greater than that of a hook-and-eye-type latch incorporating a spring-actuated retaining lever such as a safety gate hook.
5. Where a hinged gate is used with a mesh fence, the gate shall comply with Section 305.3.
6. Patio deck sleeves such as vertical post receptacles that are placed inside the patio surface shall be of a nonconductive material.
7. Mesh fences shall not be installed on top of onground *residential* pools.

305.2.5 Closely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the pool or spa side of the fence. Spacing between vertical members shall not exceed $1\frac{3}{4}$ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed $1\frac{3}{4}$ inches (44 mm) in width.

305.2.6 Widely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed $1\frac{3}{4}$ inches (44 mm).

305.2.7 Chain link dimensions. The maximum opening formed by a chain link fence shall be not more than $1\frac{3}{4}$ inches (44 mm). Where the fence is provided with slats fastened at the top and bottom that reduce the openings, such openings shall be not greater than $1\frac{3}{4}$ inches (44 mm).

305.2.8 Diagonal members. Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be not greater than $1\frac{3}{4}$ inches (44 mm). The angle of diagonal members shall be not greater than 45 degrees (0.79 rad) from vertical.

305.2.9 Clear zone. There shall be a clear zone of not less than 36 inches (914 mm) between the exterior of the barrier and any permanent structures or equipment such as pumps, filters and heaters that can be used to climb the barrier.

305.2.10 Poolside barrier setbacks. The pool or spa side of the required barrier shall be not less than 20 inches (508 mm) from the water's edge.

305.3 Gates. Access gates shall comply with the requirements of Sections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device.

305.3.1 Utility or service gates. Gates not intended for pedestrian use, such as utility or service gates, shall remain locked when not in use.

305.3.2 Double or multiple gates. Double gates or multiple gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-latching device. The gate and barrier shall not have openings larger than $\frac{1}{2}$ inch (12.7 mm) within 18 inches (457 mm) of the latch release mechanism. The self-latching device shall comply with the requirements of Section 305.3.3.

305.3.3 Latches. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3 inches (76 mm) below the top of the gate, and the gate and barrier shall not have openings greater than $\frac{1}{2}$ inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

305.4 Structure wall as a barrier. Where a wall of a dwelling or structure serves as part of the barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1. Operable windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be *listed* and *labeled* as a water hazard entrance alarm in accordance with UL 2017. In dwellings or structures not required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located 54 inches (1372 mm) or more above the finished floor. In dwellings or structures required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the finished floor.
2. A *safety cover* that is *listed* and *labeled* in accordance with ASTM F1346 is installed for the pools and spas.
3. An *approved* means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by Item 1 or 2.

305.5 Onground residential pool structure as a barrier. An onground *residential* pool wall structure or a barrier mounted on top of an onground *residential* pool wall structure shall serve as a barrier where all of the following conditions are present:

1. Where only the pool wall serves as the barrier, the bottom of the wall is on grade, the top of the wall is not less than 48 inches (1219 mm) above grade for the

GENERAL COMPLIANCE

entire perimeter of the pool, the wall complies with the requirements of Section 305.2 and the pool manufacturer allows the wall to serve as a barrier.

2. Where a barrier is mounted on top of the pool wall, the top of the barrier is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, and the wall and the barrier on top of the wall comply with the requirements of Section 305.2.
3. Ladders or steps used as means of access to the pool are capable of being secured, locked or removed to prevent access except where the ladder or steps are surrounded by a barrier that meets the requirements of Section 305.
4. Openings created by the securing, locking or removal of ladders and steps do not allow the passage of a 4-inch (102 mm) diameter sphere.
5. Barriers that are mounted on top of onground *residential* pool walls are installed in accordance with the pool manufacturer's instructions.

305.6 Natural barriers. In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge not less than 18 inches (457 mm), a barrier is not required between the natural body of water shoreline and the pool or spa.

305.7 Natural topography. Natural topography that prevents direct access to the pool or spa area shall include but not be limited to mountains and natural rock formations. A natural barrier approved by the governing body shall be acceptable provided that the degree of protection is not less than the protection afforded by the requirements of Sections 305.2 through 305.5.

SECTION 306 DECKS

306.1 General. The structural design and installation of decks around pools and spas shall be in accordance with the *International Residential Code* or the *International Building Code*, as applicable in accordance with Section 102.7 and this section.

306.2 Slip resistant. Decks, ramps, coping, and similar step surfaces shall be slip resistant and cleanable. Special features

in or on decks such as markers, brand insignias, and similar materials shall be slip resistant.

306.3 Step risers and treads. Step risers for decks of public pools and spas shall be uniform and have a height not less than $3\frac{3}{4}$ inches (95 mm) and not greater than $7\frac{1}{2}$ inches (191 mm). The tread distance from front to back shall be not less than 11 inches (279 mm). Step risers for decks of *residential* pools and spas shall be uniform and shall have a height not exceeding $7\frac{1}{2}$ inches (191 mm). The tread distance from front to back shall be not less than 10 inches (254 mm).

306.4 Deck steps handrail required. Public pool and spa deck steps having three or more risers shall be provided with a handrail.

306.5 Slope. The minimum slope of decks shall be in accordance with Table 306.5 except where an alternative drainage method is provided that prevents the accumulation or pooling of water. The slope for decks, other than wood decks, shall be not greater than $\frac{1}{2}$ inch per foot (1 mm per 24 mm) except for ramps. The slope for wood and wood/plastic composite decks shall be not greater than $\frac{1}{4}$ inch per 1 foot (1 mm per 48 mm). Decks shall be sloped so that standing water will not be deeper than $\frac{1}{8}$ inch (3.2 mm), 20 minutes after the cessation of the addition of water to the deck.

306.6 Gaps. Gaps shall be provided between deck boards in wood and wood/plastic composite decks. Gaps shall be consistent with *approved* engineering methods with respect to the type of wood used and shall not cause a tripping hazard.

306.6.1 Maximum gap. The open gap between pool decks and adjoining decks or walkways, including joint material, shall be not greater than $\frac{3}{4}$ inch (19.1 mm). The difference in vertical elevation between the pool deck and the adjoining sidewalk shall be not greater than $\frac{1}{4}$ inch (6.4 mm).

306.7 Concrete joints. Isolation joints that occur where the pool coping meets the concrete deck shall be water tight.

306.7.1 Joints at coping. Joints that occur where the pool coping meets the concrete deck shall be installed to protect the coping and its mortar bed from damage as a result of the anticipated movement of adjoining deck.

306.7.2 Crack control. Joints in a deck shall be provided to minimize visible cracks outside of the control joints caused by imposed stresses or movement of the slab.

TABLE 306.5
MINIMUM DRAINAGE SLOPES FOR DECK SURFACES

SURFACE	MINIMUM DRAINAGE SLOPE (INCH PER FOOT)
Carpet	$\frac{1}{2}$
Exposed aggregate	$\frac{1}{4}$
Textured, hand-finished concrete	$\frac{1}{8}$
Travertine/brick-set pavers, public pools or spas	$\frac{3}{8}$
Travertine/brick-set pavers, residential pools or spas	$\frac{1}{8}$
Wood	$\frac{1}{8}$
Wood/plastic composite	$\frac{1}{8}$

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

306.7.3 Movement control. Areas where decks join existing concrete work shall be provided with a joint to protect the pool from damage caused by relative movement.

306.8 Deck edges. The edges of decks shall be radiused, tapered, or otherwise designed to eliminate sharp corners.

306.9 Valves under decks. Valves installed in or under decks shall be accessible for operation, service, and maintenance. Where access through the deck walking surface is required, an access cover shall be provided for the opening in the deck. Such access covers shall be slip resistant and secured.

306.9.1 Hose bibbs. Hose bibbs shall be provided for rinsing down the entire deck and shall be installed in accordance with the *International Plumbing Code* or *International Residential Code*, as applicable in accordance with Section 102.7.1, and shall be located not greater than 150 feet (45 720 mm) apart. Water-powered devices, such as water-powered lifts, shall have a dedicated hose bibb water source.

Exception: *Residential* pools and spas shall not be required to have hose bibbs located at 150-foot (45 720 mm) intervals, or have a dedicated hose bibb for water-powered devices.

SECTION 307 GENERAL DESIGN

307.1 General design requirements. Sections 307.1.1 through 307.1.4 shall apply to all pools and spas.

307.1.1 Glazing in hazardous locations. Hazardous locations for glazing shall be as defined in the *International Building Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1 of this code. Where glazing is determined to be in a hazardous location, the requirements for the glazing shall be in accordance with those codes, as applicable.

307.1.2 Colors and finishes. For other than *residential* pools and *residential* spas, the colors, patterns, or finishes of the pool and spa interiors shall not obscure objects or surfaces within the pool or spa.

307.1.3 Roofs or canopies. Roofs or canopies over pools and spas shall be in accordance with the *International Building Code* or *International Residential Code*, as applicable in accordance with Section 102.7.1 and shall be constructed so as to prevent water runoff into the pool or spa.

307.1.4 Accessibility. An accessible route to public pools and spas shall be provided in accordance with the *International Building Code*. Accessibility within public pools and spas shall be provided as required by the accessible recreational facilities provisions of the *International Building Code*.

307.2 Specific design and material requirements. Sections 307.2.1 through 307.2.4 shall apply to all pools and spas except for *listed* and *labeled* portable *residential* spas, and *listed* and *labeled* portable *residential* exercise spas.

307.2.1 Materials. Pools and spas and appurtenances thereto shall be constructed of materials that are nontoxic to humans and the environment; that are generally or com-

monly regarded to be impervious and enduring; that will withstand the design stresses; and that will provide a watertight structure with a smooth and easily cleanable surface without cracks or joints, excluding structural joints, or that will provide a watertight structure to which a smooth, easily cleaned surface/finish is applied or attached. Material surfaces that come in contact with the user shall be finished, so that they do not constitute a cutting, pinching, puncturing or abrasion hazard under casual contact and intended use.

307.2.1.1 Beach pools. Clean sand or similar material, where used in a beach pool environment, shall be used over an impervious surface. The sand area shall be designed and controlled so that the circulation system, maintenance, safety, sanitation, and operation of the pool are not adversely affected.

307.2.1.2 Compatibility. Assemblies of different materials shall be chemically and mechanically compatible for their intended use and environment.

307.2.2 Materials and structural design. Pools and spas shall conform to one or more of the standards indicated in Table 307.2.2. The structural design of pools and spas shall be in accordance with the *International Building Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1 of this code.

TABLE 307.2.2
RESERVOIRS AND SHELLS

MATERIAL	STANDARD
Fiberglass reinforced plastic	IAPMO Z124.7
Plastic	IAPMO Z124.7
Stainless steel (Types 316, 316L, 304, 304L)	ASTM A240
Tile	ANSI A108/A118/A136.1
Vinyl	ASTM D1593

307.2.2.1 Installation. Equipment for pools and spas shall be supported to prevent damage from misalignment and settling and located so as to allow access for inspection, servicing, removal and repair of component parts.

307.2.3 Freeze protection. In climates subject to freezing temperatures, outdoor pool and spa shells and appurtenances, piping, filter systems, pumps and motors, and other components shall be designed and constructed to provide protection from damage from freezing.

307.2.4 Surface condition. The surfaces within public pools and spas intended to provide footing for users shall be slip resistant and shall not cause injury during normal use.

SECTION 308 DIMENSIONAL DESIGN

308.1 Floor slope. The slope of the floor from the point of the first slope change to the deep area shall not exceed one unit vertical in three units horizontal (33-percent slope).

Exception: Portable *residential* spas and portable *residential* exercise spas.

GENERAL COMPLIANCE

308.2 Walls. Walls shall intersect with the floor at an angle or a transition profile. Where a transitional profile is provided at water depths of 3 feet (914 mm) or less, a transitional radius shall not exceed 6 inches (152 mm) and shall be tangent to the wall and is permitted to be tangent to or intersect the floor.

Exceptions:

1. Portable *residential* spas and portable *residential* exercise spas.
2. *Onground storable pools*.

308.3 Shape. This code is not intended to regulate the shape of a pool or spa other than to take into account the effect that a given shape will have on the safety of the occupants and to maintain the minimum required level of circulation to ensure sanitation.

308.4 Waterline. The *design waterline* shall have a maximum construction tolerance at the time of completion of the work of plus or minus $\frac{1}{4}$ inch (6.4 mm) for pools and spas with adjustable weir surface skimming systems, and plus or minus $\frac{1}{8}$ inch (3.2 mm) for pools and spas with nonadjustable surface skimming systems.

SECTION 309 EQUIPMENT

309.1 Electrically operated equipment. Electrically operated equipment shall be *listed* and *labeled* in accordance with applicable product standards.

Exception: Portable *residential* spas and portable *residential* exercise spas *listed* and *labeled* in accordance with UL 1563 or CSA C22.2 No. 218.1.

309.2 Treatment and circulation system equipment. Treatment and circulation system equipment for public pools and spas shall be *listed* and *labeled* in accordance with NSF 50 and other applicable standards.

SECTION 310 SUCTION ENTRAPMENT AVOIDANCE

310.1 General. Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7.

Exceptions:

1. Portable spas and portable exercise spas *listed* and *labeled* in accordance with UL 1563 or CSA C22.2 No. 218.1.

2. Suction entrapment avoidance for wading pools shall be provided in accordance with Section 405.

SECTION 311 CIRCULATION SYSTEMS

311.1 General. The provisions of this section shall apply to circulation systems for pools and spas.

Exceptions:

1. Portable *residential* spas and portable *residential* exercise spas.
2. *Onground storable pools* supplied by the pool manufacturer as a kit that includes circulation system equipment that is in accordance with Section 704.

311.2 System design. A circulation system consisting of pumps, piping, return inlets and outlets, filters, and other necessary equipment shall be provided for the complete circulation of water. Wading pools and spas shall have separate dedicated filtering systems.

Exception: Separate filtering systems are not required for *residential* pools and spas.

311.2.1 Turnover rate. The equipment shall be sized to turn over the volume of water that the pool or spa is capable of containing as specified in this code for the specific installation.

311.2.2 Servicing. Circulation system components that require replacement or servicing shall be provided with access for inspection, repair, or replacement and shall be installed in accordance with the manufacturer's specifications.

311.2.3 Equipment anchorage. Pool and spa equipment and related piping shall be designed and installed in accordance with the manufacturer's instructions.

311.3 Water velocity. The water velocity in return lines shall not exceed 8 feet (2.4 m) per second. The water velocity in suction piping shall be as required by Section 310.

311.4 Piping and fittings. Plastic pipe and fittings used in circulation systems shall be nontoxic and shall be able to withstand the design operating pressures and conditions of the pool or spa. Plastic pipe shall be *listed* and *labeled* as complying with NSF 14. Circulation system piping shall be *listed* and *labeled* as complying with one of the standards in Table 311.4.

TABLE 311.4
CIRCULATION SYSTEM PIPE MATERIAL STANDARD

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe	ASTM D1527
Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing	ASTM D2846; CSA B137.6
Copper or copper-alloy tubing	ASTM B88; ASTM B447
Polyvinyl chloride (PVC) hose	ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3
Polyvinyl chloride (PVC) plastic pipe	ASTM D1785; CSA B137.3
Stainless steel pipe, Types 304, 304L, 316, 316L	ASTM A312