

# COUNTY NOTICES PURSUANT TO A.R.S. § 49-112

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## NOTICE OF PROPOSED RULEMAKING

### MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT ENVIRONMENTAL HEALTH DIVISION

**1. Heading and number of proposed rules, Codes, or other regulations:**

Chapter VI, Bathing Places - Public and Semi-public Swimming Pools

**2. Summary of the proposed rules, Codes ordinances or other:**

Maricopa County is proposing to revise the bathing places for public and semi-public swimming pools, Chapter VI of Maricopa County Environmental Health Code, and to submit said Code as a revision to the State Implementation Plan (SIP).

**Proposed Revision to Chapter VI (Bathing Places - Public and Semi Public Swimming Pools):**

Maricopa County is proposing to revise Chapter VI to complement revisions being made by the Arizona Department of Environmental Quality (ADEQ) and the Arizona Department of Health Services (ADHS). The proposed revisions are addressed and show each Section of the Code followed by the appendices:

SECTION 1. WATER QUALITY	
Regulation 1. Approval of plans	Plans are now required when changes affect the following components: the shape, the depth, the water circulation system, the enclosure, the resurfacing of greater than 10% of the pool interior or deck, adding a water feature or planter, the disinfection system and the installation of diving equipment. Definitions are modified and new ones are added.
Regulation 3. Permit required	If the operating permit for a public or semi-public swimming pool, special use pool, spa, or wading pool lapses or is invalid for a period of more than one year, the pool will be required to comply with the current code provisions to qualify for a new operating permit.
Regulation 4. Instructions	Changes in signage requirements (ADEQ Code)
Regulation 9. Operation	Reasons for closing a pool
Regulation 12. Retroactive Requirements	New section, retroactive main drain requirements, retroactive anti-vortex main drain covers, retroactive fencing requirements, retroactive diving board requirements and retroactive vacuum line cover requirements.
Regulation 14. Inspections	Right of entry. (ADEQ and ADHS Codes)
Regulation 15. Applicability	Types of pools that are covered by this Code. (ADEQ Code)

SECTION 2. WATER QUALITY STANDARDS	
Regulation 2. Water Source	Use only potable water in public and semi-public pools. (ADHS Code)
Regulation 4. Chemical Standards	Changes in chlorine and bromine concentrations and total alkalinity. (ADEQ Code)
Regulation 5. Physical Standards	Maximum temperature for bathing place - 104 degrees. (ADEQ Code)
Regulation 6. Tests	Daily operating logs. (ADHS Code)
Regulation 7. Fecal Contamination	New rule. (ADEQ Code)

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SECTION 3. GENERAL DESIGNS AND SPECIFICATIONS	
Regulation 2. Shape	Rules on shape and dimensions. (ADEQ Code)
Regulation 5. Piping	Rules on design and installation of piping. (ADEQ Code)
Regulation 6. Total Dynamic Head	Hydraulic system design
Regulation 7. Pumps and Motors	State rules, pump and motor design. (ADEQ Code)
Regulation 9. Pool Water Cleaning System	Covers on vacuum lines
Regulation 11. Drains	Dual main drain required. (ADEQ Code)
Regulation 12. Flow Meter	Flow meter required on public pools. (ADEQ Code)
Regulation 14. Air Relief Valves	Air relief valve required. (ADEQ Code)
Regulation 22. Signs	Signage requirements. (ADEQ Code)

SECTION 4. WATER CIRCULATION, DISINFECTION AND CHEMICAL CONDITIONING	
Regulation 1. Water Circulation System	New circulation system design and requirements for components. (ADEQ Code)
Regulation 2. Disinfecting Agents	New field testing requirements. (ADEQ Code)
Regulation 3. Gaseous Disinfectants	New section. (ADEQ Code)
Regulation 6. Disinfection Equipment	New equipment requirements. (ADEQ Code)
Regulation 7. Chemical Feeders	New section. (ADEQ Code)

SECTION 5. BATHHOUSE AND DRESSING ROOM FACILITIES	
Regulation 1. For All Swimming Pools	Changes in bath house requirements. (ADEQ Code)

SECTION 6. PUBLIC SWIMMING POOLS	
Regulation 1. Design Standards	Design changes for public pools. (ADEQ Code)
Regulation 3. Ladders, Steps and Recessed Treads	Design changes for ladders, steps, and recessed treads. (ADEQ Code)
Regulation 4. Lighting	Design changes for lighting. (ADEQ Code)
Regulation 5. Hose Bibs	Design changes for hose bibs. (ADEQ Code)
Regulation 6. Diving Facilities	New regulation. (ADEQ Code)
Regulation 8. Lifeguard Chairs	Placement of life guard chairs. (ADEQ Code)
Regulation 9. Lifesaving and Safety Equipment	Changes in bath house requirements. (ADEQ Code)
Regulation 11. Fencing	New fencing requirements. (ADEQ Code)
Regulation 14. Miscellaneous	Various new requirements for decks. (ADEQ Code)

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<b>SECTION 7. SEMI-PUBLIC SWIMMING POOLS</b>	
Regulation 1. Lifesaving and Safety Equipment	Changes in lifesaving and safety equipment. (ADEQ Code)
Regulation 2. Fencing	New fencing requirements. (ADEQ Code)
Regulation 3. Walkways	Various new requirements for decks. (ADEQ Code)
Regulation 5. Bathhouses and Dressing Room Facilities	New requirements for bath houses at semi-public pools. (ADEQ Code)

<b>SECTION 8. WADING POOLS</b>	
Regulation 1. Public	Chemical controllers are now required for public waders.
Regulation 2. Semi-public	Waders not located near deep end. (ADEQ Code)
Regulation 4. Circulation	Circulation system changes. (ADEQ Code)
Regulation 6. Depth Markers	Depth markers on waders. (ADEQ Code)
Regulation 7. Disinfection	Disinfection system changes. (ADEQ Code)

<b>SECTION 9. SPAS</b>	
Regulation 2. Circulation	Thirty-minute turnover rate for spas. (ADEQ Code)
Regulation 4. Drains	Dual main drain requirement for spas. (ADEQ Code)
Regulation 7. Temperature	Maximum temperature for spas - 104 degrees. (ADEQ Code)
Regulation 8. Timer	15 minute timer for spas. (ADEQ Code)
Regulation 9. Air Blower and Air Induction Systems	New section. (ADEQ Code)
Regulation 10. Depth Markers	Depth markers required on spas. (ADEQ Code)

<b>SECTION 10. SPECIAL USE POOLS</b>	
Regulation 1. Supplemental Standards and Requirements	New competition pool design. (ADEQ Code)
Regulation 5. Spray Ponds	New county proposal for spray pond design.

<b>SECTION 11. NATURAL AND SEMIARTIFICIAL BATHING PLACES</b>	
Regulation 1. Water Quality	New chemical requirements. (ADHS Code)

<b>SECTION 12. ARTIFICIAL BATHING LAKE</b>	
Regulation 1. Water quality	New chemical requirements. (ADHS Code)

<b>SECTION 13. WATER SLIDES - (NEW SECTION)</b>	
<b>NEW COUNTY PROPOSAL</b>	

SECTION 14. ZERO DEPTH ENTRY - (NEW SECTION)
NEW COUNTY PROPOSAL

APPENDIX A	
Illustration A	Diving well dimensions for swimming pools
Illustration B	Minimum distance requirements for diving boards
Illustration C	Diving boards, public and semi-public pools
Illustration D	Diving boards, public and semi-public pools Minimum dimensions - public pools
APPENDIX B	Average width of all swimming pools
APPENDIX C	Public pools fencing and equipment protection
APPENDIX D	Semi-public pools fencing and equipment protection

**3. Explanation of the rules, including the Department’s reasons for initiating the rulemaking:**

Maricopa County is proposing to revise Chapter VI, Bathing Places - Public and Semi-public Swimming Pools (all Sections and Appendices). The proposed code is subsequent to revisions in 18 A.A.C. 5. The Department of Environmental Quality and Arizona Department of Health Services regulate public and semi-public swimming pools. To minimize confusion and expedite the pool operating permit issuance process, Maricopa County is proposing to combine the ADEQ and ADHS revisions into one regulation, Maricopa County Health Code. This proposal addresses the retroactive requirements for dual main drain, anti-vortex covers, diving boards, and vacuum lines. This proposal requires contractors or owners to submit plans whenever there are changes that affect the pool shape, depth, water circulation, pool enclosure, resurfacing (greater than 10 percent) of the pool interior or deck. Other changes that will require plans are the addition of a water feature or planter, changing the disinfection system, pump, and filter, or installing diving equipment. Permit holders will be required to post safety instructions on the signage in the pool area and provide depth markers. There will also be additional requirements for bench designs under water, dual bottom drains and water chemistry. The proposed codes will be necessary to prevent a significant threat to public health and safety. These proposed regulations are also deemed to be technically and economically feasible for contractors and pools owners.

Maricopa County will propose rules for retroactive provisions, new sections, and as well as to encompassing all of the mandated rules that are set forth by the state ADEQ and ADHS to the revised rule, the Maricopa County Health Code. Our delegation agreement with the state requires that Maricopa County rules must be at least as stringent as the state or more stringent.

**4. Demonstration of compliance with A.R.S. § 49-112:**

Under A.R.S. § 49-112(A), Maricopa County may adopt rules that are more stringent than or in addition to a provision of the state, provided that the rule is necessary to address a peculiar local condition; and if it is either necessary to prevent a significant threat to public health or the environment that results from a peculiar local condition and is technically and economically feasible; or if it is required under a federal statute or regulation, or authorized pursuant to an intergovernmental agreement with the federal government to enforce federal statutes or regulations if the county rule is equivalent to federal statutes or regulations; and if any fee adopted under the rule will not exceed the reasonable costs of the county to issue and administer that permit program. Maricopa County is in compliance with A.R.S. § 49-112(A) in that Maricopa County proposes to adopt revisions to Chapter VI that are more stringent than a provision of the state in order to address a peculiar local condition.

**5. A reference to any study relevant to the rule that the Department reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation or justification for the rule; where the public may obtain or review the study, all data underlying each study, any analysis of the study, and other supporting material:**

In 2001, the 911 Emergency System responded to 135 serious water-related incidents in Maricopa County among persons of all ages (Arizona Department of Health Statistics). Most incidents took place in pools, with 57 of the 88 incidents involving children aged 0-4 years.

Although it is true that the majority of swimming pool accidents occur due to the lack of adult supervision, the purpose of the Maricopa County Environmental Services Pool Program is to assure all public and semi-public swimming pools are maintained in a safe and sanitary condition. Preventing children from drowning is a Department priority.

The cost of retroactive provisions that have been included in the proposed swimming pool code are minimal when compared to the potential loss of lives and the lawsuits that follow.

The Consumer Products Safety Commission (CPSC), publication No. 363-00981, "Guidelines for Entrapment Hazards, Making Pools and Spas Safer," addresses the potential entrapment hazard in swimming pools, wading pools and spas. Similarly, the National Spa and Pool Institute (NSPI) addresses its strong support of the technical committee recommendations for the use of suction outlets (main drains) with anti-vortex covers as the NSPI-recommended method providing anti-entrapment and anti-evisceration protection as per the CPSC guidelines.

Only recently have the pool industry and government regulations recognized the potential concerns of older pools. Dual main drains, which have been required since the adoption of the 1998 ADEQ Code will best eliminate the potential of evisceration/disembowelment. Almost all of these accidents occur in wading pools and spas. Other alternatives may be used in swimming pools as stated in the proposed code.

The regulation progress in the new code is realistic and applicable at a reasonable cost and will protect the citizens of Maricopa County.

**6. Summary of the economic, small business, and consumer impact:**

There will be minor costs to contractors and owners of swimming pools as a result of the adoption of Chapter VI. There will be some minimal costs incurred by owners or contractors due to the requirement of fencing, remodeling, and public liability insurance of \$7 million for diving board requirements. Costs for remodeling fees will range from \$75 to \$150 based on plan review and field inspections. The changing of the sanitizing system review fee will be \$150, and this fee is based on billable hours and less than the standard plan review fee. Installation of dual main drains at time of resurfacing ranges from \$400 to \$700 depending on the type of pool and material used. The anti-vortex covers are priced at \$45 to \$100 per unit installed. In regard to swimming pools that do not meet the current fencing requirements, but are in compliance with the 1989 Code, those pools will have to meet the proposed Codes by September 2013. Many of the operators already use more disinfecting chemicals during the weekends, holidays, and high season pool usage with negligent cost.

**7. The name and address of Department personnel with whom persons may communicate regarding this rulemaking:**

	Dan Queen, R.S. Plan Review Office Manager	Chris Baugh, P.E. Swimming Pool Program
E-mail	dqueen@mail.maricopa.gov	cbaugh@mail.maricopa.gov
Address	1001 N. Central Avenue, Suite #350 Phoenix, AZ 85004	1001 N. Central Avenue, Suite #350 Phoenix, AZ 85004
Telephone	(602) 506-6986 (Monday through Friday, 8:00 a.m. to 5:00 p.m.)	(602) 506-4847 (Monday through Friday, 8:00 a.m. to 5:00 p.m.)
Fax	(602) 506-6862	(602) 506-6862

**8. The time, place, and nature of the proceedings for the making, amendment, or repeal of the rules:**

Oral Proceeding Date: Tuesday, November 18, 2003  
 Time: 8:00 a.m. to 12:00 p.m.  
 Location: Maricopa County Environmental Services Department  
 5th Floor Conference Room, #560  
 1001 North Central Avenue  
 Phoenix, AZ 85004

Nature: Public hearing with the opportunity for formal comments on the record regarding the proposed public and semi-public swimming pools codes of Maricopa County Environmental Health. Please call (602) 506-6443 for special accommodations under the Americans with Disabilities Act.

**9. The full text of the rule follows:**

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT  
ENVIRONMENTAL HEALTH DIVISION

MARICOPA COUNTY ENVIRONMENTAL HEALTH CODE

CHAPTER VI

BATHING PLACES - PUBLIC AND SEMI-PUBLIC SWIMMING POOLS

SECTION 1

GENERAL PROVISIONS

**REGULATION 1. Definitions**

1. "A.A.C." is an abbreviation for Arizona Administrative Code.
2. "ADEQ" is an abbreviation for Arizona Department of Environmental Quality.
3. "ADHS" is an abbreviation for Arizona Department of Health Services.
4. "Air induction system" means a system whereby a volume of air is introduced into hollow ducting in a spa floor, bench or walls. An air induction system is activated by an air power blower and is separate from the water circulation system.
5. "Algae" means microscopic, single-celled forms of plant life that exist in most surfaces and ground waters. Green, blue-green (frequently called black) and mustard algae are the types most common to swimming pools.
6. "ANSI" is an abbreviation for American National Standards Institute.
- ~~a.~~7. "Artificial bathing lake" means a manmade lake, lagoon or basin, lined or unlined, with an area equal to or greater than two acres (87,120 square feet), constructed and used or intended to be used for water contact recreation. This includes all recreational activities where there is a high probability of water ingestion and where related activities create a significant public health and safety risk. Such activities include, but are not limited to, wading, swimming, bathing, wind surfing, water skiing and jet skiing.
8. "Approved" means acceptable to the Department or to the swimming pool agency that has the jurisdiction based on determination of conformity with principles, practices or political subdivision.
9. "A.R.S." is an abbreviation for Arizona Revised Statutes.
10. "ASME" is an abbreviation for American Standards of Mechanical Engineering.
11. "Backwash" means the process of thoroughly cleaning a filter by reverse flow of water through the filter.
12. "Barrier" means a fence, wall, building or landscaping that obstructs access to a bathing place.
- ~~b.~~13. The term "bathing place" as used in these regulations includes all bodies of water used by persons for swimming, wading, hydrotherapy, recreation, bathing or special uses together with the shores, bathhouses, sanitary facilities, ~~bathing attire~~, equipment and all other appurtenances to such bodies of water, except that these regulations do not apply to facilities constructed or maintained ~~on~~ at any medical facility intended exclusively for therapeutic treatment and facilities constructed and operated by the state of Arizona. A bathing place for consideration of design, permits and fees shall be considered separate and distinct if:
  - ~~1a.~~ Bodies of water are physically separate; or
  - ~~2b.~~ Bodies of water are at different elevations; or
  - ~~3c.~~ Bodies of water are separated by a fence, wall or visual barrier which prevents or impedes direct physical or visual access to any portion of the body of water; or
  - ~~4d.~~ Bodies of water are separated by a channel, less than 10 feet wide.
14. "Cartridge filter" means a depth, pleated or surface-type filter component with fixed dimensions that is designed to remove suspended particles from water flowing through the filter.
15. "Clean" means free from slime, scum, dirt, or other debris.
- ~~e.~~16. "Construct" means, and includes, building or installing a new bathing place or enlarging or altering existing facilities.
17. "Coping" means the cap on a swimming pool or spa wall that provides a finished edge around the swimming pool or spa.
- ~~f.~~18. "Cross connection" means any physical connection between two piping systems, one of which contains potable water and the other sewage or water of unknown or questionable quality, through which water may flow from either system to the other.
19. "Deck" means a hard surface immediately adjacent or attached to a bathing place that is designed for sitting, standing or walking.
20. "Deep area" means the portion of a bathing place that is more than 5 feet deep.
21. "Department" refers to Maricopa County Environmental Services Department.
22. "Discharge piping" means the portion of the circulation system that carries water from the filter back to the swimming pool or spa.
23. "DPD" the indicator usually used in tablet form which measures chlorine and bromine levels in pool and spa water.

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DPD is an abbreviation for Diethyl-p-Phenylene Diamine.

24. "Diving area" means the area of the public or semi-public swimming pool that is designated for diving from a diving board, diving platform or starting block.
- e25. "Fill and draw pool" means a bathing place swimming pool where the principal means of cleaning is the complete removal of the used water and the replacement thereof with potable water.
26. "Filtration rate" means the rate of water flowing through a filter during the filter cycle expressed in gallons per minute per square foot of effective filter area.
- f27. "Flow through pool" means a bathing place swimming pool where potable water constantly enters the pool and an equal quantity of used water constantly flows out of the pool.
- g28. "Freeboard" means that section of the pool wall measured vertically between the water surface and the walkway or deck surface.
29. "GPM" is an abbreviation for Gallons Per Minute.
30. "Hose bib" means a faucet with a threaded nozzle to which a hose may be attached.
31. "Hydrotherapy jet" means a fitting that blends water and air and creates a high velocity turbulent stream of air-enriched water for injection into a spa.
- h. "Hydrotherapy pool" means any pool providing a vapor environment, roiling water, injected air or similar effect.
32. "Incontinent" means unable to restrain a bowel movement.
33. "Make-up water" means fresh water used to fill or refill a bathing place.
34. "Maximum bathing load" means the design capacity or maximum number of users that a bathing place is designed to hold.
- ï35. "Natural bathing place" means unmodified natural outdoor lakes, ponds, rivers, etc.
- ÿ36. "Operate" means to conduct, maintain or otherwise provide facilities and appurtenances at bathing places.
37. "NCAA" is an abbreviation for National Collegiate Athletic Association.
38. "NFSHSA" is an abbreviation for National Federation of State High School Associations.
- k39. "Operator" means an individual who owns, runs, maintains, or otherwise controls or directs the functioning of a bathing place.
140. "Overflow system" means and includes gutters and other rim type overflows, surface skimmers and collection systems of various designs and manufacture.
41. "Permit holder" means the entity that:
- a. Is legally responsible for the operation of the bathing place such as the owner, the owner's agent, or other person; and
  - b. Possesses a valid permit to operate a bathing place.
42. "pH value" indicates the degree of acidity or alkalinity of water. The pH scale is from 0 to 14 with pH 7.0 being the neutral point, i.e., water with pH of 7.0 is neither acid nor alkaline, and it is neutral. Above pH 7.0 the water is alkaline and below pH 7.0 it is acidic.
43. "Potable water" means drinking water.
44. "PPM" is an abbreviation for Parts Per Million.
45. "Private residential spa" means a spa at a private residence used only by the owner, members of the owners' family and invited guests, or a spa that serves a housing group consisting of no more than three living units (e.g. duplexes or triplexes). Private spas are exempt from these regulations.
- m46. "Private residential swimming pool" means a pool operated by an individual for his own or his family's use or for guests of his household, or by an owner, to serve a housing group consisting of no more than three living units. Private pools are exempt from these regulations.
47. "Public spa" means a spa that is open to the public with or without a fee, including a spa that is operated by a community, municipality, political subdivision, school district, university, college or a commercial establishment whose primary business is the operation of a spa.
- n48. "Public swimming pool" means a swimming pool that is open to the public admission to which may be gained by the general public with or without payment of a fee, including a pool that is operated by a community, municipality, political subdivision, school district, university, college or a commercial establishment whose primary business is the operation of a pool.
49. "Recessed treads" means a series of vertically spaced, preformed stepholes in a swimming pool wall.
- o50. "Recirculating pool" means a swimming pool where a portion of the pool water is constantly being removed, filtered and disinfected then returned to the pool.
51. "Resurfacing" means any alteration that is greater than 10 percent of the pools interior surface. This shall include but not be limited to plastering, painting, tiling, the application of pebble type finish, fiberglass, or any other approved alternative surface.
52. "Return inlet" means an aperture or fitting through which filtered water returns to a swimming pool or spa.
53. "Return line" means that portion of the recirculating system piping which carries clean water from the filter back to the swimming pool.

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54. “Rope and float line” means a continuous line not less than ¾ inch in diameter that is supported by buoys and attached to opposite sides of a swimming pool to separate areas of the swimming pool.
55. “Sanitary facilities” means a designated area that includes a toilet and sink and may include a shower or urinal.
56. “Scum” means a film that forms on the surface of water.
57. “Secchi Disk” refers to a 200-mm circular plate, which has opposite quarters painted gloss white and black.
58. “Secchi Disk visibility” is the depth at which the disk can be seen when raised and lowered in the water.
59. “Semiartificial bathing place” means a natural bathing place that has been modified by man.
60. “Semi-public spa” means a spa operated for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks or similar establishments. A semi-public spa includes a spa that is operated by a neighborhood or community association for the residents of the community and their guests and any spa at a country club, health club, camp or similar establishment where the primary business of the establishment is not the operation of a spa and where the use of the spa is included in the fee for the primary use of the establishment.
61. “Semi-public swimming pool” means a swimming pool operated for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks, or similar establishments. A semi-public pool includes a swimming pool that is operated by a neighborhood or community association for the residents of the community and their guests and a swimming pool at a country club, camp or similar establishment where the primary business of the establishment is not the operation of a swimming pool and where the use of the swimming pool is included in the fee for the primary use of the establishment.
62. “Shallow area” means the portion of a swimming pool that is five feet or less in depth.
63. “Service animal” means an animal such as a guide dog, signal dog or other animal individually trained to provide assistance to an individual with a disability.
64. “Shock treatment” means adding chlorine to water in an amount sufficient to destroy ammonia, nitrogenous and organic contaminants in the water by elevating the free chlorine residual to a level 10 times the combined chlorine reading in parts per million.
65. “Slime” means a glutinous or viscous liquid matter.
66. “Slip resistant” means a surface that has a static coefficient of friction (wet or dry) of at least 0.50
67. “Spa” means an artificial basin, chamber or tank of irregular or geometric shell design that is intended only for bathing or soaking and that is not drained, cleaned or refilled for each user. A spa may include features such as hydrotherapy jet circulation, hot water, cold water, mineral baths or an air induction system. Industry terminology includes “hydrotherapy pool,” “whirlpool,” “hot tub,” and “therapy pool.”
68. “SPAC” is an abbreviation for Swimming Pools Advisory Committee.
69. “Special Use Pool” means a pool designed and used for special purposes such as diving, aquatic training, swimming instruction or similar use as recognized by the Department “Special use pool” means a swimming pool intended for competitive aquatic events, aquatic exercise or lap swimming. A special use pool includes a wave action pool, exit pool for a water slide, swimming pool that is part of an attraction at a water recreation park, water volleyball pool or a swimming pool with special features used for training and instruction.
70. “Spray pond” means an artificially constructed special use pool into which water is sprayed but not allowed to accumulate.
71. “Suction outlet” means the aperture or fitting through which water is withdrawn from a swimming pool or spa.
72. “Suction piping” means the water circulation system piping that carries water from the swimming pool or spa to the filter.
73. “Swimming pool” and/or “pool” shall mean an artificial basin, chamber or tank, constructed and used, or intended to be used, for swimming, diving or bathing. A bathing place less than two acres (87,120 square feet) shall meet the criteria for swimming pools.
74. “SVRD” is an abbreviation for Safety Vacuum Release Device.
75. “SVRS” is an abbreviation for Safety Vacuum Release System.
76. “Total alkalinity” means the measurements of the carbonates, bicarbonates and hydroxides in the water, which if insufficient may cause the pH to be unstable and produce corrosive conditions. Conversely, if the total alkalinity is too high, scale could be formed
77. “Turnover rate” means the number of hours required to circulate a volume of water equal to the capacity of the swimming pool or spa.
78. “User” means a person who uses any bathing place included in Chapter VI or uses adjoining deck area.
79. “Variance” means a written document issued by the Department that authorizes a modification or waiver of one or more requirements of this Code if, in the opinion of the Department, a health hazard, safety, or nuisance will not result from the modification or waiver.
80. “Wading pool” means a shallow pool used or intended to be used primarily for wading by small children.
81. “Water circulation system” means an arrangement of mechanical equipment connected to a swimming pool or spa by piping in a closed loop that directs water from the swimming pool or spa to the filtration and disinfection equipment

and returns the water to the swimming pool or spa.

82. “Water circulation system components” means the mechanical components that are part of a water circulation system of a swimming pool or spa, including pumps, filters, valves, surface skimmers, ion generators, electrolytic chlorine generators, ozone process equipment and chemical feeding equipment.

83. “Water level”. The water level referred to in these standards shall be established in one of the following ways:

1a. The water level shall be deemed to fall in the midpoint of the operating range of the skimmers.

2b. On pools with overflow systems, the level shall be deemed to be that established by the height of the overflow rim.

## **REGULATION 2. Approval of Plans and Construction Required**

A. No bathing place shall be constructed, nor shall any bathing place now or hereafter existing be materially altered or enlarged before complete plans and specifications, together with such further information as the Department may require, shall have been submitted to and have been received the written approval to construct of received from the Department. A person shall obtain design approval from the Department prior to starting construction of a new public or semi-public swimming pool, spa, wading pool, or special use pool, changing in use from a semi-public swimming pool to a public swimming pool, changing in use from a private residential swimming pool to a public or semi-public swimming pool, or beginning major modifications to an existing public or semi-public swimming pool or spa. For purposes of this subsection, major modifications includes a change to:

1. The shape.

2. The depth.

3. The water circulation system.

4. The enclosure.

5. Resurfacing the pool interior or deck.

6. Adding a water feature or planter.

7. The disinfection system.

8. The installation of diving equipment.

At a public or semi-public swimming pool an appropriately licensed contractor, architect, or professional engineer shall submit plans for a major modification.

B. The owner shall make an Application for Approval to construct of any proposed bathing place and shall be submitted to the Department on forms furnished by the Department. Such application for approval shall accompany the plans, when required, and specifications at the time of submission to the Department for review.

C. The operator/owner of a previously approved swimming pool bathing place as defined in these regulations, wishing intending to change the nature of his classification from public to semi-public or from semi-public to public must demonstrate, to the satisfaction of the Department, that the facility meets all requirements of these regulations as related to the desired classification. If any additional construction or modification of the facility shall be required, plans and specifications of the proposed facility shall be submitted for approval as required in Chapter VI, Section 1, Regulation 2.B.

D. Plans and specifications shall be submitted to the Department with the appropriate fees as listed in Chapter I of the Maricopa County Environmental Health Code at least 4530 days prior to the date upon which action is desired. Plan documents submitted for approval to construct shall include a general plot plan, plans and specifications showing the pool shape, dimensions, water treatment and pumping facilities, piping arrangement and sizes, source of water supply, method of disposal of wastes, ~~together with~~ and all pertinent data upon which the design is based on and shall include including capacities of the various units, safety equipment, architectural drawings for fencing, water features and other information necessary to permit a clear and full understanding of the proposed project. Where required, detailed plans of bathhouses, dressing rooms, toilets, recreational and other pool appurtenances shall be included.

E. All plans and specifications submitted to the ~~Department~~ for approval must have been prepared by, or under the supervision of, a currently registered Arizona Professional Engineer or architect, or a swimming pool contractor with an A-9, A-19, ~~KAB-5~~ or ~~KAB-6~~ license who is licensed to practice in the state of Arizona, who shall certify that the plans comply with these regulations and criteria contained in the swimming pool design ~~policy~~ policies.

F. All work shall conform to approved plans and specifications. Should it be necessary or desirable to make any changes in the approved plans and specifications of the proposed work, revised plans and specifications, together with a written statement of the reasons for such change, shall be submitted to the Department for review. The approval to construct must be obtained in writing before the work affected by the change is undertaken.

G. The ~~Department~~ will, upon receipt from the applicant of reasonable advance notice of readiness ~~thereof for and of the required inspection fees,~~ to make necessary inspections to determine that the pool piping system, and thereafter the complete pool circulation, purification, and waste systems are in compliance with these regulations. The piping system shall be left open and exposed until the Department has examined and approved the system ~~it~~ in writing, ~~and~~ ~~†~~ The complete pool, including circulation, purification and waste systems shall be deemed acceptable only after reexamination and issuance of written approval of construction by the Department. ~~A separate fee shall be paid for each reinspection according to the fee schedule in Chapter I.~~

- H. The design, operation and maintenance of bathing places shall be in conformance with these regulations and criteria contained in the ~~Maricopa County Department of Health Services~~ swimming pool design policy.
- I. Before ~~initial~~ Approval of Construction shall be given for the operation of a bathing place, the swimming pool contractor or a currently registered engineer or architect shall certify that the completed bathing place is constructed in accordance with the approved plans and specifications.

**REGULATION 3. Permit Required**

No public or semi-public bathing place shall be maintained or operated in Maricopa County without an operating permit in force issued by the Department. The permit shall be displayed in a conspicuous place on the premises where the public may readily observe it ~~it may be readily observed by the public~~. No permit shall be issued until the applicable permit fee has been rendered. Permit fees are listed in Chapter I, Regulation 5 of Maricopa County Environmental Health Code. If the operating permit for a public or semi-public swimming pool, special use pool, spa, or wading pool lapses or is invalid for a period of more than one year, the pool shall be in compliance with the current code requirements in order to qualify for a new operating permit.

**REGULATION 4. Instructions**

All persons shall be instructed before entering the pool, by means of suitable, clearly lettered signs properly located, to ~~use the toilet, take a cleansing shower and~~ observe all safety regulations. The sign shall contain, at a minimum, all of the following:

- A. Persons with sore or inflamed eyes, colds, nasal or ear discharges, boils or other acute or obvious skin or body infections, or cuts shall be excluded from the pool.
- B. No glass allowed within the pool enclosures.
- C. No animals allowed except for service animals.
- D. No drinks, candy, tobacco, popcorn, gum, alcohol, or food of any kind shall be permitted in the pool or within the required walkways of the pool.
- E. Keep gate(s) closed – do not prop open.
- F. Shower and use the toilet before entering the pool.
- G. If incontinent, wear tight fitting rubber or plastic pants or a swim diaper.
- H. Observe all safety regulations.

**REGULATION 5. Attire and Towels, etc.**

- ~~a~~A. Bathing attire, towels, linens, and similar articles shall be clean, dry and sanitary when provided to patrons.
- ~~b~~B. The provision of towels, drinking cup, combs, hairbrushes, soap and other similar items for use in common by the public is prohibited.

**REGULATION 6. Excluded**

Persons with sore or inflamed eyes, colds, nasal or ear discharges, boils or other acute or obvious skin or body infections, or cuts shall be excluded from the pool. No person in or at a swimming pool shall commit, or be permitted to commit, any act prejudicial to the life or health of any other person using the pool. Animals shall be excluded from the pool enclosure, except for service animals. All animals shall be excluded from bathing in the pool.

**REGULATION 7. Drinking Water**

~~An adequate supply of potable drinking water shall be provided by means of sanitary drinking fountains or approved equivalent which shall be placed in approved locations. Drinking water from an approved source and dispensed through one or more drinking fountains shall be located on the deck of each public swimming pool or spa.~~

**REGULATION 8. Concessions**

No drinks, candy, tobacco, popcorn, gum, alcohol, or food of any kind shall be permitted ~~adjacent to~~ in within the pool enclosure or within 10 feet of a public bathing place or within 4 feet of a semi-public bathing place.

- A. No food or drink of any kind shall be allowed in the pool or within the required walkways of the bathing place.
  - B. Food and drink will be allowed within the pool enclosure but outside the area noted in Chapter VI, Section 1, Regulation 8, A. above provided that only paper or plastic service is used. No glassware glass is permitted within the enclosure.
- ~~On pools constructed prior to November 1981, where the pool was not required to be separate from the remainder of the complex, the enclosure requiring plastic/paper service only, shall be considered to be 50 feet from the water's edge and outside the area stated in "a" above.~~

**REGULATION 9.            Operation**

All bathing place facilities shall at all times be operated and maintained in a clean, safe and sanitary condition. The owner of a bathing place shall close that facility if any of the following conditions exist:

- aA. Absence of an approved disinfectant;
- bB. Violation of the physical standards of Section 2, Regulation 5;
- cC. Filtration system is inoperative;
- dD. Mechanical disinfectant feeder is missing, inoperative, or malfunctioning;
- E. Broken or missing main drain covers or other suction outlet covers;
- F. When required, lifeguards are not present or the required number of lifeguards is not present;
- G. Gates are not self-closing and self-latching or there is a breach of the pool enclosure;
- H. Leaking gas chlorinator;
- I. Absence of all safety equipment;
- J. Electrical wires over the pool;
- K. Broken glass in the pool area;
- eL. Any other operational condition which may cause injury or present a danger to the public health.

**REGULATION 10.        Violations**

Any person, firm, or corporation who builds, offers for sale, or operates a bathing place contrary to these regulations shall be subject to prosecution as provided by law.

**REGULATION 11.        Retroactive Provisions**

Pools constructed prior to the effective date of these regulations shall meet the operational requirements of these regulations. Permitted pools that were constructed prior to the effective date of this code shall meet the operational requirements of this code as listed in Chapter VI, Section 1, Regulation 9 and the Structural Provisions in Chapter VI, Section 1, Regulation 11.

**REGULATION 12.        Retroactive Structural Provisions**

**A. Retroactive main drain requirements:**

1. All public and semi-public swimming pools who hold a valid operating permit on the effective date of this code and equipped with a single main drain shall:
  - a. Install a properly sized anti-vortex drain cover that complies with ANSI/ASME A112.19.8M, "Suction Fittings for Use In Swimming Pools, Spas, Hot Tubs And Whirlpool Bathtub Appliances" on all suction outlets by May 1, 2004.
  - b. Install a hydraulically balanced dual main drain at the time that the pool is resurfaced or install a Safety Vacuum Release Device (SVRD) or Safety Vacuum Release System (SVRS) that meets ANSI/ASME A112-19 Standards or equivalent by January 1, 2014.
  - c. Install other devices or means as approved by the Department by January 1, 2014.

**B. Retroactive fencing requirements for public pools:**

1. Public swimming pools, special use pools, spas, and wading pools who hold a valid operating permit on the effective date of this code that meet the requirements in Appendix C and shall comply with fencing requirements in Chapter VI Section 6 Regulation 11 by January 1, 2014.
2. Public swimming pools, special use pools, spas, and wading pools who hold a valid operating permit on the effective date of this code that do not meet the requirements in Appendix C on the effective date of this code shall comply with fencing requirements in Chapter VI, Section 6, Regulation 11 by January 1, 2005.

**C. Retroactive fencing requirements for semi-public pools:**

1. Semi-public swimming pools, special use pools, spas, and wading pools who hold a valid operating permit on the effective date of this code that meet the requirements in Appendix D on the effective date of this code shall comply with fencing requirements in Chapter VI, Section 7, Regulation 2 by January 1, 2014.
2. Semi-public swimming pools, special use pools, spas, and wading pools who hold a valid operating permit on the effective date of this code that do not meet the requirements in Appendix D on the effective date of this code shall comply with fencing requirements in Chapter VI Section 7 Regulation 2 by January 1, 2005.

**D. Retroactive diving board requirements.**

All public and semi-public swimming pools and special use pools who hold a valid operating permit on the effective date of this code, constructed prior to February 1, 1998, and having met the requirements of the code for a diving board in force at the time of construction may continue to operate a diving facility under the following conditions:

1. The pool was approved for construction prior to February 1, 1998.
2. The height of the diving board above the water surface shall be limited to a maximum of 10 feet (3 meters).
3. If the pool and diving board do not meet the dimensional requirements in Appendix A or Appendix B, diving must be under the direct supervision of a lifeguard or other responsible party and the pool owners shall provide and maintain

on file with Maricopa County a current certificate of public liability insurance documenting minimum limits of \$1,000,000 \$7 million combined single limit for bodily injury and property damage liability. The certificate must further clearly indicate that Maricopa County is an additional insured and that no changes or modifications shall become effective in the coverage without 30 days prior written notice submitted to the Department.

E. Retroactive vacuum outlet requirements.

Public and semi-public swimming pools, special use pools, spas, and wading pools who hold a valid operating permit on the effective date of this code shall comply with Chapter VI, Section 3, Regulation 9 by January 1, 2005.

**REGULATION ~~4213~~. Variance**

A. Purpose.

The purpose of this regulation is to allow the Environmental Health Officer to consider granting a variance from those parts of Chapter VI, which are more restrictive than ~~ACRR 9-8 18 A.A.C. 5, Article 2 and/or 9 A.A.C. 8, Article 8~~. This would be possible when there exists an unusual or unreasonable hardship resulting from a literal interpretation of this Code, provided that the alternative method or work offered conforms to the general intent of this Code. The application for variance and the decision of the Environmental Health Officer shall be in writing and shall be officially recorded within the records of the Department.

B. Conditions for Variance.

1. Any person may request a Variance to Chapter VI of this Code when it is claimed that:
  - a. The true intent of the Codes or Ordinances described in this Code has been incorrectly interpreted by the Department, or
  - b. A decision by the Department is unreasonable or arbitrary ~~as~~ when it is applied to alternate or new materials;
2. The Swimming Pool Advisory Committee may recommend that the Environmental Health Officer issue a Variance only after the Committee has determined that:
  - a. Special circumstances or conditions apply to this permit application; and
  - b. Authorizing of the Variance is necessary for the preservation and enjoyment of substantial property rights; and
  - c. Authorizing of the ~~minor~~ variance will not be materially detrimental to persons residing or working in the vicinity, to adjacent property, to the neighborhood or to the public safety and welfare in general; and
  - d. Granting of the ~~minor~~ variance will be in harmony with the purposes sought to be attained by the Codes or Ordinances.
3. If the applicant for the variance is dissatisfied with the decision of the Environmental Health Officer, the Applicant may appeal to the Board of Health whose decision shall be final, except that any person aggrieved by a decision of the Board of Health may at any time, within 30 days after the filing of the Board of Health's decision, file an appeal with the superior court of Maricopa County by following the various methods of appeal or review procedures in Arizona as set forth in the applicable statutes of the state of Arizona.
4. Such appeals shall be presented to the Secretary of the Board of Health in writing within 30 days after the filing of the decision of the Environmental Health Officer or the Environmental Health Officer may refer the appeal to the committee.

C. Swimming Pools Advisory Committee (SPAC).

1. Structure.

- a. There shall be and is hereby created, a Swimming Pool Advisory Committee, hereinafter called "Committee", consisting of five members, who are residents of Maricopa County and citizens of the United States, and composed of and consisting of a representative of the industries, trades and professions as follows:
  - 1 Swimming Pool Building Contractor
  - 1 Swimming Pool Service ~~&~~ and Repair Contractor or Swimming Pool Industry Member
  - 1 Certified Safety Professional
  - 1 Professional Engineer
  - 1 Health Professional
- b. The members of the Committee shall be appointed by the Chairperson of the Board of Health for a term of three years. The initial terms of office shall be as follows:

One member shall be appointed for a term of three years;  
Two members for a term of two years;  
Two members for a term of one year.
- c. Upon expiration of the initial term of office of a member of the Committee, their successors shall then be appointed for a term of three years.
- d. Continued absence of any member from three consecutive regular meetings of the Committee shall render any such member liable for immediate removal from office. Removal shall be at the discretion of the Board of Health.
- e. Vacancies for an unexpired term shall be filled by the Chairperson of the Board of Health.
- f. The members of the Committee shall serve without salary or compensation.

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- g. The Environmental Health Officer or his designate shall attend all meetings and furnish secretarial services for the Committee.
- 2. Duties and Responsibilities:
  - a. It shall be the duty of the Committee to hear appeals from the decision of the Department staff Bureau of Public Health Engineering and to submit findings to the Environmental Health Officer.
  - b. The duties and powers of this Committee shall be in an advisory capacity only.
- 3. Procedures:
  - a. The Committee shall annually elect one of its members to serve as Chairperson.
  - b. The Environmental Health Officer shall designate a clerk from the Department to serve as Recording Secretary to the Committee, who shall keep a detailed record of all proceedings on file in the Department and perform other secretarial duties as required by the Board.
  - c. Special Committee meetings may be called by the Environmental Health Officer or at the request of the Chairperson or any three members of the Committee.
  - d. Three voting members of the Committee shall constitute a quorum.
  - e. Public Hearings:
    - 1i. Any person dissatisfied with a decision of the Department staff Bureau of Public Health Engineering may request a hearing before the Committee at any time prior to closure of the file. The Environmental Health Officer ~~shall~~ may call a special meeting to hear this matter. Such a meeting ~~will~~ shall be held within thirty days of the date the appeal is filed.
    - 2ii. All hearings shall be open and public and any person whose interest may be affected by a recommendation of the Committee shall be given an opportunity to be heard.
    - 3iii. The Committee shall render all recommendations in writing to the Environmental Health Officer. The Environmental Health Officer shall render a final decision within 10 days of receiving the Committee recommendations.
    - 4iv. The applicant may waive a hearing by the Committee and appeal directly to the Environmental Health Officer. The Environmental Health Officer will in such cases render ~~this a~~ decision within ten days of the date the appeal is filed.
    - 5v. The applicant shall include a fee with this the written Swimming Pool Advisory Committee appeals to the Committee a fee as shown in the Fee Schedule in Chapter I of this code.
  - (f) ~~Any person aggrieved by a decision of the Board of Health may at any time, within 30 days after the filing of the Board of Health's decision, file an appeal with the Superior Court of Maricopa County by following the various methods of appeal or review procedures in Arizona as set forth in the applicable statutes of the State of Arizona.~~
  - f. Conflict of Interest.

No member of the Committee shall vote on any question concerning a job or project in which he is engaged as contractor or material dealer, or in the preparation of plans or specifications, or on any job or project in which he has any direct or indirect personal or financial interest. In these instances, he shall also make full disclosure of his interest to the Committee.

**REGULATION ~~4314~~. Inspections**

- A. An inspector from the Department, upon presentation of credentials, may enter into any public or semi-public swimming pool or spa to determine compliance with this code. The inspector may inspect records, equipment and facilities, take photographs and take other action reasonably necessary to determine compliance with this Code.
- B. The owner or manager of a public or semi-public swimming pool or spa may accompany the inspector during an inspection.
- C. An inspector from the Department may inspect a public or semi-public swimming pool or spa during reasonable working or operational hours without giving prior notice of the inspection to the owner or operator of the swimming pool or spa.

**REGULATION ~~4415~~. Applicability**

- A. This Code applies to all public and semi-public bathing places included in Chapter VI (Bathing Places - Public and Semi-public Swimming Pools) of Maricopa County Environmental Health Code.
- B. Section 11 of this code applies to natural and semi-public bathing places.
- C. Section 12 of this code applies to artificial bathing lakes.
- D. This Code does not apply to any of the following:
  - 1. A private residential swimming pool or spa.
  - 2. A swimming pool or spa used for medical treatment or physical therapy and supervised by licensed medical personnel.
  - 3. Swimming pools and spas constructed and operated by the state of Arizona.
  - 4. Swimming pools and spas constructed and operated by the United States government, or
  - 5. A spray pond that does not have a recirculation system.

SECTION 2

WATER QUALITY STANDARDS

**REGULATION 1. Quality of Water**

Swimming pool water shall be treated and maintained so that whenever the swimming pool is open for use, the bacterial, chemical and physical quality of the water meets the standards set forth in these regulations.

**REGULATION 2. Water Source**

~~Only water from approved sources shall be used in swimming pools and other bathing places. Wastewater and reclaimed wastewater are not approved sources. An operator of a public or semi-public swimming pool or spa shall ensure that the swimming pool or spa is filled only with potable water from an approved source~~

**REGULATION 3. Bacterial Standards**

Not more than 15 percent of the water samples collected from a pool shall:

- A. Contain more than 200 bacteria per milliliter as determined by the standard (35°C [95°F]) agar plate count, or
- B. Show a confirmed positive test for coliform organisms in any of the five - 10 milliliter portions of a sample or more than one coliform organism per 50 milliliters when the membrane filter test is used. All samples shall be collected, de-chlorinated, or similarly neutralized when another disinfectant is used, and examined in accordance with the procedures outlined in the latest edition of "Standard Methods for the Examination of Water and Wastewater". The Department may collect, or require the owner to collect and submit, water samples for bacteriological examination on a routine basis while it is in active use.

**REGULATION 4. Chemical Standards**

Pools and spas shall be continuously disinfected by an approved means which will maintain an adequate and readily measurable residual of disinfectant in the water.

- A. Whenever chlorine, or a chlorine compound, is employed for pool disinfection the amount of free chlorine residual in the water shall not be less than 1.0 ppm or more than ~~2.0~~ 5.0 ppm for public and semi-public swimming pools, and shall not be less than ~~1.0~~ 3.0 ppm or more than ~~3.0~~ 5.0 ppm for a hydrotherapy pool, at a pH of ~~7.0-7.2~~ to ~~8.0-8.8~~.
- B. Bromine disinfection equipment for a public or semi-public swimming pool shall be designed to maintain a bromine residual of 2.0 to 4.0 ppm. Bromine disinfection equipment for a public or semi-public spa shall be designed to maintain a bromine residual of 3.0 to 5.0 ppm.
- C. Total alkalinity shall be maintained between 60 and 180 ppm.

Whenever chlorinated isocyanurates or isocyanuric acid ~~are~~ is applied to the water for stabilization, a level of 100 ppm or less shall be maintained. The procedure for determination of free chlorine residual shall be by the DPD method or any of the other procedures outlined in the latest edition of "Standard Methods for Examination of Water or Wastewater".

**REGULATION 5. Physical Standards**

- A. The surface of the pool water shall be kept free of scum and floating debris. The bottom and sides shall be maintained free of sediment, dirt, slime and algae. Water shall be maintained free of turbidity and shall be sufficiently clear so that the main drain outlet is clearly visible to an adult standing on the pool deck, or that a Secchi Disk 200 mm in diameter when placed at the bottom of the pool at the deepest point is clearly visible to an adult standing on the pool deck.
- B. The temperature of heated water coming into a bathing place shall not exceed 104°F.

**REGULATION 6. Tests**

All pools shall be equipped with approved test equipment to determine pH, ~~and~~ disinfectant residual, total alkalinity and temperature. ~~The pool operator shall perform the tests required by this regulation and shall record the results of the tests in the daily operating records. Such records shall be made READILY available to the Department upon request. The chemical disinfection level, pH, total alkalinity, and temperature of the water shall be tested at least once daily and A daily operating log that includes the results of the tests shall be maintained for 12 months and made available to the Department, a regulatory authorities, or a member of the public upon request.~~

**REGULATION 7. Fecal Contamination In Public and Semi-public Swimming Pools and Spas**

- A. If solid feces are found in a public or semi-public swimming pool or spa, an operator of the swimming pool or spa shall ensure that:
  - 1. Each individual in the swimming pool or spa is required to exit the swimming pool or spa and the swimming pool or spa is closed.

2. The feces in the swimming pool or spa are removed and disposed of in a toilet.
  3. The chemical disinfection level of the water in the swimming pool or spa is tested to determine whether the water complies with the water quality and disinfection standards in Section 2, Regulation 4, and
  4. The swimming pool or spa is not reopened until a test conducted under subsection (A)(3) indicates that the water complies with the water quality and disinfection standards in Section 2.
- B. If liquid feces are found in a public or semi-public swimming pool or spa, an operator of the swimming pool or spa shall ensure that:
1. Each individual in the swimming pool or spa is required to exit the swimming pool or spa and the swimming pool or spa is closed;
  2. The swimming pool or spa is closed for at least 24 hours;
  3. As much of the liquid feces as possible in the swimming pool or spa is removed and disposed of in a toilet;
  4. The swimming pool or spa is chemically treated with a shock treatment;
  5. The water in the swimming pool or spa is tested 24 hours after applying the shock treatment to determine whether the water complies with the water quality and disinfection standards in Section 2; and
  6. The swimming pool or spa is not reopened until a test conducted under subsection (B)(4)(5) indicates that water complies with the water quality and disinfection standards in Section 2, Regulation 4.

### SECTION 3

#### GENERAL DESIGN STANDARDS AND SPECIFICATIONS

##### REGULATION 1. Materials

- A. A public or semi-public swimming pool or spa shall be constructed of concrete or other structurally rigid material that is equivalent in strength and durability to concrete, except that a public or semi-public spa may be constructed of fiberglass or acrylic.
- B. A surface within a public or semi-public swimming pool or spa intended to provide footing for users shall have a slip-resistant surface. The roughness or irregularity of the surface shall not cause injury or discomfort to users' feet during normal use.
- C. The Materials and construction of a public or semi-public swimming pool shall be sound, durable and, where required, waterproof. The pool shall be constructed of materials that are rigid, nontoxic, smooth, free from cracks, easily cleanable and finished in either white, pastel or other light colors. The color, pattern or finish of the interior of a public or semi-public swimming pool or spa shall not obscure objects, surfaces within the swimming pool or spa, debris, sediment or algae. Corners shall be rounded. Pool linings, specifically plastic and similar linings, and finishes not totally bonded to the pool sides and bottom are prohibited.

##### REGULATION 2. Shape

- A. A public or semi-public swimming pool or spa may be any shape except that the designer shall shape a public or semi-public swimming pool or spa to minimize hazards to users and provide adequate circulation of swimming pool or spa water.
- B. There shall be no protrusions, extensions, means of entanglement or other obstructions in a public or semi-public swimming pool or spa that may cause entrapment of or injury to the user. This subsection does not prohibit water features such as water fountains, slides, water play equipment or water volleyball and basketball nets.
- C. Where a racing lane terminates in a swimming pool, the wall shall be plumb to a minimum depth of 5 feet below the waterline. Below the five-foot depth, the wall shall be radiused to join the floor.
- D. The minimum average width of a semi-public pool shall be 14 feet. The average width shall be calculated by dividing the surface area by the total length of the pool as noted in Appendix B.
- E. Coping or cantilevered deck may project from a swimming pool or spa wall to provide a handhold for users. The coping or deck shall be rounded, have a slip-resistant surface and shall not exceed 3 1/2 inches in thickness. The overhang of the coping or deck shall not exceed 2 inches or be less than 1 inch. All corners created by coping or cantilevered deck shall be rounded in both the vertical and horizontal dimensions to eliminate sharp corners.
- F. Floors.
  1. The slope of the floor of a public or semi-public swimming pool, from the end wall in the shallow area towards the deep area to the point of the first slope change, shall be uniform and shall not exceed 1 foot of fall in 10 feet. The floor slope in a public or semi-public spa shall not exceed 1 foot of fall in 10 feet.
  2. The floor slope of a public or semi-public swimming pool, from the point of the first slope change to the deepest part of the swimming pool, shall not exceed 1 foot of fall in 3 feet. For public or semi-public swimming pools, the depth of the swimming pool at the point of the first slope change shall be a minimum of 5 feet.
  3. All portions of a swimming pool or spa floor shall slope towards a main drain.

4. The transitional radius where the floor of a public or semi-public swimming pool joins a wall shall comply with all the following:
  - a. The center of the radius shall be no less than 3 feet below the waterline in the deep area or 2 feet below the waterline in the shallow area.
  - b. The radius shall be tangent at the point where the radius meets the wall or floor.
  - c. The radius shall be equal to or greater than the depth of the swimming pool minus the vertical wall depth measured from the waterline minus 3 inches.

**REGULATION 23. Fill and Draw Pools**

The construction and operation of fill and draw pools is prohibited.

**REGULATION 34. Water Recirculation and Filtering System**

General - The water recirculation system, consisting primarily of piping, pumps, filters, water conditioning and disinfecting equipment, together with other standard accessory equipment, shall be adequate to clarify and disinfect the entire contents of the pool within 8 hours or less. Water withdrawn shall not be returned to the pool unless it has been filtered and otherwise treated in an approved manner except that water may be withdrawn from a swimming pool for a water slide or a water feature without being filtered or disinfected as approved by the Department. ~~The water recirculation system shall operate on a continuous basis.~~

- A. The water recirculation system shall consist primarily of piping, pumps, filters, water conditioning and disinfecting equipment, together with other standard accessory equipment. Each bathing place shall be provided with a separate and distinct recirculation system.
  - (1) ~~Each bathing place shall be provided with a separate and distinct recirculation system.~~
  - (2) ~~A common chlorine gas disinfection system may be utilized if separate metering and feeding devices are provided for each bathing place.~~
- B. The water recirculation system shall be adequate to ~~clarify~~ filter and disinfect the entire contents of the pool within eight (8) hours or less. ~~Water withdrawn by the circulation system shall not be returned to the pool unless it has been filtered and otherwise treated in a manner as approved by the Department.~~ Bypassing chemical feeders or other similar devices may be exempted from this requirement with the approval of the Department.
- C. The water recirculation system shall operate continuously.
- D. Seasonal closing of the pool shall be allowed when all of the following exist:
  1. A sign is posted that the pool/spa is closed;
  2. The gates are locked shut; and
  3. The Department is notified in writing of any such closure.

**REGULATION 4-5. Piping**

Piping systems shall be:

- A. Designed to carry the required quantity of water at a velocity of not more than 10 feet per second when located on the discharge side of a pump, except for copper discharge piping where the velocity shall not exceed 8 feet per second, and not more than 6 feet per second when located on the suction side of a pump.
- B. Of sufficient strength to withstand 150 percent of normal operating pressures.
- C. Made of non-toxic materials.
- D. Reasonably resistant to corrosion under conditions of operation.
- E. Installed so that pipe and fittings which pass through the pool structure shall not project in a manner which is hazardous to users of the facility.
- F. Comply with the sizes and flow rates shown in the following table unless accompanied by an approved hydraulic design:

**Maximum Flow Rates (C=140) Schedule 40 PVC**

PIPE SIZE	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
GPM PRESSURE SIDE	25	60	90	120	220	350	800
<u>GPM PRESSURE SIDE, COPPER</u>	<u>20</u>	<u>48</u>	<u>72</u>	<u>96</u>	<u>176</u>	<u>280</u>	<u>640</u>
GPM SUCTION SIDE	15	35	50	80	120	220	450

- G. ~~Meet or exceed National Sanitation Foundation Standards.~~ Plastic water circulation piping shall comply with American National Standards Institute / NSF International Standard Number 14, "Plastics Piping System Components and Related

Materials,” NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan, which is incorporated by reference and on file with the office of the Secretary of State and the Department.

- H. A licensed Arizona contractor shall conduct an induced static hydraulic pressure test of the water circulation system piping at 25 pounds per square inch for at least 30 minutes. The pressure test shall be performed before the deck is poured. Pressure in the water circulation system piping shall be maintained during the deck pour.
- I. Piping systems shall be identified by name tags, labels or appropriate colors painted or located at conspicuous points.

**REGULATION 5. Identification**

Piping systems shall be identified by name tags, or appropriate colors painted or located at conspicuous points.

**REGULATION 6. Total Dynamic Head**

The total dynamic head of the recirculation system shall be calculated. In lieu of calculating the total dynamic head, the Department may allow the following table to be used:

<u>DISTANCE FROM THE MAIN DRAIN TO THE PUMP</u>	<u>TOTAL DYNAMIC HEAD (TDH)</u>
<u>1' – 25'</u>	<u>55</u>
<u>26' – 50'</u>	<u>60</u>
<u>51' – 75'</u>	<u>65</u>
<u>76' – 100'</u>	<u>70</u>
<u>101' – 125'</u>	<u>75</u>
<u>126' – 150'</u>	<u>80</u>
<u>BEYOND 150'</u>	<u>CALCULATIONS ARE REQUIRED</u>

**REGULATION 7. Pumps and Motors**

- A. A pump and motor shall be provided for each water circulation system. The pump shall be sized to meet but not to exceed the flow rate required for filtering against the total head developed by the complete water circulation system. The pump shall be sized to comply with the turnover rates prescribed in Chapter VI, Section 3, Regulation 3 and 4 (pools), Chapter VI, Section 9, Regulation 2 (Spas), and Chapter VI, Section 8, Regulation 4, (Wading Pools).
- B. Pumps and motors shall be readily and easily accessible for inspection, maintenance, and repair. When the pump is below the waterline, valves shall be installed on permanently connected suction and return lines. The valves shall be readily and easily accessible for maintenance and removal for any of the pump components.
- C. Each motor shall have an open, drip-proof enclosure. Each motor shall be constructed electrically and mechanically to perform satisfactorily and safely under the conditions of load in the environment normally encountered in swimming pool or spa installations. Each motor shall be capable of operating the pump under full load with a voltage variation of ± 10 percent from the nameplate rating. Each motor shall have thermal or current overload protection to provide locked rotor and running protection. Thermal or current overload protection may be built into the motor or in the line starter.
- D. The pump shall be equipped with an emergency shut-off switch that is located within the swimming pool or spa enclosure to cut off power to the water circulation system if someone is entrapped on a main drain or suction outlet.
- E. The emergency shut-off switch must be clearly labeled.

**REGULATION 68. Hair Strainer**

The recirculation system shall include a removable strainer located upstream from the pump to prevent solids, debris, hair, lint, etc. from reaching the pump and filters. Strainers shall be of corrosion-resistant material, with openings having a total area equal to four times the area of the recirculation pump suction pipe.

**REGULATION 79. Pool Water Cleaning System**

- A. A pool vacuum cleaning system shall be provided for public and semi-public swimming pools with the exception of hydrotherapy pools.
- B. Vacuum outlets shall be provided with covers, which automatically close and automatically latch and can only be opened with the use of a tool. The covers must be securely closed and latched when the pool is in use.

- C. The cleaning system provided shall not create a hazard or interfere with the operation or use of the pool. In integral systems, connections shall be provided in sufficient numbers and located in the pool walls at least 10 inches below the water line. In addition, automatic or self-cleaning systems may be installed as approved by the Department.

**REGULATION 810. Inlets**

Adjustable pool wall inlets shall be provided on all pools. Inlets shall be of sufficient number, properly designed, sized and installed to produce uniform circulation throughout the pool. There shall be a minimum of six inlets, spaced not more than 15 feet as measured along the pool periphery. At least one inlet shall be located within 5 feet of each corner and in each step alcove. Inlets shall be on a closed loop piping system. Where the width of the pool exceeds 30 feet, bottom returns will also be required. Bottom returns shall be flush with the pool bottom or of such design as to prevent injury to bathers. Bottom returns will be considered to have an area of influence described by a radius of 15 feet. Public or semi-public spas with three or more return inlets shall be on a closed loop piping system.

**REGULATION 911. Drains**

- A. Pools shall be equipped with at least ~~one~~ two main drains located in the deepest portion that are separated by a minimum of 3 feet and that are constructed to prevent suction entrapment under all operating conditions. Each drain shall be covered by an anti-vortex cover or an approved grate that has a minimum diagonal measurement of 24 inches, which ~~is~~ are not readily removable by bathers and ~~which has~~ have safe openings of at least four times the area of the drain pipe. ~~Drains shall be spaced at intervals of not greater than one each 20 feet of pool width in the deepest portion.~~
- B. Split drains shall be spaced at intervals of not greater than one each 20 feet of pool width in the deepest portion and not more than 15 feet from each side wall.
- C. A minimum of two suction outlets shall be provided for each pump in a suction outlet system for a public or semi-public pool or spa. The suction outlets shall be separated by a minimum of 3 feet or located on two different planes (i.e. one suction outlet on the bottom and one on a vertical wall or one suction outlet each on two separate vertical walls) as long as the three-foot separation is always maintained. The suction outlets shall be plumbed to draw water through them simultaneously through a common line to the pump. Suction outlets shall be plumbed to eliminate the possibility of entrapping suction, and be equipped with an approved anti-vortex cover.
- D. The total velocity of water through grate openings of the drain shall not exceed 1 1/2 feet per second.
- E. No check valve may be installed between a suction outlet and a pump.

**REGULATION 10. Water Treatment**

~~Chemical feeders, mixing tanks and other equipment may be required where the continuous addition of certain chemicals is deemed by the Department to be necessary for the treatment and filtration process.~~

**REGULATION 112. Flow Meter**

~~When deemed necessary by the Department, an accurate rate of flow indicator shall be installed and located so that the rate of recirculation and rate of backwash will be indicated. Indicators shall be accurate to 5% under all conditions of flow. The indicator shall have a range of at least 150% of the normal flow rate. A public swimming pool shall be equipped with a flow meter that indicates the rate of backwash through the filter. The flow meter shall be installed between the pump and the filter on a straight section of pipe in accordance with the manufacturer's specifications in a location where it can be read easily. The flow meter shall measure the rate of flow through the filter in gallons per minute and shall be accurate to within 5 percent under all conditions of flow. The flow meter shall have an indicator with a range of at least 150 percent of the normal flow rate.~~

**REGULATION 113. Sight Glass**

Pressure filter systems shall be equipped with a sight glass installed on the waste discharge pipe.

**REGULATION 114. Air Relief Valves**

~~Each pressure filter shall be equipped with an air relief piping system connected at an accessible point near the crown. Automatic air relief systems may be used in lieu of manual systems. Pressure-type filters shall be equipped with a means to release internal pressure. Each pressure filter shall be equipped with an air relief piping system connected at an accessible point near the crown. Automatic air relief systems may be used instead of manual systems. The design of a filter with an automatic air relief system as its principal means of air release shall include lids that provide a slow and safe release of pressure. The design of a separation tank used in conjunction with any filter tank shall include a manual means of air release or a lid which provides a slow and safe release of pressure as it is opened.~~

**REGULATION 115. Access to Equipment**

Filters shall be designed, located and constructed to permit removal of filter manhole covers or heads for inspection purposes

and replacement or repair of the filter elements or media. No filter or filtration system shall be installed beneath the surface of the ground or within any enclosure without adequate provision of access for inspection and maintenance.

**REGULATION 4516. Filtration Rate - Sand**

The rate of filtration in high-rate sand filters shall not exceed an equivalent of 20 gallons per-minute per-square foot. Sufficient surface area of filter media shall be provided to achieve this rate.

**REGULATION 4617. Filtration Rate - Diatomaceous Earth**

The rate of filtration of diatomaceous earth filters shall not exceed 2 gallons per-minute per-square foot of effective surface area.

**REGULATION 4718. Filtration Rate - Cartridge Type**

The rate of filtration of cartridge filters shall not exceed 0.375 gallons per-minute per-square foot.

**REGULATION 4819. Acceptable Filters**

Only those filter types which meet the standards set forth by the National Sanitation Foundation will be acceptable. Swimming pool and spa filters shall comply with American National Standards Institute / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan. Filters shall be designed, located, and constructed to permit removal of filter manhole covers or heads for inspection, replacement, or repair of filter elements or filter media. No filtration system shall be installed beneath the surface of the ground or within an enclosure without providing adequate access for inspection and maintenance. The maximum filtration rate shall not exceed the design flow rate prescribed by the National Sanitation Foundation Standard 50 for Commercial Filters. In no case shall the maximum filtration rate exceed the rates specified in this section.

**REGULATION 4920. Gauges**

Pressure gauges shall be installed on the inlet side of the pump, and the inlet and outlet manifold of the filters. Such gauges shall read at 1 pound pressure intervals or in inches of vacuum.

**REGULATION 2021. Cross Connection Control**

- A. Cross-connections between potable water piping and the recirculation system or water reservoir of any pool are prohibited. Potable water for make up water purposes may only be introduced into the reservoir:
1. Across an air gap of at least twice the diameter of the pipe, not less than 6 inches above the overflow level. If an over-the-rim spout is used, it shall be located so that it does not present a tripping hazard; or
  2. Three inches above the overflow rim of a float controlled make up water feed tank; or
  3. By a submerged inlet which is properly protected against back siphonage by a backflow prevention device meeting University of Southern California Foundation for Cross Connection Control and Hydraulic Research American Water Works Association standards.
- B. All sewage from plumbing fixtures, including urinals, toilets, lavatories, showers, drinking fountains, floor drains and other sanitary facilities shall be disposed of in a sanitary manner. Filter backwash and wasted swimming pool or spa water shall be discharged into a sanitary sewer through an approved air gap, an approved subsurface disposal system or by other means that are approved by the Department. The method of disposal shall comply with applicable disposal requirements established by a municipal or other local authority. There shall be no direct physical connection between the sewer system and the water circulation system of a public or semi-public swimming pool or spa.

**REGULATION 24 22. Signs**

Swimming pools not meeting the minimum dimensions specified in Appendix A for diving board equipped pools shall prominently display at least one sign which cautions bathers that the pool is shallow and not suitable for diving. This warning shall be in letters 3" or larger.

- A. Diving equipment is prohibited in a public or semi-public swimming pool that does not meet the minimum requirements for a diving board in section 6, regulation 6. If a public or semi-public swimming pool does not meet the dimensional requirements prescribed in section 6, regulation 6 for diving, then the owner shall prominently display at least one sign that cautions users of the swimming pool that diving is prohibited. The warning sign shall state "caution shallow water no diving" in letters that are 4 inches or larger or display the international symbol for no diving. Diving from the deck of a public or semi-public swimming pool into water that is less than 5 feet deep shall be prohibited. Warning markers indicating in words or symbols that diving is prohibited shall be placed on the deck within 18 inches of the side of the shallow area of the swimming pool. A warning marker shall be positioned so that a person standing on the deck facing the water

can read it.

- B. All persons shall be instructed before entering the pool, by means of suitable, clearly lettered signs properly located, to observe all safety regulations.
- C. The maximum bathing load for a public or semi-public swimming pool or spa shall be posted.
- D. When food preparation or food service equipment is allowed within the pool enclosure, a sign is required stating that no glass is allowed in the pool enclosure, that only paper and plastic service is allowed, and that no food or drink is allowed within four feet of a semi-public pool or spa edge or 10 feet of a public pool or spa edge.

**REGULATION 2223. Roof Drain Water**

Rain water draining from any structure must be diverted away from the swimming pool and pool deck to a suitable point of disposal.

**SECTION 4**

**WATER CIRCULATION, DISINFECTION AND CHEMICAL CONDITIONING**

**REGULATION 1. Water Circulation System**

- A. A public or semi-public swimming pool or spa shall have a water circulation system that provides complete circulation of water through all parts of the swimming pool or spa and can maintain water chemistry and water clarity requirements.
- B. The water circulation system for a public or semi-public swimming pool shall have a turnover rate of at least once every 8 hours. The water circulation system of a public or semi-public spa shall have a turnover rate of at least once every 30 minutes. The water circulation system for a wading pool shall have a turnover rate of at least once every hour. The water circulation system shall be designed to give the proper turnover rate without exceeding the maximum filtration rate for the filter.
- C. Water circulation system components shall comply with American National Standards Institute / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan which is incorporated by reference and on file with the office of the Secretary of State and the Department.
- D. Water circulation system components shall be accessible for inspection, repair, or replacement.
- E. Water withdrawn from a public or semi-public swimming pool or spa shall not be returned unless it has been filtered and adequately disinfected except that water may be withdrawn from a swimming pool for water slide(s), water feature(s), or a water fountain(s) without being filtered or disinfected as approved on a case-by-case basis by the Department.
- F. In a swimming pool complex with more than one swimming pool or where there is a combination of swimming pools and spas, each swimming pool and spa shall have a separate water circulation system.
- G. Hydrotherapy jets or other devices which create roiling water or similar effects in a spa shall not be connected to the water circulation system, but shall be operated through a separate system.

**REGULATION 4 2. Disinfecting Agents**

Effective water disinfection shall be provided and maintained in all pools. This shall be accomplished by chlorination or other approved methods which will effectively maintain ~~in the pool water~~ an adequate, readily measurable residual amount of the disinfectant introduced into the water which is subject to field testing by methods that are easy to use and accurate. Timers on disinfection equipment are prohibited. The use of chlorinated cyanurate for disinfection and stabilization is permitted, but chlorine ammonia disinfection is not permitted. ~~The addition of undissolved or gaseous disinfectant directly into the pool is prohibited.~~ The addition of dry or liquid disinfectant directly into a public or semi-public swimming pool or spa for routine disinfection is prohibited. This prohibition does not prohibit the use of liquid or dry disinfectants for shock treatment of a swimming pool or spa.

**REGULATION 3.2 Gaseous Disinfectants**

When gaseous chlorine is used, the following additional features shall be provided:

- a. ~~The chlorine and chlorinating equipment shall be located in a separate well-ventilated enclosure on or above ground. The enclosure shall be reasonably gas-tight, noncombustible and corrosion-resistant. The door of the chlorine enclosure shall open to the outside and shall not open directly toward the pool. If chlorination equipment is placed in a room, an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion resistant louvers to a safe outside location. Gravity ventilation shall be constructed so as to discharge to the outside from floor level. Fresh air intakes shall be located no closer than three feet above the ventilation discharge. In all cases, the chlorine room exhausts shall be directed away from the pool to an area which is normally unoccupied. Chlorine room fans must run continuously and be capable of completely changing the air in the room at least one time in a minute. One electrical switch to control artificial light-~~

- ing shall be located on the outside of the enclosure and adjacent to the door.
- b. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent their falling. Cylinders may be stored indoors or out. If the cylinders are stored outside, they must not be stored in direct sunlight. Keys shall be maintained on the chlorine cylinder so supply can be shut off quickly in the case of an emergency.
  - e. A sign must be placed on the outside of the door which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3" high or larger.
  - d. The device shall be solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere.
  - e. The chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.
- A. The chlorinator, chlorine cylinders and associated chlorination equipment shall be located in a separate well-ventilated enclosure at or above ground level. The enclosure shall be reasonably gas-tight, noncombustible and corrosion-resistant. The door of the enclosure shall open to the outside and shall not open directly toward the swimming pool.
  - B. If chlorination equipment is placed in a room, then an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion-resistant louvers to a safe outside location. A gravity ventilation system shall be designed and constructed to discharge to the outside from floor level. Fresh air intakes shall be located no closer than 3 feet above the ventilation discharge. Chlorine room exhausts shall be directed away from the swimming pool to an area which is normally unoccupied. Chlorine room fans shall be capable of completely changing the air in the room at least once a minute.
  - C. Electrical switches to control lighting and ventilation in the chlorine room shall be located on the outside of the enclosure and adjacent to the door.
  - D. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent them from falling. Chlorine cylinders may be stored indoors or out. If stored outside, chlorine cylinders shall not be stored in direct sunlight. Chlorine cylinders shall not be stored near an elevator, ventilation system or heat source.
  - E. A warning sign shall be placed on the outside of the door to the chlorine room which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3 inches high or larger. The door to the chlorine room shall be provided with a shatter resistant inspection window.
  - F. Chlorinators shall be a solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere. Chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.
  - G. Facilities that provide chlorine containment and chlorine scrubber units approved by the local agency are considered in compliance with paragraphs A through F. of Regulation 3 in Section 4 of this Code
  - H. A common chlorine gas disinfection system may be utilized in separate swimming pools if separate metering and feeding devices are provided for each swimming pool.
  - I. The addition of gaseous disinfectant directly into a public or semi-public swimming pool is prohibited. A chlorine gas disinfection system shall not be used for the disinfection of water in a public or semi-public spa.

**REGULATION 34. Liquid Disinfectants**

Hypochlorite solutions shall be fed by an acceptable type of hypochlorinator.

**REGULATION 45. Dry Disinfectants**

Granular, tablet, stick and other forms of dry disinfectant shall be fed by an adjustable automatic feeding device.

**REGULATION 56. Disinfection Equipment**

~~Disinfectant equipment which meet the standards set forth by the National Sanitation Foundation or the Chlorine Institute shall be accepted.~~ Disinfection equipment and chemical feeders shall comply with the requirements set forth in American National Standards Institute / NSF International Standard 50, "Circulation System Components And Related Materials For Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan.

**REGULATION 7. Chemical feeders**

Chemical feeders, mixing tanks and other equipment may be required where the continuous addition of certain chemicals is deemed by the Department to be necessary for the treatment and filtration process.

- A. An adjustable automatic chemical feeder shall be provided to ensure the continuous disinfection of the water in a public or semi-public swimming pool or spa. Timers on disinfection equipment are prohibited. Disinfection shall be accomplished by chlorination or by other methods that are approved by the Department. The method of disinfection shall effectively maintain an adequate disinfectant residual in the water which is subject to field-testing by other methods that are easy to use and accurate.
  - 1. Chlorine disinfection equipment for a public or semi-public swimming pool shall be designed to maintain a free chlorine residual of 1.0 to 35.0 ppm. Chlorine disinfection equipment for a public or semi-public spa shall be designed to

- maintain a free chlorine residual of 3.0 to 5.0 ppm.
- 2. Bromine disinfection equipment for a public or semi-public swimming pool shall be designed to maintain a bromine residual of 2.0 to 4.0 ppm. Bromine disinfection equipment for a public or semi-public spa shall be designed to maintain a bromine residual of 3.0 to 5.0 ppm.
- B. The use of chlorinated isocyanurates or cyanuric acid stabilizer for disinfection and stabilization is permitted. If used, chlorinated isocyanurates shall be fed so as to maintain required disinfectant residual levels. Cyanuric acid levels, whether from chlorinated isocyanurates or from the separate addition of cyanuric acid stabilizer, shall not exceed ~~450~~ 100 ppm.
- C. The use of chloramines as a primary disinfectant of swimming pool or spa water is prohibited.
- D. Metering and feeding devices are provided for each swimming pool.
- E. Disinfection equipment and chemical feeders shall comply with the requirements set forth in American National Standards Institute / NSF International Standard 50, "Circulation System Components And Related Materials For Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [Revised July, 1996 and no future editions] which is incorporated by reference and on file with the Department.
- F. If a chemical feeder is used, it shall be installed to inject solution downstream from the filter and the heater. An erosion-type feeder may be installed to feed solution to the suction side of the pump. A chemical feeder shall be installed so it cannot operate unless the filter pump is running.

**SECTION 5**

**BATHHOUSE AND DRESSING ROOM FACILITIES**

**REGULATION 1. For All Swimming Pools**

- aA. The general layout of bathhouses shall be such that bathers leaving the dressing room pass the toilets and showers in sequence before entering the pool.
- bB. Separate dressing rooms shall be provided for each sex and equipped with baskets or other checking facilities adequate for the maximum number of people to be accommodated.
- eC. All entrances to, and exits from, the dressing rooms shall be effectively screened to interrupt the line of sight of persons outside the dressing rooms.
- dD. Walls and partitions of dressing rooms, locker rooms, toilets and showers shall be light colored, smooth, nonabsorbent and easily cleanable. Concrete or pumice blocks used for interior wall construction in these locations shall be finished and sealed to provide an easily cleanable surface. Partitions shall be designed so that a waterway is provided between partitions and the floor to permit thorough cleaning of the walls and floor areas with hoses and brooms.
- eE. Floors shall be of non-slip construction, free of open cracks and sloped to adequate drains so that the surface will be free of standing water and puddles. Floors shall be sloped not less than 1/4 inch per foot toward the drains to ensure positive drainage. Carpeting is prohibited.
- fF. All furniture shall be of simple character and easily cleanable. Locker compartments, partitions, booths, furniture and other appurtenances to dressing rooms shall be so installed or raised above the floor to permit thorough cleaning and flushing down the dressing rooms and bathhouse interior.
- gG. An adequate number of hose bibs shall be provided for flushing down the dressing rooms and bathhouse interior. Hose bibs shall be provided in the bathhouse so that all parts of the floor and walls may be reached with a 50-foot hose. Hose bibs shall be protected against back siphonage with an atmospheric vacuum breaker. The Department may approve quick disconnect style hose bibs.
- hH. Dressing rooms, toilets and showers shall be provided with adequate lighting and ventilation. Toilet facilities shall be provided for each sex in accordance with the table below:

<u>Men</u>	One toilet and one urinal <u>shall be provided</u> for each 100 bathers or fraction thereof.
<u>Women</u>	One toilet <u>shall be provided</u> for each 50 bathers or fraction thereof, but in no case shall less than two toilets be provided. <u>Sanitary napkin dispensers and a covered waste receptacle shall be installed in toilet or shower areas designated for female users.</u>

- jJ. Shower and hand washing facilities with hot and cold water and soap shall be provided for each sex in accordance with the table below. Tempered water only shall be provided at all showerheads. The water heater and thermostatic mixing valve shall be inaccessible to bathers and shall be capable of providing 2 GPM gallons per minute of 90°F water to each showerhead. The shower and hand washing facilities shall be provided for each sex in accordance with the table below:

Shower	One shower <u>shall be provided</u> for each 50 bathers or fraction thereof. <u>A minimum of two showerheads shall be provided in each dressing room.</u>
Lavatory	One lavatory with <u>unbreakable</u> mirror for each 100 bathers or fraction thereof. <u>An additional lavatory and unbreakable mirror shall be provided for each additional 100 users or fraction thereof.</u> <u>Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory.</u> <u>Soap dispensers shall be made of metal or plastic with no glass permitted.</u>

- K. Drinking water from an approved source and dispensed through one or more drinking fountains shall be located on the deck of each public swimming pool or spa.
- L. An establishment that operates a semi-public swimming pool or spa and provides a private room with a toilet and lavatory, soap and hand-drying device for bathers shall be in compliance with the requirements of this section.

**SECTION 6**

**PUBLIC SWIMMING POOLS**

In addition to complying with the Regulations in Sections 1, 2, 3, 4, and 5 of this Chapter, public swimming pools shall comply with the following regulations:

**REGULATION 1. Design Standards and Specifications**

- aA. Public pools shall be constructed of concrete, or other material impervious to water, which is equivalent in strength and durability, with a smooth, slip-resistant surface and designed and built to withstand anticipated stresses. All corners must be rounded. A white pastel or other light colored waterproof interior finish, which will withstand repeated brushing, scrubbing and cleaning shall completely line the pool to the coping. Pool linings not totally bonded to the pool sides and bottom, such as plastic films and similar linings and finishes, are prohibited.
- bB. A pool shall have no projections, protrusions, extensions, means of entanglement or other obstructions that may cause entrapment of or injury to the user from the pool wall and floor surfaces. ~~shall be allowed of a public pool or spa. This does not include except for~~ ladders, seats, and steps, which may be constructed only in the shallow end of the pool. The seat, bench and step edges shall be outlined with a sharply contrasting colored tile or other suitable material which is clearly visible from the edge of the pool adjacent to the steps. ~~This subsection does not prohibit water features such as slides, water play equipment or water volleyball and basketball nets.~~
- C. An underwater seat or bench shall:
  1. Have edges that are outlined with a sharply contrasting colored tile or other material that is clearly visible from the deck adjacent to the underwater seat or bench; and
  2. Have a slip-resistant surface; and
  3. Be located outside of the deep area of a swimming pool; and
  4. Have a maximum depth of 24 inches below the waterline and a minimum depth of 12 inches below the waterline; and
  5. Have a maximum width of 20 inches.
- D. Water depth and depth markers:
  1. Water depth shall be conspicuously and permanently marked on the walls of the pool ~~and shall be visible in or out of the water.~~ and on the top of the coping or the edge of the deck next to the swimming pool;
  2. Depth markers on a vertical wall shall be positioned to be read from the waterside;
  3. Depth markers that are located on a deck shall be made of slip-resistant materials;
  4. Depth markers for a public or semi-public swimming pool shall be installed at points of maximum and minimum water depth and at all points of slope change;
  5. Markings are required at one-foot depth intervals to a depth of five feet, thereafter, depth markers shall be installed at two-foot depth intervals;
  6. Depth markers shall not be spaced at distances greater than 25 feet;
  7. Depth markers shall be located on both sides and at both ends of a public or semi-public swimming pool; and ~~And at~~ the deepest point. Where the design of the overflow system makes it impractical to place these markings on the pool wall, they may as an alternate be placed on the horizontal deck surface. Thereafter markings shall be located in accordance with the design of the pool for maximum protection of bathers.
  8. Depth markers shall be in Arabic numerals with a four-inch minimum height. Arabic numerals shall be of contrasting color to the background. ~~Depth markers shall be in numerals of 4 inch minimum height and of a uniform color on a background of contrasting uniform color.~~
  9. In pools utilized for competitive swimming and training, approach-warning markings must be installed under the water level on opposite walls at the end of each swimming lane in the pool. Warning markings must be of uniform

color and size on a background of contrasting uniform color. In addition, they must be clearly visible in or out of the water at all times from a distance of not less than 10 feet.

10. The shallow area of a public swimming pool shall be visually set apart from the deep area of the pool by a rope and float line. Except for zero depth entries, the depth in the shallow portion of a pool shall not be less than 2' - 0" or greater than 3' - 0".

~~d. Floor Slope. No change of slope shall occur in depths less than five feet, and the slope shall not exceed 1 foot in 10 feet.~~

eE. For the purposes of these Regulations, that portion of a swimming pool five feet or less in depth shall be designated as the "non-swimmer" area. That part of the pool deeper than five feet shall be designated as the "swimming" area. In designing pools and computing the maximum bathing load for a public or semi-public swimming pool, areas shall be proportioned as follows:

1. 10 square feet of pool surface per bather shall be provided in the "non-swimmer" area.
2. 24 square feet of pool area shall be provided for each swimmer in the "swimming" area.
3. 300 square feet of pool area shall be reserved around each diving board or diving platform. This reserved area shall not be included in determining the "swimming" area.

F. The maximum bathing load for a public or semi-public swimming pool or spa shall not be exceeded.

G. The maximum bathing load for a public swimming pool shall be limited by the number of users for the toilets, showers, lavatories that are provided in the bathhouses or dressing rooms prescribed in Chapter 6 Section 5 Regulation 1.

H. The maximum bathing load for a public or semi-public spa shall not exceed the area of the spa in square feet divided by nine square feet.

I. The maximum bathing load for a public or semi-public swimming pool or spa shall be posted in the pool enclosure.

## REGULATION 2. **Overflow Collection Systems**

An overflow collection system shall be installed in all public pools.

~~aA.~~ The overflow system shall be designed and constructed so that the level of the pool is maintained at the mid point of the operating range of the skimmers.

~~bB.~~ Rim type overflow systems where used shall be installed on at least two opposite sides and have a total length of at least 50 percent of the perimeter of the pool. The system shall be capable of carrying 50 percent of the design capacity of the recirculating system. The surge tank shall be equipped with float controls regulating the main drain, fill line and overflow. It shall have a capacity in gallons equal to the surface area of the pool measured in square feet. The surge tank may be incorporated into the gutter.

~~cC.~~ Overflow gutters, where used, shall be installed continuously around pools with the lip of the gutter level throughout its perimeter. They shall be provided with sufficient opening at the top and width at the bottom to permit easy cleaning. The gutter bottom shall be pitched one-quarter inch per foot to drainage outlets located at intervals as approved by the Department not more than 10 feet apart. Outlet piping shall be sized to circulate at least 50 percent of the capacity of the circulating system and be have a properly installed approved covered by a drain grate. The surge tank shall be equipped with float controls regulating the main drain, fill line and overflow. It shall have a capacity in gallons equal to the surface area of the pool measured in square feet. Stainless steel gutters and other specialty gutter systems may be used if they are hydraulically equivalent to overflow gutters.

~~dD.~~ Skimming devices, where used, shall be recessed into the pool wall and shall be installed to achieve effective skimming action throughout the pool. Skimmers shall be provided on a basis of at least one skimmer for each 400 square feet of surface area. The overflow slot shall be set level and shall not be less than 8 inches in width at the narrowest section. The rate of flow through the skimmers shall be a minimum of 75 percent of the recirculation system capacity. Skimmers shall be designed to carry at least 30 GPM per lineal foot of weir throat. A minimum of two skimmers ~~are is~~ required in swimming pools. ~~Where three or more skimmers are used, they must be on a closed loop piping system. Main drain piping shall be designed to carry a minimum of 50% of the design flow. Where 3 or more surface skimmers are used, they must be on a closed loop piping system. At least one surface skimmer shall be located on the side or near the corner of the swimming pool that is downwind of the area's prevailing winds. Main drain piping shall be designed to carry at least 50 percent of the design flow.~~

~~eE.~~ Mixed inlet types, such as, skimmers and gutters are prohibited on the same body of water.

## REGULATION 3. **Ladders, ~~and~~ Steps, and Recessed Treads**

At least one ~~ladder~~ set of steps shall be provided in the ~~deeper section~~ shallow end of each swimming pool. Where the deep section is greater than 20 feet in width, two ladders, located on opposite sides of the deep section are required. A minimum of two means of egress will be required in all pools. There shall be at least one ladder or stair for each 75 feet of perimeter. Pre-formed step holes and suitable handrails may be substituted for ladders. At least one set of steps shall be provided in the shallow end of each swimming pool.

A. Steps must be permanently marked so as to be clearly visible from above or below the pool surface and shall not project into the pool in a manner which will create a hazard. Steps may be constructed only in the shallow area of a public or semi-pub-

lic swimming pool. All tread surfaces on steps shall have slip-resistant surfaces. Step treads shall have a minimum unobstructed horizontal depth of 10 inches. Risers shall have a maximum uniform height of 12 inches, with the bottom riser height allowed to vary  $\pm$  2 inches from the uniform riser height. The location of stairs, ladders, and recessed treads shall not interfere with racing lanes. A set of steps shall be provided in a public or semi-public spa. Handrails shall be provided at one side or in the center of all stairways. Handrails shall be installed in such a way that they can be removed only with tools. A beach entry may be substituted for steps in the shallow end of the pool.

- B. A swimming pool ladder shall be equipped with two handrails. All treads on ladders shall have slip-resistant surfaces. Ladder treads shall have a minimum horizontal depth of 1 1/2 inches. The distance between ladder treads shall range from a minimum of 7 inches to a maximum of 12 inches. Below the waterline, there shall be a clearance of not more than 6 inches and not less than 3 inches between any ladder tread edge and the wall as measured from the side of the tread closest to the wall.
- C. Recessed treads with handrails may be substituted for ladders. Recessed treads shall be pre-formed, readily cleanable, and designed to drain into the swimming pool or spa to prevent the accumulation of dirt in the recessed treads. Each set of recessed treads shall be equipped with two handrails. All recessed treads shall have slip-resistant surfaces. The vertical distance between the swimming pool or spa coping edge or deck and the uppermost recessed tread shall be a maximum of 12 inches. Recessed treads at the centerline shall have a uniform vertical spacing of 12 inches maximum and 7 inches minimum. Recessed treads shall be at least 5 inches deep and 12 inches wide.

**REGULATION 4. Lighting**

It is the responsibility of the owner to ensure that the pool and a public or semi-public swimming pool or spa and adjacent deck areas shall be lighted by natural or artificial means when in use. A public or semi-public swimming pool or spa that is intended to be used at night shall be equipped with artificial lighting that is designed and spaced so that all parts of the swimming pool or spa, including the bottom, may be seen without glare.

**REGULATION 5. Hose Bibs**

Hose bibs shall be provided along the perimeter of the deck so that all parts of the deck may be reached with a 50-foot hose. Hose bibs shall be protected against back siphonage. Hose bib(s) shall be provided along the perimeter of the deck so that all parts of the deck may be washed down. At a minimum, each hose bib shall be protected against back siphonage with an atmospheric vacuum breaker. The Department may approve quick disconnect style hose bib(s)

**REGULATION 6. Diving Facilities**

- aA. Diving facilities shall be rigidly constructed and properly anchored with sufficient bracing to insure stability. Handrails shall be provided at all steps and leading to diving boards one meter or more above the water. Diving facilities shall be finished with a durable non-slip material maintained free of tears, splinters, or cracks. Dimensions for diving facilities shall conform to those shown in Appendix A. The dimensions of a diving area in a public or semi-public swimming pool shall comply with minimum requirements for length, width, depth, area and other dimensions specified in Appendix A or Appendix B. The diving well profile in Appendix A does not apply to a special use pool that is intended for competitive diving and has been approved by the Department pursuant to Chapter VI Section 10 of this code.
- B. Diving equipment shall be permanently anchored to the swimming pool deck. Equipment shall be rigidly constructed with sufficient bracing to ensure stability. Supports, platforms, steps, and ladders for diving equipment shall be designed to carry anticipated loads.
- C. All diving stands higher than 21 inches, measured from the deck to the top of the board, shall be provided with stairs or a ladder.
- D. Diving equipment shall have a durable finish. The surface finish shall be free of tears, splinters, or cracks that may be a hazard to users.
- E. Steps and ladders leading to diving boards and diving platforms shall be of corrosion-resisting materials and shall have slip-resistant tread surfaces. Step treads shall be self-draining.
- F. Diving boards, diving platforms, and starting blocks shall have slip-resistant tread surfaces.
- G. Handrails shall be provided at all steps and ladders leading to diving boards that are 1 meter or more above the water.
- H. Diving boards and diving platforms that are 1 meter or higher shall be protected with guard rails. Guard rails shall be at least 30 inches above the diving board or diving platform and shall extend to the edge of the swimming pool wall.
- I. A label shall be permanently affixed to a diving board and shall include the following:
  - 1. Manufacturer's name and address;
  - 2. Board length; and
  - 3. Fulcrum setting instructions.
- J. The maximum diving board height over the water is 3 meters. The maximum height of a diving platform over the water is 10 meters.
- K. Starting blocks shall be located in the deep end of a public swimming pool or where the depth of the water is at least 5

feet.

- L. There shall be a completely unobstructed clear vertical distance of 13 feet above any diving board measured from the center of the front end of the board. This clear, unobstructed vertical space shall extend horizontally at least 8 feet behind, 8 feet to each side, and 16 feet ahead of the front end of the board.
- b. ~~Pools constructed prior to the effective date of these regulations which meet the provisions of the 1967 Maricopa County Health Code may continue to operate a diving facility where the diving board's height is less than 30" above the water surface, measured at the board plummet.~~
- e. ~~Diving may be permitted from boards greater than 30" above the water surface on swimming pools which meet standards set forth in the Maricopa County Health Code which became effective on January 1, 1967, under the following conditions:~~
  - 1. ~~The height of the diving board above the water surface shall be limited to a maximum of 10 feet (3 meters).~~
  - 2. ~~The pool must meet the minimum standards for a 3'3" diving board specified in Chapter VI, Bathing Places – Public and Semi-Public Swimming Pools (Effective January 1, 1967). The owner shall submit evidence to the Department that the pool meets these standards.~~
  - 3. ~~Diving must be under the direct supervision of a lifeguard or other responsible party.~~
  - 4. ~~The pool was approved for construction prior to February 11, 1981.~~
  - 5. ~~The pool owners shall provide and maintain on file with Maricopa County a current certificate of public liability insurance evidencing minimum limits of \$71,000,000 combined single limit for bodily injury and property damage liability. The certificate must further clearly indicate that Maricopa County is an additional insured and that no changes or modifications shall be effective in the coverage without 30 days prior notice to the offices of the Maricopa County Health Department., Division of Environmental Services. Department.~~

**REGULATION 7. Lifeguards**

At all public pools at least one Lifeguard shall be on duty for each 2,000 square feet of pool surface area or 150 bathers or as approved by the Department. Lifeguards shall be in constant attendance during bathing hours and no bathers shall be permitted in a pool area unless lifeguards are present.

**REGULATION 8. Lifeguard Chairs**

Each public pool shall have at least one elevated lifeguard chair for each 2,000 square feet of pool surface area or 150 bathers. The chairs must be located close to the deeper portion of the pool and provide a clear, unobstructed view of the pool bottom. If a public swimming pool is provided with more than one lifeguard chair or the width of the public swimming pool is 45 feet or more, then lifeguard chairs shall be located on each side of the public swimming pool.

**REGULATION 9. Lifesaving and Safety Equipment**

Lifesaving and Safety equipment consisting of at least two Coast Guard approved ring buoys, each with 50 feet of 1/4-inch rope attached, and one shepherd's crook mounted on a rigid 16-foot pole shall be provided at each public pool. Public swimming pools shall have lifesaving and safety equipment that is conspicuously and conveniently located and maintained ready for immediate use at all times.

**REGULATION 10. Drinking Water Supply**

Drinking water from an approved source and dispensed through one or more approved sanitary drinking fountains shall be located on the deck of each public pools or spa.

**REGULATION 11. Fencing**

All public pools, spas and walkways adjacent to such pools shall be enclosed by a durable fence or wall at least 6 feet high to provide bather control while the pool is in operation, ~~exclude animals~~, and to prohibit any person from using the pool except when a lifeguard is on duty. The height of the fence, wall, or barrier shall be measured on the side of the barrier which faces away from the swimming pool or spa. Fences, walls or artificial barriers shall:

- ~~aA.~~ Be constructed so as to afford no external handholds or footholds;
- bB. Be of materials which are impenetrable by small children, dogs, livestock, etc.;
- eC. Be a minimum of six-foot high above the highest practical foothold, curb, or (in the case of a combination fence) the base wall;
- dD. Have openings or spacings of such size that a spherical object 4 inches in diameter cannot pass through; and
- eE. Be equipped with a gate that opens outward from the swimming pool or spa, with a self-closing and positive self-latching closure mechanism or a locking closure located at or near the top of the gate and at least 54 inches above the floor.
- F. The distance between the horizontal components of a fence shall not be less than 45 inches apart. The horizontal members shall be located on the interior side of the fence. Spacing or openings between vertical members shall be of a size that a spherical object 4 inches in diameter cannot pass through.

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- G. The maximum standard mesh (square) size for a wire mesh or chain link fence shall be a 1.25 inches (measured diagonally 1.76 inches).
- H. Masonry or stone walls shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
- I. If a wall of a building serves as part of the barrier around a public or semi-public swimming pool or spa, there shall be no direct access to the swimming pool or spa through the wall except as follows:
  - 1. Windows leading to the swimming pool or spa area shall be equipped with a screwed-in place wire mesh screen or a keyed lock that prevents opening the window more than 4 inches.
  - 2. A hinged door leading to the swimming pool or spa area shall be self-closing and shall have a positive self-latching device. The release mechanism of the positive self-latching device shall be located at least 54 inches above the floor.
  - 3. If an additional set of doors is required by the fire code allowing access to the swimming pool or spa, they shall be self-closing and self-latching, equipped with panic bars no less than 54 inches from the floor to the bottom of the bar and designated "for emergency use only."
  - 4. Sliding doors leading to the swimming pool or spa area are prohibited except for sliding doors that are self-closing and self-latching.
- J. If a barrier is composed of a combination concrete masonry unit and wrought iron, the wrought iron portion shall be installed flush with the outside vertical surface of the concrete masonry unit. The space between the wrought iron and the concrete masonry unit shall be 1/2 inch or less. The vertical members of the wrought iron shall be spaced 4 inches on center.
- K. An area clear of any type of footholds which could be used to assist in scaling the barrier must be maintained for a minimum of 3 feet outside the barrier and so that the effective height of the barrier is maintained.
- L. In addition, the mechanical filtering, disinfection and recirculating equipment must be protected from tampering by a suitable enclosure or fence.

**REGULATION 12. Lifeline**

A lifeline shall be installed across each public swimming pool at the point where the floor slope begins to exceed 1 foot in 10 feet whenever the pool is open for use by the general public. The lifeline shall be 3/4-inch minimum diameter and supported by floats spaced at intervals not greater than 7 feet. The rope and float line shall be securely fastened to wall anchors that are made of corrosion-resistant materials. The wall anchors shall be recessed or have no projection that constitutes a hazard when the float line is removed.

**REGULATION 13. Waste Water Disposal**

All sewage from plumbing fixtures, including urinals, toilets, lavatories, showers, drinking fountains, floor drains and other sanitary facilities shall be disposed of in a sanitary manner. The backwash from filters and wasted pool water may be disposed of, in whole or in part, by other approved means. The method of disposal shall comply with applicable disposal requirements established by a municipal, or other local authority. There shall be no direct physical connection between the sewer system and any drain from the pool or recirculation system.

**REGULATION 14. Miscellaneous**

aA. Walkways shall be provided adjacent to the pool and shall:

- 1. Be at least 10 feet wide, continuous and unobstructed except that where diving boards and platforms are installed the walkway shall extend at least 5 feet to each side and behind the board or platform but not less than 15 feet from the pool wall;
- 2. Slope away from the pool with a pitch of at least 1/4 inch per foot to properly located deck drains or other approved points of disposal;
- 3. Walkways shall be constructed of concrete or other inorganic material, with a slip-resistant, easily cleanable non-slip finish, free of sharp or jagged edges or surfaces;
- 4. ~~Design of walkways shall~~ Be designed to conform to the dimensions shown in Appendix A, as applicable;
- 5. Have valves that are installed, in or under any deck, to provide a minimum 10-inch diameter access cover and a valve pit to facilitate the repair and maintenance of the valve;
- 6. Have joints in decks that are provided to minimize the potential for cracks due to changes in elevations or movement of the slab. The maximum voids between adjoining concrete slabs or between concrete slabs and expansion joint material shall be 3/16 inch of horizontal clearance with a maximum difference in vertical elevation of 1/4 inch. Areas where the deck joins concrete shall be protected by expansion joints to protect the swimming pool or spa from the pressures of relative movements. Construction joints where pool or spa coping meets the deck shall be watertight and shall not allow water to pass through to the underlying ground;
- 7. Have decks that are sloped to effectively drain either to perimeter areas or to deck drains. Drainage shall remove splash water, deck cleaning water, and rainwater without leaving standing water. The minimum slope of the deck

shall be 1/4 inch per 1 foot. The maximum slope of the deck shall be 1 inch per 1 foot, except for ramps:

8. Provide site drainage to direct all perimeter deck drainage and general site and roof drainage away from a public or semi-public swimming pool or spa. Yard drains may be required to prevent the accumulation or puddling of water in the general area of the deck and related improvements; and
9. Have a coping or cantilevered deck that may project from a swimming pool or spa wall to provide a handhold for users. The coping or deck shall be rounded, have a slip-resistant surface finish, and shall not exceed 3 1/2 inches in thickness. The overhang of the coping or deck shall not exceed 2 inches or be less than 1 inch.

bB. Freeboard ~~may~~ shall not exceed 8 inches.

## SECTION 7

### SEMI-PUBLIC SWIMMING POOLS

In addition to complying with all the Regulations in Sections 1, 2, 3, 4, 5 and Section 6, Regulations 1, 2, 3, 4, 5, and 6 of this Chapter, semi-public swimming pools shall comply with the following Regulations:

#### REGULATION 1. Lifesaving and Safety Equipment

Lifesaving and safety equipment consisting of at least one Coast Guard approved ring buoy with 50 feet of 1/4-inch rope attached, and one shepherd's crook mounted on a rigid 16-foot pole shall be provided at each semi-public pool. Semi-public swimming pools shall have lifesaving and safety equipment that is conspicuously and conveniently located and maintained ready for immediate use at each pool at all times.

#### REGULATION 2. Fencing

A. Semi-public swimming pools, spas, and bathing places shall be protected by a fence, wall or other approved barrier at least 5 feet high from all parts of the premises not directly related to the swimming pool, spa or bathing place. The height of the fence, wall, or barrier shall be measured on the side of the barrier which faces away from the swimming pool or spa. An area clear of any type of footholds, which could be used to assist in scaling the barrier, must be maintained for a minimum of 3 feet outside the barrier so that the effective height of the barrier is maintained. Fences, walls or artificial barriers shall:

1. Be constructed so as to afford no external handholds or footholds;
2. Be of materials, which are impenetrable by small children, dogs, livestock, etc.;
3. ~~Be of four (4) foot minimum height.~~ Have openings or spacings of such size that a spherical object four (4) inches in diameter cannot pass through;
4. ~~Be equipped with a self-closing and positive self-latching closure mechanism located at or near the top of the gate. Be equipped with a gate that opens outward from the swimming pool or spa, with a self-closing and positive, self-latching closure mechanism at least 54 inches above the floor;~~
5. Have openings or spacings of such size that a spherical object four (4) inches in diameter cannot pass through. The distance between the horizontal components of a fence shall not be less than 45 inches apart. The horizontal members shall be located on the interior side of the fence;
6. The maximum mesh size for a wire mesh or chain link fence shall be 1.25 inches square, and
7. Masonry or stone walls shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints;
8. If a wall of a building serves as part of the barrier around a semi-public swimming pool or spa, there shall be no direct access to the swimming pool or spa through the wall except as follows:
  - a. Windows leading to the swimming pool or spa area shall be locked, preventing opening the window more than 4 inches;
  - b. A hinged door leading to the swimming pool or spa area shall open outward from the swimming pool or spa, be self-closing and shall have a positive, self-latching device. The release mechanism of the self-latching device shall be located at least 54 inches above the floor.
  - c. If an additional set of doors is required by the fire code allowing access to the swimming pool or spa area, they shall be self-closing and positive self-latching, equipped with panic bars no less than 54 inches from the floor to the bottom of the bar, or equipped with non-disarmable alarms if fire codes require panic bar heights lower than 54 inches, and designated "for emergency use only".
  - d. Sliding doors leading to the swimming pool or spa area are prohibited except for sliding doors that are self-closing and self-latching with the release mechanism of the self-latching device located at least 54 inches above the floor; and
9. If a barrier is composed of a combination concrete masonry unit and wrought-iron, the wrought iron portion shall be installed flush with the outside vertical surface of the concrete masonry unit. The space between the wrought iron and the concrete masonry unit shall be 1/2 inch or less. The vertical members of the wrought iron shall be spaced 4 inches on center.

B. The pool enclosure shall not serve as or function as all or part of a residential fence.

- C. In addition, the mechanical filtering, disinfection and recirculation equipment must be protected from tampering by an enclosure or fence as described in this Section, Regulation 2(A). A locked closure can be provided in lieu of a self-closing and positive self-latching closure.

**REGULATION 3. Walkways**

- A. Walkways shall be provided immediately adjacent to semi-public pools. ~~and~~ Walkways shall be continuous, unobstructed and at least 4 feet wide. Except that where diving boards and platforms are installed, the walkway shall extend at least 4 feet to each side and behind the board or platform.
- B. Walkways shall slope away from the pool with a pitch of at least 1/4 inch per foot to properly located deck drains or other approved points of disposal.
- C. Walkways shall be constructed of concrete or other inorganic material, with a slip-resistant, easily cleanable non-slip finish, free of sharp or jagged edges or surfaces.
- D. Design of walkways shall conform to the dimensions shown in Appendix A, as applicable.
- E. Any valve that is installed in or under any deck shall provide a minimum 10-inch diameter access cover and a valve pit to facilitate the repair and maintenance of the valve.
- F. Joints in decks shall be provided to minimize the potential for cracks due to changes in elevations or movement of the slab. The maximum voids between adjoining concrete slabs or between concrete slabs and expansion joint material shall be 3/16 inch of horizontal clearance with a maximum difference in vertical elevation of 1/4 inch. Areas where the deck joins concrete shall be protected by expansion joints to protect the swimming pool or spa from the pressures of relative movements. Construction joints where pool or spa coping meets the deck shall be watertight and shall not allow water to pass through to the underlying ground.
- G. Decks shall be sloped to effectively drain either to perimeter areas or to deck drains. Drainage shall remove splash water, deck cleaning water, and rain water without leaving standing water. The minimum slope of the deck shall be 1/4 inch per 1 foot. The maximum slope of the deck shall be 1 inch per 1 foot, except for ramps.
- H. Site drainage shall be provided to direct all perimeter deck drainage and general site and roof drainage away from a public or semi-public swimming pool or spa. Yard drains may be required to prevent the accumulation or puddling of water in the general area of the deck and related improvements.

**REGULATION 4. Floor Slope**

In water less than five feet in depth, the slope shall not exceed 1 foot in 10 feet.-

**REGULATION 5. Bathhouses and Dressing Room Facilities**

A bathroom with a minimum of one toilet shall be provided for each sex. Each bathroom shall have at least one lavatory. Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory. Soap dispensers shall be made of metal or plastic with no glass permitted. Establishments operating semi-public pools, that provide clean and sanitary private rooms, including toilet, body washing and drinking water for all bathers shall be deemed to have complied with Section 5, Regulation 1.

**REGULATION 6. Depth**

Except for zero depth entries, the depth in the shallow portion of the pool shall not be less than 2' 0" or greater than 3' 0".

**REGULATION 7. Freeboard**

Freeboard ~~may~~ shall not exceed 8 inches, except, freeboard may be increased in those cases where it is desired to provide walls, terraces, etc., provided that the following are complied with:

- ~~1~~A. Guard rails or other similar devices must be provided to prevent the raised areas use as a diving platform;
- ~~2~~B. The vertical surface of these sections must be constructed of sound durable inorganic material, rigid, smooth, and easily cleanable;
- ~~3~~C. The horizontal surfaces must comply with the provisions for walkways;
- ~~4~~D. The vertical surface area of these sections will be included as surface area of the pool for determining the type, size, location and numbers of equipment and piping; and
- ~~5~~E. The length and height of the section where freeboard is increased shall be limited. The Department will review ~~pass on~~ each case as unique, and consideration will be given to factors of safety, exit distance, alternative exits, location, and water depth.

SECTION 8

WADING POOLS

In addition to complying with the Regulations in Sections 1, 2, 3, 4, 5, 7 and Section 6, Regulations 1, 2, 3, 4, and 5 of this Chapter, owners or operators of wading Pools shall comply with the following regulations:

**REGULATION 1. Public**

- A. In public bathing places, wading pools shall be separated from swimming pools by a minimum four-foot high fence or partition with self-closing, self-latching gate to prevent the direct entrance of waders into the swimming pool area.
- B. Public wading pools shall be equipped with chemical controllers and chart recorders capable of maintaining pH and chlorine levels within the regulated limits.

**REGULATION 2. Semi-public**

Wading pools shall be separated from semi-public swimming pools by a minimum of 4 feet of walkway. A wading pool shall not be located adjacent to the deep area of a semi-public swimming pool.

**REGULATION 3. Depth**

Wading pools shall have a maximum depth of 20 inches, the slope of the bottom shall not exceed 1 foot in 12 feet, and a non-slip surface shall be provided.

**REGULATION 4. Circulation**

- A. Wading pools shall have a maximum turnover cycle of 1 hour;
- B. All wading pools must have separate equipment from any other pool for water recirculation and disinfection and there shall be no cross-connection between a wading pool and any other pool;
- C. A main drain waste outlet shall be provided at the deepest point in a wading pool. Wading pools shall be equipped with at least two main drains located in the deepest portion that are separated by a minimum of 3 feet. Suction outlets in a wading pool shall have plumbing provisions be plumbed so as to relieve eliminate any possibility of entrapping suction. Each drain shall be covered by an anti-vortex cover or grating, which is not readily removable by bathers and has safe openings of at least four times the area of the drainpipe.
- D. Skimmers shall be provided on the basis of at least one skimmer for each 200 square feet of wading pool surface area. Skimmer flow rates shall be the same as required for swimming pools. Where only one skimmer is provided, the main drain may be connected through the skimmer;
- E. Inlets shall be provided on a basis of at least 1 for each 15 feet of periphery. Where three or more inlets are required, they shall be on a closed loop piping system. Gaseous chlorine shall not be used for disinfection of wading pool water.

**REGULATION 5. Drinking Fountains**

A sanitary drinking fountain at a height convenient to small children shall be provided at one side or end of the area. Alternately, a fountain with a raised step, to enable small children to drink without assistance, may be provided.

**REGULATION 6. Depth Markers**

A wading pool shall be equipped with depth markers complying with Chapter 6, Section 6, Regulation 1, of this code.

**REGULATION 7. Disinfection**

Gaseous chlorine shall not be used for disinfection of water in wading pools.

SECTION 9

**HYDROTHERAPY POOLS SPAS**

In addition to complying with the Regulations in Sections 1, 2, 3, 4, 5, 7 and all the Regulations in Section 6 (except Regulations 7 and 8) of this chapter, hydrotherapy swimming pools spas shall comply with the following Regulations:

**REGULATION 1. Depth**

Spas Hydrotherapy pools shall have a maximum depth of 42 inches. The bottom shall have a maximum slope of ~~one~~ 1-foot in 10 feet and be finished with a non-slip surface. A set of entrance steps and handrails shall be installed. All steps, benches or other projections from the walls shall be outlined on the top surface edges by a continuous line of ~~dark~~ sharply contrasting colored tile or other suitable material that is clearly visible from the edge of the pool.

**REGULATION 2. Circulation**

~~Spas hydrotherapy pools~~ shall have a maximum turnover cycle of ~~one hour~~. 30 minutes. A separate water recirculation and disinfection system from any other pool or spa shall be installed for ~~hydrotherapy pools spas~~. Therapy heads or other devices, which create roiling water or other similar effects, may not be connected to the recirculation system, but must be operated through a separate system. ~~A waste outlet~~ Dual main drains shall be provided. Skimmers shall be provided at the rate of one skimmer for each 200 square feet of pool surface. Skimmer flow rates shall be the same as required for swimming pools. Where only one skimmer is provided, the main drains may be connected through the skimmer. Inlets shall be provided on a basis of at least ~~one~~ 1 for each 15 feet of pool periphery. Where three or more inlets are required they shall be on a closed loop piping system.

**REGULATION 3. Walkways**

A minimum of 4 feet of deck shall be provided on at least two contiguous sides of the pool and 50 percent of the periphery. When applicable, the remaining deck shall not be more than 8 inches in width and shall be designed to preclude its use as a walkway.

**REGULATION 4. Drains**

A minimum of two suction outlets shall be provided for each pump in a suction outlet system for a public or semi-public or spa. The suction outlets shall be separated by a minimum of 3 feet or located on two different planes such as one suction outlet on the bottom and one on a vertical wall or one suction outlet each on two separate vertical walls provided the three foot separation is always maintained. The suction outlets shall be plumbed to draw water through them simultaneously through a common line to the pump. Suction outlets shall be plumbed to eliminate the possibility of entrapping suction. All drains and outlets of hydrotherapy pools spas must have plumbing provisions so as to relieve eliminate any possibility of entrapping suction. The total velocity through grate openings shall not exceed  $\geq 1\ 1/2$  feet per second.

**REGULATION 5. Disinfection**

Gaseous chlorine shall not be used for the disinfection of ~~hydrotherapy pools spas~~.

**REGULATION 6. Separation Walls**

Where a ~~hydrotherapy pool spa~~ is located contiguous with a swimming pool, the separating wall shall be designed to preclude its use as a walkway unless the minimum required walkway widths can be maintained.

**REGULATION 7. Temperature**

The temperature of heated water coming into a public or semi-public spa shall not exceed 104°F.

**REGULATION 8. Timer**

The timer for a public or semi-public spa which controls the hydrotherapy jets shall be located at least 5 feet from the spa and shall have a maximum time limit of 15 minutes.

**REGULATION 9. Air Blower And Air Induction Systems**

An air blower system or air induction system for a public or semi-public spa shall comply with the following requirements:

- A. The system shall prevent water backflow which could cause an electrical shock hazard;
- B. Air intake sources shall not introduce water, dirt, or contaminants into the spa;
- C. The system shall be properly sized for a commercial spa application;
- D. If the air blower is installed within an enclosure or indoors, then adequate ventilation shall be provided; and
- E. Integral air passages shall be pressure tested and shall provide structural integrity to a value of 1 1/2 times the intended working pressure.

**REGULATION 10. Depth Markers**

Depth markers for a public or semi-public spa shall comply with all of the following:

- A. A public or semi-public spa shall have permanent depth markers with numbers that are a minimum of 4 inches high. Depth markers shall be plainly and conspicuously visible from all points of entry.
- B. The maximum depth of a public or semi-public spa shall be clearly indicated by depth markers.
- C. There shall be a minimum of two depth markers at each public or semi-public spa.
- D. Depth markers shall be spaced at no more than 25-foot intervals and shall be uniformly located around the perimeter of the spa.

- E. Depth markers shall be positioned on the deck within 18 inches of the side of the spa. A depth marker shall be positioned so that a person standing on the deck facing the water can read it.
- F. Depth markers that are on deck surfaces shall be made of slip-resistant material.
- G. Depth markers shall be in Arabic numerals of contrasting color to the background.

## SECTION 10

### SPECIAL USE POOLS

In addition to complying with the Regulations in Sections 1, 2, 3, 4, and 5 of this Chapter, special use pools shall comply with the following regulations:

#### **REGULATION 1. Supplemental Standards and Requirements**

Persons intending to construct a special use pool shall notify the Department and provide plans, specifications and a description of the intended use. The Department will determine which of the Regulations in this Chapter apply to the proposed special use pool. The Department may, at its discretion, establish additional standards or requirements for special use pools, taking into consideration the intended use of the pool, the conditions under which it will be operated and any special circumstances. Where applicable, the Department may consider the design requirements prescribed by an official sanctioning athletic body such as the National Collegiate Athletic Association (NCAA), National Federation of State High School Associations (NFSHSA), U.S. Swimming, U.S. Diving, or the Federation Internationale de Natation Amateur (FINA) in using best professional judgment to approve a special use pool that is intended for competitive swimming and diving.

#### **REGULATION 2. Alternate Design**

Where an alternate design for a bathing place or any part thereof is proposed, which complies in principle with the provisions of this ~~Sanitary~~ code, such design may be approved by the Department.

#### **REGULATION 3. Exercise or Training Bars**

- ~~a~~A. A swimming pool designed with exercise or training bars in the pool shall be restricted to special use when the bars are located in the pool.
- ~~b~~B. Bars shall be constructed of durable material and be reasonably resistant to corrosion under conditions of operations.
- ~~c~~C. Bars shall be sealed, welded shut or capped at both ends to prevent retention of water within the bars.
- ~~d~~D. Bars may be removable. The bars then shall be wedge anchored in place with a cover plate provided. Watertight anchor plugs (95% ~~percent~~ efficiency) shall be provided when the bars have been removed.
- ~~e~~E. Bars shall extend not more than ~~four~~ 4 inches from the side of the pool into the water.
- ~~f~~F. The ~~minimum~~ clear opening from the inside of the bar to the side of the pool shall not be less than 2 inches or more than 2 1/4 inches.

#### **REGULATION 4. Ramps**

Where a ramp is to be installed in a swimming pool, the ramp shall be constructed:

- ~~a~~A. Of non-slip material;
- ~~b~~B. With a slope not to exceed 1 foot in ~~ten (10)~~ 12 feet;
- ~~c~~C. With a width of at least 3 feet;
- ~~d~~D. With a level platform at the top and bottom of the ramp;
- ~~e~~E. With at least a 3 1/2-foot high guardrail installed on the deck from 8 inches beyond where the slope for the ramp terminates and extending the length of the ramp; and
- ~~f~~F. With return(s) to be located on the pool and ramp walls along the length of the ramp.

#### **REGULATION 5. Spray ponds**

- A. Spray ponds (semi-public and public) shall comply with code references specified in A, B and C of this Regulation.
  - 1. Semi-public spray pond regulation stipulated under Chapter VI, Sections 1 through 5 and 7.
  - 2. Public spray pond regulation stipulated under Chapter VI, Sections 1 through 6.
- B. Spray ponds in which water is recycled shall be regulated as a special use pool (Chapter VI, Section 10).
- C. Spray ponds shall:
  - 1. Be made of durable material that is impervious to moisture and retains a non-slip texture that causes no discomfort to bare feet;
  - 2. Be completely free of obstructions that may be hazardous to children;
  - 3. Have a floor with a maximum slope of 1 in 10;
  - 4. Be entirely surrounded by a walkway at least 4 feet wide, which falls away from the pool or basin edge at a uniform

- slope of not less than 1/4 inch per foot;
5. Have a fence or other barrier with controlled access surrounding the spray pond and walkways to prevent the easy access of non-users and pets; and
  6. Have a turnover time of no more than one hour.

## SECTION 11

### NATURAL AND SEMIARTIFICIAL BATHING PLACES

#### REGULATION 1. Water Quality

- ~~aA.~~ Approval of natural and semiartificial bathing places will be based upon the results of a sanitary survey of the drainage area and the results of examination of bacteriological, chemical and physical quality of the water in the proposed bathing area.
- ~~bB.~~ The water shall be considered acceptable for bathing purposes, from a bacterial standpoint, when the average MPN of coliform organisms of a representative number of samples is not greater than 1,000 per 100 ml. An operator of a public or semi-public natural bathing place, a semi-artificial bathing place, or an artificial lake shall ensure that the public or semi-public natural bathing place, semi-artificial bathing place, or artificial lake meets the narrative and numeric water quality standards in 18 A.A.C. 11, Article 1 when the public or semi-public natural bathing place, semiartificial bathing place, or artificial lake is open for water contact recreation.
- eC. A bathing place shall be located so that it will not be adversely affected by the discharge of sewage, reclaimed wastewater or objectionable industrial wastes; nor shall it be so located that by its use it will affect the source of supply of a public supply water system.

#### REGULATION 2. Bathhouse

The provisions of Regulation 1, Section 5, shall apply to all natural and semiartificial bathing places, except that hot water for all showers and lavatories may not be required.

## SECTION 12

### ARTIFICIAL BATHING LAKE

In addition to complying with the Regulations in Sections 1 and 5 of this Chapter, artificial bathing lakes shall comply with the following Regulations:

#### REGULATION 1. General Health and Safety Requirements

The design, construction, operation and maintenance of artificial bathing lakes shall be such as to reduce to a minimum the risks of drowning, injury and transmission of disease.

- ~~aA.~~ The facilities operation shall be under the close supervision of the owner or his designated representative.
- ~~bB.~~ The operator(s) shall perform tests or have tests performed by a certified laboratory to show the degree of compliance with these regulations and shall record the results of the tests in the daily operation record. Such records shall be maintained on the premises and made available to the Department upon request. They shall include as a minimum.
1. pH - once daily
  2. Bacteriological results - weekly
  3. Turbidity, as measured by Secchi disk - once daily
  4. Temperature - once daily
- eC. Persons with sore or inflamed eyes, colds, nasal or ear discharges, boils or other acute or obvious skin or body infections, or cuts shall be excluded from the artificial bathing lake. No person in or at an artificial bathing lake shall commit, or be permitted to commit, any act prejudicial to the life or health of any other person using the artificial bathing lake. Domestic animals shall be excluded from the bathing area(s).

#### REGULATION 2. Water Quality - Hazard Control

The waters and environs of all bathing area(s) shall be kept free of slime, algae, aquatic growths, organic sediments, debris and other offensive materials. The breeding of mosquitoes, midges, water snails, and other aquatic pests shall be properly controlled.

- ~~aA.~~ The water shall, at all times, be such that there is no irritation to the eyes or the skin of the bathers, nor other objectionable physiological effects to the bathers. Water in the artificial bathing lake shall have a pH of not less than six point eight (6.8) or more than eight point four (8.4).
- ~~bB.~~ The water shall be considered acceptable for bathing purposes, from a bacterial standpoint, when the average MPN of coliform organisms is not greater than 1,000 per 100 ml. Operators of a public or semi-public natural bathing place, a semiartificial bathing place, or an artificial lake shall ensure that the public or semi-public natural bathing place, semi-arti-

ificial bathing place, or artificial lake meets the narrative and numeric water quality standards in 18 A.A.C. 11, Article 1 when the public or semi-public natural bathing place, semi-artificial bathing place, or artificial lake is open for water contact recreation. Operators shall collect one sample per acre in the bathing area and one sample per 10 acres of overall lake surfaces. Samples shall be collected and examined in accordance with the procedures outlined in the latest edition of "Standard Methods for the Examination of Water and Wastewater." The owner shall collect and submit weekly water samples for bacteriological examination on a routine basis while the bathing area is in active use.

- eC. An artificial bathing lake shall be located so that it will not be adversely affected by the discharge of sewage or objectionable industrial wastes; nor shall it be so located that by its use it will affect the source of supply of a public supply water system.
- dD. Water used in an artificial bathing lake must be obtained from a certified public water supply or an approved source. Treated sewage effluent is not an approved source.
- eE. Water clarity shall be maintained free of turbidity and shall be sufficiently clear such that a Secchi disk is visible at a depth of 5 feet from the side of a boat in the designated swimming area.
- fF. When the bacteriological, pH or water clarity standards are not met, water contact recreation shall be halted and shall not commence until written approval is obtained from the Department.

**REGULATION 3. Approval of Plans and Construction Required**

- aA. No artificial bathing lake shall be constructed, nor shall any bathing lake now or hereafter existing be materially altered or enlarged before complete plans and specifications, together with such further information as the Department may require, has been submitted to and received the written approval of the Department.
- bB. Approval of artificial bathing lakes will be based upon the results of a sanitary survey of the drainage area and results of examination of bacteriological, chemical and physical quality of the water in the proposed bathing area. General construction plans submitted to this Department shall include, but are not limited to, the following:
  - 1. A sanitary survey of the area's watershed.
  - 2. The water circulation and dilution patterns.
  - 3. A description of the proposed activities; and
  - 4. Grading and drainage plans.
  - 5. Every proposed operation shall be adequately considered by a detailed study to anticipate all potential hazards of a mechanical, chemical, microbiological and other relevant dangers.
- eC. An application or approval of any proposed artificial bathing lake shall be made to the Department by the owner on forms furnished by the Department. Such application for approval shall accompany the plans and specifications at the time of submission to the Department for review.
- dD. If any additional construction or modification of the facility shall be required, plans and specifications of the proposed facility shall be submitted for approval as required in Regulation 3.B.
- eE. Plans and specifications shall be submitted to the Department at least ~~15~~ 30 days prior to the date upon which action is desired. Plan documents submitted for approval shall include a general plot plan, plans and specifications showing the shape, dimensions, water treatment and pumping facilities, piping arrangement and sizes, source of water supply, method of disposal of wastes, together with all pertinent data upon which the design is based, including capacities of the various units, safety equipment, and other information necessary to permit a clear and full understanding of the proposed project. Detailed plans of bathhouses, dressing rooms, toilets, recreational and other bathing appurtenances shall be included.
- fF. All plans specifications submitted to the Department for approval must have been prepared by, or under the supervision of, a currently Registered Arizona Professional Engineer who is licensed to practice in the State of Arizona, who shall certify that the plans comply with these Regulations.
- gG. All work shall conform to approved plans and specifications. Should it be necessary or desirable to make any changes in the approved plans and specifications of the proposed work, revised plans and specifications, together with a written statement of the reasons for such change, shall be submitted to the Department for review. Approval must be obtained in writing before the work affected by the change is undertaken.
- hH. The Department will, upon receipt from the applicant of reasonable advance notice of readiness therefore and of the required inspection fees, make necessary inspections to determine that the artificial bathing lake is in compliance with these Regulations. It shall be deemed acceptable only after examination and issuance of written approval by the Department.
- iI. Before initial approval shall be given for the operation of an artificial bathing lake, the currently registered engineer shall certify that the completed bathing lake is constructed in accordance with the approved plans and specifications.

**REGULATION 4. Permit Required**

No artificial bathing lake shall be maintained or operated in Maricopa County without a permit in force issued by the Department. The permit shall be displayed in a conspicuous place on the premises where it may be readily observable by the public.

**REGULATION 5. Standards and Construction**

- aA. Shape: The bathing shorelines shall be formed and maintained in wide curves, shall avoid sharp angles or narrow confined inlets and shall otherwise avoid any design likely to impede circulation, obstruct visibility, or create any public health or safety hazard. A supplemental means of circulation (inflow and outflow of water) shall be provided. Such supplemental circulation methods require approval by the Department.
- bB. No natural or artificial projections may adjoin a bathing area, which would increase the freeboard to more than 8 inches.
- eC. All swimming/wading and similar water contact activities shall be restricted to specified areas which shall be conspicuously marked by bright orange colored buoys delineating the other perimeter of said areas. Such buoys shall be placed at proper intervals not greater than 100 feet, be of such size to be visible at a distance of 100 feet, and be marked with large contrasting colored numerals or signs sufficient to inform users of the water depth at such buoys, and shall otherwise be sufficient to warn users and boaters of the water swimming area limits. The bottom slope of the swimming/wading areas from the shoreline to the five-foot depth shall be not more than one foot vertical in each 12 feet horizontal. Access to swimming, bathing and wading areas shall be controlled.
- dD. Bottom composition: The bottom of the swimming and wading area from the shoreline to the five-foot depth shall be covered with river-run rounded sand particles light in color or other approved light-colored material, and sufficiently thick to prevent abrasion of feet by rocks and to contrast a submerged bather's body against a light-colored background.
- eE. Deep swimming area: Where the depth of the artificial bathing lake exceeds 5 feet a deep swimming area may be provided. This area shall have a relatively smooth bottom and should be free from projections. Diving may be permitted in the deep swimming area provided that:
1. Depth of water is a minimum of 12 feet;
  2. This depth must extend a minimum of 20 feet in front of the end of the board or diving platform;
  3. The diving board or diving platform must be secured to a rigid structure;
  4. A lifeguard must be stationed in the immediate vicinity of the diving area; and
  5. The diving board or diving platform height shall not exceed one 1 meter.
  6. The area shall be conspicuously marked by bright orange colored buoys located at the outer perimeter of said areas. Such buoys shall be placed at proper intervals of not greater than 25 feet and be of such size as to be visible from a distance of 100 feet and marked with large contrasting numerals or signs sufficient to inform users of water depth at such buoys and shall otherwise be sufficient to warn other users and boaters of the diving area limits.
  7. The others shall provide and maintain on file with Maricopa County a current certificate of public liability insurance evidencing minimum limits of ~~\$1,000,000~~ \$7 million combined single limit for bodily injury and property damage liability. The certificate must further clearly indicate that Maricopa County is an additional insured and that no changes or modifications shall be effective in the coverage without 30 days prior notice to the offices of the Maricopa County Health Department, Division of Environmental Services.
  8. Slides and other similar water recreation devices must comply with the standards for diving.
- fF. Artificial bathing lakes, which allow power boats, jet skis, or any other vehicle or device with an internal combustion engine shall prohibit wading, swimming and bathing.
- gG. Water levels in artificial bathing lakes shall be continuously maintained at the design level of plus or minus 6 inches.
- hH. Surface drainage: Except for natural springs and streams, all surrounding surface drainage, such as from streets, gutters, and every other significant source of polluted water from the land surrounding the body of water, shall be properly diverted away from the artificial bathing lake and disposed of in such a manner so as to not create a public nuisance.

**REGULATION 6. Lifeguards**

- A. At least one lifeguard and one elevated lifeguard chair shall be provided for each 2,000 square feet of designated bathing area or 150 bathers as approved by the Department.
- B. A lifeguard safety plan shall be submitted which includes stationing and areas of responsibility. The plan shall include and consideration is given to depth, line of sight, bather loads, training procedures, emergency procedures, lifeguard rotation, and other special conditions, which might affect the safety of the bathers. The plan must ensure the safety of bathers and be on file with the Department.
- C. Lifeguards shall be in constant attendance during bathing hours and no bathers shall be permitted in the designated swimming area(s) unless lifeguards are provided.

**REGULATION 7. Safety Equipment**

Safety equipment shall be provided and maintained and will include, but is not limited to two ring buoys, each with 50 feet of 1/4-inch rope attached and a rescue boat. This boat shall be made available to the Department for physical standard measurements.

**REGULATION 8. Signs**

No person or entity shall allow use of any artificial bathing lake without posting prominent signs indicating, in conspicuous

letters at least 4 inches high, or as directed by the Department, the depth of the water in the bathing area and differentiating the swimming area from other recreational area(s) uses.

Signs shall be posted conspicuously on all access points in conspicuous letters at least 4 inches high, stating "warning, no swimming allowed without a lifeguard on duty" and "swim only" in the designated bathing area(s).

Signs shall be so located or constructed as to be protected from the elements.

**REGULATION 9. Bathhouse**

The provisions of Section 5, Regulation 1 shall apply to all artificial bathing lakes, except that hot water for showers and lavatories will not be required.

**REGULATION 10. Lighting**

It is the responsibility of the owner to ensure that all areas used for water contact recreation are adequately lighted during hours of use.

**SECTION 13**

**WATER SLIDES**

**REGULATION 1. Additional Standards and Requirements**

The Department may, at its discretion, establish additional standards or requirements for water slides and recovery pools, taking into consideration any unique features of the water slide and recovery pool and the conditions under which it will be operated. This section does not cover drop slides, slides with a slope greater than 10 percent or any slide in which the rider uses any kind of equipment during use of the slide.

**REGULATION 2. Construction, Design, and Specifications**

- A. The slide plans and specifications shall be incorporated into swimming pool application forms, plans and specifications prepared and submitted pursuant to Chapter VI, Section 1, Regulation 2 of the Maricopa County Environmental Health Code.
- B. Plan sheets and specifications addressing the structural aspects of the slide tower and the slide support structure shall carry the seal and signature of a registered civil or structural engineer licensed to practice in the state of Arizona.
- C. Structural design calculations for the slide tower and the slide support structure shall be submitted and shall carry the seal and signature of a registered civil or structural engineer licensed to practice in the state of Arizona.
- D. Soil studies and calculations performed in conjunction with the slide tower and support structure design shall carry the seal and signature of a registered professional engineer licensed to practice in the state of Arizona.
- F. Construction of the slide and its appurtenances shall be monitored by the civil or structural engineer of record. This engineer shall certify that the slide was constructed in conformance with the approved plans or as reflected on the sealed as-built plans.
- G. Splashdown area must be cordoned off with buoy lines if not a dedicated slide pool only.
- H. The Department may consider sufficient, sealed design documentation from credentialed waterslide design authorities and/or require a slide splashdown pool to conform to the following dimensions:
  - 1. There shall be at least 6 feet clearance from the side of the flume to the recovery pool side wall.
  - 2. There shall be at least 6 feet clearance between the sides of two adjacent slides.
  - 3. The slide shall terminate at or below the water line and the slide terminus shall be in at least 3 1/2 feet of water.
  - 4. The engineer or the slide manufacturer must provide calculations to justify the length of runout. In no case shall the runout be less than 25 feet.
  - 6. The exit from the recovery pool area must consist of a set of stairs located at the opposite end of the recovery pool from the slide entrance.
  - 7. Four feet of walkway shall be provided around at least three sides of the recovery pool and behind the slide in semi-public pools, and 10 feet of walkway shall be provided around at least three sides of the recovery pool and behind the slide in public pools.
  - 8. There must be at least 4 1/2 feet clearance between the invert of the open flume and any object above the flume.
  - 9. When the slide is not in use, a suitable barrier shall be placed at the bottom of the stairs of the slide to prevent bathers from entering the slide.
  - 10. The area on the deck below the water slide and the stair tower must be fenced and made unavailable to pedestrian traffic.
  - 11. Two emergency shut off switches shall be provided for each slide circulation pump, one easily accessible by the lifeguard at the top of the flume and one easily accessible by the lifeguard in the pool area.
  - 12. A training program for the lifeguards shall also be submitted with slide pool plans for approval.

**REGULATION 3. Lifeguards**

A minimum of two lifeguards shall be on duty at the slide whenever it is in use. One lifeguard at the top of the tower, and one lifeguard at in the splashdown area. The lifeguards shall be in visual or voice contact at all times.

**REGULATION 4. Operation, Maintenance and Management**

An operation and maintenance manual for the slide shall be prepared and submitted for review and approval. The manual shall contain, but not necessarily be limited to all of the following:

1. A list of all mechanical equipment and equipment maintenance schedules.
2. Slide tower and support structure inspection and maintenance schedule.
3. Slide flume inspection and maintenance schedule.
4. Slide safety and supervision provisions, and
5. A lifeguard deployment plan.

**REGULATION 5. INSTRUCTIONS SIGN**

A sign shall be posted at the entrance of the slide tower informing bathers of the necessary safety procedures and informing bathers to follow the instructions of the lifeguard. The sign shall contain the following as a minimum:

- a. Follow the instructions of the lifeguard;
- b. One rider at a time;
- c. Feet first sliding only;
- d. No horseplay;
- e. Exit slide recovery area immediately;
- f. No kneeling or standing on the slide;
- g. Keep hands and feet inside slide;
- h. No riders shorter than 42 inches;
- i. The manufacturers other suggested rules shall be incorporated in the sign; and
- j. Persons not following the safety procedures or the instructions of the lifeguard shall be excluded from the slide.

**SECTION 14**

**ZERO DEPTH ENTRY POOLS**

In addition to complying with the Regulations in Sections 1, 2, 3, 4, and 5 of this Chapter, Zero Depth Entry Pools shall comply with the following Regulations:

**REGULATION 1. Circulation system**

- A. A zero depth entry pool shall have a turnover rate for the area of the pool up to a depth of two feet of at least once every hour.
- B. A zero depth entry pool shall be equipped with a trench drain running the entire length of the entry. It shall be covered with a removable grate to facilitate cleaning. The trench drain shall be located so that the water surface of the pool falls no higher than the middle of the grate. The grate shall be designed to eliminate the possibility of injury to bathers.
- C. There shall be a minimum of two floor inlets, plumbed not more than 15 feet apart and no further than 10 feet from the zero depth entry.

**REGULATION 2. Floor**

- A. At the entry, the deck/floor must slope toward the pool. The slope of the deck may not exceed one foot in twelve.
- B. All floor materials must be non-slip to a minimum depth of two feet.

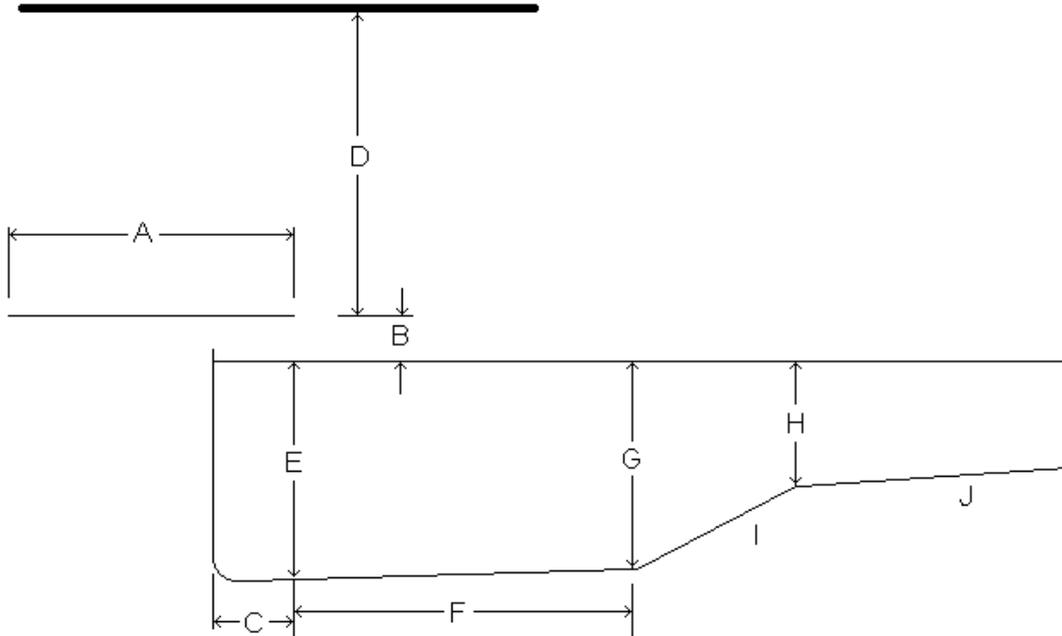
**REGULATION 3. Handrails**

Handrails shall be provided at the ends of the zero depth entry.

**APPENDIX A  
 ILLUSTRATION A**

**DIVING WELL DIMENSIONS FOR SWIMMING POOLS**

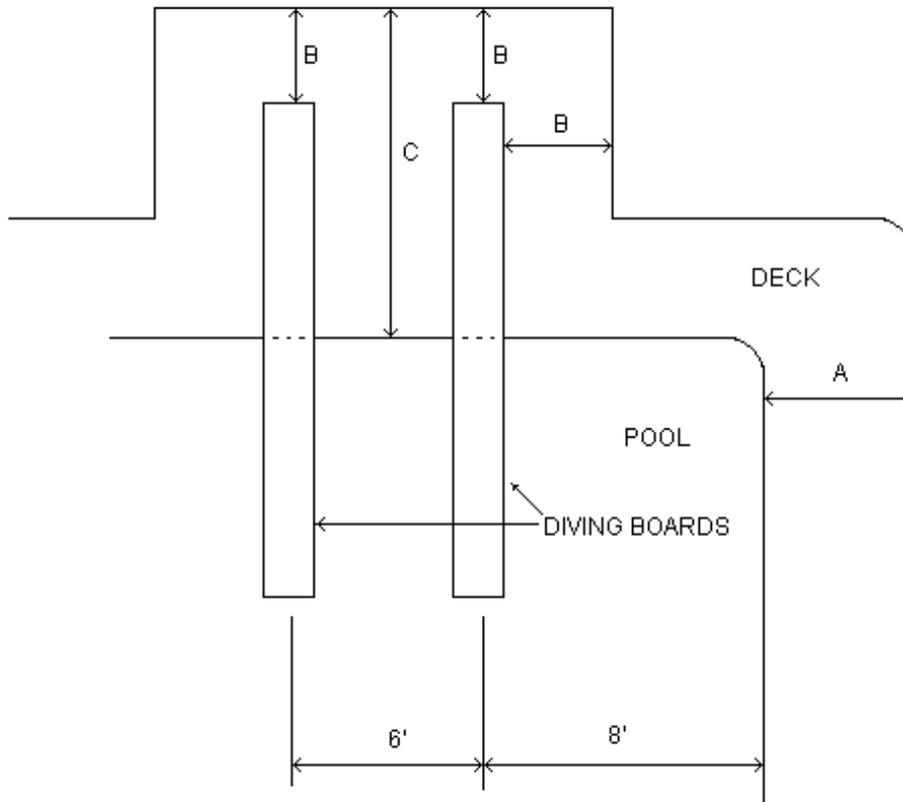
Note: This profile does not apply to a special use pool that is designed for competitive diving.



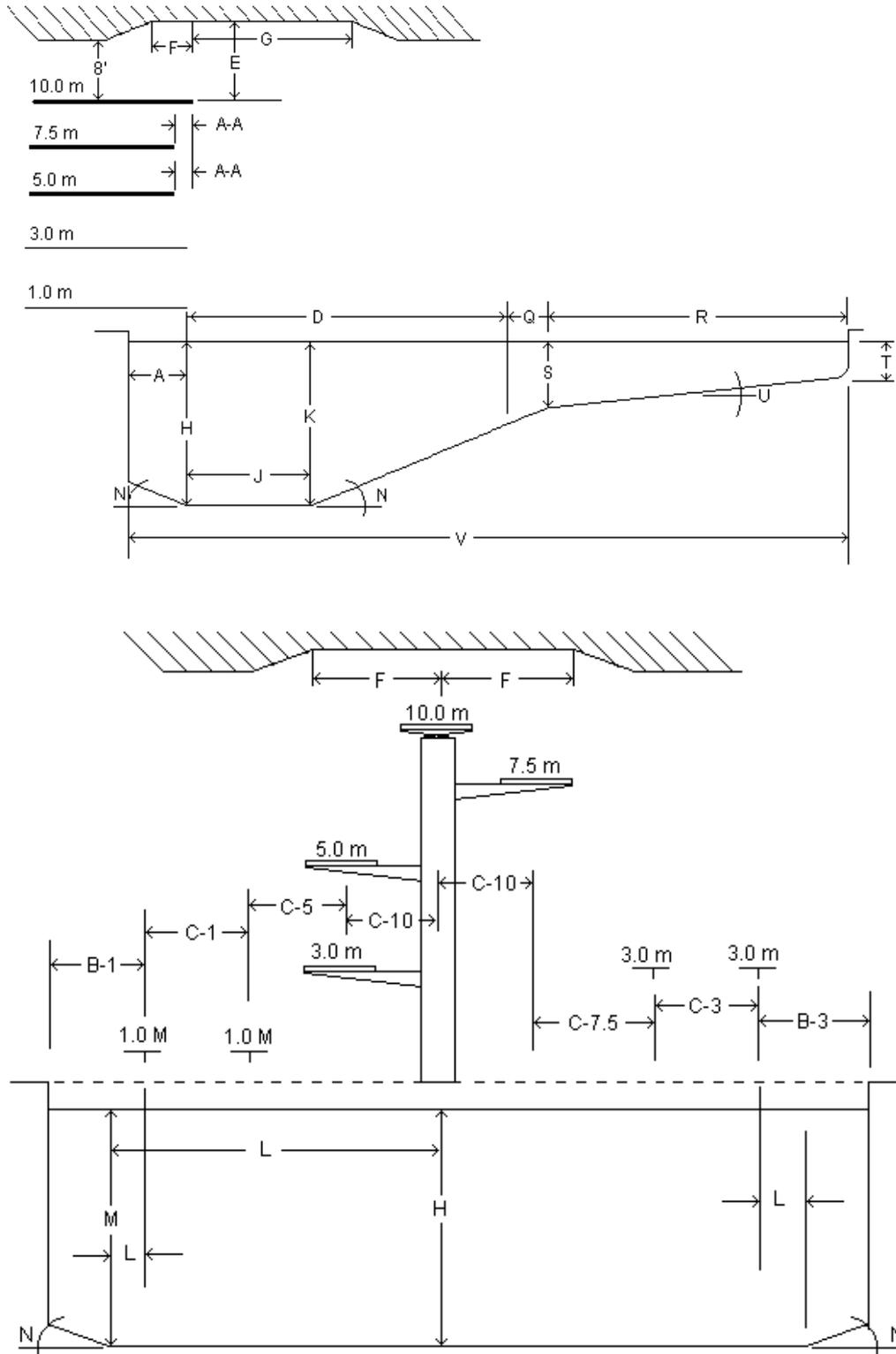
A	Maximum length of diving board	10 feet
B	Maximum height of board above the water	20 inches
C	Overhang of the board from wall	Minimum: 2 feet - Maximum: 3 feet
D	Minimum distance to an overhead structure	15 feet
E	Minimum depth of water at the plummet	9 feet
F	Distance from plummet to start of upslope	18 feet
G	Minimum depth of water at start of the upslope	Depth of water at plummet minus 6 inches
H	Depth of water at the breakpoint	5 feet
I	Maximum slope: breakpoint towards deep end	1 foot of fall in 3 feet
J	Slope of bottom in shallow area	1 foot of fall in 10 feet
	Minimum width of pool in diving area	20 feet
	Minimum distance from plummet to pool wall at the side	10 feet

APPENDIX A  
ILLUSTRATION B  
MINIMUM DISTANCE REQUIREMENTS FOR DIVING BOARDS

	PUBLIC	SEMIPUBLIC
A	10	4
B	5	4
C	15	—



APPENDIX A  
ILLUSTRATION C  
DIVING BOARDS, PUBLIC AND SEMI-PUBLIC POOLS



**APPENDIX A**

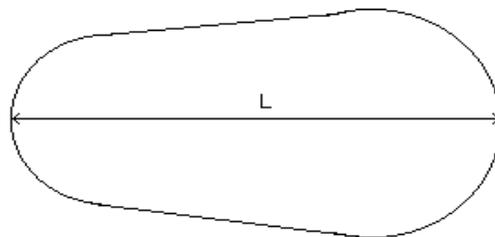
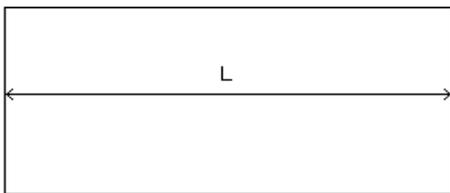
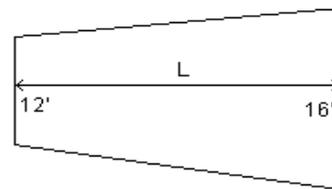
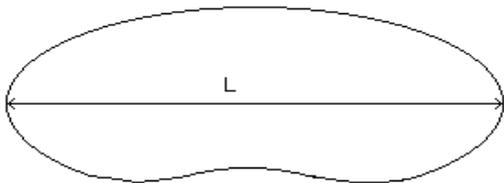
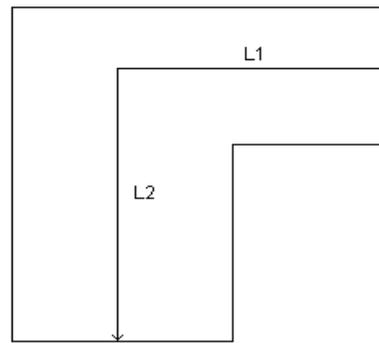
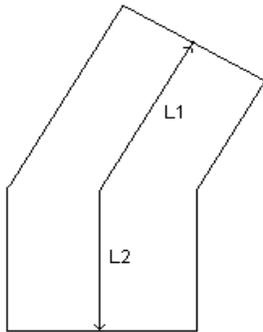
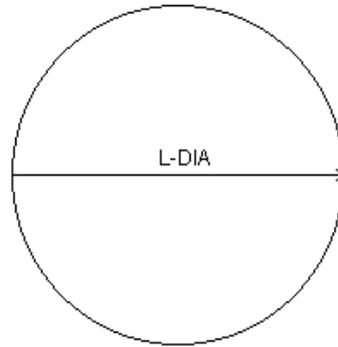
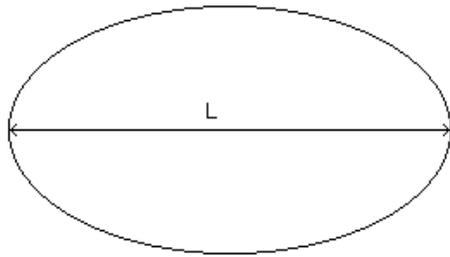
**ILLUSTRATION D**

**DIVING BOARDS, PUBLIC AND SEMI-PUBLIC POOLS**

**MINIMUM DIMENSIONS - PUBLIC POOLS**

		SPRINGBOARD		PLAT FORM				
		1 METER	3 METER	1 METER	3 METER	5 METER	7.5 METER	10 METER
A	From plummet back to pool wall	5'	5'	4'	4'	4'	5'	5'
A-A	From plummet back to platform directly below					2' 6"	2' 6"	2' 6"
B	From plummet to pool wall at side	10'	12'	10'	10'	14'	15'	17'
C	From plummet to adjacent plummet	6'	6'			7'		9'
D	From plummet to pool well ahead	29'	34'	26'	31'	34'	36'	45'
E	Plummet from board to ceiling overhead	16'	16'	10'	10'	10'	10' 6"	11'
F	Clear overhead behind and each side plummet	8'	8'	9'	9'	9'	9'	9'
G	Clear overhead ahead of plummet	16'	16'	16'	16'	16'	16'	16'
H	Depth of water at plummet	11'	12'	11'	11'	12'	13' 6"	15'
J	Bottom distance ahead of plummet	20'	20'	16'	20'	20'	26'	40'
K	Bottom depth ahead of plummet	10' 9"	11' 9"	10' 9"	10' 9"	11' 9"	13'	14'
L	Bottom distance each side of plummet	8'	10' 6"	7'	9'	14'	15'	17'
M	Bottom depth each side of plummet	10' 9"	11' 9"	10' 9"	10' 9"	11' 9"	11' 9"	14'
N	Maximum slope of pool bottom	1:3	1:3	1:3	1:3	1:3	1:3	1:3
P	Maximum slope of ceiling	1:3	1:3	1:3	1:3	1:3	1:3	1:3
R	Shallow portion, 30' max	2' min	3' max					
S	Depth at change of slope	5'	5'	5'	5'	5'	5'	5'
T	Depth at shallow end	2' min 3' max						
U	Slope in shallow end	1:10	1:10	1:10	1:10	1:10	1:10	1:10
V	Total Length (20' shallow end)	62' 3"	65' 3"	57' 3"	61' 3"	64' 3"	75'	92'

APPENDIX B  
AVERAGE WIDTH OF ALL SWIMMING POOLS



**APPENDIX C**

- A. All public pools and walkways adjacent to such pools shall be enclosed by a durable fence or wall at least 6 feet high to provide bather control while the pool is in operation, to exclude animals (except service animals), and to prohibit any person from using the pool except when a lifeguard is on duty. Fences, walls or artificial barriers shall:
  - 1. Be constructed so as to afford no external handholds or footholds;
  - 2. Be of materials, which are impenetrable by small children, dogs, livestock, etc.;
  - 3. Be a minimum of 6 foot high above the highest practical foothold, curb, or (in the case of a combination fence) the base wall;
  - 4. Have openings or spacings of such size that a spherical object 4 inches in diameter cannot pass through;
  - 5. Be equipped with a self-closing and positive self-latching closure mechanism or a locking closure located at or near the top of the gate.
- B. Mechanical filtering, disinfection and recirculating equipment must be protected from tampering by a suitable enclosure or fence.

**APPENDIX D**

- A. All semi-public swimming pools shall be protected by a fence, wall or other approved barrier from all parts of the premises not directly related to the swimming pool. Fences, walls or artificial barriers shall:
  - 1. Be constructed so as to afford no external handholds or footholds.
  - 2. Be of materials which are impenetrable by small children, dogs, livestock, etc.
  - 3. Be of four-foot minimum height.
  - 4. Be equipped with a self-closing and positive self-latching closure mechanism located at or near the top of the gate.
  - 5. Have openings or spacings of such size that a spherical object 4 inches in diameter cannot pass through.
- B. In addition, the mechanical filtering, disinfection and recirculation equipment must be protected from tampering by a suitable enclosure or fence.