641—15.5(135I) Construction and reconstruction. A swimming pool that is constructed or reconstructed shall comply with the following standards. Nothing in these rules exempts swimming pools and associated structures from any applicable federal, state or local laws, rules, or ordinances.

15.5(1) *Construction permit.*

a. Permit required. No swimming pool with a water surface area greater than 500 ft^2 shall be constructed or reconstructed without the owner or a designated representative of the owner first receiving a permit from the department. Construction shall be completed within 24 months from the date the construction permit is issued unless an extension is granted in writing by the department.

NOTE: While plan review and permitting are voluntary for swimming pools with a water surface area of 500 ft^2 or less under this rule, such swimming pools must still comply with all other requirements of this chapter, including but not limited to all other construction and reconstruction requirements under this rule (including notification of completion pursuant to paragraph 15.5(1)*"e"*) and all operational requirements under rule 641—15.4(135I).

b. Permit application. The owner of a proposed or existing facility or a designated representative of the owner shall apply for a construction permit on forms provided by the department.

c. Plan submission and fee. Three sets of plans and specifications shall be submitted with the application, as well as a nonrefundable plan review fee for each swimming pool, leisure river, water slide, wave pool, wading pool, spray pad, zero-depth swimming pool, and multisection water recreation pool as required in 15.12(3).

d. Exception. After receiving a construction permit application, the department may authorize construction on a project to start before issuance of a permit. The authorization will be in writing to the owner or the owner's authorized representative.

e. Notification of completion. The owner of a newly constructed or reconstructed swimming pool, or the owner's designated representative, shall notify the department in writing at least 15 business days prior to opening the swimming pool.

15.5(2) *Plans and specifications.*

a. Plan certification. Plans and specifications shall be sealed and certified in accordance with the rules of the engineering and land surveying examining board or the architectural examining board by an engineer or architect licensed to practice in Iowa. This requirement may be waived by the department if the project is the addition or replacement of a chemical feed system, including a disinfection system, or a simple replacement of a filter or pump or both, or combination thereof.

If the requirement for engineering plans is waived, the owner of the facility assumes full responsibility for ensuring that the reconstruction complies with these rules and with any other applicable federal, state and local laws, rules and ordinances.

b. Content of plans. Plans and specifications submitted shall contain sufficient information to demonstrate to the department that the proposed swimming pool will meet the requirements of this chapter, including but not limited to:

(1) The name and address of the owner and the name, address, and telephone number of the architect or engineer responsible for the plans and specifications. If a swimming pool contractor applies for a construction permit, the name, address, and telephone number of the swimming pool contractor shall be included.

(2) The location of the project by street address or other legal description.

(3) A site plan showing the pool in relation to buildings, streets, water and sewer service, gas service, and electrical service.

(4) Detailed scale drawings of the swimming pool and its appurtenances, including a plan view and cross sections, showing the location of inlets, overflow system components, main drains, the deck and deck drainage, the location and size of pool piping, the swimming pool ladders, stairs and deck equipment, including diving stands and boards, and fencing.

(5) A drawing(s) showing the location, plan, and elevation of filters, pumps, chemical feeders, ventilation devices, heaters, and surge tanks; and additional drawings or schematics showing operating levels, backflow preventers, valves, piping, flow meters, pressure gauges, thermometers, the make-up water connection, and the drainage system for the disposal of filter backwash water.

(6) Plan and elevation drawings of bathhouse facilities including dressing rooms; lockers; showers, toilets and other plumbing fixtures; water supply; drain and vent systems; gas service; water heating equipment; electrical fixtures; and ventilation systems, if provided.

(7) Complete technical specifications for the construction of the swimming pool, for the swimming pool equipment and for the swimming pool appurtenances.

c. Deviation from plans. No deviation from the plans and specifications or conditions of approval may be made without prior written approval of the department.

15.5(3) *General design.*

a. Construction of fill and drain wading pools is prohibited.

b. Materials. Swimming pools shall be constructed of materials that are inert, stable, nontoxic, watertight, and durable.

c. Structural loading.

(1) Swimming pools shall be designed and constructed to withstand the anticipated structural loading for both full and empty conditions.

(2) Except for aboveground swimming pools, a hydrostatic relief valve or a suitable underdrain system shall be provided.

d. The water supplied to a swimming pool shall comply with 15.4(1)*"d."*

e. No part of a swimming pool recirculation system may be directly connected to a sanitary sewer. An air break or an air gap shall be provided.

15.5(4) *Decks.*

a. Deck width. A swimming pool shall be surrounded by a deck. The deck shall be at least 6 ft wide for a swimming pool with a water surface area of 1,500 ft^2 or greater, and 4 ft wide for a smaller swimming pool, and extend at least 4 ft beyond the diving stands, lifeguard chairs, swimming pool slides, or any other deck equipment.

b. Materials. Decks shall be constructed of stable, nontoxic, durable, and impervious materials and shall be provided with a slip-resistant surface.

c. Deck coverings. Porous, nonfibrous deck coverings may be used, subject to department approval, provided that:

(1) The covering allows drainage so that the covering and the deck underneath it do not remain wet or retain moisture.

(2) The covering is inert and will not support bacterial growth.

(3) The covering provides a slip-resistant surface.

(4) The covering is durable and cleanable.

d. Deck drainage. The deck of a swimming pool shall not drain to the pool or to the pool recirculation system, except as provided in 15.5(15)*"c"* and 15.5(16)*"b."* For deck-level swimming pools ("rim flow" or "rollout" gutter), a maximum of 5 ft of deck may slope to the gutter.

e. Deck slope. The deck slope shall be at least 1/8 inch/ft and no more than 1/2 inch/ft to drain. The deck shall be designed and constructed so that there is no standing water on the deck during normal operation of the facility.

f. Surface runoff. For outdoor swimming pools, the drainage for areas outside the facility and for nondeck areas within the facility shall be designed and constructed to keep the drainage water off the deck and out of the swimming pool.

g. Carpeting. The installation of a floor covering of synthetic material may be used only in separate sunbathing, patio, or refreshment areas, except as permitted by 15.5(4)*"c."*

h. Hose bibs. At least one hose bib shall be provided for flushing the deck.

i. Rinse showers. If users are permitted free access between the deck and an adjacent sand play area without having to pass through a bathhouse, a rinse shower area shall be installed between the deck and the sand play area, with fences, barriers and other structures installed so that users must pass through the rinse shower area when going from the sand play area to the deck, and meet the following criteria:

(1) Tempered water is provided for the rinse shower(s).

(2) The rinse shower area has sufficient drainage so that there is no standing water.

(3) Foot surfaces in the rinse shower area are impervious and slip-resistant.

15.5(5) *Recirculation.*

a. Combined recirculation. Two or more swimming pools may share the same recirculation system, but a wading pool cannot share a recirculation system with any other wading pool or swimming pool. Combined recirculation shall meet the following criteria:

(1) The recirculation flow rate for each swimming pool is calculated in accordance with 15.5(5)*"b."* The recirculation flow rate for the system is at least the arithmetic sum of the recirculation flow rates of the swimming pools.

(2) The flow to each pool is adjustable. A flow meter is provided for each pool.

b. Recirculation flow rate. The recirculation flow rate shall provide for the treatment of one pool volume within:

(1) Four hours for a swimming pool with a volume of 30,000 gal or less.

(2) Six hours for a swimming pool with a volume of more than 30,000 gal.

(3) Two hours for a wave pool.

(4) Four hours for a zero-depth pool.

(5) One hour for a wading pool.

(6) One hour for a water slide plunge pool.

(7) Four hours for a leisure river.

(8) Thirty minutes for a spray pad with its own filter system.

(9) For swimming pools with skimmers, the recirculation flow rate shall be at least 30 gpm per skimmer or the recirculation flow rate defined above, whichever is greater.

The recirculation flow rate for pools not specified in 15.5(5)*"b"*(1) through 15.5(5)*"b"*(9) will be determined by the department.

c. Recirculation pump. The recirculation pump(s) shall be listed by NSF or by another listing agency as complying with the requirements of Standard 50 and shall comply with the following requirements:

(1) The pump(s) supply the recirculation flow rate required by 15.5(5)*"b"* at a TDH of at least that given in "1," "2," or "3" below unless a lower TDH is shown by the designer to be appropriate. A valve for regulating the rate of flow is provided in the recirculation pump discharge piping.

1. 40 feet for vacuum filters; or
2. 60 feet for pressure sand filters; or
3. 70 feet for pressure diatomaceous earth filters or cartridge filters.

(2) For sand filter systems, the pump and filter system are designed so that each filter can be backwashed at a rate of at least 15 gpm/ft^2 of filter area.

(3) If a pump is located at an elevation higher than the pool water surface, it is self-priming or the piping is arranged to prevent the loss of pump prime when the pump is stopped.

(4) Where a vacuum filter is used, a vacuum limit control is provided on the pump suction line. The vacuum limit switch is set for a maximum vacuum of 18 in Hg.

(5) A compound vacuum-pressure gauge is installed on the pump suction line as close to the pump as practical. A vacuum gauge may be used for pumps with suction lift. A pressure gauge is installed on the pump discharge line as close to the pump as practical. Gauges are of such a size and located so that they may be easily read by the facility staff.

(6) On pressure filter systems, a hair and lint strainer is installed on the suction side of each recirculation pump. The hair and lint strainer basket is readily accessible for cleaning, changing, or inspection. A spare strainer basket shall be provided, except where the strainer basket has a volume of 15 gallons or more. This requirement may be waived for systems using vertical turbine pumps or pumps designed for solids handling.

d. Water heaters. Swimming pool water heaters shall meet the following criteria:

(1) A heating coil, pipe or steam hose cannot be installed in a swimming pool.

(2) Gas-fired pool water heaters comply with the requirements of ANSI/AGA Z21.56-2001, ANSI/AGA Z21.56a-2004, and ANSI/AGA Z21.26b-2004.

(3) Electric pool water heaters comply with the requirements of UL 1261 (2017) and bear the UL mark.

(4) A swimming pool water heater with an input of greater than 400,000 BTU/hour (117 kilowatts) has a water heating vessel constructed in accordance with ASME Boiler Code, Section 8 (2007). The data plate of the heater bears the ASME mark.

(5) A thermometer is installed in the piping to measure the temperature of the water returning to the pool. The thermometer is located so that it may be easily read by the facility staff.

(6) Combustion air is provided for fuel-burning water heaters as required by the state plumbing code, 481—Chapter 425, or as required by local ordinance.

(7) Fuel-burning water heaters are vented as required by the state plumbing code, 481—Chapter 425, or as required by local ordinance.

(8) Each fuel-burning water heater is equipped with a pressure relief valve sized for the energy capacity of the water heater.

e. *Flow meters.* Swimming pool flow meters shall meet the following criteria:

(1) Each swimming pool recirculation system is provided with a permanently installed flow meter to measure the recirculation flow rate.

(2) In a multiple pool system, a flow meter is provided for each pool.

(3) A flow meter is accurate within 5 percent of the actual flow rate between ± 20 percent of the recirculation flow rate specified in 15.5(5)*"b"* or the nominal recirculation flow rate specified by the designer.

(4) A flow meter is installed on a straight length of pipe with sufficient clearance from valves, elbows or other sources of turbulence to attain the accuracy required by 15.5(5)*"e"*(3). The flow meter is installed so that it may be easily read by facility staff, or a remote readout of the flow rate is installed where it may be easily read by the facility staff. The designer may be required to provide documentation that the installation meets the requirements of 15.5(5)*"e"*(3).

f. *Vacuum cleaning system.*

(1) A swimming pool vacuum cleaning system capable of reaching all parts of the pool bottom shall be provided.

(2) A vacuum system may be provided that utilizes the attachment of a vacuum hose to the suction piping through a skimmer.

(3) Automatic vacuum systems may be used provided they are capable of removing debris from all parts of the swimming pool bottom.

15.5(6) *Filtration.* A filter shall be listed by NSF or by another listing agency as complying with the requirements of Standard 50 and comply with the following requirements:

a. Each pressure filter has a pressure gauge on the inlet side. Gauges are of such a size and located so that they may be read easily by the facility staff. A differential pressure gauge that gives the difference between the inlet and outlet pressure of the filter may be used in place of a pressure gauge.

b. An air relief valve is provided for each pressure filter.

c. Backwash water from a pressure filter discharges through an observable free fall, or a sight glass is installed in the backwash discharge line.

d. Backwash water is discharged indirectly to a sanitary sewer.

e. Rapid sand filter.

(1) The filtration rate does not exceed 3 gpm/ft^2 of filter area.

(2) The backwash rate is at least 15 gpm/ft^2 of filter area.

f. High-rate sand filter.

(1) The filtration rate does not exceed 15 gpm/ft^2 of filter area.

(2) The backwash rate is at least 15 gpm/ft^2 of filter area.

(3) If more than one filter tank is served by a pump, the designer demonstrates that the backwash flow rate to each filter tank meets the requirements of 15.5(6)*"f"*(2), or an isolation valve is installed at each filter tank to permit each filter to be backwashed individually.

g. Vacuum sand filter.

(1) The filtration rate does not exceed 15 gpm/ft^2 of filter area.

(2) The backwash rate is at least 15 gpm/ft^2 of filter area.

(3) An equalization screen is provided to evenly distribute the filter influent over the surface of the filter sand.

(4) Each filter system has an automatic air-purging cycle.

h. Sand filter media complies with the filter manufacturer's specifications.

i. Diatomaceous earth filter.

(1) The filtration rate does not exceed 1.5 gpm/ft^2 of effective filter area, except that a maximum filtration rate of 2.0 gpm/ft^2 may be allowed where continuous body feed is provided.

(2) Diatomaceous earth filter systems have piping to allow recycling of the filter effluent during precoat.

(3) Waste diatomaceous earth is discharged to a sanitary sewer. The discharge may be subject to the requirements of the local wastewater utility.

j. Cartridge filter.

(1) The filtration rate does not exceed 0.38 gpm/ft^2 of filter area.

(2) A duplicate set of cartridges is provided.

15.5(7) *Piping.*

a. Piping standards. Swimming pool piping shall conform to applicable nationally recognized standards and be specified for use within the limitations of the manufacturer's specifications. Swimming pool piping shall comply with the applicable requirements of NSF/ANSI Standard 61 (2020), "Drinking Water System Components—Health Effects." Plastic swimming pool pipe shall comply with the requirements of NSF/ANSI Standard 14 (2016b), "Plastic Piping Components and Related Materials," for potable water pipe.

b. Pipe sizing. Swimming pool recirculation piping shall be sized so water velocities do not exceed 6 ft/sec for suction flow and 10 ft/sec for pressure flow. Gravity piping shall be sized in accordance with recognized engineering principles.

c. Overflow system piping. The piping for an overflow perimeter gutter system shall be designed to convey at least 125 percent of the recirculation flow rate. The piping for a skimmer system shall be designed to convey at least 100 percent of the recirculation flow rate.

d. Main drain piping. If the main drains are connected to the recirculation system, the main drains and main drain piping shall be designed to convey at least 100 percent of the recirculation flow rate.

e. Play feature circulation. Where there are features that circulate water to the swimming pool and through the main drain and overflow systems, the main drain and overflow systems and the associated piping shall be designed to accommodate the combined flow of the recirculation system and the features within the requirements of 15.5(7)*"b"* and the applicable requirements of 15.5(9) and 15.5(10).

15.5(8) *Inlets.*

a. Inlets required. Wall inlets or floor inlets, or both, shall be provided for a swimming pool. The inlets shall be adequate to ensure effective distribution of treated water and the maintenance of a uniform disinfectant residual throughout the swimming pool. The designer may be required to provide documentation of adequate distribution, such as dye testing of a pool.

b. Wall inlet spacing. Where wall inlets are used, they shall be no more than 20 ft apart around the perimeter of the area with an inlet within 5 ft of each corner of the swimming pool and meet the following criteria:

(1) There is at least one inlet at each stairway or ramp leading into a swimming pool.

(2) Except for wading pools, wall inlets are located at least 6 inches below the design water surface.

(3) Wall inlets in pools with skimmers are directional flow-type inlets.

(4) Each inlet has a directional flow inlet fitting with an opening of 1-inch diameter or less, or a fixed fitting with openings ½-inch wide or less.

c. Floor inlets. Floor inlets shall be provided for the areas of a zero-depth swimming pool or wave pool where the water is less than 2 ft deep and may be used throughout a swimming pool in lieu of or in combination with wall inlets. Floor inlets shall be flush with the pool floor, as well as no more than 20 ft apart and within 15 ft of each wall of the swimming pool in the area where they are used.

15.5(9) *Overflow system.*

a. Skimmers. Swimming pool skimmers shall meet the following criteria:

(1) Recessed automatic surface skimmers are listed by NSF or by another listing agency as complying with the requirements of Standard 50, except that an equalizer is not required for a skimmer installed in a swimming pool equipped with an automatic water level maintenance device.

(2) Skimmers may be used for swimming pools that are no more than 30 ft wide.

(3) A swimming pool has at least one skimmer for each 500 ft^2 of surface area or fraction thereof.

(4) Each skimmer is designed for a flow-through rate of at least 30 gpm or 3.8 gpm per lineal inch of weir, whichever is greater. The combined flow capacity of the skimmers in a swimming pool cannot be less than the total recirculation rate.

(5) Each skimmer has a weir that adjusts automatically to variations in water level of at least 4 inches.

(6) Each skimmer is equipped with a device to control flow through the skimmer.

(7) If a swimming pool is not equipped with an automatic water level maintenance device, each skimmer that is a suction outlet has an operational equalizer. The equalizer opening in the swimming pool is covered with a fitting listed by a listing agency as meeting the requirements of the ASME/ANSI standard.

(8) A skimmer pool has a handhold around the perimeter of the pool. The handhold is 9 inches or less above the minimum skimmer operation level.

b. Perimeter overflow gutters. Swimming pool perimeter overflow gutters shall meet the following criteria:

(1) A swimming pool greater than 30 ft in width, except for a wave pool or a wading pool, has a perimeter overflow gutter system.

(2) The overflow weir extends completely around the swimming pool, except at stairs, ramps, or water slide flumes.

(3) The gutter is designed to provide a handhold and to prevent entrapment.

(4) Drop boxes, converters, return piping, or flumes used to convey water from the gutter are designed to convey 125 percent of the recirculation flow rate. The flow capacity of the gutter and the associated plumbing are sufficient to prevent backflow of skimmed water into the swimming pool.

(5) Gutter overflow systems are designed with an effective surge capacity within the gutter system and surge tank of not less than 1 gal/ft^2 of swimming pool surface area. In-pool surge may be permitted for prefabricated gutter systems, subject to the approval of the department.

c. Alternative overflow systems. Overflow systems not meeting all of the requirements in 15.5(9)*"a"* or *"b"* may be used if the designer can provide documentation that the alternative overflow system will skim the pool water surface at least as effectively as a skimmer system.

15.5(10) *Main drain system.* Swimming pool main drain systems shall meet the following criteria:

a. Main drains. Each swimming pool has a convenient means of draining the water from the pool for winterization and service.

b. Main drains for recirculation. If the main drain system is connected to the recirculation system, there are two or more main drains or a single main drain that is unblockable.

(1) Two main drains are at least 3 ft apart on center. If three or more main drains are installed, the distance between the drains farthest apart is at least 3 ft on center.

(2) Each main drain and its associated piping in a swimming pool are designed for the same flow rate. Multiple drains are plumbed in parallel, and the piping system is designed to equalize flow among the main drains.

(3) If one or two main drains are installed, each main drain cover/grate, sump and the associated piping is designed for at least 100 percent of the recirculation flow rate specified by 15.5(5)*"b."* If three or more main drains are installed, the combined flow rating of the cover/grates, the sumps and the associated piping is at least 200 percent of the recirculation flow rate. If water for water slides, fountains and play features is circulated through the main drain and overflow systems, the main drains are designed for the combined feature and recirculation flow.

(4) Manufactured main drain sumps are listed by a listing agency for compliance with the ASME/ANSI standard. Field fabricated sumps are designed in accordance with the ASME/ANSI standard and certified by an engineer licensed in Iowa.

(5) There is a control valve to adjust the flow between the main drain and the overflow system.

(6) Main drain covers. Each main drain is covered with a cover/grate that complies with the ASME/ANSI standard.

1. The flow rating for each cover/grate complies with 15.5(10)*"b"*(3).

2. The mark of a listing agency is permanently marked on the top surface of each manufactured cover/grate.

3. Field fabricated cover/grates are certified for compliance to the ASME/ANSI standard by a professional engineer licensed in Iowa. A certificate of compliance is provided to the swimming pool owner and to the department.

4. The main drain cover/grate is designed to be securely fastened to the pool so that the cover/grate is not removable without tools.

c. Feature outlets. Where fully submerged outlets for play or decorative features or water slides are in the swimming pool, the outlets shall be designed in accordance with 15.5(10)*"b."*

15.5(11) *Disinfection.* Swimming pool disinfection shall meet the following criteria:

a. Each swimming pool recirculation system is equipped with an automatic controller for maintenance of the disinfectant level in the swimming pool water. The control output of the controller to the disinfectant feed system is based on the continuous measurement of the ORP of the water in the swimming pool recirculation system.

b. No disinfection system designed to use di-chlor or tri-chlor is installed for an indoor swimming pool.

c. A continuous feed disinfectant system is provided. The disinfectant feed system has the capacity to deliver at least 10 mg/L chlorine or bromine equivalent based on the recirculation flow rate required in 15.5(5)*"b"* for an outdoor swimming pool and 4 mg/L chlorine or bromine equivalent based on the recirculation flow rate required in 15.5(5)*"b"* for an indoor swimming pool.

d. A disinfectant feeder (except chlorine gas feed equipment) is listed by NSF or by another listing agency as complying with the requirements of Standard 50.

e. The disinfectant system is installed so that chemical feed is automatically and positively stopped when the recirculation flow is interrupted.

f. Gas chlorinator facilities comply with applicable federal, state and local laws, rules and ordinances and the requirements below.

(1) The chlorine supply and gas feeding equipment is housed in a separate room or building.

1. No entrance or openable window to the chlorine room goes to the inside of a building used other than for the storage of chlorine.

2. The chlorine room is provided with an exhaust system that takes its suction not more than 8 inches from the floor and discharges out of doors in a direction to minimize the exposure of swimming pool patrons to chlorine gas. The exhaust system is capable of producing 15 air changes per hour in the chlorine room.

3. An automatic chlorine leak detector and alarm system is provided in the chlorine room. The alarm system provides visual and audible alarm signals outside the chlorine room.

4. An air intake is provided near the ceiling of the chlorine room. The air intake and the exhaust system outlet are at least 4 ft apart.

5. The room has a window at least 12 inches square. The window glass is shatterproof.

6. The door of the chlorine enclosure opens outward. The inside of the door is provided with panic hardware.

7. The chlorine room has adequate lighting.

8. Electrical switches for the exhaust system and for the lighting are outside the chlorine room and adjacent to the door, or in an adjoining room.

9. An anchoring system is provided so that full and empty chlorine cylinders can be individually secured.

10. Scales are provided for weighing the cylinders that are in use.

(2) A chlorine enclosure that is 30 inches deep or less and 72 inches wide or less and that is installed out of doors complies with the above requirements except:

1. An automatic chlorine leak detector is not required.

2. The enclosure has a window of at least 48 in^2.

3. The light and exhaust fan may be activated by opening the door rather than by a separate switch.

(3) The chlorinator is designed to prevent the backflow of water into the chlorine cylinder.

g. Where a metering pump is used to feed a solution of disinfectant, the disinfectant solution container has a capacity of at least one day's supply at the rate specified in 15.5(11)*"c,"* except that when the system is designed to feed directly from a 55-gal shipping container, a larger solution container is not required.

Secondary containment is provided when a tank larger than 55 gallons is installed for the storage of sodium hypochlorite.

h. The storage capacity of an erosion feeder is at least one day's supply of disinfectant at the rate specified in 15.5(11)*"c."*

15.5(12) *pH control.* Swimming pool pH control shall meet the following criteria:

a. *pH controller required.* Each swimming pool recirculation system approved for construction after May 4, 2005, is equipped with a controller that senses the pH of the swimming pool water and that automatically controls the operation of a metering pump for the addition of a pH control chemical or the operation of a CO_2 gas feed system.

b. *pH chemical feed required.* Each swimming pool has a metering pump for the addition of a pH control chemical to the pool recirculation system, or a CO_2 gas feed system.

c. *Metering pump listing.* A metering pump is listed by NSF or by another listing agency as meeting the requirements of Standard 50.

d. *CO_2 cylinder anchors.* Where CO_2 is used as a method of pH control, an anchoring system is provided to individually secure full and empty CO_2 cylinders.

e. *Chemical feed stop.* The pH control system is installed so that chemical feed is automatically and positively stopped when the recirculation flow is interrupted.

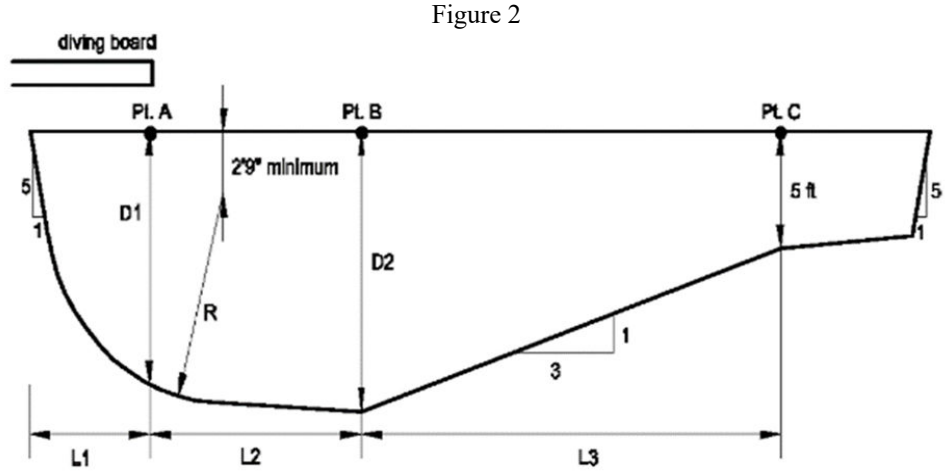
15.5(13) *Safety.*

a. Diving areas shall meet the following criteria:

(1) Diving boards are permitted only if the diving area dimensions conform to the minimum requirements shown in Figure 2 and Tables 3 and 4. The distances specified in Tables 3 and 4 are measured from the top center of the leading edge of the diving board. The reference water level is the midpoint of the skimmer opening for a skimmer pool or a stainless steel gutter system with surge weirs. The reference water level for a gutter pool is the top of the gutter weir.

(2) Where diving boards are specified that have been advertised or promoted to be "competition" diving boards, the diving area complies with the standards of the National Collegiate Athletic Association (NCAA) or the National Federation of State High School Associations (NFSHSA).

Figure 2



R minimum = Pool depth minus Vertical wall depth from the water line minus 3 inches.

Table 3

		Minimum Dimensions					Minimum Width of Pool		
Diving Board Height Above Water	Maximum Board Length	D1	D2	L1	L2	L3	Pt A	Pt B	Pt C
Deck level to 2/3 meter	10 ft	7 ft	8.5 ft	2.5 ft	8 ft	10.5 ft	16 ft	18 ft	18 ft
Greater than 2/3 meter to 3/4 meter	12 ft	7.5 ft	9 ft	3 ft	9 ft	12 ft	18 ft	20 ft	20 ft
Greater than 3/4 meter to 1 meter	16 ft	8.5 ft	10 ft	4 ft	10 ft	15 ft	20 ft	22 ft	22 ft
Greater than 1 meter to 3 meters	16 ft	11 ft	12 ft	6 ft	10.5 ft	21 ft	22 ft	24 ft	24 ft

Table 4

Diving Board Height Above Water	To Pool Side	To 1-Meter Board	To 3-Meter Board
Deck level to 1 meter	10 ft	8 ft	10 ft
Greater than 1 meter	11 ft	10 ft	10 ft

(3) There is a completely unobstructed clear distance of 13 ft above the diving board measured from the center of the front end of the board. This area extends at least 8 ft behind, 8 ft to each side, and 16 ft beyond the end of the diving board.

(4) Diving boards and platforms have slip-resistant surfaces.

(5) Diving board supports, ladders, and guardrails.

1. Supports, platforms, and steps for diving boards are of substantial construction and of sufficient structural strength to safely carry the maximum anticipated loads.

2. Ladders, steps, supports, handrails, and guardrails are of corrosion-resistant materials or are provided with a corrosion-resistant coating and are designed to have no exposed sharp edges. Ladder steps have slip-resistant surfaces.

3. Handrails are provided at steps leading to diving boards and diving platforms. Guardrails are provided for diving boards and platforms that are more than 1 meter above the water. Guardrails for diving boards and platforms are at least 36 inches high and extend to the edge of the water.

b. Starting blocks and starting block installation shall meet the requirements of the competition governing body (National Collegiate Athletic Association, USA Swimming, or National Federation of State High School Associations).

c. Stairs, ladders, and recessed steps shall meet the following criteria:

(1) Ladders or recessed steps are provided in the deep portion of a swimming pool and in the shallow portion if the vertical distance from the bottom of the swimming pool to the deck is more than 2 ft. Stairs or ramps may be used instead of ladders or recessed steps at the shallow end of the swimming pool.

(2) If a swimming pool is over 30 ft wide, recessed steps, ladders, ramps, or stairs are installed on each side. If a stairway centered on the shallow end wall of the swimming pool is within 30 ft of each side of the swimming pool, that end of the swimming pool is considered in compliance with this subrule.

(3) The foot contact surfaces of stairs, ramps, ladder rungs, and recessed steps are slip-resistant.

(4) Ladders.

1. Ladders have a handrail on each side that extends from below the water surface to the top surface of the deck.

2. Ladders, treads, or supports are of a color contrasting with the swimming pool walls; however, stainless steel ladders may be used with stainless steel wall pools.

3. A ladder has a tread width of at least 16 inches and a uniform rise of 12 inches or less.

4. The distance between the swimming pool wall and the vertical rail of a ladder is no greater than 6 inches and no less than 3 inches. The lower end of each ladder rail is securely covered with a smooth nonmetallic cap and within 1 inch of the swimming pool wall.

(5) Recessed steps.

1. Recessed steps have a tread depth of at least 5 inches, a tread width of at least 12 inches, and a uniform rise of no more than 12 inches.

2. Each set of recessed steps is equipped with a securely anchored deck-level grab rail on each side.

3. Recessed steps drain to the pool.

(6) Stairs.

1. Stairs have a uniform tread depth of at least 12 inches and a uniform rise of no more than 10 inches. The area of each tread shall be at least 240 in^2.

2. Stairs are provided with at least one handrail for each 12 ft in width. Handrails are between 34 inches and 38 inches high, measured vertically from the line defined by the front edge of the steps.

3. A slip-resistant stripe at least 1 inch wide of a color contrasting with the step surface and with the swimming pool floor is marked at the top front edge of each tread.

(7) Handrails and grab rails.

1. Ladders, handrails, and grab rails are designed to be securely anchored so that tools are required for their removal.

2. Ladders, handrails, and grab rails are constructed of corrosion-resistant materials or provided with corrosion-resistant coatings and have no exposed sharp edges.

d. Swimming pool floor slope shall meet the following criteria:

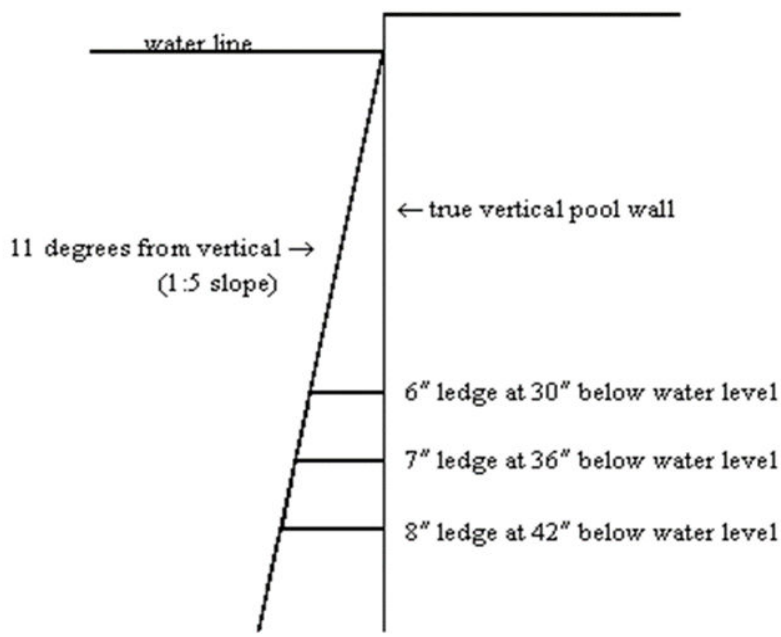
(1) The bottom of the swimming pool slopes toward the main drain(s). The slope of the swimming pool bottom where the water is less than 5 ft deep does not exceed 1 ft vertical in 12 ft horizontal.

(2) Subject to the written approval of the department, a swimming pool may be designed to have the change in slope (from 1:12 or less to a steeper slope) at a point where the water depth is less than 5 ft. The marking requirements of 15.5(13)*"f"*(3) and 15.5(13)*"f"*(4) shall apply and, if possible, depth markers that are clearly visible to persons in the pool shall be provided.

e. Swimming pool walls shall meet the following criteria:

(1) Walls in the deep section of a swimming pool are vertical to a water depth of at least 2.8 ft. If a transition radius is provided, it complies with Figure 2.

Figure 3



(2) The term "vertical" is interpreted to permit slopes not greater than 1 ft horizontal for each 5 ft of depth of side wall (11° from vertical).

(3) Ledges, when provided, fall within an 11° line from vertical, starting at the water surface (Figure 3). A ledge is no less than 4 inches wide and no more than 8 inches wide. A ledge has a slip-resistant surface.

f. Surface finish and markings shall meet the following criteria:

(1) The swimming pool floor has a slip-resistant finish.

(2) The bottom and sides of the swimming pool are white or a light color. This does not prohibit painting or marking racing lines or turn targets.

(3) Where the slope of a swimming pool bottom in a shallow area changes from 1:12 or less to a slope greater than 1:12, or at the 5-ft depth area, the pool bottom and sides are marked with a stripe at least 4 inches wide in a color contrasting with the pool bottom and sides. The stripe is on the shallow side of the slope change or 5-ft depth area within 6 inches of the slope change or 5-ft depth area. Depending on the pool configuration, more than one stripe may be required.

(4) A float line with floats no more than 5 ft apart are installed on the shallow side of the stripe required in 15.5(13)*"f"*(3) within 12 inches of the stripe.

(5) The landing area for a swimming pool slide or a water slide that does not terminate in a separate plunge pool is delineated by a float line or as approved by the department.

(6) Depth markers.

1. Depth markers are painted or otherwise marked on the deck within 3 ft of the edge of a swimming pool. The depth of a wave pool is also marked on the side walls of the wave pool above the maximum static water level where the static water depth is 3 ft or more and on the deep-end wall of the wave pool.

2. Depth markers are located 25 ft apart or less, center to center, around the full perimeter of a swimming pool.

EXCEPTIONS: Depth markers are not required at the zero-depth end of a wading pool, wave pool, or a zero-depth swimming pool. Depth markers are not required on the deck of a plunge pool on the flume discharge end or on the exit end if stairs are used for exit.

3. The maximum depth of a swimming pool is marked on both sides of a swimming pool at the main drain.

4. The water depth of a swimming pool is marked at both ends of a float line required by 15.5(13)*"f"*(4).

5. In shallow water, the depth is marked at 1-ft depth intervals starting at one of the points specified in "3" and "4" above, if the 1-ft depth interval is less than 25 ft. The zero depth is used as the starting point for a zero-depth swimming pool.

6. In deep water, the words "Deep Water" may be used in place of numerals except as required in "3" above.

7. "No Diving" or equivalent wording or graphics are marked on the swimming pool deck within 3 ft of the edge of the swimming pool where the water is shallow and at other pool areas determined by management. The markers are 25 ft apart or less, center to center, around the perimeter of the area. This marking is not required at the zero-depth end of a wave pool or of a zero-depth swimming pool. "No Diving" or equivalent wording or graphics are marked on the deck of a leisure river in the areas where users will be permitted. The "No Diving" markers are within 3 ft of the edge of the leisure river at intervals not to exceed 25 ft on center.

8. Letter, number and graphic markers are slip-resistant, of a contrasting color from the deck and at least 4 inches in height.

9. In lieu of the requirements of "1" through "8" above, the maximum depth of a wading pool may be posted in lettering a minimum of 3 inches high at each entrance to the wading pool area and at least at one conspicuous location inside the wading pool enclosure. "No Diving" markers are not required at a wading pool.

10. The depth of a leisure river is posted at the entrance(s) to the leisure river in characters at least 3 inches high. The depth of the leisure river is marked on the side wall of the leisure river above the static water level at intervals not to exceed 50 ft on center. The depth of the leisure river is marked on the deck in the areas where users will be permitted. The depth markers are within 3 ft of the edge of the leisure river at intervals not to exceed 25 ft on center.

g. Elevated lifeguard chairs or stations shall be provided as follows: one chair or station for a swimming pool with a water surface area of 2,000 to 4,000 ft^2 inclusive; two chairs or stations if the area is 4,001 to 6,000 ft^2; three chairs or stations if the area is 6,001 ft^2 or more. A swimming pool is not required to have more than three lifeguard chairs or stations. This requirement does not apply to wave pools, leisure rivers or wading pools.

h. Emergency equipment and facilities shall meet the following criteria:

(1) If a swimming pool facility employs lifeguards, whether required by rule or not, the lifeguards are provided with the minimum equipment required by their training, including but not necessarily limited to rescue tubes and personal CPR masks.

(2) A minimum of one unit of lifesaving equipment is provided for each 1,500 ft^2 of water surface area or fraction thereof. The area of a swimming pool where the water is 2 ft deep or less may be subtracted from the total area for this requirement. A swimming pool is not required to have more than ten units of lifesaving equipment.

(3) A unit of lifesaving equipment consists of at least one of the following:

1. A U.S. Coast Guard-recognized ring buoy fitted with a ¼-inch diameter line with a length at least one-half the width of the pool, but no more than 60 ft; or

2. A life pole with a "shepherd's crook," having blunted ends with a minimum length of 8 ft; or

3. A rescue buoy which is made of a hard, buoyant plastic and is provided with molded handgrips along each side, a shoulder strap, and a towing rope between 4 and 6 ft long; or

4. A rescue tube made of a soft, strong foam material 3 inches by 6 inches by 40 inches with a molded strap providing a ring at one end and a hook at the other. Attached to the ring end is a 6-ft-long towline with a shoulder strap.

Rescue equipment identified in 15.5(13)*"h"*(3)"3" and "4" above is used only at swimming pools where lifeguards are employed.

(4) Whenever lifeguard chairs are provided, each chair is equipped with at least one unit of lifesaving equipment.

(5) A standard spine board with straps and head immobilizer is provided at each swimming pool where lifeguards are required by rule.

i. Pool enclosures shall meet the following criteria:

(1) Except for a circulated wading pool that is drained when not in use, or a spray pad, a swimming pool is enclosed by a fence, wall, building, or combination thereof not less than 4 ft high. The enclosure is constructed of durable materials.

(2) A fence, wall, or other means of enclosure has no openings that would allow the passage of a 4-inch sphere and is not easily climbable by toddlers. The distance between the ground and the top of the lowest horizontal support accessible from outside the facility, or between the two lowest horizontal supports accessible from outside the facility, is at least 45 inches. A horizontal support is accessible if it is on the exterior of the fence relative to the swimming pool or if the space between the vertical members of a fence is greater than 1¾ inches.

(3) Gates and doors are installed in the enclosure for general access, maintenance, and emergency access. At least one 36-inch-wide gate or door is installed for emergency access. When closed, gates and doors comply with the requirements of 15.5(13)*"i"*(1) and (2). Gates and doors are lockable. Except where lifeguard or structured program supervision is provided whenever the swimming pool is open, gates and doors are self-closing and self-latching.

(4) If a wading pool is within 50 ft of a swimming pool, the wading pool has a barrier at least 36 inches high separating it from the swimming pool. The barrier has no openings that would allow the passage of a 4-inch sphere and is not easily climbable by toddlers. The barrier has at least one 36-inch-wide gate or door. Gates and doors are lockable. Except where lifeguard supervision is provided, gates and doors are self-closing and self-latching.

The department may approve alternate management of the area between the wading pool and swimming pool at facilities where lifeguards are provided whenever the pools are open. The alternate management plan will be in writing and shall be at the facility when the pools are open.

(5) An indoor swimming pool is enclosed by a barrier at least 3 ft high if there are sleeping rooms, hallways, apartments, condominiums, or permanent recreation areas that are used by children and that open directly into the swimming pool area. No opening in the barrier permits the passage of a 4-inch sphere. The barrier is not easily climbable by toddlers. There is at least one 36-inch-wide gate or door through the barrier. Gates and doors are lockable. Except where lifeguard supervision is provided whenever the pool is open, gates and doors are self-closing and self-latching.

j. Construction or reconstruction shall comply with the state electrical code, 481—Chapter 404, including Article 680 of the adopted National Electrical Code, and the following requirements:

(1) Each electrical outlet in the deck, shower and dressing rooms and the pool water treatment equipment areas is equipped with a properly installed GFCI at the outlet or at the breaker serving the outlet. Electrical outlets energized through an ORP/pH controller are not required to have a separate GFCI if the controller is equipped with a GFCI or is energized through a GFCI breaker.

(2) An underwater light circuit is equipped with a GFCI unless the underwater light(s) operates at 15 volts or less.

k. Artificial lighting shall be provided at indoor swimming pools and at outdoor swimming pools which are to be used after sunset in accordance with the following:

(1) Underwater lighting of at least 8 lamp lumens/ft^2 or 0.5 watts/ft^2 of water surface area, located to provide illumination of the entire swimming pool bottom, and area lighting of at least 10 footcandles (fc) or 0.6 watts/ft^2 of deck area.

(2) If underwater lights are not provided, overhead lighting of at least 30 fc or 2.0 watts/ft^2 of swimming pool water surface area are provided.

l. Swimming pool slides shall be installed in accordance with the manufacturer's recommendations.

15.5(14) *Wading pools.* Wading pools shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21), except as modified below.

a. A wading pool shall have at least 4 ft of deck.

b. Overflow system.

(1) Intermittent fixed weir overflow structures, including gutters, overflow fixtures, and drains at zero depth may be used. They shall have a hydraulic capacity of at least 125 percent of the recirculation flow rate.

(2) If skimmers are used, there shall be at least one skimmer for every 500 ft^2 of water surface area or fraction thereof.

1. The recirculation flow rate shall be at least 3.8 gpm per lineal inch of skimmer weir or as required in 15.5(5)*"b,"* whichever is greater.

2. The skimmer(s) suction line may be connected to the main drain line in lieu of an equalizer.

3. A skimmer(s) may be used in combination with overflow drains in a zero-depth wading pool.

c. Inlets shall be designed to uniformly distribute treated water throughout the wading pool. Wall and floor inlets or other means may be used, alone or in combination.

15.5(15) *Wave pools.* Wave pools shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21), except as modified below.

a. Perimeter overflow gutters and skimmers are not required on the deep-end wall where the wave generation equipment is located.

b. There shall be an overflow drain or weir across the full width of the zero-depth end of the wave pool.

The drain shall be covered with a grate designed to prevent entrapment. The grate shall be designed so that it is securely fastened to the pool floor and cannot be removed without a tool or tools.

c. The deck above the overflow drain at the zero-depth end of the pool may slope to the overflow drain for a distance no greater than 15 ft. The deck slope shall be no greater than 1 ft vertical in 12 ft horizontal.

d. There shall be a perimeter overflow gutter or overflow fittings along both sides of the wave pool where the water is 3 ft deep or more.

(1) If a perimeter overflow gutter is used, it shall be designed to prevent entrapment during wave action. Overflow grates shall be securely fastened so they will not be dislodged by wave action.

(2) Overflow fittings need not be continuous, but they shall be spaced no more than 10 ft apart.

e. The combined hydraulic capacity of the overflow drain at zero depth and the gutter or overflow outlets shall be at least 125 percent of the recirculation flow rate.

f. The main drain system shall comply with the requirements of 15.5(10).

g. Openings or connections between the wave pool and the wave generation equipment shall be designed to prevent entrapment of users.

h. There shall be a continuous barrier along the full length of each side of a wave pool. The barrier shall be at least 42 inches high and installed no more than 3 ft from the side of the wave pool.

i. Emergency switches that will stop the wave action shall be provided in at least four locations on the deck of the wave pool. Switch locations shall be marked by signs or contrasting bright colors.

j. A wave pool shall be equipped with a float line with floats spaced no more than 5 ft apart. The float line shall be located at least 6 ft from the deep-end wall. Users shall not be permitted between the float line and the deep-end wall.

15.5(16) *Zero-depth swimming pools.* Zero-depth swimming pools shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21), except as modified below.

a. There shall be an overflow drain or weir across the full width of the zero-depth end of the swimming pool.

(1) The drain shall be covered with a grate designed to prevent entrapment. The grate shall be designed so that it is not removable without a tool.

(2) The drain and its associated piping shall be designed to convey at least 50 percent of the recirculation flow rate.

b. The deck above the overflow drain at the zero-depth end of the pool may slope to the overflow drain for a distance no greater than 15 ft. The deck slope shall be no greater than 1 ft vertical in 12 ft horizontal.

c. If a perimeter overflow gutter is provided, the gutter may be interrupted in the area where the water is less than 2 ft deep, provided that:

(1) The length of the perimeter overflow gutter and overflow drain shall be at least 60 percent of the total pool perimeter.

(2) The hydraulic capacity of the perimeter overflow gutter system combined with the overflow drain shall be at least 125 percent of the recirculation flow rate.

d. Recessed automatic surface skimmers may be used with the overflow drain at zero depth in accordance with 15.5(9)*"a."* The hydraulic capacity of the skimmer/drain system shall be at least 125 percent of the recirculation flow rate.

15.5(17) *Water slides.* Water slides shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21) and the following:

a. A water slide flume shall comply with the following:

(1) The flume is perpendicular to the plunge or swimming pool wall for at least 10 ft from the flume end.

(2) The flume is sloped no more than 1 ft vertical in 10 ft horizontal for at least 10 ft before the end of the flume.

(3) The flume terminates between 6 inches below and 2 inches above the design water level in the plunge pool or swimming pool.

(4) There is at least 5 ft between the side of the plunge pool or swimming pool and the side of the flume. Adjacent flumes are at least 10 ft apart on center.

(5) The inside surface of a flume is smooth and continuous.

(6) The flume is designed to ensure that users cannot be thrown out of the flume and to minimize user collisions with the sides of the flume.

(7) The flume has no sharp edges within reach of a user while the user is in the proper riding position.

(8) The flume path is designed to prevent users from becoming airborne while in the ride.

b. The landing area for a water slide flume shall comply with the following:

(1) The water depth is at least 3 ft and no more than 4 ft at the end of the flume and for at least 15 ft beyond the end of the flume.

(2) The landing area floor may slope up to a minimum of 2 ft water depth subject to 15.5(1)*"b"*(1). The slope is no greater than 1 ft vertical in 12 ft horizontal.

(3) There is at least 20 ft between the end of the flume and any barrier or steps.

(4) If the water slide flume ends in a swimming pool, the landing area is divided from the rest of the swimming pool by a float line.

c. A speed slide shall provide for the safe deceleration of the user. A run-out system or a special plunge pool entry system shall control the body position of the user relative to the slide to provide for a safe exit from the ride.

d. The deck around a water slide plunge pool shall be at least 4 ft wide, except on the side where the flume enters the pool. A walkway that is at least 4 ft wide and meets the requirements of a deck shall be provided between the plunge pool and the slide steps.

e. Alternate overflow systems. Intermittent fixed weir overflow structures may be used for a separate plunge pool if:

(1) Floor inlets are provided according to the requirements of 15.5(8)*"c."*

(2) The hydraulic capacity of the combined overflow structures and the appurtenant piping is at least 125 percent of the recirculation flow rate. The department may require more hydraulic capacity based on the specific design of the plunge pool system.

f. If a pump reservoir or surge tank is provided, it shall have a capacity of at least one minute of the combined recirculation and flume flow. Openings between the plunge pool and the pump reservoir or surge tank shall be designed and constructed in accordance with 15.5(10)*"a"* and *"b."*

g. If the water slide flume ends in a swimming pool, the water level shall not be lowered more than 1 inch when the flume pump(s) is operating.

h. If a fully submerged suction outlet is in a plunge pool or in a swimming pool, it shall be located away from normal water slide user traffic areas. The suction outlet system shall be designed in accordance with 15.5(10)*"b."*

i. The support structure for a water slide and for any access stairs or ramps shall be designed and constructed to withstand the anticipated structural loading, both static and dynamic forces.

j. A stairway providing access to the top of a water slide shall be at least 2 ft wide. Stair surfaces shall be slip-resistant and easily cleanable. The stairway shall comply with the applicable requirements of state and local building codes and Occupational Safety and Health Administration requirements.

15.5(18) *Multisection water recreation pools.* A multisection water recreation pool shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21) and the following:

a. The minimum recirculation flow rate for a multisection water recreation pool is determined by computing the recirculation flow rate for each section of the pool in accordance with 15.5(5)*"b"* and adding the flow rates together.

b. The treated water distribution system is designed to return treated water to the sections of the pool in proportion to the flow rates determined in 15.5(18)*"a."*

c. Each section of a multisection water recreation pool is separated from the other sections by a float line meeting the requirements of 15.5(13)*"f"*(4).

15.5(19) *Spray pads.* A spray pad shall comply with the applicable provisions of 15.5(1) through 15.5(13) and 15.5(21) and the following:

a. The surface of a spray pad is impervious and durable. Padding specifically designed for spray pads may be used with play features. The padding is water resistant or permits full drainage without retaining water in its structure. Walking surfaces are slip-resistant.

b. The spray pad surface slopes to drain at least 1/8 inch per ft but no more than ½-inch per ft. Deck or other areas outside the spray pad do not drain into the spray pad.

c. A spray pad is exempt from the following requirements: fencing (15.5(13)*"i"*), "No Lifeguard" sign (15.4(6)*"d"*), safety equipment (15.4(4)*"f"*), and depth marking (15.4(4)*"j"*). Unless the spray pad is supervised by facility staff, a sign is posted near the spray pad that addresses:

(1) No running on or around the spray pad.

(2) No rough play.

(3) No facility supervision. Parents are responsible for supervising their children.

Facility management may adopt and post other rules deemed necessary for user safety and the proper operation of the spray pad.

d. Spray pad drains are gravity outlets. At least two drains are provided, or a single drain that is unblockable is provided.

(1) The drain system and associated piping are designed for 125 percent of the flow into the spray pad (play feature and recirculation, as applicable).

(2) Each drain cover/grate is flush with the spray pad surface and has no opening wider than ½-inch.

(3) Each drain cover/grate is designed to be securely fastened to the spray pad so that the drain cover/grate is not removable without tools.

(4) Drain cover/grates that are exposed to foot traffic:

1. Have a slip-resistant surface; and

2. Support a 300-pound concentrated load, structural strength verified by documentation of test results from a testing agency or by certification by an engineer licensed in Iowa; and

3. If the drain cover is exposed to sunlight, be resistant to ultraviolet light (UV), with UV resistance verified by documentation of test results from a testing agency or by certification by an engineer licensed in Iowa.

e. Spray pads with independent treatment systems.

(1) The minimum volume of water for a spray pad is two minutes of the flow of the play features and the recirculation system combined.

(2) The water storage tank has a volume of at least 125 percent of the volume specified in 15.5(19)*"e"*(1). The tank is accessible for cleaning and inspection.

(3) The recirculation (treatment) system and the play feature pump and piping system are separate.

(4) The recirculation system inlet(s) and outlet(s) within the water storage tank are designed to ensure a uniform disinfectant concentration and pH level throughout the water volume of the spray pad.

(5) The play feature pump system is designed so that it will not operate if the recirculation system is not operating.

(6) There is a readily accessible sample tap in the equipment area that allows sampling of the water in the play feature piping.

f. Spray pads using water from an adjacent swimming pool or wading pool.

(1) If there is a suction outlet in the swimming pool or wading pool for the play feature pump(s), the outlet is designed as a main drain as specified in 15.5(10). Water velocity through the outlet cover is 1½ ft per second or less.

(2) If the adjacent pool has a volume of 10,000 gallons or less, or if the spray pad water is circulated directly from the swimming pool surge tank, the spray pad pump system is equipped for automatic supplemental disinfection in accordance with 15.5(11), except that the disinfection capacity is at least one-half of the capacity specified in 15.5(11)*"c"*; with filtration in accordance with 15.5(6); or both.

g. Play features and sprays are designed and installed so that they do not create a safety hazard.

(1) Surface sprays are flush with the spray pad surface. Spray openings have a diameter of ½ inch or less. Noncircular spray openings have a width of ½ inch or less.

(2) Aboveground features do not present a tripping hazard. Features have no sharp edges or points and no rough surfaces. Aboveground features are constructed of corrosion-resistant materials or provided with a corrosion-resistant coating. Accessible spray openings have a diameter of ½ inch or less. Noncircular accessible spray openings have a width of ½ inch or less.

15.5(20) *Leisure rivers.* A leisure river shall comply with the applicable requirements of 15.5(1) through 15.5(13) and 15.5(21) and the following:

a. The leisure river propulsion system and recirculation system are separate.

b. Intermittent fixed weir structures may be used for the overflow system. At least two separate fixed weir structures are used. The hydraulic capacity of the overflow system using fixed weir structures are at least 125 percent of the recirculation flow rate. Fixed weir structures are designed to prevent entrapment of leisure river users.

c. A deck as specified in 15.5(4) is not required in areas where users are not permitted. A leisure river and the area on the inside and outside perimeter of the leisure river is designed to ensure that lifeguard staff and emergency personnel can access any part of the leisure river quickly and to provide a sufficient hard surface area for emergency functions.

d. The depth of a leisure river is posted conspicuously at the entrance(s) to the leisure river in characters at least 3 inches high. The depth of the leisure river is marked on the side wall of the leisure river

above the static water level at intervals not to exceed 50 ft on center. The depth of the leisure river is marked on the deck in the areas where users are permitted. The depth markers are within 3 ft of the edge of the leisure river at intervals not to exceed 25 ft on center.

e. "No Diving" characters or graphics are marked every 25 ft on center on the deck in deck areas where users are permitted.

f. At least one user egress point is provided for each 500 ft of leisure river length (measured at the centerline) or fraction thereof.

g. Outlets for the leisure river propulsion system are designed in accordance with 15.5(10)*"b."*

15.5(21) *Showers, dressing rooms, and sanitary facilities.* Swimming pool and spray pad showers, dressing rooms, and sanitary facilities shall meet the following criteria:

a. *Facilities required.* Bather preparation facilities are provided at each swimming pool or spray pad facility, except where the facility is intended to serve living units.

b. *Swimming pool patron load.* If a bathhouse is provided, the patron load for determining the minimum number of cleansing showers is:

(1) One individual per 15 ft^2 of water surface in shallow areas.

(2) One individual per 20 ft^2 of water surface in deep areas with the exclusion of 300 ft^2 of water surface for each diving board.

(3) For each swimming pool slide, 200 ft^2 is excluded, and for each water slide that terminates in the swimming pool, 300 ft^2 is excluded in determining the patron load.

c. *Bathhouses.*

(1) A bathhouse is designed and constructed to meet the requirements of the local building ordinance. If no local ordinance is in effect, the bathhouse is designed to meet the requirements of the state building code.

(2) Bathhouse floors have a slip-resistant finish and slope at least 1/8 inch/ft to drain. Except as provided in 15.5(19)*"c"*(3), floor coverings comply with the requirements of 15.5(4)*"c."*

(3) Olefin, or other approved carpeting, may be permitted in locker room or dressing room areas provided:

1. There is an adequate drip area between the carpeting and the shower room, toilet facilities, swimming pool, or other areas where water can accumulate.

2. Drip areas are constructed of materials as described in 15.5(4)*"b"* and *"c."*

(4) Bathhouse fixtures are provided in accordance with the state plumbing code, 481—Chapter 425, based on the Iowa building code occupancy type and design occupant load. In addition, cleansing showers are provided at a ratio of at least 1:50 based on the pool patron load as calculated by 15.5(21)*"b."*

(5) All indoor swimming pool areas, bathhouses, dressing rooms, shower rooms, and toilets are ventilated to control condensation and odors.

d. *Showers and lavatories.*

(1) Showers are supplied with water at a temperature of at least 90°F and no more than 110°F.

(2) Soap dispensers or bar soap trays are provided at each lavatory and in the showers. Glass soap dispensers are prohibited.

e. *Hose bibs.* At least one hose bib is installed within the bathhouse.

[**ARC 9498C**, IAB 8/20/25, effective 9/24/25]