R392. Health, Epidemiology and Laboratory Services, Environmental Services.
R392-302. Design, Construction and Operation of Public Pools.
R392-302-1. Authority and Purpose of Rule.

This rule is authorized under Section 26-15-2. It establishes minimum standards for the design, construction, operation and maintenance of public pools. This rule does not regulate any pool used only by an individual, family, or members or guests of multiple housing units of three or fewer units.

R392-302-2. Definitions.

The following definitions apply in this rule.

(1) "Bather Area" means any area normally occupied by bathers as they participate in bathing activities. Bather areas include pools, decks, slides, and dressing rooms.

(2) "Bather Load" means the number of persons using a pool at any one time or specified period of time.

(3) "Cleansing shower" means the cleaning of the entire body surfaces with soap and water to remove any matter, including fecal matter, that may wash off into the pool while swimming.

(4) "Department" means the Utah Department of Health.

(5) "Diver area" means the area of a pool that is designed, operated, and reserved around each diving board or platform.

(6) "Executive Director" means the Executive Director of the Utah Department of Health, or his designated representative.

(7) "Facility" means any premises, building, pool, equipment, system, and appurtenance which appertains to the operation of a public pool.

(8) "Float Tank or Relaxation Tank" means a tank containing skin-temperature salt water that is designed to provide for solitary body floatation upon or within the water.

(9) "High Bather Load" means 90% or greater of the designed maximum bather load."

(10) "Hydrotherapy Pool" means a pool designed primarily for medically prescribed therapeutic use.

(11) "Illuminance Uniformity" means the ratio between the brightest illuminance falling on a surface compared to the lowest illuminance falling on a surface within an area. The value of illuminance falling on a surface is measured in foot candles.

(12) "Lamp Lumens" means the quantity of light, illuminance, produced by a lamp.

(13) "Lifeguard" means an attendant who supervises the safety of bathers.

(14) "Living Unit" means one or more rooms or spaces that are, or can be, occupied by an individual, group of individuals, or a family, temporarily or permanently for residential or overnight lodging purposes. Living units include motel and hotel rooms, condominium units, travel trailers, recreational vehicles, mobile homes, single family homes, and individual units in a multiple unit housing complex.

(15) "Local Health Officer" means the health officer of the local health department having jurisdiction, or his designated representative.

(16) "Non-swimmer area" means each area of a pool with water 5 feet, 1.52 meters, or less in depth.

(17) "Pool" means a man-made basin, chamber, receptacle, tank, or tub which, when filled with water, creates an artificial body of water used for swimming, bathing, diving, recreational and therapeutic uses.

(18) "Pool Deck" means the area contiguous to the outside of the pool curb, diving boards, diving towers and slides.

(19) "Private Residential Pool" means a swimming pool, spa pool or wading pool used only by an individual, family, or living unit members and guests, but not serving any type of multiple unit housing complex of four or more living units.

(20) "Public Pool" means a swimming pool, spa pool, wading pool, or special purpose pool facility which is not a private residential pool."

(21) "Saturation Index" means a value determined by application of the formula for calculating the saturation index in Table 5, which is based on interrelation of temperature, calcium hardness, total alkalinity and pH which indicates if the pool water is corrosive, scale forming or neutral.

(22) "Spa Pool" means a pool which uses therapy jet circulation, hot water, cold water, bubbles produced by air induction, or any combination of these, to impart a massaging effect upon a bather. Spa pools include, spas, whirlpools, hot tubs, or hot spas.

(23) "Special Purpose Pool" means a pool with design and operational features that provide patrons recreational, instructional, or therapeutic activities which are different from that associated with a pool used primarily for swimming, diving, or spa bathing.

(24) "Splash Pool" means the area of water located at the terminus of a water slide or vehicle slide.

(25) "Swimmer area" means each area of a pool with water over 5 feet, 1.52 meters, in depth, which is not designed, operated, or reserved as a diver area.

(26) "Swimming Pool" means a pool used primarily for recreational, sporting, or instructional purposes in bathing, swimming, or diving activities.

(27) "Surge Tank" means a tank receiving the gravity flow from an overflow gutter and main drain or drains from which the circulation pump takes water which is returned to the system.

(28) "Turnover" means the circulation of a quantity of water equal to the pool volume through the filter and treatment facilities.

(29) "Vehicle Slide" means a recreational pool where bathers ride vehicles, toboggans, sleds, etc., down a slide to descend into a splash pool.

(30) "Wading Pool" means any pool or pool area used or designed to be used by children five years of age or younger for wading or water play activities.

(31) "Water play activity" means play associated with or facilitated by playground type equipment or recreational features and incorporates water as part of its designed function. Water play does not include swimming, diving, waterslides as described in R392-302-31,or organized sports, or instruction of these activities.

(32) "Water Slide" means a recreational facility consisting of flumes upon which bathers descend into a splash pool.

R392-302-3. General Requirements.

This rule does not require a construction change in any portion of a public pool facility if the facility was installed and in compliance with law in effect at the time the facility was installed, except as specifically provided otherwise in this rule. However if the Executive Director or the Local Health Officer determines that any facility is dangerous, unsafe, unsanitary, or a nuisance or menace to life, health or property, the Executive Director or the Local Health Officer may order construction changes consistent with the requirements of this rule to existing facilities.

R392-302-4. Water Supply.

(1) The water supply serving a public pool and all plumbing fixtures, including drinking fountains, lavatories and showers, must meet the requirements for drinking water established by the Department of Environmental Quality.

(2) All portions of water supply, re-circulation, and distribution systems serving the facility must be protected against backflow. Water introduced into the pool, either directly or through the circulation system, must be supplied through an air gap.

R392-302-5. Sewer System.

(1) Each public pool must discharge waste water to a public sanitary sewer system if the sewer system is within 300 feet of the property line. Where no public sanitary sewer system is available within 300 feet of the property line, the local health department may approve connections made to a disposal system designed, constructed, and operated in accordance with the minimum requirements of the Department of Environmental Quality.

(2) Each public pool must connect to a sewer or wastewater disposal system through an air break to preclude the possibility of sewage or waste backup into the piping system.

R392-302-6. Construction Materials.

(1) Each public pool and the appurtenances necessary for its proper function and operation must be constructed of materials

that are inert, non-toxic to humans, impervious, enduring over time, and resist the effects of wear and deterioration from chemical, physical, radiological, and mechanical actions.

(2) Construction of a public pool must withstand the stresses associated with the normal uses for which the public pool was designed.

(3) Each pool shell must be bonded to the supporting members.

(4) Each pool shell must be designed and constructed in a manner that provides a smooth, easily cleanable surface.

(5) Except for spa pools, the pool shell surface must be of a white or light pastel color.

(6) Sand, clay, or earth bottoms are prohibited.

(7) Vinyl or other flexible liners are prohibited.

(8) The pool shell surface coatings and textures, including flexible coating materials of at least 60 mils in thickness, may be used if they are bonded to a pool shell that is constructed as provided in Subsections R392-302-6(1), (2) and (3).

(a) The coatings must provide a smooth surface that is easily cleanable.

(b) The coatings must be slip resistant.

(9) The pool shell surfaces must be free of cracks or open joints with the exception of structural expansion joints.

(10) A pool shell constructed of materials other than concrete must:

(a) be listed by the International Association of Plumbing and Mechanical Officials (IAPMO) and the spa or other pool basin or tub shall bear the IAPMO logo; or

(b) meet construction and material standards that are equivalent to IAPMO's.

R392-302-7. Bather Load.

(1) The bather load capacity for each area of a public pool is determined as follows:

(a) Ten square feet, 0.929 square meters, of pool water surface area must be provided for each bather in a non-swimmer area during maximum load.

(b) Twenty-four square feet, 2.23 square meters, of pool water surface area must be provided for each bather in a swimmer area during maximum load.

(c) Three hundred square feet, 27.87 square meters, of pool water surface area must be reserved for each diving area. This area may not be included in computing swimmer and non-swimmer areas.

(d) A design limit of nine persons is allowed for each diving area.

(2) The department may make additional allowance for bathers when the facility operator can demonstrate that lounging and sunbathing patrons will not adversely affect water quality due to over-loading of the pool.

R392-302-8. Design Detail and Structural Stability.

(1) The designing architect or engineer is responsible to certify the design for structural stability and safety of the public pool.

(2) The shape of a pool and design and location of appurtenances must be such that the circulation of pool water and control of swimmer's safety are not impaired. The designing architect or engineer shall designate sidewalls and endwalls on pool plans. The pool design shall separate wading pools from other pools. Wading pools may not share common circulation, filtration, or chemical treatment systems, or walls.

(3) A pool must have a circulation system with necessary treatment and filtration equipment as required in R392-302-16, unless turnover rate requirements as specified in sub-section R392-302-16(1) can be met by continuous introduction of fresh water and wasting of pool water under conditions satisfying all other requirements of this rule.

(4) Where a facility is subject to freezing temperatures, all parts of the facility subject to freezing damage must be adequately and properly protected from damage due to freezing, including the pool, piping, filter system, pump, motor, and other components and systems.

(5) The pool operator or the designing architect or engineer shall submit plans for a new pool, pool renovation or pool remodeling project to the local health department for approval. This includes the replacement of equipment which is different from that originally approved by a health authority having jurisdiction. The local health department may require a pool renovation or pool remodeling project to meet the current requirements of R392-302.

R392-302-9. Depths and Floor Slopes.

(1) In determining the horizontal slope ratio of a pool floor, the first number shall indicate the vertical change in value or rise and the second number shall indicate the horizontal change in value or run of the slope.

(a) The horizontal slope of the floor of any portion of a pool having a water depth of less than 5 feet, 1.52 meters, may not be steeper than a ratio of 1 to 10.

(b) The horizontal slope of the floor of any portion of a pool having a water depth greater than 5 feet, 1.52 meters, must be uniform, must allow complete drainage and may not exceed a ratio of 1 to 3. The horizontal slope of the pool bottom in diving areas must be consistent with the requirements for minimum water depths as specified in Section R392-302-11 for diving areas.

(2) A wading pool may not exceed a maximum water depth of 2 feet, 60.96 centimeters.

(3) A spa pool may not exceed a maximum water depth of 4 feet, 1.22 meters. The department may grant exceptions for a spa

pool designed for special purposes, such as instruction, treatment, or therapy.

R392-302-10. Walls.

(1) Pool walls must be vertical or within 11 degrees of vertical for a minimum distance of 2 feet 9 inches, 83.82 centimeters, below the water line in areas with a depth of 5 feet, 1.52 meters, or greater. Pool walls must be vertical or within 11 degrees of vertical for a minimum distance equal to or greater than one half the pool depth as measured from the water line.

(2) Where walls form an arc to join the floors, the transitional arc from wall to floor must:

(a) Have its center no less than 2 feet 9 inches, 83.82 centimeters, below the normal water level in areas with a depth greater than 5 feet, 1.52 meters.

(b) Have its center no less than 75% of the pool depth beneath the normal water level, in areas of the pool with a depth of 5 feet, 1.52 meters, or less.

(c) Be tangent to the wall.

(d) Have a radius at least equal to or greater than the depth of the pool minus the vertical wall depth measured from the water line, as described in Subsection R392-302-9(1), minus 3 inches, 7.62 centimeters, to allow draining to the main drain. Radius minimum = Pool Depth - Vertical wall depth - 3 inches, 7.62 centimeters, where the water depth is greater than 5 feet, 1.52 meters.

(e) Have a radius which may not exceed a length greater than 25% of the water depth, in areas with a water depth of 5 feet, 1.52 meters, or less.

(3) Underwater ledges are prohibited.

R392-302-11. Diving Areas.

(1) Where diving is permitted, the diving area design, equipment placement, and clearances must meet the minimum standards established by the USA Diving Rules and Regulations 2004, Appendix B, which are incorporated by reference.

(2) Where diving from a height of less than 3.28 feet, 1 meter, from normal water level is permitted, the diving bowl shall meet the minimum depths outlined in Section 6, Figure 1 and Table 2 of ANSI/NSPI-1, 2003, which is adopted by reference, for type VI, VII and VIII pools according to the height of the diving board above the normal water level. ANSI/NSPI pool type VI is a maximum of 26 inches, 2/3 meter, above the normal water level; type VII is a maximum of 30 inches, 3/4 meter, above the normal water level; and type VIII is a maximum of 39.37 inches, 1 meter, above the normal water level.

(3) The use of a starting platform is restricted to competitive swimming events or supervised training for competitive swimming events.

(a) If starting platforms are used for competitive swimming

or training, the water depth shall be at least four feet.

(b) The operator shall either remove the starting platforms or secure them with a lockable cone-type platform safety cover when not in competitive use.

(4) Areas of a pool where diving is not permitted must have "NO DIVING" or the international no diving icon, or both provided in block letters at least four inches in height in a contrasting color on the deck, located on the horizontal surface of the deck or coping as close to the water's edge as practical.

(a) Where the "NO DIVING" warnings are used, the spacing between each warning may be no greater than 25 feet.

(b) Where the icon alone is used on the deck as required, the operator shall also post at least one "NO DIVING" sign in plain view within the enclosure. Letters shall be at least four inches in height with a stroke width of at least one-half inch.

R392-302-12. Ladders, Recessed Steps, and Stairs.

(1) In areas of a pool where the water depth is greater than 2 feet, 60.96 centimeters, and less than 5 feet, 1.52 meters, as measured vertically from the bottom of the pool to the mean operating level of the pool water, steps or ladders must be provided, and be located in the area of shallowest depth.

(2) In areas of the pool where the water depth is greater than 5 feet, 1.52 meters, as measured vertically from the bottom of the pool to the mean operating level of the pool water, ladders or recessed steps must be provided.

(3) A pool over 30 feet, 9.14 meters, wide must be equipped with steps, recessed steps, or ladders as applicable, installed on each end of both side walls.

(4) A pool over 30 feet, 9.14 meters, wide and 75 feet, 22.8 meters, or greater in length, must have ladders or recessed steps midway on both side walls of the pool, or must have ladders or recessed steps spaced at equal distances from each other along both sides of the pool at distances not to exceed 30 feet, 9.14 meters, in swimming and diving areas, and 50 feet, 15.23 meters, in non-swimming areas.

(5) Ladders or recessed steps must be located within 15 feet, 4.56 meters, of the diving area end wall.

(6) The steps, recessed steps, and ladders, must have one or more handrails.

(a) Handrails must be rigidly installed and constructed in such a way that they can only be removed with tools.

(b) Handrails must be constructed of corrosion resistant materials.

(c) The outside diameter of handrails may not exceed 2 inches, 5.08 centimeters.

(d) Submerged steps or rungs which are not recessed must be guarded by handrails. The hand rail must be mounted on the deck and extend to the bottom step.

(7) Steps must be constructed of corrosion-resistant

material, be easily cleanable, and be of a safe design.

(a) Steps leading into pools must be of non-slip design, have a minimum run of 10 inches, 25.4 centimeters, and a maximum rise of 12 inches, 30.48 centimeters.

(b) Steps must have a line at least 1 inch, 2.54 centimeters, in width, and be of a contrasting dark color for maximum visual distinction within 2 inches, 5.08 centimeters, of the leading edge of each step.

(c) Steps must have a minimum width of 18 inches, 45.72 centimeters, as measured at the leading edge of the step.

(d) In a spa pool where the bottom step serves as a bench or seat, the bottom riser must be a maximum of 14 inches, 35.56 centimeters.

(8) Pool ladders must meet the following requirements:

(a) Pool ladders must be corrosion-resistant and must be equipped with non-slip rungs.

(b) All ladders must be designed to provide a handhold and must be rigidly installed.

(c) There must be a clearance of not more than 5 inches, 12.7 centimeters, nor less than 3 inches, 7.62 centimeters, between any ladder rung and the pool wall.

(9) Full or partial recessed steps must meet the following requirements:

(a) Where full or partial recessed steps are used, a set of handrails must be located at the top of the course with a rail on each side. The handrails must extend over the coping or edge of the deck.

(b) Full or partial recessed steps must be designed to be readily cleanable and to provide drainage into the pool to prevent the accumulation of dirt on the step.

(c) Full or partial recessed steps must have a minimum run of 5 inches, 12.7 centimeters, and a minimum width of 14 inches, 35.56 centimeters.

(10) The designing architect or engineer or the facility owner must anticipate maximum loads on supports, platforms and steps for diving boards, and ensure that supports, platforms, and steps are of substantial construction and of sufficient structural strength to safely carry the maximum anticipated loads.

(a) Handrails must be provided at all steps and ladders leading to diving boards more than 3'3" feet, 1 meter, above the water.

(11) Platforms and diving boards which are over 3'3" feet, 1 meter, high, must be designed to protect divers from falls to the deck or pool curb by the installation of guard railings.

(12) A spa pool must be equipped with at least one handrail for each 50 feet, 15.24 meters, of perimeter, or portion thereof, to designate the point of entry and exit. Points of entry and exit must be evenly spaced around the perimeter of the spa pool and afford unobstructed entry and egress.

R392-302-13. Decks and Walkways.

(1) A continuous, unobstructed deck at least 5 feet, 1.52 meters, wide as measured from the pool side edge of the coping must extend completely around the pool.

(2) At least 5 feet, 1.52 meters, of deck area must be provided behind the deck end of any diving board, platform, slide, step, or ladder.

(3) The deck must slope away from the pool to floor drains at a grade of 1/4 inch, 6.35 millimeters, to 3/8 inch, 9.53 millimeters, per linear foot.

(4) Decks and walkways must be maintained free of standing water and must have non-slip surfaces.

(5) Wooden decks, walks or steps are prohibited.

(a) The department may grant exceptions for deck construction materials for spa pools or other applications where sealed, clear-heart redwood is used.

(6) Deck drains may not return water to the pool or the circulation system.

(7) Decks must be maintained in a sanitary condition and free from litter.

(8) Carpeting may not be installed within 5 feet, 1.52 meters, of the water side edge of the coping and must be wet vacuumed as often as necessary to keep it clean and free of accumulated water.

(9) Steps serving decks must meet the following requirements:

(a) Risers of steps for the deck must be uniform and have a minimum height of 3-3/4 inches, 9.53 centimeters, and a maximum height of 7-3/4 inches, 19.7 centimeters.

(b) The minimum run of steps shall be 10 inches, 25.4 centimeters.

(c) Steps must have a minimum width of 18 inches, 45.72 centimeters.

(10) The deck of a wading pool may be included as part of adjacent pool decks.

(11) A spa deck must meet each of the following requirements:

(a) A spa pool must have a continuous, unobstructed deck at least 3 feet, 91.44 centimeters, wide around 25 percent or more of the spa. This width may include the coping.

(b) A pool deck may be included as part of the spa deck if the pools are separated by a minimum of 5 feet, 1.52 meters. The department may grant an exception to deck and pool separation requirements if a spa pool and another pool are constructed adjacent to each other and share a common pool sidewall which separates the two pools. The common pool side wall may not exceed 12 inches, 30.48 centimeters, in width.

R392-302-14. Fencing.

(1) A fence or other barrier is required and must provide

complete perimeter security of the facility, and be at least 6 feet, 1.83 meters, in height. Openings through the fence or barrier, other than entry or exit access, may not permit a sphere greater than 4 inches, 10.16 centimeters, to pass through it at any location.

(a) If the local health department determines that the safety of children is not compromised, it may exempt indoor pools from the fencing requirements.

(b) The local health department may grant exceptions to the height requirements in consideration of architectural and landscaping features for pools designed for hotels, motels and apartment houses.

(2) A fence or barrier that has an entrance to the facility must be equipped with a self-closing and self-latching gate or door. Except for self-locking mechanisms, self-latching mechanisms must be at least 54 inches, 1.37 meters, above the ground and must be provided with hardware for locking the gate when the facility is not in use.

(3) Bathing areas must be separated from non-bathing areas by barriers with a minimum height of 4 feet, 1.22 meters, or by a minimum of 5 feet, 1.53 meters, distance separation.

R392-302-15. Depth Markings and Safety Ropes.

(1) The depth of the water must be plainly marked at locations of maximum and minimum pool depth, and at the points of separation between the swimming and non-swimming areas of a pool. Pools must also be marked at intermediate 1 foot, 30.48 centimeters, increments of depth, spaced at distances which do not exceed 25 feet, 7.62 meters. Markings must be located above the water line or within 2 inches, 5.8 centimeters, from the coping on the vertical wall of the pool and on the edge of the deck or walk next to the pool with numerals at least 4 inches, 10.16 centimeters, high.

(2) A pool with both swimming and diving areas must have a floating safety rope separating the swimming and diving areas. An exception to this requirement is made for special activities, such as swimming contests or training exercises when the full unobstructed length of the pool is used.

(a) The safety rope must be securely fastened to wall anchors. Wall anchors must be of corrosion-resistant materials and must be recessed or have no projections that may be a safety hazard if the safety rope is removed.

(b) The safety rope must be marked with visible floats spaced at intervals of 7 feet, 2.13 meters or less.

(c) The rope must be at least 0.5 inches, 1.27 centimeters, in diameter, and of sufficient strength to support the loads imposed on it during normal bathing activities.

(3) A pool constructed with a change in the slope of the pool floor must have the change in slope designated by a floating safety rope and a line of demarcation on the pool floor.

(a) The floating safety rope designating a change in slope of the pool floor must be attached at the locations on the pool wall that place it directly above and parallel to the line on the bottom of the pool. The floating safety rope must meet the requirements of Subsections R392-302-15(2)(a),(b),(c).

(b) A line of demarcation on the pool floor must be marked with a contrasting dark color.

(c) The line must be at least 2 inches, 5.08 centimeters, in width.

(d) The line must be located 12 inches, 30.48 centimeters, toward the shallow end from the point of change in slope.

(4) The department may exempt a spa pool from the depth marking requirement if the spa pool owner can successfully demonstrate to the department that bather safety is not compromised by the elimination of the markings.

R392-302-16. Circulation Systems.

(1) A circulation system, consisting of pumps, piping, filters, water conditioning and disinfection equipment and other related equipment must be provided. The normal water line of the pool must be maintained within 9 inches, 22.86 centimeters, of the deck whenever the pool is open for bathing. An exemption to this requirement may be granted by the department if it can be demonstrated that the safety of the bathers is not compromised.

(a) Except for spas, wading pools, wave pools, slide pools, vehicle slide pools, and floatation tanks, the circulation system shall clarify and disinfect the entire volume of pool water in eight hours or less, thus providing a minimum turnover of at least three times in 24 hours.

(b) The turnover rate must be increased to provide a six hour turnover for pools subjected to high bather loads if a review of bacteriological water quality reports by the department or local health department having jurisdiction demonstrates that high bather loads may have contributed to unsatisfactory water samples.

(c) The circulation equipment must be operated continuously except for periods of routine or other necessary maintenance and must be designed to permit complete drainage of the system. Table 1 further describes these requirements.

(d) Piping must be of non-toxic material, resistant to corrosion and be able to withstand operating pressures.

(e) Plumbing must be identified by a color code or labels.

(2) The water velocity in discharge piping may not exceed 10 feet, 3.05 meters, per second, except for copper pipe where the velocity for piping may not exceed 8 feet, 2.44 meters, per second.

(3) Suction velocity for all piping may not exceed 6 feet, 1.83 meters, per second.

(4) The circulation system must include a strainer to prevent hair, lint, etc., from reaching the pump.

(a) Strainers must be corrosion-resistant with openings not

more than 1/8 inch, 3.18 millimeters, in size.

(b) Strainers must provide a free flow capacity of at least four times the area of the pump suction line.

(c) Strainers must be readily accessible for frequent cleaning.

(d) Strainers must be maintained in a clean and sanitary condition.

(e) Each pump strainer must be provided with necessary valves to facilitate cleaning of the system without excessive flooding.

(5) A vacuum-cleaning system must be provided.

(a) If this system is an integral part of the circulation system, connections must be located in the walls of the pool, at least 8 inches, 20.32 centimeters, below the water line. This requirement does not apply to vacuums operated from skimmers.

(b) The number of connections provided must facilitate access to all areas of the pool through hoses less than 50 feet, 15.24 meters, in length.

(6) A rate-of-flow indicator, reading in gallons per minute, must be properly installed and located according to manufacturer recommendations. The indicator must be located in a place and position where it can be easily read.

(7) Pumps must be of adequate capacity to provide the required number of turnovers of pool water as specified in Subsection R392-302-16, Table 1. The pump or pumps must be capable of providing flow adequate for the backwashing of filters. Under normal conditions, the pump or pumps must supply the circulation rate of flow at a dynamic head which includes, in addition to the usual equipment, fitting and friction losses, an additional loss of 15 feet, 4.57 meters, for rapid sand filters, vacuum diatomite filters or vacuum cartridge filters and 40 feet, 12.19 meters, for pressure diatomite filters, high rate sand filters or cartridge filters, as well as pool inlet orifice loss of 15 feet, 4.57 meters.

(8) A pool equipped with heaters must meet the requirements for boilers and pressure vessels as required by the State of Utah Boiler and Pressure Vessel Rules, R576-201, and must have a fixed thermometer mounted in the pool circulation line downstream from the heater outlet. The heater must be provided with a heatsink as required by manufacturer's instructions.

(9) The area housing the circulation equipment must be designed with adequate working space so that all equipment may be easily disassembled, removed, and replaced for proper maintenance.

(10) All circulation lines to and from the pool must be regulated with valves in order to control the circulation flow.

(a) All valves must be located where they will be readily and easily accessible for maintenance and removal.

(b) Multiport valves must comply with National Sanitation Foundation NSF/ANSI 50-2004, which is incorporated and adopted by reference.

(11) Written operational instructions must be immediately available at the facility at all times.

(12) A wading pool must have a minimum of one turnover per hour and have a separate circulation system.

(13) A spa pool must have a minimum of one turnover every 30 minutes. The circulation lines of jet systems and other forms of water agitation used in spa and therapy pool must be independent and separate from the circulation-filtration and heating systems.

(14) Float tank circulation systems, consisting of pumps, piping, filters, and disinfection equipment must be provided which will clarify and disinfect the tank's volume of water in 15 minutes or less. The total volume of water within a float tank must be turned over at least twice between uses by patrons.

(15) Wave pool circulation-filtration systems must be operated at a minimum of one turnover every six hours.

(16) Slide and vehicle slide pools must be operated at a minimum of one turnover every hour.

TABLE 1

Circulation

Type of Pool	Minimum Number of Wall Inlets	Minimum Number of Skimmers per 3,500 square feet or less	Minimum Turnover Time
1. Swim	1 per 10 feet, 3.05 meters	1 per 500 sq. ft., 46.45 sq. meters.	8 hours
2. Swim, high bather load	1 per 10 feet, 3.05 meters	1 per 500 sq. ft., 46.45 sq. meters	6 hours
3. Wading pool	1 per 20 feet, 6.10 meters, minimum of 2 equally spaced	1 per 500 sq. ft. 46.45 sq. meters	1 hour
4. Spa 20 feet,	One per 100 sq. ft., 6.10 meters	1 per 9.29 sq. meters	30 minutes
5. Wave	1 per 10 feet, 3.05 meters	1 per 500 sq. ft., 46.45 sq. meters	6 hours
6. Slide	1 per 10 feet,	1 per 500 sq. ft.,	1 hour

	3.05 meters	46.45 sq. meters	
7. Vehicle slide	1 per 10 feet, 3.05 meters	1 per 500 sq. ft., 46.45 sq. meters	1 hour
8. Float tank	1	1	15 minutes with 2 turnovers between patrons
9. Special Purpose Pool	1 per 10 feet, 3.05 meters	1 per 500 sq. ft., 46.45 sq. meters	1 hour

(17) Each air induction system installed must comply with the following requirements:

(a) An air induction system must be designed and maintained to prevent any possibility of water back-up that could cause electrical shock hazards.

(b) An air intake may not introduce contaminants such as noxious chemicals, fumes, deck water, dirt, etc. into the pool.

R392-302-17. Inlets.

(1) Inlets for fresh or treated water must be located to produce uniform circulation of water and to facilitate the maintenance of a uniform disinfectant residual throughout the entire pool.

(2) If wall inlets from the circulation system are used, they must be flush with the pool wall and submerged at least 5 feet, 1.52 meters, below the normal water level or at the bottom of the vertical wall surface tangent to the arc forming the transition between the vertical wall and the floor of the pool. Except as provided in Subsections R392-302-17(4) and (5), wall inlets must be placed every 10 feet, 3.05 meters, around the pool perimeter.

(a) The department or the local health officer may require floor inlets to be installed in addition to wall inlets if a pool has a width greater than 50 feet, 4.57 meters, to assure thorough chemical distribution. If floor inlets are installed in addition to wall inlets, there must be a minimum of one row of floor inlets centered on the pool width. Individual inlets and rows of inlets shall be spaced a maximum of 15 feet, 4.57 meters, from each other. Floor inlets must be at least 15 feet, 4.57 meters, from a pool wall with wall inlets.

(b) Each wall inlet must be designed as a non-adjustable orifice with sufficient head loss to insure balancing of flow through all inlets. The return loop piping must be sized to

provide less than 2.5 feet, 76.20 centimeters, of head loss to the most distant orifice to insure approximately equal flow through all orifices.

(3) If floor inlets from the circulation system are used, they must be flush with the floor. Floor inlets shall be placed at maximum 15 foot, 4.46 meter, intervals. The distance from floor inlets to a pool wall shall not exceed 7.5 feet, 2.29 meters if there are no wall inlets on that wall. Each floor inlet must be designed such that the flow can be adjusted to provide sufficient head loss to insure balancing of flow through all inlets. All floor inlets must be designed such that the flow cannot be adjusted without the use of a special tool to protect against swimmers being able to adjust the flow. The return supply piping must be sized to provide less than 2.5 feet, 76.20 centimeters, of head loss to the most distant orifice to insure approximately equal flow through all orifices.

(4) A wading pool that utilizes wall inlets shall have a minimum of two equally spaced inlets around its perimeter at a minimum of one in each 20 feet, 6.10 meters, or fraction thereof.

(a) Each wading pool shall have a minimum of two equally spaced wall inlets located to avoid the creation of a vortex in the pool.

(5) Spa pool filtration system inlets shall be wall-type inlets and the number of inlets shall be based on a minimum of one for each 20 feet, 6.10 meters, or fraction thereof, of pool perimeter.

(6) The department may grant an exemption to the inlet placement requirements on a case by case basis for inlet designs that can be demonstrated to produce uniform mixing of pool water.

R392-302-18. Outlets.

(1) Each pool shall have a minimum of two outlets. All pool outlets shall meet the following design criteria:

(a) The grates or covers of all submerged outlets in pools shall conform to the standards of ASME A112.19.8a-2008.

(b) The outlets must be constructed so that if one of the outlets is completely obstructed, the remaining outlets and related piping will be capable of handling 100 percent of the maximum design circulation flow.

(c) All pool outlets must connect to pipes of equal diameter.

(d) The outlet system must not allow any outlet to be cut out of the suction line by a valve or other means.

(e) At least one of the circulation outlets shall be located at the deepest point of the pool and must be piped to permit the pool to be completely and easily emptied.

(f) The center of the outlet covers or grates of multiple main drain outlets shall not be spaced more than 30 feet, 9.14 meters, apart nor spaced closer than 3 feet, 0.914 meters, apart.

(g) Multiple pumps may utilize the same outlets only if the

outlets are sized to accommodate 100 percent of the total combined design flow from all pumps and only if the flow characteristics of the system meet the requirements of subsection R392-302-18(2) and (3).

(h) No feature or circulation pump shall be connected to less than two outlets unless connected to an anti-entrapment outlet system that the operator demonstrates to the Department as being effective in preventing entrapment.

(i) There must be one main drain outlet for each 30 feet, 9.14 meters, of pool width. The centers of the outlet covers or grates of any outermost main drain outlets must be located within 15 feet, 4.57 meters, of a side wall.

(j) Devices or methods used for draining pools shall prevent overcharging the sanitary sewer.

(k) No operator shall allow the use of a pool with outlet grates or covers that are broken, damaged, missing, or not securely fastened.

(2) Notwithstanding Section R392-302-3, all public pools must comply with Subsections R392-302-18(2) and (3). The pool operator shall not install, allow the installation of, or operate a pool with a drain, drain cover, or drain grate in a position or an application that conflicts with any of the following mandatory markings on the drain cover or grate under the standard required in R392-302-18(1)(a):

(a) whether the drain is for single or multiple drain use;

(b) the maximum flow through the drain cover; and

(c) whether the drain may be installed on a wall or a floor.

(3) The pool operator shall not install, allow the installation of, or operate a pool with a drain cover or drain grate unless it is over or in front of:

(a) the sump that is recommended by the drain cover or grate manufacturer;

(b) a sump specifically designed for that drain by a Registered Design Professional as defined in ASME A112.19.8a-2008; or

(c) a sump that meets the ASME A112.19.8a-2008 standard.

(4) Notwithstanding Section R392-302-3, all public pools must comply with this subsection R392-302-18(4). The pool owner or certified pool operator shall retrofit by December 19, 2009 each pool circulation system on existing pools that do not meet the requirements of subsections R392-302-18(1) through R392-302-18(1)(h) and R392-302-18(2) through (3)(c). The owner or operator shall meet the retrofit requirements of this subsection by any of the following means:

(a) Meet the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c) and install a safety vacuum release system which ceases operation of the pump, reverses the circulation flow, or otherwise provides a vacuum release at a suction outlet when it detects a blockage; that has been tested

by an independent third party; and that conforms to ASME standard A112.19.17-2002 or ASTM standard F2387;

(i) To ensure proper operation, the certified pool operator shall inspect and test the vacuum release system at least once a week but no less often than established by the manufacturer. The certified pool operator shall test the vacuum release system in a manner specified by the manufacturer. The certified pool operator shall log all inspections, tests and maintenance and retain the records for a minimum of two years for review by the Department and local health department upon request.

(ii) The vacuum release system shall include a notification system that alerts patrons and the pool operator when the system has inactivated the circulation system. The pool operator shall submit to the local health department for approval the design of the notification systems prior to installation. The system shall activate a continuous clearly audible alarm that can be heard in all areas of the pool or a continuous visible alarm that can be seen in all areas of the pool. An easily readable sign shall be posted next to the sound or visible alarm source. The sign shall state, "DO NOT USE THE POOL IF THIS ALARM IS ACTIVATED." and provide the phone number of the pool operator.

(b) Install aAn outlet system that includes no fewer than two suction outlets separated by no less than 3 feet, 0.914 meters, on the horizontal plane as measured from the centers of the drain covers or grates or located on two different planes and connected to pipes of equal diameter. The outlet system shall meet the requirements of R392-302-18(1)(a) through R392-302-18(1)(h) and 18(2) through (3)(c).;

(c) Meet the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c) and installing (or having an existing) gravity drain system where, rather than drawing directly from the drain, the pump draws from a surge or collector tank wherein the contained water surface is maintained at atmospheric pressure;

(d) Install a drain of a size and shape that a human body cannot sufficiently block to create a suction entrapment hazard that meets the requirements of R392-302-18(1)(a) and R392-302-18(2) through (3)(c); or

(e) Any other system determined by the federal Consumer Products Safety Commission to be equally effective as, or better than, the systems described in 15 USC 8003 (c)(1)(A)(ii)(I), (III), or (IV) at preventing or eliminating the risk of injury or death associated with pool drainage systems.

R392-302-19. Overflow Gutters and Skimming Devices.

R392-302-19. Overflow Gutters and Skimming Devices.

(1) A pool having a surface area of over 3,500 square feet, 325.15 square meters, must have overflow gutters. A pool having a surface area equal to or less than 3,500 square feet, 325.15 square meters, must have either overflow gutters or skimmers provided.

(2) Overflow gutters must extend completely around the pool, except at steps, ramps, or recessed ladders. The gutter system must be capable of continuously removing pool water at 100 percent of the maximum flow rate. This system must be connected to the circulation system by means of a surge tank.

(3) Overflow gutters must be designed and constructed in compliance with the following requirements:

(a) The opening into the gutter beneath the coping or grating must be at least 3 inches, 7.62 centimeters, in height with a depth of at least 3 inches, 7.62 centimeters.

(b) Gutters must be designed to prevent entrapment of any part of a bather's body.

(c) The edge must be rounded so it can be used as a handhold and must be no thicker than 2.5 inches, 6.35 centimeters, for the top 2 inches, 5.08 centimeters.

(d) Gutter outlet pipes must be at least 2 inches, 5.08 centimeters, in diameter. The outlet grates must have clear openings and be equal to at least one and one-half times the cross sectional area of the outlet pipe.

(4) Skimmers complying with National Sanitation Foundation NSF/ANSI 50-2007 standards or equivalent are permitted on any pool with a surface area equal to or less than 3,500 square feet, 325.15 square meters. At least one skimming device must be provided for each 500 square feet, 46.45 square meters, of water surface area or fraction thereof. Where two or more skimmers are required, they must be spaced to provide an effective skimming action over the entire surface of the pool.

(5) Skimming devices must be built into the pool wall and must meet the following general specifications:

(a) The piping and other components of a skimmer system must be designed for a total capacity of at least 80 percent of the maximum flow rate of the circulation system.

(b) Skimmers must be designed with a minimum flow rate of 25 gallons, 94.64 liters, per minute and a maximum flow rate of 55 gallons, 208.12 liters, per minute. The local health department may allow a higher maximum flow through a skimmer up to the skimmer's NSF rating if the piping system is designed to accommodate the higher flow rates. Alternatively, skimmers may also be designed with a minimum of 3.125 gallons, 11.83 liters, to 6.875 gallons, 26.02 liters, per lineal inch, 2.54 centimeters, of weir.

(6) Each skimmer weir must be automatically adjustable and must operate freely with continuous action to variations in water level over a range of at least 4 inches, 10.16 centimeters. The weir must operate at all flow variations. Skimmers shall be installed with the normal operating level of the pool water at the midpoint of the skimmer opening or in accordance with the manufacturer's instructions.

(7) An easily removable and cleanable basket or screen through which all overflow water passes, must be provided to trap

large solids.

(8) The skimmer must be provided with a system to prevent air-lock in the suction line. The anti-air-lock may be accomplished through the use of an equalizer pipe or a surge tank or through any other arrangement approved by the Department that will assure a sufficient amount of water for pump suction in the event the pool water drops below the weir level. If an equalizer pipe is used, the following requirements must be met:

(a) An equalizer pipe must be sized to meet the capacity requirements for the filter and pump;

(b) An equalizer pipe may not be less than 2 inches, 5.08 centimeters, in diameter and must be designed to control velocity through the pipe in accordance with section R392-302-16(3);

(c) This pipe must be located at least 1 foot, 30.48 centimeters, below a valve or equivalent device that will remain tightly closed under normal operating conditions. In a shallow pool, such as a wading pool, where an equalizer outlet can not be submerged at least one foot below the skimmer valve, the equalizer pipe shall be connected to a separate dedicated outlet with an anti-entrapment outlet cover in the floor of the pool that meets the requirements of ASME A112.19.8A-2008; and

(d) The equalizer pipe must be protected with a cover or grate that meets the requirements of ASME A112.19.8A-2008 and is sized to accommodate the design flow requirement of R392-302-19(5).

(9) The operator shall maintain proper operation of all skimmer weirs, float valves, check valves, and baskets. Skimmer baskets shall be maintained in a clean and sanitary condition.

(10) Where skimmers are used, a continuous handhold is required around the entire perimeter of the pool except in areas of the pool that are zero depth and shall be installed not more than 9 inches, 22.9 centimeters, above the normal operating level of the pool. The decking, coping, or other material may be used as the handhold so long as it has rounded edges, is slip-resistant, and does not exceed 3.5 inches, 8.89 centimeters, in thickness. The overhang of the coping, decking, or other material must not exceed 2 inches, 5.08 centimeters, nor be less than 1 inch, 2.54 centimeters beyond the pool wall. An overhang may be up to a maximum of 3 inches to accommodate an automatic pool cover track system.

R392-302-20. Filtration.

(1) The filter system must provide for isolation of individual filters for backwashing or other service.

(2) The filtration system must be designed to allow the pool operator to easily observe the discharge backwash water from the filter in order to determine if the filter cells are clean.

(3) A public pool must use either a rapid sand filter, hi-rate sand filter, diatomaceous earth filter, or a cartridge filter.

(4) The following requirements are applicable to gravity and pressure rapid sand filters, all of which must comply with the standards of the National Sanitation Foundation, NSF/ANSI 50-2004 or is determined to be equivalent by the department.

(a) Rapid sand filters must be designed for a filter rate of 3 gallons, 11.36 liters, or less, per minute per square foot, 929 square centimeters, of bed area at time of maximum head loss. The filter bed surface area must be sufficient to meet the design rate of flow required by Section R392-302-16, Table 1, for required turnover.

(b) The filter system must be provided with influent pressure, vacuum, or compound gauges to indicate the condition of the filters. Air-relief valves must be provided at or near the high point of the filter or piping system.

(c) The filter system must be designed with necessary valves and piping to permit:

(i) filtering of all pool water;

(ii) individual backwashing of filters to a sanitary sewer at a minimum rate of 15 gallons, 56.78 liters, per minute per square foot, 929 square centimeters, of filter area;

(iii) isolation of individual filters;

(iv) complete drainage of all parts of the system;

(v) necessary maintenance, operation and inspection in a convenient manner.

(d) Each pressure type filter tank must be provided with an access opening of at least a standard size 11 inch, 27.94 centimeters, by 15 inch, 38.10 centimeters, manhole with a cover.

(5) Hi-rate sand filters must comply with the standards of the National Sanitation Foundation, NSF/ANSI 50-2004, or be determined to be equivalent by the department.

(a) Hi-rate sand filters must be designed for a filter rate of less than 18 gallons, 68.14 liters, per minute per square foot, 929 square centimeters, of bed area. The filter bed area must be sufficient to meet the design rate of flow required by Section R392-302-16, Table 1, for required turnover. Minimum flow rates must be at least 13 gallons, 49.21 liters, per minute per square foot, 929 square centimeters, of bed area.

(b) The filter tank and all components must be installed in compliance with the manufacturer's recommendations.

(c) An air-relief valve must be provided at or near the high point of the filter.

(d) The filter system must be provided with an influent pressure gauge to indicate the condition of the filter.

(6) Diatomaceous earth filters, whether of the vacuum or pressure type, must comply in all respects with the standards of the National Sanitation Foundation, NSF/ANSI 50-2004, or be determined to be equivalent standards by the department. The filtering area must be compatible with the design pump capacity as required by Section R392-302-16, Table 1.

(a) The design rate of filtration may not exceed 2.0 gallons

per minute per square foot, 7.57 liters per 929 square centimeters, of effective filtering surface without continuous body feed, nor greater than 2.5 gallons per minute per square foot, 9.46 liters per 929 square centimeters, with continuous body feed.

(b) Where body feed is provided, the feeder device must be accurate to within 10 percent, must be capable of continual feeding within a calibrated range, and must be adjustable from two to six parts per million. The device must feed at the design capacity of the circulation pump.

(c) Where fabric is used, filtering area must be determined on the basis of effective filtering surfaces.

(d) The filter and all component parts must be designed and constructed of materials which will withstand normal continuous use without significant deformation, deterioration, corrosion or wear which could adversely affect filter operations.

(e) If a precoat device is supplied with a potable water supply, then the water must be delivered through an air gap.

(f) The filter plant must be provided with influent pressure, vacuum, or compound gauges to indicate the condition of the filter. In vacuum-type filter installations where the circulating pump is rated at two horsepower or higher, an adjustable high vacuum automatic shut-off device must be provided to prevent damage to the pump. Air-relief valves must be provided at or near the high point of the filter system.

(g) A filter must be designed to facilitate cleaning by one or more of the following methods: backwashing, air-bump-assist backwashing, automatic or manual water spray, or agitation.

(h) The filter system must provide for complete and rapid draining of the filter.

(i) Diatomaceous earth filter backwash water must discharge to the sanitary sewer system through a separation tank. The separation tank must have a visible precautionary statement warning the user not to start up the filter pump without first opening the air relief valve.

(j) Personal protection equipment suitable for preventing inhalation of diatomaceous earth must be provided.

(7) The department may waive National Sanitation Foundation, NSF/ANSI 50-2004, standards for diatomaceous earth filters and approve site-built or custom-built vacuum diatomite filters, if the diatomaceous earth filter elements are easily accessible for cleaning by hand hosing after each filtering cycle. Site-built or custom-built vacuum diatomaceous earth filters must comply with all design requirements as specified in Subsection R392-302-20(6). Any design which provides the equivalent washing effectiveness as determined by the department may be acceptable. Where the department or the local health department determines that a potential cross-connection exits, a hose bib in the vicinity of the filter to facilitate the washing operation must be equipped with a vacuum breaker listed by the International Association of

Plumbing and Mechanical Officials, IAPMO, the American Society of Sanitary Engineering, A.S.S.E., or other nationally recognized standard.

(8) Vacuum or pressure type cartridge filters must comply with the standards of the National Sanitation Foundation, NSF/ANSI 50-2004, or equivalent standards covering such filters as determined by the department.

(a) Sufficient filter area must be provided to meet the design pump capacity as required by Subsection R392-302-16, Table 1.

(b) The designed rate of filtration may not exceed 0.375 gallons, 1.42 liters, per minute per square foot, 929 square centimeters, of effective filter area.

(c) The filter and all component parts must be designed and constructed of materials which will withstand normal continuous use without significant deformation, deterioration, corrosion or wear which could adversely affect filter operations. The filter element must be constructed of polyester fiber only.

(d) The filter must be fitted with influent and effluent pressure gauges, vacuum, or compound gauges to indicate the condition of the filter. In vacuum type filter installations where the circulating pump is rated at two horsepower or higher, an adjustable high vacuum automatic shut-off must be provided to prevent damage to the pump. Air-relief valves must be provided at or near the high point of the filter system.

(e) Cleaning of cartridge type filters must be accomplished in accordance with the manufacturer's recommendations.

R392-302-21. Disinfectant and Chemical Feeders.

(1) A pool must be equipped with a disinfectant feeder or feeders which conform to the National Sanitation Foundation, NSF/ANSI 50-2004, standards relating to adjusted output rate chemical-feeding equipment and flow through chemical feeding equipment for swimming pools, or be deemed equivalent by the department.

(2) A spa pool must be equipped with oxidation reduction potential controllers which monitor chemical demands, including pH and disinfectant demands, and regulate the amount of chemicals fed into the pool circulation system. A spa pool constructed and approved prior to September 16, 1996 is exempt from this requirement if it is able to meet bacteriological quality as required in Subsection R392-302-27(10). Supervisory water testing, calibration checks, inspection and cleaning of sensor probes and chemical injectors must be performed in accordance with the manufacturer's recommendations. If specific manufacturer's recommendations are not made, the inspections, calibration checks, and cleaning of sensor probes must be done at least weekly.

(3) Where compressed chlorine gas is used, the following additional features must be provided:

(a) Chlorine and chlorinating equipment must be located in a

secure, well-ventilated enclosure separate from other equipment systems or equipment rooms. Such enclosures may not be below ground level. If an enclosure is a room within a building, it must be provided with vents near the floor which terminate at a location out-of-doors. Enclosures must be located to prevent contamination of air inlets to any buildings and areas used by people. Forced air ventilation capable of providing at least one complete air change per minute, must be provided for enclosures.

(b) Substances which are incompatible with chlorine may not be kept in the chlorine enclosure.

(c) Chlorine cylinders must be secured to prevent their falling over. An approved valve stem wrench must be maintained on the chlorine cylinder so the supply can be shut off quickly in case of emergency. Valve protection hoods and cap nuts must be kept in place except when the cylinder is connected.

(d) Doors to chlorine gas and equipment rooms must be labeled DANGER CHLORINE GAS in letters at least 4 inches, 10.16 centimeters, in height and display the United States Department of Transportation placard and I.D. number for chlorine gas.

(e) The chlorinator must be designed so that leaking chlorine gas will be vented to the out-of-doors.

(f) The chlorinator must be a solution feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere. Injector water must be furnished from the pool circulation system with necessary water pressure increases supplied by a booster pump. The booster must be interlocked with both the pool circulation pump and with a flow switch on the return line.

(g) Chlorine feed lines may not carry pressurized chlorine gas.

(h) An unbreakable bottle of ammonium hydroxide, of approximately 28 percent solution in water, must be readily available for chlorine leak detection.

(i) A self-contained breathing apparatus approved by NIOSH for entering environments that are immediately dangerous to life or health must be available and must have a minimum capacity of fifteen minutes.

(j) The breathing apparatus must be kept in a closed cabinet located outside of the room in which the chlorinator is maintained, and must be accessible without use of a key or lock combination.

(k) The facility operator shall demonstrate to the local health department through training documentation, that all persons who operate, or handle gas chlorine equipment, including the equipment specified in Subsections R392-203-21(3)(h) and (i) are knowledgeable about safety and proper equipment handling practices to protect themselves, staff members, and the public from accidental exposure to chlorine gas.

(l) The facility operator or his designee shall immediately notify the local health department of any inadvertent escape of

chlorine gas.

(4) Bactericidal agents, other than chlorine and bromine, and their feeding apparatus may be acceptable if approved by the department. Each bactericidal agent must be registered by the U.S. Environmental Protection Agency for use in swimming pools.

(5) Equipment of the positive displacement type and piping used to apply chemicals to the water must be sized, designed, and constructed of materials which can be cleaned and maintained free from clogging at all times. Materials used for such equipment and piping must be resistant to the effects of the chemicals in use.

(6) All auxiliary chemical feed pumps must be wired electrically to the main circulation pump so that the operation of these pumps is dependent upon the operation of the main circulation pump. If a chemical feed pump has an independent timer, the main circulation pump and chemical feed pump timer must be interlocked.

R392-302-22. Safety Requirements and Lifesaving Equipment.

(1) A public pool where a lifeguard is required under Subsection R392-302-30(2) shall provide for a minimum number of elevated lifeguard chair(s) in accordance with Table 2. Lifeguard chair(s) shall be located to provide a clear unobstructed view of the pool bottom by lifeguards on duty.

(2) A public pool must have at least one unit of lifesaving equipment. One unit of lifesaving equipment must consist of the following: a Coast Guard-approved ring buoy with an attached rope equal in length to the maximum width of the pool plus 10 feet, American Red Cross-approved rescue tube; a life pole or shepherd's crook type pole with blunted ends and a minimum length of 12 feet, 3.66 meters. The facility operator may substitute a rescue tube for a ring buoy where lifeguard service is provided. Additional units must be provided at the rate of one for each 2,000 square feet, 185.8 square meters, of surface area or fraction thereof. The operator of a pool that has lifeguard services shall provide at least one backboard designed with straps and head stabilization capability.

(3) A public pool must be equipped with a Utah Department of Health standard 27-unit first aid kit which includes the following items:

2 Units 1 inch adhesive compress.
2 Units 2 inch bandage compress.
2 Units 3 inch bandage compress.
2 Units 4 inch bandage compress.
2 Units 3 inch square plain gauze pads.
2 Units gauze roller bandage.
2 Units eye dressing packet.
1 Unit plain absorbent gauze, .5 sq. yard.
1 Unit plain absorbent gauze, 24 inches by 72 inches.
2 Units bandage tape.
1 Unit butterfly closures, 1 box.

1 Unit 3 inch ace bandage.
1 Unit assorted adhesive band-aids, 1 box.
2 Units triangular bandages.
1 Unit microshield.
1 Unit scissors.
1 Unit tweezers.
1 Unit latex gloves, 6 pairs per unit.

(a) The 27 unit first-aid kit must be kept filled, available and ready for use.

(4) Lifesaving equipment must be mounted in readily accessible, conspicuous places around the pool deck. It must be maintained in good repair and operable condition. Lifesaving equipment may not be used or removed by anyone for any reason other than its intended purpose.

(5) Where no lifeguard service is provided in accordance with Subsection R392-302-30(2), a warning sign must be placed in plain view and shall state: WARNING - NO LIFEGUARD ON DUTY and BATHERS SHOULD NOT SWIM ALONE, with clearly legible letters, at least 4 inches high, 10.16 centimeters. In addition, the sign must also state CHILDREN 14 AND UNDER SHOULD NOT USE POOL WITHOUT RESPONSIBLE ADULT SUPERVISION.

(6) Where lifeguard service is required, the facility must have a readily accessible area designated and equipped for emergency first aid care.

TABLE 2

Safety Equipment and Signs

	POOLS WITH LIFEGUARD	POOLS WITH NO LIFEGUARD
Elevated Chair		
1,000 through 2,999 sq. ft., 92.9 through 278.61 sq. meters, of surface area	1	None
Each additional 2,000 sq. ft., 185.8 sq. meters, of surface area or fraction	1 additional	None
Backboard	1 per facility	None
Room for Emergency Care	1 per facility	None
Ring Buoy with	1 per 2,000	1 per 2,000

an attached rope equal in length to the maximum width of the pool plus 10 feet, 3.05 meters	sq. ft., 185 sq. meters, of pool area or fraction	sq. ft., 185 sq. meters, of pool area or fraction
Rescue Tube	1 per 2,000 sq. ft., 185 sq. meters, of pool area or fraction	None
Life Pole or Shepherds Crook	1 per 2,000 sq. ft. 185, sq. meters, of pool area or fraction	1 per 2,000 sq. ft. 185, sq. meters, of pool area or fraction
First Aid Kit	1 per facility	1 per facility

(7) A spa pool is exempt from Section R392-302-22, except for Section R392-302-22(3).

(8) The water temperature in a spa pool may not exceed 105 degrees Fahrenheit.

R392-302-23. Lighting, Ventilation and Electrical Requirements.

(1) A pool constructed after September 16, 1996 may not be used for night swimming in the absence of underwater lighting. The local health officer may grant an exemption to this if it can be demonstrated to him that a 6 inch, 15.24 centimeters, diameter black disk on a white background placed in the deepest part of the pool can be clearly observed from the pool deck during night time hours. The local health department shall keep a record of this exemption on file. The pool operator shall keep a record of this exemption on file at the facility.

(2) Where night swimming is permitted and underwater lighting is used, refer to Table 3 for illumination requirements.

TABLE 3

Underwater Illumination Requirements

Class	Application	Lamp lumens per square foot of pool surface area-Indoor	Lamp lumens per square foot of pool surface area-Outdoor	Illuminance Uniformity: Maximum to Minimum
I	International,	100	60	2.0 : 1

	Professional, Tournament			
II	College and Diving	75	50	2.5 : 1
III	High School Without Diving	50	30	3.0 : 1
IV	Recreational	30	15	4.0 : 1

(3) Where night swimming is permitted and underwater luminaires are used, area lighting must be provided for the deck areas and directed away from the pool surface as practical to reduce glare. The luminance must be at least 5 horizontal foot candles of light per square foot, 929 square centimeters, of deck area, but less than the luminance level for the pool shell.

(4) Electrical wiring must conform with Article 680 of the National Electrical Code, as adopted by the State.

(a) Wiring may not be routed under a pool or within the area extending 5 feet, 1.52 meters, horizontally from the inside wall of the pool as provided in Article 680 of the National Electric Code, without the written approval of the department. The department may deny the installation and use of any electrical appliance, device, or fixture, if its power service is routed under a pool or within the area extending 5 feet, 1.52 meters, horizontally from the inside wall of the pool, except in the following circumstances;

(i) For underwater lighting,

(ii) electrically powered automatic pool shell covers, and

(iii) competitive judging, timing, and recording apparatus.

(5) Buildings containing indoor pools, bathhouses, dressing rooms, shower rooms, and toilet spaces must be ventilated in accordance with American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 62.1-2004, which is incorporated and adopted by reference.

R392-302-24. Dressing Rooms.

(1) All areas and fixtures within dressing rooms must be maintained in a clean and sanitary condition. Dressing rooms must be equipped with minimum fixtures as required in Subsection R392-302-25(1). The local health department may exempt any bathers from the total number of bathers used to calculate the fixtures required in Subsection R392-302-25(1) who have private use fixtures available within 150 feet, 45.7 meters of the pool.

(2) A separate dressing room must be provided for each sex. The entrances and exits must be designed to break the line of sight into the dressing areas from other locations.

(3) Dressing rooms must be constructed of materials that have smooth, non-slip surfaces, and are impervious to moisture.

(4) Floors must slope to a drain and be constructed to prevent accumulation of water.

(5) Carpeting may not be installed on dressing room floors.

(6) Junctions between walls and floors must be coved.

(7) Partitions between dressing cubicles must be raised at least 10 inches, 25.4 centimeters, above the floor or must be placed on continuous raised masonry or concrete bases at least 4 inches, 10.16 centimeters, high.

(8) Lockers must be set either on solid masonry bases 4 inches, 10.16 centimeters, high or on legs elevating the bottom locker at least 10 inches, 25.4 centimeters, above the floor.

(a) Lockers must have louvers for ventilation.

(9) A dressing room must exit to the shallowest area of the pool. The dressing room exit door and the pool deck must be separated by at least 10 feet, 3.05 meters, and be connected by an easily cleanable walkway.

R392-302-25. Toilets and Showers.

(1) The minimum number of toilets and showers for dressing room fixtures must be based upon the designed maximum bather load. Required numbers of fixtures must be based upon 50 percent of the total number of bathers being male and 50 percent being female, except where the facility is used exclusively by one sex. The minimum number of sanitary fixtures must be in accordance with Table 4.

TABLE 4

Sanitary Fixture Minimum Requirements

Water Closets

Male	Female
1:1 to 25	1:1 to 25
2:26 to 75	2:26 to 75
3:76 to 125	3:76 to 125
4:126 to 200	4:126 to 200
5:201 to 300	5:201 to 300
6:301 to 400	6:301 to 400

Over 400, add one fixture for each additional 200 males or 150 females.
Where urinals are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases may not be reduced to less than one half of the minimum specified.

(2) Lavatories must be provided on the basis of one for each

water closet up to four, then one for each two additional water closets.

(3) One shower head for each sex must be provided for each 50 bathers or fraction thereof.

(4) Potable water must be provided at all shower heads. Water heaters and thermostatically controlled mixing valves must be inaccessible to bathers and must be capable of providing 2 gallons per minute, 7.57 liters per minute, of 90 degree F. water to each shower head for each bather.

(5) Soap must be dispensed at all lavatories and showers. Soap dispensers must be constructed of metal or plastic. Use of bar soap is prohibited.

(6) Fixtures must be designed so that they may be readily cleaned. Fixtures must withstand frequent cleaning and disinfecting.

(7) At least one covered waste can must be provided in each restroom.

R392-302-26. Visitor and Spectator Areas.

(1) When a 4 foot, 1.22 meters, fence is not present as described in Subsection R392-302-14(3), then visitors, spectators, or animals may not be allowed within 10 feet, 3.05 meters, of the pool or 5 feet, 1.53 meters, of the pool deck. Animals assisting handicapped individuals are exempt from this requirement.

(2) Food or drink is prohibited within ten feet, 3.05 meters, of the pool. Beverages must be served in non-breakable containers.

(3) Trash containers must be provided in visitor and spectator areas. The entire area must be kept free of litter and maintained in a clean, sanitary condition.

R392-302-27. Disinfection and Quality of Water.

(1) A public pool must be continuously disinfected by a process which meets all of the following requirements:

(a) Is registered with the United States Environmental Protection Agency as a disinfecting process or disinfectant product for water.

(b) Imparts a disinfectant residual which may be easily and accurately measured by a field test procedure appropriate to the disinfectant in use.

(c) Is compatible for use with other chemicals normally used in pool water treatment.

(d) Does not create harmful or deleterious physiological effects on bathers if used according to manufacturer's specifications.

(e) Does not create an undue safety hazard if handled, stored and used according to manufacturer's specifications.

(2) If the active disinfecting agent is chlorine, the unstabilized free chlorine residual, as measured by the diethyl-p-phenylene diamine, leuco crystal violet test or other test method

approved by the department, must meet the concentration levels listed in Table 6 for all circumstances, bather loads, and the pH level of the water.

(3) If cyanuric acid is used to stabilize the free residual chlorine, or if one of the chlorinated isocyanurate compounds is used as the disinfecting chemical, the concentration of cyanuric acid in the water must be at least ten parts per million, but may not exceed 100 parts per million and the free residual chlorine, as measured by the diethyl-p-phenylene diamine, leuco crystal violet test or other test method approved by the department, must meet concentrations levels shown in Table 6, depending upon the pH of the water.

(4) If disinfection of the pool water is accomplished by bromine or iodine, the disinfectant must be within the ranges specified in Table 6.

(5) An easy to operate, pool side disinfectant testing kit, compatible with the disinfectant in use and accurate to within 0.2 parts per million, must be provided at each public pool. If stabilized chlorine is used, a testing kit for cyanuric acid, accurate to within 10.0 parts per million must be provided.

(a) Test kit reagents may not be used if they have exceeded their expiration dates.

(6) Circulation equipment must be operated 24 hours continuously during the operating seasons.

(7) The water must have sufficient clarity at all times so that a black disc, 6 inches, 15.24 centimeters, in diameter, is readily visible if placed on a white field at the deepest point of the pool. The facility must be closed immediately if this requirement is not met.

(8) In a public pool, the difference between the total chlorine and the free chlorine must not be greater than 0.5 parts per million as determined by the diethyl-p-phenylene diamine, leuco crystal violet tests or other test method approved by the department.

(a) If the concentration of combined residual chlorine is greater than 0.5 parts per million the pool water must be breakpoint chlorinated to oxidize and reduce the concentration of combined chlorines.

(9) A water sample must be collected from a pool at least once per month or as otherwise directed by the local health department, while it is in use, and must be submitted to a laboratory approved by the department to perform Safe Drinking Water Program testing.

(a) The laboratory shall subject the sample to the standard 35 degree Celsius heterotrophic plate count and test for coliform organisms utilizing either a membrane filter test, a multiple tube fermentation test, or a Colilert test.

(b) The testing laboratory must promptly report the results of such analysis to the local health department having jurisdiction and to the facility operator. When requested, the

lab or local health department shall report the results of such analysis to the Utah Department of Health.

(c) When less than two samples per month are collected and submitted for bacteriological analysis, the local health department shall conduct a follow-up inspection for each failing sample to identify the causes for the sample failure. The local health department shall conduct a follow-up within three working days following the reporting of the sample failure to the local health department.

(10) Not more than 15 percent of the samples covering a four month period of time may fail bacteriological quality standards. A seasonal or other pool in operation less than four months may only fail bacteriological quality standards with an initial pre-opening sample prior to the opening of the operating season. If a seasonal or other pool in operation less than four months in a year is sampled on a once per month basis, then failure of any bacteriological water quality sample shall require submission of a second sample within one working day after the sample report has been received.

(a) A pool water sample fails bacteriological quality standards if it:

(i) contains more than 200 bacteria per milliliter, as determined by the standard 35 degrees Celsius heterotrophic plate count;

(ii) shows positive test, confirmed test, for coliform organisms in any of the five 10-milliliter portions of a sample; or

(iii) contains more than 1.0 coliform organisms per 50 ml if the membrane filter test is used; or

(iv) indicates a positive MMO-MUG type test approved by the EPA.

(11) Pool water temperatures, excluding spas and special purpose pools, must meet the following requirements:

(a) Pool water temperatures for general use must be within the range of 82 degrees Fahrenheit, 27.8 degrees Celsius, to 86 degrees Fahrenheit, 30.0 degrees Celsius.

(b) The water in a pool dedicated primarily for swim training and high exertion activities must be within the temperature range of 78 degrees Fahrenheit, 25.6 degrees Celsius, to 82 degrees Fahrenheit, 27.8 degrees Celsius to reduce safety hazards associated with hyperthermia.

(c) The minimum water temperature for a pool is 78 degrees Fahrenheit, 25.6 degrees Celsius.

(d) The local health department may grant an exemption to the pool water temperature requirements for a special purpose pool including a cold plunge pool, but may not exempt maximum hot water temperatures for a spa pool.

(12) Total dissolved solids in a public pool may not exceed 2,500 parts per million.

(13) Total alkalinity must be with the range from 100-125

parts per million for plaster pools, 80-150 parts per million for a spa pool, and 125-150 parts per million for a painted or fiberglass pool.

(14) A calcium hardness of at least 200 parts per million must be maintained.

(15) The saturation index value of the pool water must be within the range of positive 0.3 and minus 0.3. The saturation index shall be calculated in accordance with Table 5.

TABLE 5

CHEMICAL VALUES AND FORMULA FOR CALCULATING SATURATION INDEX

Formula for Calculating the Saturation Index: SI = pH + TF + CF + AF - 12.1 where SI means saturation index, TF means temperature factor, CF means calcium factor, ppm means parts per million, deg F means degrees Fahrenheit, and AF means alkalinity factor.

Temperature		Calcium Hardness		Total Alkalinity	
deg. F	TF	ppm	CF	ppm	AF
32	0.0	5	0.3	5	0.7
37	0.1	25	1.0	25	1.4
46	0.2	50	1.3	50	1.7
53	0.3	75	1.5	75	1.9
60	0.4	100	1.6	100	2.0
66	0.5	150	1.8	150	2.2
76	0.6	200	1.9	200	2.3
84	0.7	300	2.1	300	2.5
94	0.8	400	2.2	400	2.6
105	0.9	800	2.5	800	2.9
128	1.0	1,000	2.6	1,000	3.0

If the SATURATION INDEX is 0, the water is chemically in balance.
If the INDEX is a minus value, corrosive tendencies are indicated.
If the INDEX is a positive value, scale-forming tendencies are indicated.
EXAMPLE: Assume the following factors:
pH 7.5, Temperature 80 degrees F, 19 degrees C, CalciumHardness 235
Total Alkalinity 100
1- pH - 7.5
2- TF - 0.7
3- CF - 1.9
4- AF - 2.0
TOTAL: 12.1 - 12.1 = 0.0

This water is balanced.

TABLE 6

DISINFECTANT LEVELS AND CHEMICAL PARAMETERS

	POOLS	SPAS	SPECIAL PURPOSE
Stabilized Chlorine (parts per million)			
pH 7.2 to 7.6	2.0(1)	3.0(1)	2.0(1)
pH 7.7 to 8.0	3.0(1)	5.0(1)	3.0(1)
Non-Stabilized Chlorine (parts per million)			
pH 7.2 to 7.6	1.0(1)	2.0(1)	2.0(1)
pH 7.7 to 8.0	2.0(1)	3.0(1)	3.0(1)
Bromine (parts per million)	4.0(1)	4.0(1)	4.0(1)
Iodine (parts per million)	1.0(1)	1.0(1)	1.0(1)
Ultraviolet and Hydrogen Peroxide (parts per million hydrogen peroxide)	40.0(1)	40.0(1)	40.0(1)
pH	7.2 to 7.8	7.2 to 7.8	7.2 to 7.8
Total Dissolved Solids (parts per million)	2,500	2,500	2,500
Cyanuric Acid (parts per million)	10 to 100	10 to 100	10 to 100
Maximum Temperature degrees Fahrenheit)	105	105	105
Calcium Hardness (parts per million)	200(1)	200(1)	200(1)
Total Alkalinity (parts per million)	Plaster Pools	100 to 125	80 to 150 100 to 125
Painted or Fiberglass Pools	125 to 150	80 to 150	125 to 150
Saturation Index (see Table 5)	Plus or Minus 0.3	Plus or Minus 0.3	Plus or Minus 0.3
Chloramines (combined chlorine residual, parts per million)	0.5	0.5	0.5

Note (1): Minimum Value

R392-302-28. Cleaning Pools.

(1) Visible dirt on the bottom of the pool must be removed at least once every 24 hours or more frequently as needed to keep the pool free of visible dirt.

(2) The pool water surface must be cleaned as often as needed to keep the pool free of visible scum or floating matter.

(3) Pool shell surfaces, handrails, floors, walls, and ceilings of rooms enclosing pools, dressing rooms and equipment rooms, must be kept clean, sanitary, and in good repair.

(4) The operator shall respond to all discovered releases of fecal matter into a public pool in accordance with the following protocol: Centers for Disease Control and Prevention. Fecal Accident Response Recommendations for Pool Staff and Notice to Readers--Revised Guidance for Responding to Fecal Accidents in Disinfected Swimming Venues. Morbidity Mortality Weekly Report February 15, 2008 Volume 57, pages 151-152 and May 25, 2001 Volume 50, pages 416-417, which are incorporated by reference. The operator shall include in the records required in R392-302-29(2) information about all fecal matter releases into a public pool. The records shall include date, time, and where the fecal matter was discovered; whether the fecal matter was loose or solid; and the responses taken. The Local Health Officer may approve the alteration of the required Centers for Disease Control protocol for the hyperchlorination step for a loose fecal release if an operator is able to achieve a 99.9 percent kill or removal of cryptosporidium oocysts in the entire pool system by another method such as ultraviolet light, ozone, or enhanced filtration prior to allowing bathers to reenter the pool.

R392-302-29. Supervision of Pools.

(1) Each public pool must be operated by at least one qualified operator as evidenced by a current National Swimming Pool Foundation Certified Pool Operator, CPO, certification; a National Recreation and Parks Association Aquatic Facility Operator, AFO, certification;_or an equivalent certification approved by the department.

(a) Approved certifications are valid under this rule for no more than five years from the date of issue.

(b) A local health department may deny recognition of the certification of a pool operator for cause, including failure to comply with the requirements of this rule, or creating or allowing undue health or safety hazards. The local health department shall notify the department of any denials. A denial of recognition of certification is effective in the entire state. The operator may overcome the denial by obtaining a new certification from a certifying authority.

(2) The pool operator must keep written records of all information pertinent to the operation, maintenance and sanitation of each pool facility. Records must be available at the facility and be readily accessible. The pool operator must make records

available to the department or the local health department having jurisdiction upon their request. These records must include disinfectant residual in the pool water, pH and temperature of the pool water, pool circulation rate, quantities of chemicals and filter aid used, filter head loss, filter washing schedule, cleaning and disinfecting schedule for pool decks and dressing rooms, bather load, and other information required by the local health department. The pool operator must keep the records at the facility, for at least two operating seasons.

(3) The public pool owner, in consultation with the qualified operator designated in accordance with 392-302-29(1), shall develop an operation, maintenance and sanitation plan for the pool that will assure that the pool water meets the sanitation and quality standards set forth in this rule. The plan shall be in writing and available for inspection by the local health department. At a minimum the plan shall include the frequency of measurements of pool disinfectant residuals, pH and pool water temperature that will be taken. The plan shall also specify who is responsible to take and record the measurements.

(4) If the public pool water samples required in Section R392-302-27(9) fail bacteriological quality standards as defined in Section R392-302-27(10), the local health department shall require the public pool owner and qualified operator to develop an acceptable plan to correct the problem. The local health department may require more frequent water samples, additional training for the qualified operator and also may require that:

(a) The pool operator shall measure and record the level of disinfectant residuals, pH, and pool water temperature at least four times a day. If oxidation reduction potential technology is used in accordance with this rule, the pool operator may reduce water testing to once per day minimum.

(b) The pool operator shall read flow rate gauges and record the pool circulation rate at least four times a day.

(5) Bather load must be limited if necessary to insure the safety of bathers and pool water quality as required in Section R392-302-27.

(6) A sign must be posted in the immediate vicinity of the pool stating the location of the nearest telephone and emergency telephone numbers which shall include:

(a) Name and phone number of nearest police, fire and rescue unit;

(b) Name and phone number of nearest ambulance service;

(c) Name and phone number of nearest hospital.

(7) If a telephone is not available at poolside, emergency telephone numbers must be provided in a form that can be taken to a telephone.

R392-302-30. Supervision of Bathers.

(1) Access to the pool must be prohibited when the facility is not open for use.

(2) Lifeguard service must be provided at a public pool or a private pool if direct fees are charged, public funds support the operation of the pool, or if the pool is used for public uses including swimming lessons, scuba diving instruction, and aquatic competitions. If a pool is normally exempt from the requirement to provide lifeguard services, but is used for some public uses, then lifeguard services are required during the period of public use. For other pools, lifeguard service must be provided, or signs must be clearly posted indicating that lifeguard service is not provided.

(3) A lifeguard must meet each of the following:

(a) Be trained and certified by the American Red Cross, or an equivalent program as approved by the department in Standard Level First Aid, C.P.R. for professional rescuers, and Life Guarding.

(b) Be on duty at all times when the pool is open to use by bathers, except as provided in Subsection R392-302-30(2).

(c) Have full authority to enforce all rules of safety and sanitation.

(4) A lifeguard may not have any other duties to perform other than the supervision and safety of bathers while he or she is assigned lifeguarding duties.

(5) Where lifeguard service is required, the number of lifeguards must be sufficient to allow for continuous supervision of all bathers, and surveillance over total pool floor areas.

(6) Lifeguards must be relieved in the rotation of lifeguarding responsibilities at least every 15 minutes with a work break of at least 10 minutes every hour to maintain mental alertness and to prevent mental and physical fatigue.

(7) The facility operator and staff are responsible for the enforcement of the following personal hygiene and behavior rules:

(a) A bather using the facility must take a cleansing shower before entering the pool enclosure. A bather leaving the pool to use the toilet must take a second cleansing shower before returning to the pool enclosure.

(b) A person having a communicable disease transmissible by water must be excluded from public pools. A person having any exposed sub-epidermal tissue, including open blisters, cuts, or other lesions may not use a public pool. A person who has or has had diarrhea within the last two weeks caused by an unknown source or from any communicable or fecal-borne disease may not enter any public pool.

(c) Any child under three years old, any child not toilet trained, and anyone who lacks control of defecation shall wear a water resistant swim diaper and waterproof swimwear. Swim diapers and waterproof swimwear shall have waist and leg openings fitted such that they are in contact with the waist or leg around the entire circumference.

(d) Running, boisterous play, or rough play, except supervised water sports, are prohibited.

(e) Easily readable placards embodying the above rules of personal hygiene and behavior must be conspicuously posted in the pool enclosure and in the dressing rooms and offices.

(f) Diapers shall be changed only in restrooms or changing stations and shall not be changed at poolside. The person or persons who change the diaper must wash their hands thoroughly with soap before returning to the pool. The diapered person must undergo a cleansing shower before returning to the pool.

(8) A spa pool must have an easily readable caution sign mounted adjacent to the entrance to the spa or hot tub which contains the following information:

(a) The word "caution" centered at the top of the sign in large, bold letters at least two inches in height.

(b) Elderly persons and those suffering from heart disease, diabetes or high blood pressure should consult a physician before using the spa pool.

(c) Persons suffering from a communicable disease transmissible via water may not use the spa pool. Persons using prescription medications should consult a physician before using the spa.

(d) Individuals under the influence of alcohol or other impairing chemical substances should not use the spa pool.

(e) Bathers should not use the spa pool alone.

(f) Pregnant women should not use the spa pool without consulting their physicians.

(g) Persons should not spend more than 15 minutes in the spa in any one session.

(h) Children under the age of 14 must be accompanied and supervised by at least one responsible adult over the age of 18 years, when lifeguards are not on duty.

(i) Children under the age of five years are prohibited from bathing in a spa or hot tub.

(j) Running or engaging in unsafe activities or horseplay in or around the spa pool is prohibited.

(9) Water jets and air induction ports on spa pools must be controlled by an automatic timer which limits the duration of their use to 15 minutes per each cycle of operation. The operator shall mount the timer switch in a location which requires the bather to exit the spa before the timer can be reset for another 15 minute cycle or part thereof.

R392-302-31. Special Purpose Pools.

(1) Special purpose pools must meet the requirements of all Sections of R392-302 in addition to those of this Section as they apply to special design features and uses of special purpose pools.

(2) Slide flumes must meet the following requirements for design, materials, construction, and maintenance:

(a) The flumes within enclosed slides must be designed to prevent accumulation of hazardous concentrations of toxic chemical

fumes.

(b) All curves, turns, and tunnels within the path of a slide flume must be designed so that body contact with the flume or tunnel does not present an injury hazard. The slide flume must be banked to keep the slider's body safely inside the flume.

(c) The flume must be free of hazards including joints and mechanical attachments separations, splinters, holes, cracks, or abrasive characteristics.

(d) Wall thickness of flumes must be thick enough so that the continuous and combined action of hydrostatic, dynamic, and static loads and normal environmental deterioration will not cause structural failures which could result in injury. The facility operator or owner shall insure that repairs or patchwork maintains original designed levels of safety and structural integrity. The facility operator or owner shall insure that repairs or patchwork is performed in accordance with manufacturer's guidelines.

(e) Multiple-flume slides must have parallel exits or be constructed, so that the projected path of their centerlines do not intersect within a distance of less than 8 feet, 2.44 meters, beyond the point of forward momentum of the heaviest bather permitted by the engineered design.

(f) A slide flume exit must provide safe entry into the splash pool. Design features for safe entry include a water backup, and a deceleration distance adequate to reduce the slider's exit velocity to a safe speed. Other methods may be acceptable if safe exiting from the slide flume is demonstrated to the department.

(3) The design of water slides or vehicle slides must incorporate the following clearances from the flumes:

(a) A distance between the side of a slide flume exit and a splash pool side wall of at least 4 feet, 1.22 meters.

(b) A distance between nearest sides of adjacent slide flume exits must be at least 6 feet, 1.83 meters.

(c) A distance between a slide flume exit and the opposite end of the splash pool, excluding steps, must be at least 20 feet, 6.10 meters.

(d) A vehicle slide must maintain the following clearances:

(e) A distance between the side of the flume exit and the pool side wall of at least 6 feet, 1.83 meters.

(f) A distance between nearest sides of adjacent vehicle slide flume exits of at least 8 feet, 2.44 meters.

(g) A distance between the flume exit and the opposite end of the splash pool, excluding steps, must be long enough to provide clear, unobstructed travel for at least 8 feet, 2.44 meters, beyond the point of forward momentum of the heaviest bather permitted by the engineered design.

(4) Vehicles, including toboggans, sleds, inflatable tubes, and mats must be designed and manufactured of materials which will safeguard the safety of riders.

(5) splash pools must meet the following depth requirements:

(a) The depth of a water slide splash pool at the end of a horizontally oriented slide flume exit must be at least 3 feet, 9.14 centimeters, but may be required to be deeper if the pool design incorporates special features that may increase risks to bathers as determined by the department.

(b) The depth must be maintained in front of the flume for a distance of at least 20 feet, 6.10 meters, from which point the splash pool floor may have a constant slope upward. Slopes may not be designed or constructed steeper than a 1 to 10 ratio.

(c) The operating water depth of a vehicle slide splash pool, at the flume exit, must be a minimum of 3 feet 6 inches, 1.07 meters. This depth must be maintained to the point at which forward travel of the vehicle ends. From the point at which forward travel ends, the floor may have a constant upward slope to the pool exit at a ratio not to exceed 1 to 10.

(d) The department may waive minimum depth and distance requirements for a splash pool and approve a special exit system if the designer can demonstrate to the department that safe exit from the flume into the splash pool can be assured.

(6) Pump reservoir areas must be accessible for cleaning and maintenance by a 3 foot, 91.44 centimeters, minimum width walkway.

(7) A travel path with a minimum width of 4 feet, 1.22 meters, must be provided between the splash pool deck and the top of the flume.

(8) Stairways serving a slide may not retain standing water. Stairways must have non-slip surfaces and shall conform to the requirements of applicable building codes.

(9) Splash pool overflow reservoirs must have sufficient volume to contain at least two minutes of flow from the splash pool overflow. Splash pool overflow reservoirs must have enough water to insure that the splash pool will maintain a constant water depth.

(10) The circulation and filtration equipment of a special purpose pool must be sized to turn over the entire system's water at least once every hour.

(11) Splash pool overflow reservoirs must circulate water through the water treatment system and return when flume supply service pumps are turned off.

(12) Flume pumps and motors must be sized, as specified by the flume manufacturer, and must meet all National Sanitation Foundation, NSF/ANSI 50-2004, Section 6. Centrifugal Pumps, standards for pool pumps.

(13) Flume supply service pumps must have check valves on all suction lines.

(14) The splash pool and the splash pool overflow reservoir must be designed to prohibit bather entrapment as water flows from the splash pool to the overflow reservoir.

(15) Perimeter overflow gutter systems must meet the requirements of Section R392-302-19, except that gutters are not required directly under slide flumes or along the weirs which

separate splash pools and splash pool overflow reservoirs.

(16) A caution sign must be mounted adjacent to the entrance to a water slide that states at least the following warnings:

(a) The word caution centered at the top of the sign in large bold letters at least two inches in height.

(b) No running, standing, kneeling, tumbling, or stopping on flumes or in tunnels.

(c) No head first sliding at any time.

(d) The use of a slide while under the influence of alcohol or impairing drugs is prohibited.

(e) Only one person at a time may travel the slide.

(f) Obey instructions of lifeguards and other staff at all times.

(g) Keep all parts of the body within the flume.

(h) Leave the splash pool promptly after exiting from the slide.

R392-302-32. Hydrotherapy Pools.

(1) Unless the pool is drained, cleaned and sanitized after each individual use, a hydrotherapy pool shall at all times comply with R392-302-27-Disinfection and Quality of Water, R392-302-28-Cleaning of Pools and R392-302-29-Supervision of Pools.

(2) A hydrotherapy pool is exempt from all other requirements of R392-302, only if use of the hydrotherapy pool is restricted to therapeutic uses and is under the continuous and direct supervision of licensed medical or physiotherapy personnel.

(3) Local health departments may enter and examine the use of hydrotherapy pools to respond to complaints, to assure that use of the pool is being properly supervised, to examine records of testing and sampling, and to take samples to assure that water quality and cleanliness are maintained.

(4) A local health officer may grant an exception to section R392-302-32(1) if the operator of the hydrotherapy pool can demonstrate that the exception will not compromise pool sanitation or the health or safety of users.

R392-302-33. Advisory Committee.

(1) An advisory committee to the Department regarding regulation of public pools is hereby authorized.

(2) The advisory committee shall be appointed by the Executive Director. Representatives from local health departments, pool engineering, construction or maintenance companies and pool owners may be represented on the committee.

(3) Consistent with R380-1, the Executive Director may seek the advice of the advisory committee regarding interpretation of this rule, the granting of exemptions and related matters.

R392-302-34. Cryptosporidiosis Watches and Warnings.

(1) The Executive Director or local health officer may issue cryptosporidiosis watches or cryptosporidiosis warnings as methods

of intervention for likely or indicated outbreaks of cryptosporidiosis. The Executive Director or local health officer may issue a cryptosporidiosis watch if there is a heightened likelihood of a cryptosporidiosis outbreak. The Executive Director or local health officer may issue a cryptosporidiosis warning if there have been reports of cryptosporidiosis above the background level reported for the disease. The Executive Director or local health officer shall include the geographic area and pool type covered in the warning and may restrict certain persons from using public pools.

(2) If a cryptosporidiosis watch or a cryptosporidiosis warning has been issued, the operator of any public pool shall post a notice sign that meets the requirements of this section, the standard for "notice" signs established in ANSI Z353.2-2002, which is adopted by reference, and the approval of the local health officer to assure compliance with this section and the ANSI standard. An Adobe Acrobat .pdf version of the sign that meets the requirements of this section and the ANSI standard for 10-foot viewing is available from the Department or the local health department. The notice sign shall be placed so that all patrons are alerted to the cryptosporidium-targeted requirements prior to deciding whether to use the swimming pool. The sign shall be at least 17 inches, 43 centimeters, wide by 11 inches, 28 centimeters, high. The sign may need to be larger, depending on the placement of the sign, to meet the ANSI standard.

(a) Centered immediately below the blue panel shall appear the words "CRYPTO DISEASE PREVENTION" in capital letters.

(b) The body of the notice sign shall be in upper case letters at least 1.0 centimeters high and include the following four bulleted statements in black letters:

-All with diarrhea in the past 2 weeks shall not use the pool.

-All users must shower with soap to remove all fecal material prior to pool entry and after using the toilet or a diaper change.

-All less than 3 yrs or who wear diapers must wear a swim diaper and waterproof swimwear. Diapers may only be changed in restrooms or changing stations.

-Keep pool water out of your mouth.

(3) If a cryptosporidium warning has been issued, each operator of a public pool subject to the warning shall, at a minimum, implement the following cryptosporidium counter measures:

(a) maintain the disinfectant concentration within the range between two ppm (four ppm for bromine) and the concentration listed on the product's Environmental Protection Agency mandated label as the maximum reentry concentration, but in no case more than five ppm (10 ppm for bromine);

(b) maintain the pH between 7.2 and 7.5; and

(c) maintain the cyanuric acid level that meets the requirement of R392-302-27(3), except the maximum level shall be reduced to 30 ppm.

(4)(a) If a cryptosporidium warning has been issued, in addition to the requirements listed in R392-302-34(3), the owner or operator of a public pool shall implement any additional cryptosporidium countermeasures listed in subsection below sufficient to achieve at least a 99.9 percent destruction or removal of cryptosporidium oocysts twice weekly, except as provided in R392-302-34(4)(b).

(b) Hyperchlorination using sodium hypochlorite or calcium hypochlorite to achieve a concentration multiplied by time (CT) value of 15,300 ppm minutes. Table 7 lists examples of chlorine concentrations and time periods that may be used to achieve the required CT value. The operator shall not allow anyone to use the pool if the chlorine concentration exceeds the Environmental Protection Agency maximum reentry concentration listed on the product's label, but in no case if the concentration exceeds five ppm. The operator of any public pool not required to have a lifeguard by R392-302-30(2) shall hyperchlorinate at least once weekly.

(c) A full flow ultraviolet treatment system that meets the requirements of National Sanitation Foundation standard NSF/ANSI 50-2007, which is incorporated by reference. The owner or operator shall ensure that the system is installed and operated according to the manufacturer's recommendations. The owner or operator shall obtain from the manufacturer of the system documentation of third-party challenge testing that the system can achieve a single pass 99.9 percent inactivation of cryptosporidium or the bacteriophage MS2 at the pool design flow rate and during normal operating conditions. The owner or operator shall maintain and make available for inspection the manufacturer's documentation.

(d) An ozone treatment system that achieves a CT value of 7.4 and a flow-through rate at least four times the volume of the pool every three and a half days. The system shall meet the requirements of National Sanitation Foundation standard NSF/ANSI 50-2007, which is incorporated by reference. The owner or operator shall ensure that the system is installed and operated according to the manufacturer's recommendations.

(e) A cryptosporidium oocyst-targeted filter system installed and operated according to the manufacturer's recommendations. The filter shall meet the requirements of R392-302-20. The owner or operator shall obtain from the manufacturer of the system documentation of third-party challenge testing that the system can achieve a single pass 99 percent reduction of particles in the range of 4 to 6 microns or cryptosporidium oocysts at the pool design flow rate and normal operating conditions. The owner or operator shall maintain and make available for inspection the manufacturer's documentation.

(f) A system approved by the local health officer. The health officer's approval of a system for use as an alternative shall be based on the system's documented ability to:

(i) achieve cryptosporidium removal or inactivation to a level at least equivalent to the requirements in R392-302-34(4)(a);

(ii) assure safety for swimmers and pool operators; and

(iii) comply with all other applicable rules and federal regulations.

Table 7

Chlorine Concentration and Contact Time to Achieve CT = 15,300

Chlorine Concentration	Contact Time
1.0 ppm	15,300 minutes (255 hours)
10 ppm	1,530 minutes (25.5 hours)
20 ppm	765 minutes (12.75 hours)

(5) If the Executive Director or local health officer issues a restriction on the use of public pools by certain persons as part of the cryptosporidium warning the operator shall restrict persons within that segment of the population from using the facility.

(6) If the Executive Director or local health officer determines that a pool is a cryptosporidiosis threat to public health, he may order the pool to close. The owner or operator of the pool may not reopen until the person issuing the order has rescinded it.

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