

EFFECTIVE  
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NEBRASKA DEPARTMENT OF  
HEALTH AND HUMAN SERVICES

178 NAC 2

TITLE 178 ENVIRONMENTAL HEALTH

CHAPTER 2 DESIGN CONSTRUCTION, OPERATION, AND MAINTENANCE OF PUBLIC SWIMMING POOLS

001. SCOPE AND AUTHORITY. These regulations establish standards for swimming pool design, review, construction, approval, operation, and related requirements. The authority for these regulations is found in Nebraska Revised Statute (Neb. Rev. Stat.) §§ 71-4301 to 71-4307.

002. DEFINITIONS. The following definitions apply:

002.01 ADDITIONAL INSPECTIONS. Inspections required to determine if violations discovered in previous inspections have been corrected.

002.02 BATHHOUSE. Any dressing, shower, and sanitary facilities used by the swimmers and bathers.

002.03 BOUNDARY LINE. A line between the shallow and deep areas marked in contrasting color and at least four inches wide on the floor and walls of the pool, and by a safety rope and floats equipped with float keepers.

002.04 CERTIFICATE OF COMPETENCY. A certificate obtained as a result of attendance and successful completion, by passing a test, of a Nebraska swimming pool operator's training clinic approved by the Department.

002.05 CLASS A POOL. A pool operated by a municipality, political subdivision, or governmental agency; or a pool used for accredited competitive aquatic events.

002.06 CLASS B POOL. A swimming pool operated at a facility including, but not limited to, an apartment, a condominium, a property owner association, a child care facility, and lodgings such as hotels and motels.

002.07 CLASS C POOL. A spa, hot tub, or whirlpool which is not intended to be drained, cleaned, and refilled after each use.

002.08 CLASS D POOL. A wading pool that is no more than 24 inches deep.

002.09 CLASS E POOL. A spray park providing recirculated water to spray features with no permanent standing water accessible to pool patrons designed so that users have full body contact with the water.

002.10 CLASS F POOL. A swimming pool at a health club, fitness center, or community fitness center.

002.11 DECK. The area surrounding a pool, which is specifically constructed or installed for use by bathers.

002.12 DEEP AREA. Those areas of a swimming pool where the water is greater than 5 feet deep.

002.13 DEPARTMENT. The Department of Health and Human Services.

002.14 DESIGN PROFESSIONAL. A professional engineer or professional architect registered by the Nebraska Board of Engineers and Architects to practice in the State of Nebraska.

002.15 DROP SLIDE. A slide that discharges to a pool with a drop more than two inches to the water surface.

002.16 MAIN DRAIN. A submerged suction outlet located at the bottom of a pool to conduct water to a recirculating pump.

002.17 MODIFICATION OR IMPROVEMENT. Construction that changes the depth, shape, piping, pumping, or other basic design features of a public swimming pool in a manner that affects pool patron safety or recirculation system design; changes a pool's deck; changes the basic design of a diving board; or adds a special feature. Work not considered to be a substantial modification or improvement includes maintenance and repairs or replacement of the exact make and model. Maintenance does not include total shell replacement.

002.18 NEBRASKA SWIMMING POOL OPERATOR. An individual who has a current certificate of competency.

002.19 OWNER. A person, individual, firm, partnership, association, corporation, company, municipality, political subdivision, community, government agency, club, organization, or other entity owning a pool.

002.20 PATRON. A person using a public swimming pool.

002.21 PATRON LOAD. The maximum number of persons that may use the pool at one time.

002.22 SPECIAL PURPOSE POOL. A swimming pool that is operated for special purposes and incorporates features distinguishing it from a traditional swimming pool.

002.23 SUCTION OUTLET. A fitting, fitting assembly, cover or grate, and related components that provide a localized low pressure area for the transfer of water from a swimming pool.

002.24 VARIANCE. Written approval from the Department to allow a design, modification, or improvement that does not conform to the requirements in 178 NAC 2.

002.25 WADING POOL. A pool no more than 24 inches deep.

003. PLANS AND SPECIFICATIONS. Unless otherwise indicated, plans and specifications for new swimming pools, and modifications or improvements to existing pools must be prepared by a design professional. All plans and specifications must be submitted to the Department in triplicate for review and written approval prior to beginning construction. Plans are to be laid out on sheets having a minimum size of 11 by 17 inches. Plans and specifications for modifications or improvements must include all applicable portions of the swimming pool.

003.01 OWNER SUBMITTAL. The owner of a pool may submit plans and specifications for changes to existing pools for erosion type feeders and solution type.

003.02 SUBMITTAL DETERMINATION. Items not listed in 178 NAC 2-003.03 are to be provided in writing to the Department for determination on whether submittal is required. Determination will be based on engineering, health and safety concerns. All items installed that do not require plans and specifications must be installed per manufacturer's installation instructions.

003.03 PLANS AND SPECIFICATIONS NOT REQUIRED:

- (A) Equipment replacement that is the exact make and model as previously approved by the Department;
- (B) Heaters intended for commercial pool use that contain only nontoxic heat transfer media;
- (C) Anti-entrapment devices that install on the pump or in the treatment train;
- (D) Pumps that are of the same horsepower as previously approved;
- (E) Valves and piping of the identical size;
- (F) pH adjustment equipment;
- (G) Strainer basket housing of the same size;
- (H) Variable frequency drives with the same horsepower as the original;
- (I) Installation of an Oxidation-Reduction Potential controller;
- (J) Repair and maintenance of equipment; and
- (K) Diving boards or stands approved after June 8, 2004.

003.04 CONTENT. Plans, specifications, and swimming pool data sheet submitted for approval must be an accurate record of the proposed construction and contain sufficient information to demonstrate to the Department that the proposed swimming pool or modifications or improvements will meet the standards of Title 178 NAC 2. Submittals must include, at a minimum, the following documentation and information: The Department may require additional information to determine if the submittal meets the standards.

003.04(A) SCALE AND NORTHPOINT.

003.04(B) PLOT PLAN. A plot plan of the property to be used, indicating the location of proposed and existing structures, as well as the location of the proposed swimming pool, pool enclosure, and deck.

003.04(C) DETAILED PLANS. Plans for a swimming pool must be legible and must be drawn to a suitable scale. The detailed plans for facilities must show:

- (i) CONSTRUCTION DETAILS. Construction details for the swimming pool, deck and pool enclosure, including dimensions, elevations, and appropriate cross sections for the swimming pool.
- (ii) RECIRCULATION SYSTEM. Schematic diagrams and plan view of the pool water treatment and recirculation systems, pool equipment room or enclosure.

- (iii) PIPING. Size and location of all piping.
- (iv) SPECIFICATIONS. Complete, detailed specifications for the construction of the swimming pool, bathhouse, recirculation system, filtration system, disinfection equipment and all other appurtenances.
- (v) OPERATION AND MAINTENANCE MANUAL. The design professional must provide 2 copies of a manual for operation.

#### 003.04(D) FEES.

003.04(D)(i) INITIAL REVIEW FEE. When the design professional's plans and specifications are submitted, an initial review fee of \$100 plus 0.5% of his or her estimate of the cost of the project described in the documents to be reviewed, up to a maximum of \$7,600, must be included.

003.04(D)(ii) FINAL FEE. Upon completion of the construction, modification, or improvements, the owner must submit documentation of the actual cost in the form of the actual contract or invoice(s) to the Department for the purpose of determining the final fee amount. Payment of the final fee amount in excess of \$25 must be made prior to the engineering inspection. The Department may refund amounts over \$25.

003.04(D)(iii) VARIANCE FEE. A \$300 fee must accompany each variance request.

003.04(D)(iv) ENGINEERING INSPECTION FEE. The final inspection conducted by the Department review engineers is included in the review fee. A fee of \$400 for each additional inspection conducted by the Department must be paid prior to the date of the additional inspection. The engineering inspection fee is separate from and in addition to the operational inspection fees required in 178 NAC 2-006.01(C)(ii). Pools owned by a municipal corporation are exempt from inspection fees.

003.04(D)(v) AS-BUILT FEE. There is a fee of \$1000 in addition to the plan review fee if construction is begun or completed on items specifically outlined in these regulations prior to obtaining approval from the Department.

003.05 PRELIMINARY PLANS. The design professional may submit preliminary plans, specifications, or concepts to the Department for review prior to preparation of construction documents, allowing 30 working days for comment by the Department. An initial fee for review of preliminary plans must be submitted with the plans as required in 178 NAC 2-003.04(D)(i).

003.06 FINAL PLANS. All swimming pool data sheets, as provided by the Department, the initial fee, any as-built fees, and plans and specifications must be submitted for review and comment or approval at least 30 working days prior to planned construction or installation. Time must be allowed for the incorporation of changes if required.

003.07 CONSTRUCTION APPROVAL. Construction must not begin until the Department has approved final plans and specifications and a swimming pool data sheet, and issues a construction permit. A construction permit will be valid only if construction is started within one year and is completed within 3 years from the date of approval. Written requests may be submitted for reauthorization or time extensions may be subject to any additional requirements of these or such future regulations as are in effect on the date of reauthorization. Beginning construction means the start of work on items that are specifically mentioned in these regulations.

003.08 REVIEW OF PLANS AND SPECIFICATIONS. The Department will issue a comment letter to the design professional when review of the plans and specifications does not indicate compliance with Title 178 NAC 2 or inadequate information is provided for a complete review. The design professional must address issues identified in the Department's comment letter within 60 calendar days from the date of issuance of the comment letter unless the owner or design professional request in writing and the Department approves an extension of time. If the design professional does not respond in writing to the Department's comment letter within 60 days the Department will deny the construction permit for the project. When a project is not approved for construction, new sets of plans and specifications, along with a new review fee as specified in 178 NAC 2-003.04(D)(i), are to be submitted to the Department for review and written approval prior to construction.

003.09 CONSTRUCTION. All new swimming pools, modifications, or improvements must be completed in accordance with approved plans and specifications or approved change orders.

003.10 CERTIFICATION. The design professional or the owner, as appropriate, must certify in writing to the Department on forms provided by the Department that the pool and all appurtenances have been constructed in accordance with approved plans and specifications, prior to a final inspection.

003.11 ENGINEERING INSPECTION. Upon certification per 178 NAC 2-003.10, the Department will inspect and note any deficiencies, which must be resolved before the Department will issue a permit to operate the pool. The Department has the right of entry at any reasonable time to the swimming pool and accompanying facilities for this purpose.

003.12 FINAL APPROVAL. If no deficiencies are found when the Department conducts the engineering inspection or when any deficiencies that were found in the Department's final inspection have been corrected, the Department may issue a permit to operate the pool.

003.13 DENIAL. The Department may deny a construction permit for failure to comply with any of the provisions of Neb. Rev. Stat. §§ 71-4301 to 71-4307 or 178 NAC 2. The Department will inform the design professional and the swimming pool owner, in writing, of the basis of the denial and the statutory or regulatory provisions supporting the decision. Procedures regarding appeals and hearings will follow the Nebraska Administrative Procedure Act and 184 NAC 1.

003.14 CONSTRUCTION, MODIFICATIONS, AND IMPROVEMENTS PRIOR TO APPROVAL. New pools already constructed or on which construction has begun without prior review and approval will not be issued an operating permit until the plans, specifications, and swimming pool data sheet have been reviewed and approved by the Department. Modifications and improvements to existing pools that are being operated without appropriate approval may have the operating permit suspended or revoked. Whenever any work for which a construction permit is required has been started before an operating permit has been issued the following will apply:

- (A) All work must cease until the construction permit has been issued by the Department;
- (B) The design professional and owner must allow for 45 working days for review after receipt of the swimming pool data sheets, the initial fee, plans, and specifications; and
- (C) The Department may require that construction not completed in accordance with the regulations be corrected before a pool operating permit is issued.

004. VARIANCES. A design professional, or owner if 178 NAC 2-003.01 applies, may submit a variance request. A variance must be submitted on forms provided by the Department at least 30 working days before construction is to begin. A variance is at the discretion of the Department. The Department will not issue a variance if there is an increased public health or safety risk.

005. DESIGN STANDARDS. The Department may consider alternate designs that follow generally accepted engineering guidelines and standards with submitted engineering justification.

005.01 EXISTING POOLS. Swimming pools constructed or under construction prior to the effective date of these regulations, which do not fully comply with the design and construction requirements of these regulations may be continued in use as long as the swimming pool meets the current operating requirements in 178 NAC 2, poses no significant health or safety risks as determined by the Department or Director, and is operated and maintained as designed.

005.02 MAXIMUM SWIMMING POOL PATRON LOADING.

005.02(A) AREA LOADING.

005.02(A)(i) SHALLOW AREA. 15 square feet of pool water surface area must be provided for each patron for those portions of the swimming pool 5 feet or less in depth. This also applies to spray parks without standing water.

005.02(A)(ii) DEEP AREA. 25 square feet of pool surface area must be provided for each patron.

005.02(A)(iii) DIVING OR SLIDE AREA. Where a separate designated diving or slide area is provided, and other swimmers are not allowed in this area, this area may be excluded from the surface area used for computing patron load; however, 10 patrons must be included for each board, platform or slide.

005.02(A)(iv) ADDITIONAL AREA ALLOWANCE. Additional allowance will be made on the basis of 1 additional patron per each 50 square feet of pool deck in excess of the minimum area of deck required, and 1 additional patron per each 100 square feet of picnic and play area within the enclosure.

005.03 CONSTRUCTION MATERIAL.

005.03(A) MATERIALS. Swimming pools must be constructed of materials which are inert, stable, non-toxic, and watertight. Sand or earth bottoms are not permitted.

005.03(B) FINISH. Bottom and sides must be white or a light color, with a smooth and easily cleanable surface. The finish surface of the bottom in shallow areas must be slip-resistant.

005.04 DESIGN, DETAIL, AND STRUCTURAL STABILITY. All swimming pools and appurtenances must be designed and constructed to withstand all anticipated patron loading. A hydrostatic relief valve or a suitable underdrain system must be provided for in-ground pools. Swimming pools must be designed to ensure the stability of the pool for both full and empty conditions.

005.04(A) SHAPE. The shape of any swimming pool must be such that the circulation of pool water and the swimmers' safety are not impaired. There may not be any underwater projections or obstructions which would endanger patron safety or interfere with proper pool operation.

005.04(B) BOTTOM SLOPE. The bottom of the pool must slope toward the main drain. Where the water depth is less than 5 feet, the bottom slope must not exceed 1 foot vertical in 12 feet horizontal (1:12). Where the water depth exceeds 5 feet, the bottom slope must not exceed 1 foot vertical in 3 feet horizontal (1:3).

005.04(C) POOL WALLS. Walls of a swimming pool must be either:

- (i) Vertical for water depths of at least 6 feet;
- (ii) Vertical for a distance of at least 3 feet below the water level, below which the wall may be curved to the bottom with a radius not greater than the difference between the depth at that point and 3 feet, provided that the vertical is interpreted to permit slopes not greater than 1 foot horizontally for each 5 feet of depth of sidewall (11 degrees from vertical); or
- (iii) At water depths of 3 feet or less a transitional radius must not exceed 8 inches and must be tangent to the wall and floor.

005.04(D) LEDGES. Ledges must not extend into the pool unless they are essential for support of the upper wall construction.

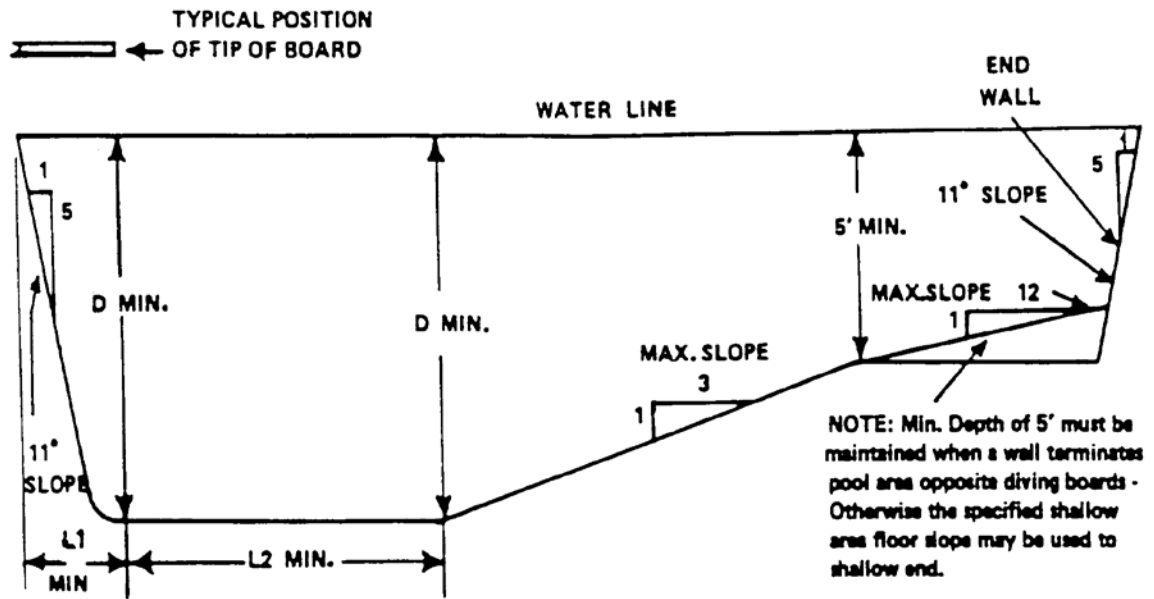
005.04(E) POOLS WITHOUT GUTTERS. Coping or cantilevered deck may project from a swimming pool or spa wall to provide a handhold for users. The coping or deck must be rounded, have a slip-resistant surface finish, and must not exceed 3-1/2 inches in thickness. The overhang of the coping or deck must not exceed 2 inches or be less than 1 inch. All corners created by coping or cantilevered deck must be rounded in both the vertical and horizontal dimensions to eliminate sharp corners. The handgrip must not be more than 9 inches above the minimum skimmer operating level.

005.04(F) DIVING AREAS. The minimum dimensions of the swimming pool and appurtenances in the diving area must conform to 178 NAC 2 Table 1.

005.04(F)(i) HEAD ROOM. There must be a completely unobstructed clear distance of 16 feet above the diving board measured from the center of the front end of the board. This area must extend at least 8 feet behind, 8 feet to each side, and 16 feet ahead of the measuring point.

005.04(F)(ii) DIVING BOARDS AND PLATFORMS. Diving boards and platforms in excess of 3 meters in height are prohibited except where special design considerations and control of use are provided.

005.04(F)(iii) STEPS AND GUARD RAILS FOR DIVING BOARDS. Steps must be of corrosion-resistant material, easily cleanable and of non-slip design. Handrails must be provided at all steps and ladders leading to diving boards more than 1 meter above the water. Platforms and diving boards which are more than 1 meter high must be protected with guard rails at least 36 inches high, extending at least to the edge of the water. Boards or platforms 3 meters (9.8 ft.) or higher, when permitted, must have an effective side barrier.



**TABLE 1**  
**MINIMUM DIMENSIONS FOR**  
**POOLS WITH DIVING EQUIPMENT**

		MINIMUM DIMENSIONS			
Maximum Board Height Over Water	Maximum Diving Board Length	D	L <sub>1</sub>	L <sub>2</sub>	POOL WIDTH
26" (2/3 meter)	10'	8' - 6"	2' - 6"	10' - 0"	20' - 0"
30" (3/4 meter)	12'	9' - 0"	3' - 0"	10' - 0"	20' - 0"
1 meter	16'	10' - 0"	4' - 0"	12' - 0"	20' - 0"
3 meter	16'	12' - 0"	6' - 0"	12' - 0"	24' - 0"

**005.04(F)(iv) PLACEMENT.** Placement of boards must observe the following minimum dimensions. With multiple board installations minimum pool widths must be increased accordingly. For diving boards or platforms greater than 20 inches in width, add ½ of the width over 20 inches to the following dimensions.

- Center line of 1 meter or less board to pool side      10' - 0"
- Center line of 3 meters board to pool side              12' - 0"
- Center line distance between adjacent boards          10' - 0"

**005.05 LADDERS, RECESSED STEPS, AND STAIRS.**

**005.05(A) LOCATION.** Recessed steps, ladders, or stairs must be provided at the shallow end. Ladders or recessed steps must be provided at the deep end. If the pool is over 30 feet wide, the steps, ladders, or stairs must be installed on each side.



005.05(B) LADDERS. Pool ladders must be corrosion-resistant and must have slip-resistant treads. All ladders must be designed to provide a handhold. There must be a clearance of not more than 6 inches or less than 3 inches between any ladder and pool wall. Treads must be no more than 12 inches apart.

005.05(C) RECESSED STEPS. Recessed steps must be readily cleanable, slip-resistant, and must be arranged to drain into the pool. Recessed steps must have a minimum tread of 5 inches and a minimum width of 14 inches. Steps must be no more than 12 inches apart.

005.05(D) HANDRAILS. Where recessed steps or ladders are provided, there must be a handrail at the top of each side thereof, extending over the coping or edge of the deck.

005.05(E) STAIRS AND STAIR HANDRAILS. Where stairs are provided, they must be located in a corner of the pool or be recessed. All stair areas must have a handrail within reach. Stairs must have slip-resistant finish, a minimum tread of 12 inches, and a maximum rise of 12 inches.

#### 005.06 UNDERWATER BENCHES AND SUN LEDGES.

005.06(A) UNDERWATER BENCHES. Requirements for underwater benches are as follows:

- (i) Must be slip resistant;
- (ii) The horizontal surface must be a maximum of 20 inches below water line;
- (iii) An unobstructed surface must be provided that is 12 to 18 inches deep and a minimum of 24 inches wide;
- (iv) Jets are not allowed in conjunction with benches;
- (v) May be installed in varying depths, but the maximum water depth will not exceed 5 feet; and underwater seats may be located in deep areas of the pool where diving equipment, either manufactured or constructed, is installed, provided they are located outside of the minimum water envelope for diving equipment; and
- (vi) Vertical and horizontal leading edges must be visually set apart with a continuous slip-resistant marking not less than 2/3 inch and not greater than 2 inches.

005.06(B) SUN LEDGES AND UNDERWATER SHELVES. The requirements for sun ledges and underwater shelves are as follows:

- (i) Depth must be 12 inches or less;
- (ii) The area leading to the deep portion of the pool must have stairs with handrails within reach;
- (iii) The horizontal leading edge of each stair will be visually set apart;
- (iv) There must be depth markers at the top and bottom of the stairs;
- (v) The sun ledge slope not to exceed 1:12; and
- (vi) There must be a minimum of two bottom inlets.

005.07 DECKS. A portion of the deck from the edge of the pool at least 5 feet wide must be unobstructed unless approved in the construction permit or a variance is obtained. The deck must be of a uniform, easily cleaned, impervious material with a slip-resistant finish. Wood decks are expressly prohibited within 5 feet of the pool. The deck must be protected from surface runoff.

005.07(A) SLOPE. The deck must be sloped away from the pool unless drains are provided to intercept water on the way back to the pool, and must be sloped to provide positive drainage of all deck areas.

005.07(B) DRAINAGE. Deck drains, when used, must be no more than 25 feet apart, and no single drain can serve more than 400 square feet of area. Continuous trench-style drains may be designed to handle areas greater than 400 square feet. There must be no direct connection between the pool deck drains and the storm or sanitary sewer or plumbing drainage systems unless approved in the construction permit or a variance is obtained. They must not drain to the pool gutter or recirculation systems.

005.07(C) ROLL-OUT GUTTERS. If the pool is equipped with roll-out, deck-level gutters, not more than 5 feet of deck may be sloped toward the gutters.

005.07(D) CARPETING. Carpeting is not permitted on pool decks.

005.07(E) HOSE BIBS. At least 1 hose bib with an appropriate backflow preventer must be provided to facilitate cleaning the deck areas.

005.07(F) POOL CONCESSIONS. Where concessions are provided, an area or areas separate from the pool deck must be designated for serving and consuming food or drink.

005.07(G) DRINKING FOUNTAIN. A minimum of 1 drinking fountain must be located in the swimming pool area for Class A swimming pools. Each drinking fountain must be connected to a water system that meets the requirements of 178 NAC 2-005.10(A).

005.08 BARRIERS. The pool area must be completely surrounded by an effective barrier not less than 6 feet high. Any special purpose areas inside the barrier must be fenced or constructed to control traffic. These areas must be designed so they will not drain onto the deck. Any entrance to the pool area must be provided with a self-closing and latching gate or door capable of being locked unless another means of controlling access is provided. The operating controls for the self-latching device must be located at least 48" above the exterior ground surface or pool deck. Barrier openings must be small enough that a 4-inch sphere is not able to pass through.

#### 005.09 LIGHTING, ELECTRICAL, AND VENTILATION REQUIREMENTS.

005.09(A) LIGHTING. During periods of operation sufficient illumination must be provided to allow visibility of all portions of the pools, including the bottom. Illumination must be provided by natural or artificial means by the following:

- (i) Overhead lighting must provide a minimum of 3 foot candles of illumination at the pool water surface and the adjacent deck area;
- (ii) Underwater lighting must provide a minimum of 0.5 watts per square foot of pool water surface; and
- (iii) Underwater lighting requirements may be approved when the overhead lighting provides a minimum of 15 foot candles of illumination at the pool water surface.

005.09(B) ELECTRICAL. All electrical installations must conform to the requirements of the State Electrical Act, Neb. Rev. Stat. §§ 81-2101 through 81-2143.

005.09(C) HEATING AND VENTILATION. Indoor bathhouses, mechanical equipment rooms, storage areas, and pool enclosures must be heated and ventilated. Room ventilation must prevent direct drafts on swimmers and must minimize condensation damage. A fuel-burning heating unit must be provided with air for combustion and vented to the outdoors.

#### 005.10 WATER SUPPLY AND WASTE WATER DISPOSAL.

005.10(A) WATER SUPPLY. Water supplied to a swimming pool and all related plumbing fixtures must use water from a public water system (PWS) or if a public water system (PWS) is not available, water quality must meet the requirements for coliform bacteria and nitrates that apply to a transient public water system in accordance with Title 179.

005.10(B) CROSS-CONNECTION CONTROL. All portions of the water distribution system serving a public swimming pool and related facilities must be protected against backflow and back siphonage. Water introduced into the pool, either directly or to the recirculation system, must be through an air gap or an appropriate approved backflow preventer as required by the Department.

005.10(C) SANITARY WASTES. Disposal must follow Title 123 or 124. Where available, a municipal sanitary sewage system must be used.

005.10(D) BACKFLOW PREVENTION. In a swimming pool, the recirculation system and pool deck drains must be protected against the backflow of waste water in a manner approved by the Department.

005.10(E) CONDENSATE. Condensate must not be introduced to the pool water or any part of the recirculation system.

005.10(F) HEAT EXCHANGERS. Any heating, dehumidification or cooling system which is connected in any way with the pool recirculation system must contain only nontoxic heat transfer media.

005.11 RECIRCULATION SYSTEM. Each swimming pool must be provided with a separate recirculation system, which will convey, clarify, chemically balance and disinfect the swimming pool water.

005.11(A) COMPONENTS. Recirculation system components must be certified to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 50 by an organization accredited by the American National Standards Institute.

005.11(B) RECIRCULATION RATE. A swimming pool recirculation system must meet volume and rate of exchange in Table 2.

**Pool Turnover Rate Table 2**

<b>Type or Depth of Pool</b>	<b>Required Turnover Rate</b>
Spray parks with no standing water	1 system volume of water every 30 minutes or less for a water treatment tank
Pool areas less than or equal to 2 feet in water depth	1 pool volume of water every 1 hour or less
Pool areas greater than 2 feet but less than or equal to 3 feet in water depth	1 pool volume of water every 2 hours or less
Pool areas greater than 3 feet but less than or equal to 5 feet in water depth	1 pool volume of water every 4 hours or less
Pool areas greater than 5 feet in water depth	1 pool volume of water every 6 hours or less
Plunge Pool for Flume Slide	1 pool volume of water every 1 hour or less

005.11(C) MATERIALS. Recirculation system components in contact with the swimming pool water must be of non-toxic material, resistant to corrosion, suitable for potable water use, and able to withstand operating pressures.

005.11(D) PIPE SIZING. Recirculation piping must be designed so that the water velocity does not exceed 10 feet per second on the discharge side of the recirculation pump, and 6 feet per second in suction piping. Gravity piping must be sized in accordance with accepted engineering practice with consideration of available head.

005.11(E) DRAINAGE AND INSTALLATION. All equipment and piping must be designed and fabricated to drain completely by use of drain plugs, drain valves or other means. All piping must be supported to prevent sagging. All suction piping must be sloped in 1 direction.

005.11(F) PIPE VALVE AND IDENTIFICATION. All exposed piping must be clearly marked to indicate function and use.

005.11(G) OVERFLOW SYSTEMS. All pools must be designed to provide continuous skimming. Makeup water supply equipment must be provided to maintain continuous skimming.

005.11(G)(i) GUTTERS (PERIMETER OVERFLOW SYSTEMS). The gutter must extend around the full perimeter of the swimming pool except at stairways and ramps 6 feet or less in width entering the swimming pool. It must be level within a tolerance of plus or minus 1/8 inch. Piping connections must be provided to permit water to flow from overflows to the recirculation system.

005.11(G)(i)(1) SIZE AND SHAPE. The gutter system must be designed to allow continuous removal of water from the pool's upper surface at a rate of at least 125 percent of the recirculation rate. The gutter must be designed to serve as a handgrip and to prevent entrapment of arms or legs.

005.11(G)(i)(2) OUTLETS. Drop boxes, converters, return piping or flumes used to convey water from the gutter must be designed to handle at least 125 percent of the recirculation rate. Drainage must be sufficient to minimize flooding and prevent backflow of skimmed water into the pool.

005.11(G)(i)(3) SURGE CAPACITY. All overflow systems must be designed with an effective surge capacity of not less than 1 gallon for each square foot of pool surface area. Surge must be provided within a surge tank, in the gutter or filter above the normal flow line, or elsewhere in the system. Surge tanks, gutters, and filter tanks must have overflow pipes to convey excess water to waste. Surge tanks must be provided with means for complete draining. In-pool surge is allowed only with an engineered perimeter gutter system which includes an integral surge weir for each 500 square feet of water surface, and a tank to allow balancing of main drain and gutter flows.

005.11(G)(ii) SKIMMERS. The use of skimmers is limited to pools with widths of 30 feet or less.

005.11(G)(ii)(1) CONSTRUCTION. Skimmers must be installed in the pool walls, and be constructed of corrosion-resistant materials. Skimmers must bear the American National Standards Institute/National Sanitation Foundation (ANSI/NSF) 50 certification mark or be certified to ANSI/NSF Standard 50 by an organization accredited by the American National Standards Institute.

005.11(G)(ii)(2) NUMBER. At least 1 surface skimmer must be provided for each 500 square feet of surface or fraction thereof. At least 2 skimmers must be provided.

005.11(G)(ii)(3) LOCATION. Skimmers must be located as to provide effective skimming of the entire water surface with minimum interference and short-circuiting.

005.11(G)(ii)(4) FLOW RATE. Skimmers must provide for a flow-through rate of 30 gallons per minute or 3.75 gallons per minute per lineal inch of weir, whichever is greater. Skimmer piping must be designed to handle a minimum of 100% of the pool turnover rate.

005.11(G)(ii)(5) CONTROL. Skimmers must have weirs that adjust automatically and operate freely and continuously with variations of at least 4 inches in water level. All skimmed water must pass through an easily removable and cleanable basket or screen before encountering control valves or entering the pump suction line. Each skimmer must be equipped with a device to control flow. If a skimmer is connected directly to the recirculation pump suction pipe, it must include a device to prevent an airlock in the suction line. If equalizer pipes are used, they must pass an adequate amount of water to meet pump suction requirements should the water in the pool drop below the weir level. The equalizer pipes must be located at least 1 foot below the lowest overflow level of the skimmer. A valve or equivalent device that will remain tightly closed under normal operating conditions, but automatically opens when the water level drops below the minimum operating level of the skimmer, must be provided on each equalizer pipe. Equalizer lines must have covers that comply with the American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) A112.19.8-2007 or -2008 or other standard approved under the federal Virginia Graeme Baker (VGB) Act.

005.11(G)(ii)(6) BALANCING. The recirculation system must be balanced to provide for optimum and uniform skimming.

005.11(H) MAIN DRAIN SYSTEM AND SUCTION OUTLETS. Main drains of the pool must be installed in the pool floor at the deepest point, and must comply with American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) A112.19.8-2007 or -2008 or other standard approved under the federal Virginia Graeme Baker (VGB) Act.

005.11(H)(i) NUMBER. 2 or more main drains or suction outlets, or a single unblockable main drain or suction outlet must be installed. Dual main drains or suction outlets must be connected in parallel, and must not permit any drain to be individually valved off.

005.11(H)(ii) SPACING. Dual main drains or suction outlets must be at least 3 feet apart but not greater than 20 feet on centers, and main drains must be provided not more than 15 feet from each side wall.

005.11(H)(iii) FIELD FABRICATED MAIN DRAINS OR SUCTION OUTLETS. Must be certified by a design professional per American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) A112.19.8-2007 or -2008 or other standard approved under the federal Virginia Graeme Baker (VGB) Act. The open area of the grate must not exceed 1.5 feet per second. Openings in grates must not be over 1/2-inch wide. Gratings must not be removable without the use of tools.

005.11(H)(iv) PIPING. The main drains and associated piping must carry 100 percent of the recirculation rate, and must be equipped with a valve.

005.11(I) ANTI-ENTRAPMENT FOR EXISTING POOLS.

005.11(I)(i) All pools must be equipped with anti-entrapment devices or systems that comply with the American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) A112.19.8-2007 or -2008 performance standard, or any other standard approved under the federal Virginia Graeme Baker (VGB) Act; and

005.11(I)(ii) All pools with a single main drain other than an unblockable drain must be equipped, at a minimum, with 1 or more of the following devices or systems designed to prevent entrapment by pool or spa drains that meets the safety requirements of any American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) performance standard if there is such a standard for such device or system, or any applicable consumer product safety standard:

005.11(I)(ii)(1) SAFETY VACUUM RELEASE SYSTEM. A system which ceases operation of the pump, reverses the circulation flow, or otherwise provides a vacuum release at a suction outlet when a blockage is detected, that has been tested by an independent third party and found to conform to American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) standard A112.19.17-2007 or American Society for Testing and Materials (ASTM) standard F2387;

005.11(I)(ii)(2) SUCTION-LIMITING VENT SYSTEM. A system with a tamper-resistant atmospheric opening;

005.11(I)(ii)(3) GRAVITY DRAINAGE SYSTEM. A system that utilizes a collector tank;

005.11(I)(ii)(4) AUTOMATIC PUMP SHUT-OFF SYSTEM. An automatic pump shut-off system;

005.11(I)(ii)(5) DRAIN DISABLEMENT. A device that disables the drain may be allowed per a design professional's certification and Department review and approval; and

005.11(I)(ii)(6) OTHER SYSTEMS. Any other system determined by the Department to be at least as effective as the systems described in items 005.11(I)(ii)(1) through 005.11(I)(ii)(5) above at preventing or eliminating the risk of injury or death associated with pool drainage systems.

#### 005.11(J) PUMPS AND STRAINERS.

005.11(J)(i) STRAINERS. A cleanable strainer must be provided on all pressure filter systems before entering the pump. The strainer must have a quick-opening cover. At least 1 spare strainer basket must be provided. In systems where the filter is located on the suction side of the pump, strainers are not required.

005.11(J)(ii) PUMPING EQUIPMENT. A pump and motor must be provided for the recirculation of the swimming pool water. The pump must provide the recirculation flow rate, and the filter backwash rate unless a separate backwash pump is provided against the total dynamic head generated in the recirculation system. The pump must be self-priming or must be installed so that there is a net positive suction head on the pump inlet whenever the pump is operating. The Department may allow multiple pumps. A gauge which indicates pressure or vacuum, as appropriate, must be installed on the pump suction header, and a pressure gauge must be installed on the discharge side of the pump.

005.11(J)(iii) ACCESSIBILITY. Pumps and motors must be readily accessible for inspection and service.

#### 005.11(K) FLOW MEASUREMENT AND CONTROL.

005.11(K)(i) FLOW MEASUREMENT. A flow meter or which gives a continuous indication of the flow rate in gallons per minute in the recirculation system must be provided. Flow meters must have a measurement capacity of at least 1.5 times the design recirculation flow rate, and must be accurate within 10% of the actual flow rate. The indicator must have a range of readings appropriate for the anticipated flow rates, and be installed where it is readily accessible for reading and maintenance, and with straight pipe upstream and downstream of any fitting or restriction in accordance with the manufacturer's recommendation.

005.11(K)(ii) FLOW REGULATION. A valve must be provided in the recirculation pump discharge piping.

#### 005.11(L) INLETS.

005.11(L)(i) INLETS. The recirculation system must have inlets and must be based on a minimum of 1 return inlet per 300 square feet of pool surface area or fraction thereof. Wall inlets must be spaced not over 20 feet apart, with 1 inlet within 5 feet of each corner of the pool and 1 in each recessed step area.

005.11(L)(ii) LOCATION. Wall inlets must be located at least 12 inches below the design water surface, or not less than 6 inches if designed to provide downward flow. Bottom inlets must be uniformly spaced, with a separating distance of no greater than 20 feet.

005.11(L)(iii) TYPE. Inlet fittings must be of the adjustable rate-of-flow type. Directional flow inlets must be used with skimmer-type pools. Floor inlets must not project from the pool floor. Wall inlets must not extend from the wall more than 2 inches.

005.12 FILTRATION. At least one filter must be provided that bears the American National Standard Institute/National Sanitation Foundation (ANSI/NSF) Standard 50 certification mark or be certified to ANSI/NSF Standard 50 by an organization accredited by the American National Standards Institute. They must be installed with adequate clearance and facilities for ready and safe inspection, maintenance, disassembly and repair.

#### 005.12(A) SAND FILTERS.

005.12(A)(i) FILTER RATE. The design filtration rate of rapid sand filters must not exceed 3 gallons per minute per square foot of filter area. High-rate sand filters must not exceed a filtration rate of 15 gallons per minute per square foot. Higher rates may be used if the filter has been successfully tested against American National Standard Institute/National Sanitation Foundation (ANSI/NSF) Standard 50 at the higher rate. The sand filter system must be equipped to backwash each filter at a rate of 15 gallons per minute per square foot of filter bed area, or as recommended by the manufacturer. A flow meter or other device which gives a continuous indication of the flow rate in gallons per minute to indicate the backwash rate for rapid sand filters must be provided. The backwash water must be discharged to waste through a suitable air gap.

005.12(A)(ii) FILTER MEDIA. Sand or other media must be carefully graded and meet the manufacturer's recommendation for pool use.

005.12(A)(iii) ACCESSORIES. Accessories must include both an influent pressure gauge and an effluent pressure gauge or a differential pressure gauge, a backwash sight glass, and an air relief valve. When required the filter system must have valving and piping to allow isolation, drainage, and backwashing of individual filters.

#### 005.12(B) DIATOMACEOUS EARTH (DE) TYPE FILTERS.

005.12(B)(i) FILTER RATE. The design filtration rate for pressure or vacuum filters must be not greater than 2 gallons per minute per square foot of effective filter area, except that a maximum filtration rate of 2.5 gallons per minute per square foot may be



allowed for vacuum diatomaceous earth (DE) filters only where continuous "body feed" is provided.

005.12(B)(ii) PRECOATING. The filter piping must be designed to refilter or waste the effluent until a uniform body coat is applied.

005.12(B)(iii) REGENERATIVE-TYPE FILTERS. Regenerative-type filters must meet the same standards as other pressure filters. Bumping or agitating by air or manual means must be provided for, and provision for inspection of elements must be provided.

005.12(B)(iv) ACCESSORIES. Accessories for vacuum filters must include a vacuum gauge and a vacuum limit switch interconnected with the pump. Pressure filters require a backwash sight glass, effluent pressure gauge, influent pressure gauge and air relief valve. Valving and piping must be provided to allow isolation, drainage, and backwashing of individual filters, if needed for proper operation.

#### 005.12(C) CARTRIDGE-TYPE FILTERS.

005.12(C)(i) FILTER RATE. The design filtration rate for surface-type cartridge filters must not exceed 0.375 gallons per minute per square foot.

005.12(C)(ii) CLEANING AND DISINFECTION. Equipment and facilities must be provided for cleaning and disinfection of filter elements.

005.12(C)(iii) ACCESSORIES. Accessories must include both an influent and an effluent pressure gauge or a differential pressure gauge and an air relief valve.

005.12(C)(iv) SPARE CARTRIDGE. An extra set of cartridges, with at least 100% filter area, must be provided.

#### 005.13 DISINFECTION AND CHEMICAL APPLICATION.

005.13(A) CHEMICAL FEED EQUIPMENT. Feeders must withstand wear, corrosion or attack by chemicals. The design must minimize potential for blockage.

005.13(A)(i) INTENDED USE. The chemical feeder must only use chemicals recommended by the manufacturer.

005.13(A)(ii) SAFEGUARDS. The feeders must incorporate antisiphon safeguards so that the chemical cannot continue to feed if any type of failure of the pool equipment occurs. Chemical feed systems must be designed to prevent chemical feed when water is not flowing from the recirculation system to the pool.

#### 005.13(A)(iii) CYANURIC ACID AND INDOOR POOLS.

005.13(A)(iii)(1) Cyanuric acid will not be allowed in new indoor pools.

005.13(A)(iii)(2) When replaced, a chemical feed system must not use cyanuric acid.

005.13(B) DISINFECTION. Swimming pools must be designed to provide for continuous disinfection of the pool water with a chemical which is an effective disinfectant, and which imparts an easily measured, active residual.

005.13(B)(i) DISINFECTANT FEEDERS. An automatic feeder which is easily adjustable must be provided for the continuous application of disinfectant.

005.13(B)(ii) CAPACITY. Feeders must be capable of supplying disinfectant at a rate of 0.1 pound per day chlorine (or equivalent) per gallon per minute recirculation flow. This equates to a minimum of 8 parts per million in the recirculation flow.

005.13(B)(iii) HYPOCHLORINATORS. Where hypochlorinators are used, feed must be capable of being continuous under all conditions of pressure in the recirculation system.

005.13(B)(iv) OTHER DISINFECTANTS. Feed equipment must bear the American National Standard Institute/National Sanitation Foundation (ANSI/NSF) -50 certification mark or be certified to ANSI/NSF Standard 50 by an organization accredited by the American National Standards Institute and must be installed in accordance with the manufacturer's instructions.

005.13(B)(v) TEST EQUIPMENT. The owner of each swimming pool must have at least the following testing equipment at the pool:

005.13(B)(v)(1) FERROUS AMMONIUM SULFATE-DIETHYL-P-PHENYLENE DIAMINE (FAS-DPD) TEST KIT. If other halogens are used, an appropriate scale must be provided. Electronic residual monitoring devices may be used in addition to the test kit.

005.13(B)(v)(2) pH TEST KIT. A pH test kit with a range from 7.0 to 8.0, accurate to the nearest 0.2 pH unit.

005.13(B)(v)(3) ALKALINITY TEST KIT. The alkalinity test range must be at least 60 to 400 parts per million (mg/L) as CaCO<sub>3</sub>.

005.13(B)(v)(4) CYANURIC ACID TEST KIT. Where cyanurates are used, a test kit to measure the cyanuric acid concentration must be provided. It must permit readings to at least 100 parts per million (mg/L) with maximum increments of 25 parts per million (mg/L).

#### 005.14 BATHHOUSE.

005.14(A) GENERAL. All Class A pools must have a bathhouse with dressing, shower, and sanitary facilities. All class B, C, D, E, and F swimming pools are required to have minimum sanitary facilities consisting of toilets and sinks. Omission of part or all of the pool-side shower and toilet facilities may be approved by the Department when adequate facilities are conveniently available as determined by the Department.

005.14(B) DESIGN CRITERIA.

005.14(B)(i) BATHHOUSE ROUTING. The location of the bathhouse must be adjacent to the pool.

005.14(B)(ii) BATHHOUSE DESIGN. Floors of the bathhouse must be of smooth-finish material with slip-resistant surface, impervious to moisture, easily cleanable and sloped at least 1/4 inch per foot to drains. Carpeting is not permitted in shower and toilet areas.

005.14(B)(iii) FIXTURE REQUIREMENTS. Unless approved pursuant to 178 NAC 2-005.14(A), bathhouse facilities must be provided based on maximum patron load designed for the swimming pool per Table 3. Fixtures provided in family changing rooms or other unisex restroom facilities which are available to swimming pool patrons may be included in the required male or female fixture count, but not both.

Fixture Requirement Table 3

Total Patron Load	Fixtures Required Male				Fixtures Required Female		
	Toilets	Urinals	Sinks	Showers	Toilets	Sinks	Showers
0-50	1	1	1	1	2	1	1
51-100	1	1	1	1	2	1	1
101-150	1	2	1	2	3	1	2
151-200	1	2	1	2	3	1	2
201-250	2	2	1	3	4	2	3
251-300	2	3	2	4	5	2	4
301-400	2	3	2	5	5	2	5
401-500	3	3	2	6	6	2	6
501-1000	3	4	2	7	7	2	7
1001-1500	4	5	2	10	9	2	10
1501-2000	5	6	2	15	11	2	15
2001 or more	6	7	3	20	13	3	20

005.14(B)(iv) HOSE BIBS. Hose bibs with a back-siphonage device must be provided to enable the entire bathhouse area to be flushed.

005.15 MISCELLANEOUS.

005.15(A) POOL CLEANING SYSTEM. A system must be provided to remove dirt and other foreign material from the pool. Built-in vacuum lines must not be used.

005.15(B) STARTING BLOCKS. Starting blocks, when provided, must be located where the water depth is at least 5 feet and must be removable.

005.15(C) SAND AREA RINSE SHOWERS. Sand areas are not allowed inside the pool enclosure unless separated by an effective barrier to control access to the swimming pool deck. Persons entering the swimming pool from the sand area must pass a water spray or shower. Drainage must not be directed to the pool.

005.15(D) BOILERS. Where boilers are provided, the design professional must ensure that they meet the Boilers Inspection Act, Neb. Rev. Stat. §§ 48-719 through 48-743.

005.16 SPRAY PARKS. Except as modified by 178 NAC 2-005.16, compliance is required with all other applicable portions of 178 NAC 2-005. A spray park includes no standing water and uses potable water that is recirculated and treated or from the deep area of a swimming pool. A play area with sprays or other features that uses only potable water that is not circulated is not included in this definition.

005.16(A) GENERAL.

005.16(A)(i) SURFACE MATERIAL. The surface of a spray park must be impervious and durable. Padding specifically designed for water features must be water resistant or must permit full drainage without retaining water in its structure. Walking surfaces must be slip-resistant.

005.16(A)(ii) SURFACE SLOPES. The splash zone must be properly sloped so that only water from the sprays flows back to the drains. Areas adjacent to the splash zone must be sloped away from the collection drains. Plants or vegetation within the immediate area of the splash zone are prohibited.

005.16(A)(iii) SPRAY PARK DRAINS. Must not be directly connected to a pump. At least 2 drains must be provided. The openings in the drain covers must be no wider than ½ inch. Drain covers must be securely fastened to the drain structure so that they cannot be removed without tools. Drains and the associated piping must be designed for 125% of the flow into the spray park (play feature and recirculation, as applicable).

005.16(A)(iv) PLAY FEATURES.

005.16(A)(iv)(1) SURFACE SPRAYS. Must be flush with the spray park surface. Spray openings must be ½ inch or less.

005.16(A)(iv)(2) ABOVE GROUND FEATURES. Must not present a tripping hazard. Features must not have sharp edges or points, or rough surfaces and must be of corrosion-resistant materials or coating.

005.16(A)(iv)(3) ATOMIZED MISTS. All sprays that produce finely atomized mists must be connected to a separate potable water source.

005.16(B) WATER TREATMENT TANK. The recirculation system must be independent from any adjacent swimming pool. The recirculation system components and design must

comply with all other applicable parts of 178 NAC 2-005 except as modified by 178 NAC 2-005.16.

005.16(B)(i) WATER VOLUME. Must be 5 minutes of the flow in gallons per minute of the spray features and the recirculation system combined or 4,000 gallons, whichever is the larger volume.

005.16(B)(ii) RATE. A 30 minute turnover must be provided.

005.16(B)(iii) TANK VOLUME. Must have a volume of at least 125% of the volume specified in 178 NAC 2-005.16(B)(i). The tank must be accessible for cleaning and inspection.

005.16(B)(iii)(1) DRAIN. Must be provided with a drain to waste and not directly connected to a sanitary system.

005.16(B)(iii)(2) AUTOMATIC LEVEL CONTROL. The water level must be automatically maintained at the overflow level.

005.16(B)(iv) SEPARATE SYSTEMS. The recirculation treatment system and the play feature pump(s) and piping must be separate. The play feature pump system must not operate if the recirculation system pump is not operating.

005.16(B)(v) PLAY FEATURE PIPING. The play feature pump suction and return line to the water storage tank must be designed to prevent short-circuiting. The suction intake for the recirculation pump must be located in the lowest portion of the water treatment tank. Play features and piping must automatically drain into the water treatment tank when the play features are not operating. An easily readable flow meter that complies with the requirements of 178 NAC 2-005.11(K)(i) must be installed in the play feature circulation system.

005.16(B)(vi) TREATED WATER DISTRIBUTION. The water storage tank must be designed to maintain water quality as outlined in 178 NAC 2-006.

005.16(B)(vii) SAMPLE TAP. A sample tap must be available in the equipment area for the play feature piping.

005.17 FOUNTAINS, SPRAYS, OR SIMILAR FEATURES. Are permitted only in water depths not exceeding 2 feet. These features must be of a nonclimbable design, unless specifically manufactured as a climbing structure. Water supplied to these fountains must come from the recirculation system after filtration. Water supplied to these fountains may also come from the deepest portion of the main swimming pool excluding the surge tank, main drain, gutters, skimmers, and depths of less than 2 feet. Dedicated wading or zero depth pools not exceeding 2 feet in depth must use filtered water.

005.18 BRIDGES AND OVERHEAD OBSTRUCTIONS. The minimum height of the bridge or obstruction must be at least 8 feet from the bottom of the pool and at least 4 feet above the surface of the pool. Minimum 42-inch high handrails must be provided along each side of the bridge. The walking surfaces must be constructed of concrete or other nonabsorbent material having a smooth slip-resistant finish.

005.19 SPAS. A spa is not intended to be drained, cleaned, and refilled after each individual use. It may include, but not be limited to, hydrojet circulation, hot water, cold water, mineral baths, air induction systems, or any combination thereof. A pool used under direct supervision of licensed healthcare professionals is excluded.

005.19(A) GENERAL. Requirements for conventional swimming pools may be modified for spas at the discretion of the Department. Except as modified by 178 NAC 2-005.19, compliance is required with all other applicable sections of 178 NAC 2-005.

005.19(B) PHYSICAL SEPARATION. A spa must be physically separated from any other swimming pool.

005.19(C) PATRON LOAD. The patron load must not exceed 1 person per 3 lineal feet of seat or bench measured at the front edge.

005.19(D) MAXIMUM DEPTHS. The maximum water depth must be 4 feet measured from the water line. The maximum depth of any seat or sitting bench must be 2 feet measured from the water line.

005.19(E) STAIRS, LADDERS, AND RECESSED TREADS. Must be provided when spa depths are greater than 2 feet. A spa must be equipped with at least 1 means of egress with handrails for each 50 feet of perimeter or portion thereof.

005.19(F) DECK WIDTHS. A 5 foot minimum width, continuous, unobstructed deck, which may include the coping, must be provided on 50% or more of the spa. When the spa is adjacent to another pool, the spa must be located at the shallow end, with a minimum distance of 5 feet between the 2 bodies of water.

005.19(G) WATER TEMPERATURE CONTROLS. Must be provided to prevent water temperatures in excess of 104 degrees Fahrenheit (40°C) and must be accessible only to a Nebraska swimming pool operator.

005.19(H) SPA DRAINAGE. The spa must be equipped to completely drain. Water suction outlets must conform to 178 NAC 2-005.11(H) or 178 NAC 2-005.11(I).

005.19(I) SURFACE SKIMMERS. 1 surface skimmer must be provided for each 100 square feet or major fraction thereof of surface area.

005.19(J) RECIRCULATION SYSTEM INLETS. A minimum of 2 inlets must be provided.

005.19(K) AIR INDUCTION SYSTEMS. An air induction system, must prevent water back-up that could cause electrical shock hazards. Air intake sources must not permit the introduction of toxic fumes or other contaminants.

005.19(L) DISINFECTANT FEEDERS. Gas chlorinators must not be used.

005.19(M) RECIRCULATION RATE. The recirculation rate must provide 30 gallons per minute per skimmer, or provide a 30-minute turnover, whichever provides a greater flow rate.

005.19(N) AGITATION SYSTEMS. The agitation system must be connected to a timer located out of reach of persons in the spa. The timer must not exceed 15 minutes.

005.19(O) EMERGENCY SHUTOFF. Must be located within sight of the spa, at least 5 feet horizontally from the inside walls of the spa, and must be clearly labeled. This control must disable all spa circulation, agitation, air induction systems, as well as other associated mechanical, chemical feed and electrical devices.

005.19(P) ROOFS OR CANOPIES OVER SPA. Must be constructed so that moisture or condensation from the roof or canopy will not drain into the spa. Where a roof or canopy covers the spa, the height from the rim of the spa to the lowest point of the canopy must be at least 7-1/2 feet.

005.19(Q) HEATING. All room heating units must be isolated or protected from contact with spa users to prevent injury. The spa room-heating unit must be capable of maintaining a temperature of 75°F to 82°F.

005.19(R) THERMOMETER. An in-line thermometer on the spa water return line is required.

#### 005.20 WADING POOLS.

005.20(A) GENERAL. Except as modified by 178 NAC 2-005.20, compliance is required with all other applicable parts of 178 NAC 2-005.

#### 005.20(B) RECIRCULATION.

005.20(B)(i) RATE. The recirculation rate must provide a turnover of 1 hour or less.

005.20(B)(ii) SEPARATE SYSTEM. A wading pool must have a separate recirculation system from other swimming pools.

005.20(B)(iii) SURFACE SKIMMING. Intermittent fixed weir overflow structures, including gutters, scuppers, and drains at zero depth may be used. The overflow system must have a hydraulic capacity of at least 125 percent of the recirculation flow rate.

005.20(B)(iv) SKIMMER EQUALIZER LINE. May be connected to the main drain.

005.20(B)(v) INLETS. Inlets must be located to distribute treated water to all parts of the wading pool and to move debris to the overflow and drain systems.

#### 005.20(C) SAFETY.

005.20(C)(i) BARRIER AND LOCATION. When a wading pool is in the same enclosure as a supervised swimming pool, it must be near the shallow end of the pool, and there must be a barrier at least 3 feet high between the wading pool and the swimming pool with a self-closing, self-latching gate.

005.20(C)(ii) BARRIER. Stand-alone wading pools or wading pools associated with unsupervised swimming pools must have a barrier, as required by 178 NAC 2-005.08.

005.20(C)(iii) DEPTH MARKING. Signs must be provided at the pool indicating the maximum depth in addition to other required depth markings.

005.20(C)(iv) STEPS OR LADDERS. Steps or ladders are not required at wading pools.

005.21 WAVE POOLS. Pools with wave generating equipment and a design which provides for control of the waves within the side walls and dissipation of the waves at a zero depth shallow end.

005.21(A) GENERAL. Requirements for conventional swimming pools may be modified for wave pools at the discretion of the Department. Except as modified by 178 NAC 2-005.21, compliance is required with all other applicable sections of 178 NAC 2-005.

005.21(B) GUTTERS. Overflow gutters must be provided, but may be omitted along the side of the pool with the wave generating equipment if effective skimming devices are provided instead. Continuous skimming must be provided during the quiescent period over the entire length of the gutter. The zero depth end must have a continuous trench with a grate.

005.21(C) DECKS AND LADDERS.

005.21(C)(i) BARRIERS. A safety railing or other effective barrier at least 42 inches in height must be provided to prevent swimmers from entering the pool at any location other than the zero water depth end. It must have at least 1 intermediate-height rail or rope.

005.21(C)(ii) RUNOUT. Runout areas sloping down toward the zero depth trench must not exceed 4 feet.

005.21(C)(iii) ACCESS. Deck areas accessible to swimmers may be omitted along the side of the pool with the wave generating equipment.

005.21(C)(iv) LADDERS. Ladders must be of a recessed design.

005.21(D) WAVES.

005.21(D)(i) MAGNITUDE. The wave generating equipment must not be capable of producing waves of a magnitude which could cause swimmers to have contact with the pool bottom in the deep end.

005.21(D)(ii) EMERGENCY SHUTOFF. An emergency shutoff for the wave generating equipment must be provided at every lifeguard chair at a minimum. At least 4 emergency shutoffs must be provided.

005.21(E) OPENINGS.

005.21(E)(i) INLET. The zero depth area must have bottom inlets.



005.21(E)(ii) OPENINGS TO WAVE GENERATING EQUIPMENT. Openings to wave generating equipment must be designed to prevent entrapment of swimmers.

005.22 ZERO DEPTH POOLS.

005.22(A) GENERAL. Except as modified by 178 NAC 2-005.22, zero depth pool facilities must comply with all other applicable provisions of 178 NAC 2-005.

005.22(B) ZERO DEPTH END. A gutter or trench with a grate cover is required along all zero depth areas. It must be at an elevation that allows effective skimming at the trench at all times.

005.22(C) RUNOUT. Runout areas sloping toward the zero depth trench must not exceed 6 feet.

005.22(D) BOTTOM INLETS. A system of bottom inlets must be provided in the shallow end, designed to provide the minimum of a 2-hour turnover for that area.

005.23 POOL SLIDES. All slides used at pools must be specifically designed and intended for use with a pool. An emergency shutdown control must be provided for all water slides. This control must stop all water flow on the slide and must be mounted in the pool area, no more than 50 feet from the slide for lifeguards or for slide users. Water slides require special consultation with the Department for consideration of design variations and areas where potential problems may exist. Requirements for swimming pools may be modified for water slides at the discretion of the Department. Except as modified by 178 NAC 2-005.23, compliance is required with all other applicable sections of 178 NAC 2-005.

005.23(A) ENTRY. Slide entry areas must be designed so the rider is able to properly enter and position himself or herself before sliding down the chute. This area must be a small platform or a less-sloped portion of chute, with well-placed assist bars.

005.23(B) HANDRAILS. Slides must have handrails on both sides of the ladder or steps. Platforms and landings must have guardrails not less than 42 inches high, with an effective barrier such that a 4-inch diameter sphere cannot pass through. Handrail height must not be less than 34 inches and not more than 38 inches high, with balusters or ornamental patterns such that a 4-inch diameter sphere cannot pass through.

005.23(C) PUMP INTAKE. Water from the surge tank and water leaving the pool for recirculation (for example, main drain, gutter, skimmers, and main drain line) must not be used for pump intakes.

005.23(D) CHILDREN'S ACITIVITY SLIDES. Children's activity slides are small slides with a low exit velocity designed by the manufacturer for use by small children at pools. They must be designated by the manufacturer for use in 24 inches or less of water.

005.23(E) DROP SLIDES. A drop slide discharges to a pool with a drop of more than 2 inches to the water surface.

005.23(E)(i) LANDING AREA. There must be a drop slide landing area extending 5 feet on either side of the center line of the slide and from the back wall to 20 feet in

front of the slide terminus. This area must not infringe on the required landing areas for other pool equipment.

005.23(E)(ii) LANDING AREA DESIGNATION. The landing area must be clearly designated by float ropes. A slide mounted in a separate diving area may be allowed to use the diving area separation as long as access to the diving well is restricted to patrons using the slide and diving equipment.

005.23(E)(iii) SLIDE TERMINUS. The terminus of the chute must extend beyond the pool wall, and must not interfere with the safety area of other pool equipment.

005.23(E)(iv) EXIT ANGLE. The maximum angle of the slide runway at the exit must be between 0 degrees and 11 degrees, measured downward from horizontal.

005.23(E)(v) WATER DEPTH. The area from the slide terminus outward 6 feet in front of the slide terminus must have a depth as established from the table below. The slide must be constructed so the rider enters the water in this 6-foot area. If the depth is 5 feet or less, the bottom in this area must have a maximum slope of 1 inch in 12 inches (1:12), and the slide must be located at least 5 feet from any change to steeper slope of the pool bottom.

Water Depth from the Slide Terminus to 6 Feet in Front of the Terminus (see above)	Corresponding Maximum Exit Height Above the Water
4 feet minimum	2 to 12 inches
>4 to 8 feet minimum	greater than 12 to 42 inches (Subject to interpolation)

005.23(E)(vi) MAXIMUM DROP. The maximum drop height at the terminus of the slide must not exceed 42 inches.

005.23(F) FLUME SLIDES. A flume slide consists of 1 or more flumes entering a plunge pool or dedicated plunge area of a multiple use pool at or near the water level.

005.23(F)(i) FLUMES.

005.23(F)(i)(1) POSITION. A flume must be perpendicular to the plunge pool wall for a distance of at least 10 feet from the exit end of the flume.

005.23(F)(i)(2) CLEARANCE. The distance between the side of a flume terminus and a plunge pool side wall must be at least 4 feet. The distance between sides of adjacent flume terminuses must be at least 6 feet. The distance between a flume exit end and the opposite side of the plunge pool, excluding steps, must be at least 20 feet.

005.23(F)(i)(3) ELEVATION. A flume must terminate at a depth between 6 inches below the plunge pool operating water surface level and 2 inches above the water surface level. The flume must not exceed a 1-in-ten slope for a distance of at least 10 feet from its exit end.

005.23(F)(i)(4) DESIGN. The design of the flume must minimize abrupt contact with the slide and prevent people from being airborne.

005.23(F)(ii) PLUNGE POOLS.

005.23(F)(ii)(1) DEPTHS. The plunge pool operating water depth at the end of a flume must be 3 to 4 feet. A depth of at least 3 feet must be maintained in front of the flume for a distance of at least 10 feet, from which the pool floor may have a constant slope upward.

005.23(F)(ii)(2) PLUNGE AREA. The plunge area in multi-use pools must be designated by float ropes, and each area must have ladders, steps, or stairs for egress.

005.23(F)(iii) FLUME PUMPS.

005.23(F)(iii)(1) CHECK VALVES. Each flume pump discharge pipe must have a check valve.

005.23(F)(iii)(2) WALKWAYS. A 4-foot minimum width, surfaced walkway or steps must be provided between the plunge pool deck and the steps leading to the top of the flume(s).

005.23(F)(iii)(3) PUMP RESERVOIR. If a separate pump reservoir is provided, it must have a main drain and surface skimmer, both connected to the recirculation system.

005.24 LAZY RIVER RIDES. Except as modified by 178 NAC 2-005.24, compliance is required with all other applicable parts of 178 NAC 2.

005.24(A) CONSTRUCTION MATERIAL. Lazy River Rides must be constructed of concrete or other impervious materials with a nontoxic, smooth and slip-resistant finish. These rides must be of such shape and design as to be operated in a safe and sanitary manner.

005.24(B) WATER DEPTH. The maximum water depth of the Lazy River Ride must not exceed 4 feet.

005.24(C) DECKS. Decking must be provided at the entrance and exit points as necessary to provide safe patron access but must not be smaller than 10 feet in width and length. Additional decking along the ride course is not required except that decking is required at lifeguard locations and emergency exit points.

005.24(D) EMERGENCY EXIT LOCATIONS. Access and exit must be provided at the start and end of the ride only, except that emergency exit locations may be located along the ride course as necessary to provide for the safety of the patrons.

005.24(E) PATRON LOADING. 25 square feet of Lazy River water surface area must be provided for each patron.

006. OPERATION AND MANAGEMENT OF PUBLIC SWIMMING POOLS.

006.01 PERMIT REQUIREMENTS AND PROCEDURES. Before operating a swimming pool, a person must apply for and obtain an operating permit from the Department. The permit is not transferable and must be renewed annually. The permit expires at midnight of March 31 of each year unless otherwise suspended or revoked. The permit must be conspicuously posted on the pool premises.

006.01(A) OPERATING PERMIT. The owner or Nebraska swimming pool operator of a pool facility must apply for an operating permit on forms provided by the Department.

006.01(B) OPERATOR COURSE. An individual wanting to obtain a certificate of competency from the Department, must attend a Nebraska swimming pool operator clinic, take an exam provided by the Department, and obtain a passing score of 70%. The individual must apply for a certificate of competency on forms provided by the Department.

006.01(C) SCHEDULE OF FEES. Fees associated with operating permits, inspections, and certificates of competency are as follows:

006.01(C)(i) PERMIT FEE. A fee of \$40 to obtain an annual operating permit must be paid by the owner of the pool.

006.01(C)(ii) OPERATIONAL INSPECTION FEES. Operational inspection fees are separate from and in addition to the engineering inspection fee found in 178 NAC 2-003.04(D)(iv). Pools owned by a municipal corporation are exempt from inspection fees.

006.01(C)(ii)(1) INITIAL INSPECTION FEE. A fee of \$60 for each initial inspection conducted by the Department must be paid by the owner or Nebraska swimming pool operator of any swimming pool at the time the permit application is submitted.

006.01(C)(ii)(2) ADDITIONAL INSPECTION FEE. A fee of \$60 for each additional inspection conducted by the Department must be paid by the owner or Nebraska swimming pool operator of any swimming pool within 30 days of inspection.

006.03(C)(iii) EXAMINATION AND CERTIFICATE OF COMPETENCY FEE. Individuals and Nebraska swimming pool operators who are tested at Nebraska swimming pool operator clinics conducted by the Department must pay an examination and certificate of competency fee of \$40. The certificate is valid for 2 years from date of issuance. Nebraska swimming pool operator certificate of competency fees must be paid before issuance of the certificate.

006.03(C)(iv) CERTIFICATION OF PERMIT OR CERTIFICATE OF COMPETENCY FEE. A fee of \$25 must be paid to the Department for issuance of a certification of an operating permit or a Department issued Nebraska swimming pool operator certificate of competency.

006.03(C)(v) VERIFICATION OF PERMIT OR CERTIFICATE OF COMPETENCY FEE. A fee of \$5 must be paid to the Department for verification of an operating permit or a Department issued Nebraska swimming pool operator certificate of competency. The verification includes written confirmation as to whether a permit or certificate of competency was valid at the time the request was made.

006.03(C)(vi) DUPLICATE PERMIT OR CERTIFICATE OF COMPETENCY FEE. A fee of \$10 must be paid to the Department for a duplicate operating permit or Department issued Nebraska swimming pool operator certificate of competency.

006.03(C)(vii) METHOD OF PAYMENT. The Department will accept payment by personal or certified check, cashier's check, money order, or currency. Checks must be made payable to the "Department of Health and Human Services". Payments made in currency, until properly receipted, are not the responsibility of the Department. The Department will not accept payments made in stamps, foreign currency, or third party endorsed checks.

006.03(C)(viii) REFUNDS. The Department will not refund any fee paid for which the applicable service has been performed except in cases of mistake or fraud.

006.03(C)(ix) PENALTIES. Failure to pay the specified fees for the permit or inspection of a swimming pool constitutes cause for the denial, suspension, revocation, or refusal of renewal of the operating permit.

## 007. POOL OPERATING STANDARDS.

007.01 SAFETY REQUIREMENTS. The following safety requirements must be met at all pools unless otherwise indicated:

- (1) Water in unbreakable containers is permitted in the swimming pool. Food and beverages are permitted in designated areas of the pool deck if they are in unbreakable containers;
- (2) Class A, B, and F pools must have a boundary line per 178 NAC 2-002.03. During swimming lessons, lap swims, and swim meets, ropes and floats may be moved to enable those purposes to be accomplished if the pool is under the direct supervision of an individual responsible for supervising the group;
- (3) Water depth must be plainly marked at or above the water surface on the vertical pool wall and on the edge of the deck at maximum and minimum points of break between the deep and shallow portions and at intermediate increments of depth, spaced at no more than 25-foot intervals. Depth markings must be in numerals at least 4 inches high and in a color contrasting with the background. Where depth markings cannot be placed on the vertical walls above the water level, or space does not allow 4-inch letters, other means must be used so that markings are plainly visible to persons in the pool;
- (4) Each lifeguard on duty must have within arm's reach a rescue tube equipped with a 6-foot long strap or tow rope. Class B and Class F pools must provide either a rescue tube or a ring buoy, United States Coast Guard approved, or its equivalent, with an attached rope at least as long as the width of the pool;
- (5) Class B pools must provide a shepherd's crook type of pole having blunted ends with a minimum length of 12 feet;
- (6) Class A pools must have a backboard equipped with at least three straps.
- (7) First aid kit
  - (a) Each Class A pool must have a first aid kit which contains the following materials:
    - (i) 3 units triangular bandage;
    - (ii) 2 units 1" tape;
    - (iii) 6 units 3" x 3" plain gauze pad;
    - (iv) 2 units 2" x 6 yds. gauze roller bandage;
    - (v) 1 unit tweezer, bandage scissor;

- (vi) 1 unit Red Cross First Aid Book or an equivalent substitute;
  - (vii) 1 unit assorted bandages, such as Band-aids;
  - (viii) 1 unit latex-free gloves (or equivalent);
  - (ix) 1 unit rescue breathing face shield or mask; and
  - (x) 1 unit emergency response pack for cleaning up blood.
- (b) All other pools must have a first aid kit;
- (8) Lifesaving equipment must be mounted in conspicuous places, accessible, its function plainly marked, and kept in repair and ready condition. Bathers or others must not be permitted to tamper with, use for any purpose other than its intended use, or remove such equipment from its established location;
  - (9) Swimming pools must have an accessible working telephone in the pool enclosure or easily visible from the pool enclosure with emergency telephone numbers prominently posted. If a cellular phone is used, service must be reliable, the phone charged at all times, and be equipped with 911 locations services;
  - (10) All Class A swimming pools must conduct an emergency drill within 30 days of opening for the season. Additionally, an emergency drill must be conducted with new pool employees within 30 days of employment. Pools operating year round or seasonal pools that operate for more than 6 months a year, must conduct emergency drills at least once every 6 months;
  - (11) The pool owner or the Nebraska swimming pool operator must immediately notify the Department of any drowning or near drowning. Any accident occurring on the pool premises requiring hospitalization or medical treatment must be reported within 24 hours on forms provided by the Department;
  - (12) Footbaths are prohibited;
  - (13) Ladders, ladder rungs, ramps, and handrails must be securely anchored;
  - (14) During hours of operation, unsupervised entrance areas and gates for fences separating wading pools, spas, and swimming pools within the perimeter fence must not be locked but must be self-closing and self-latching;
  - (15) A thermometer must be available for each Class C pool;
  - (16) Decks must be clear of bags and personal items in an area large enough to allow emergency personnel to reach a victim;
  - (17) A properly operating carbon monoxide detector is required in the pool enclosure for indoor pools where gas or propane is used for heating and in enclosed mechanical rooms where there is a gas or propane fueled water heater;
  - (18) Water temperature in a pool must not exceed 104 ° F;
  - (19) An emergency shutoff switch must be located within sight of the spa, at least 5 feet horizontally from the inside walls of the spa, and must be clearly labeled. This control must disable all spa circulation, agitation, air induction systems, as well as other associated mechanical, chemical feed, and electrical devices, not including lighting;
  - (20) Skimmers and drain covers must be kept clean and operational;
  - (21) The chemical feed system must be maintained and operational;
  - (22) All gauges associated with the operation and maintenance of the pool must be properly maintained;
  - (23) Covers on outlets that create suction must be properly maintained;
  - (24) The bottom and sides of a pool must be white or a light color, with a smooth and easily cleanable surface;
  - (25) Pool lighting must be secure and in good operating condition;
  - (26) The barrier surrounding the pool must be maintained so that any openings will not allow a 4-inch sphere to pass through;
  - (27) Backflow or cross connection devices must be in place where required and must be

- properly maintained;
- (28) All pools must have main drain systems, suction outlets or anti-entrapment devices or systems that comply with 178 NAC 2-005.11(H) and 2-005.11(I);
  - (29) Chemical safety;
    - (a) Chemicals that are toxic or irritating to humans must not be added to a swimming pool from the deck of the pool while the pool is in use. This includes, but is not limited to, disinfectant chemical, pH control chemical, algaecide, and shock treatment chemical. When chemical additions are made from the deck, the Nebraska swimming pool operator must follow the manufacturer's instructions for proper use of the product. The Nebraska swimming pool operator must test the water as appropriate before allowing use of the swimming pool. The chemical addition and the test results must be recorded in the swimming pool records;
    - (b) Chemical storage containers must be clearly labeled and treatment chemicals must be stored and handled in accordance with the manufacturer's recommendations;
    - (c) Material safety data sheets (SDS) for the chemicals used at the pool must be at the facility in a location known and readily accessible to the facility staff;
    - (d) A warning sign stating "AUTHORIZED PERSONNEL ONLY" must be placed on the door of rooms where chemicals are used or stored, or where bulk containers are located. Rooms must be kept locked at all times except when occupied by authorized personnel;
    - (e) Where chlorine gas is used, chlorine cylinders and proportioning equipment must be housed in a separate, well-ventilated enclosure. All full and empty chlorine cylinders must be secured to the scale or to the walls to prevent accidental tipping. The enclosure must have a vent at floor level which terminates out-of-doors and must contain:
      - (i) An approved scale for weighing the chlorine cylinders to determine the amount of chlorine fed over any period and to permit the Nebraska swimming pool operator to know when the supply of chlorine in the cylinder is nearing exhaustion;
      - (ii) An ammonia fume dispenser bottle to be used to check for chlorine leaks;
      - (iii) An approved chlorine cylinder valve stem wrench. This wrench must be maintained on the valve stem of the cylinder(s) in use so that the chlorine supply can be shut off quickly in the case of an emergency; and
      - (iv) Valve protection hoods kept in place on all cylinders except those attached to the chlorinator.

007.02 WATER QUALITY AND DISINFECTANTS. Failure to meet any standard in this section will result in immediate closing of the swimming pool, except item K.

007.02(A) CLARITY. The water must be sufficiently clear at all times so the main drain cover or grate is visible.

007.02(B) DEBRIS. The pool water must be free from all scum and floating matter on the surface and from dirt and other materials or objects.

007.02(C) COMBINED CHLORINE. If a chlorine chemical is used for disinfection, the water must be tested for combined chlorine at least once each week the swimming pool is open for use. The combined chlorine must not exceed 0.5 parts per million (ppm).

007.02(D) CHLORINE. Spas using chlorine as a disinfectant must maintain a free chlorine residual of at least 3.0 parts per million (ppm). All other swimming pools using chlorine as a disinfectant must maintain a free chlorine residual of at least 2.0 parts per million (ppm) in all parts of the pool.

007.02(E) BROMINE. Spas using bromine as a disinfectant must maintain a total bromine residual of at least 4.0 parts per million (ppm). All other swimming pools using bromine as a disinfectant must maintain a total bromine residual of at least 2.0 parts per million (ppm) in all parts of the pool.

007.02(F) MINIMUM DISINFECTANT LEVELS. A spa must be closed if the free chlorine residual is less than 3.0 parts per million (ppm) or the total bromine residual is less than 4.0 parts per million (ppm). All other pools must be closed if the minimum level of free chlorine residual is less than 2.0 parts per million (ppm) or the total bromine residual is less than 2.0 parts per million (ppm).

007.02(G) MAXIMUM DISINFECTANT LEVELS. All swimming pools must be closed if the free chlorine residual exceeds 10.0 parts per million (ppm) or the total bromine residual exceeds 18 parts per million (ppm).

007.02(H) OTHER DISINFECTANTS. The Department will accept other disinfection methods when it has been adequately demonstrated that they provide a satisfactory residual which is easily measured and that they are as effective under conditions of use as is the chlorine concentration specified in 178 NAC 2-007.02(D), and are not dangerous to public health.

007.02(I) CYANURATES. In pools where cyanurates are used, the cyanuric acid levels must be below 90 parts per million (ppm).

007.02(J) pH. The water must maintain a pH of not less than 7.2 and not over 7.8.

007.02(K) ALKALINITY. The total alkalinity of the water must be a minimum of 80 parts per million (ppm).

007.03 REQUIRED TESTING AND RECORDKEEPING. The following records must be kept on forms provided by the Department.

007.03(A) DAILY RECORDS AND TESTS. Daily records must document patron load totals, amounts of chemicals used, and maintenance or any malfunction of equipment. Daily records must also document the following tests, which must be performed every day:

- (i) The disinfectant residual must be tested before opening and then at intervals not longer than four hours until closing time. If the swimming pool, wading pool, or spa is equipped with an automatic controller with a readout or printout of the disinfectant residual, the Nebraska swimming pool operator may make visible readings of the disinfectant residual and record them. The swimming pool water must be tested manually by means of a Ferrous Ammonium Sulfate-Diethyl-P-Phenylene Diamine (FAS-DPD) test at least once per day before opening. The Nebraska swimming pool operator must specify in the pool records which test is from the automatic controller and which is done manually;
- (ii) The pH of the water must be tested each day by means of a phenol red test or equivalent before opening and then at least every four hours until closing time.



If the swimming pool, wading pool, or spa is equipped with an automatic controller with a readout or printout of pH, the Nebraska swimming pool operator may make visible readings of the pH and record them. The swimming pool water must be tested manually at least once per day before opening. The Nebraska swimming pool operator must specify in the pool records which test is from the automatic controller and which is done manually. The pH instrumentation must be calibrated periodically according to the manufacturer's instructions if the readout is to be used to supplement manual pH readings; and

- (iii) Spa temperature must be taken before opening and then at intervals not longer than four hours until closing time.

007.03(B) WEEKLY RECORDS AND TESTS. Records must document the following tests, which must be performed every week:

- (i) Total alkalinity;
- (ii) Combined chlorine, if chlorine is used as a disinfectant; and
- (iii) Cyanuric acid level, where applicable.

008. POOL STAFF AND SUPERVISION STANDARDS. The following staffing and supervision standards apply to Class A, B, and F swimming pools.

008.01 CLASS A. Every Class A swimming pool must be under the direct and immediate supervision of a Nebraska swimming pool operator whenever the pool is open.

008.02 CLASS B AND F. Every Class B and Class F swimming pool must have a Nebraska swimming pool operator on site or able to be on site within 60 minutes.

008.03 PROOF OF CERTIFICATE. Proof of certificate of competency must be available in the office of the facility.

008.04 LIFEGUARDS. Every Class A swimming pool must have lifeguards on duty whenever the pool is open. The requirements for lifeguards are as follows:

008.04(A) CERTIFICATION. Lifeguards must be currently certified by:

- (i) The American Red Cross, the National Pool and Water Park Lifeguard Training Program, the YMCA, the Boy Scouts of America, or another lifeguard certifying organization with an equivalent lifeguard certification program, as determined by the Department. If a certification was issued with restrictions, the certification must be appropriate for the duty to which the lifeguard is assigned; and
- (ii) The American Heart Association, the National Safety Council, the American Red Cross, or another nationally recognized organization. The certification course must include infant, child, and adult cardiopulmonary resuscitation (CPR), two-person CPR, and the use of a bag valve mask and a rescue breathing mask. Certification must be renewed annually.

008.04(B) LIFEGUARD NUMBER. There must be 1 lifeguard per each 1-100 bathers or 2,000 square feet of water surface area, whichever is the lesser number. The number of lifeguards on duty must be sufficient to permit periodic relief or rest periods.

008.04(C) AREA RESPONSIBILITY. A lifeguard must not simultaneously guard more than one pool unless the area under surveillance can be continuously monitored with a clear unobstructed view and immediate assistance can be rendered if needed.

08.04(D) POSITION. A lifeguard must be in position to view all areas of the pool that he or she is responsible for watching.

008.04(E) LIFEGUARD ATTIRE. A lifeguard must wear a distinguishing swim suit or emblem while on duty.

008.04(F) WATER SLIDES, DROP SLIDES, OR WATER FEATURES. Where the discharge area of the slide is not clearly visible by the patron about to ride the feature, one lifeguard is required within 50 feet of the discharge point of the slide. This lifeguard must be responsible for guarding the plunge area for the feature and no other areas and must be in voice or visual communication with the attendant or lifeguard at the top of the slide or feature. One lifeguard may monitor up to three slides and no other areas if they are adjacent to and discharge to the same plunge area. At water slides, drop slides, or water features where the discharge area of the slide is clearly visible by the patron about to ride the feature, one lifeguard is required to monitor the discharge area and must be in voice or visual communication with the patron.

008.04(G) SWIMMING CLASSES AND MEETS. Class A pools where swimming classes or swimming meets are conducted are exempt from the lifeguard requirement during classes or meets, if the class or meet in session is under the direct supervision of an individual responsible for supervising the group and capable of taking the necessary actions in the case of an emergency.

009. PHYSICAL PLANT STANDARDS. Swimming pools must meet applicable standards for lifeguard chairs, signs, and bathhouses.

009.01 LIFEGUARD CHAIRS. All Class A swimming pools, and those Class B and F swimming pools which elect to have a lifeguard on duty, are required to meet the following standards:

009.01(A) CHAIR NUMBER. A lifeguard chair for each 2,000 square feet of water surface area must be provided.

Water Surface Area in Sq. Ft. (meters)	Minimum Number of Chairs
Less than 2,000 (<186)	0
2,000 to 3,999 (187-372)	1
4,000 to 5,999 (373-557)	2
6,000 to 7,999 (558-743)	3

009.01(B) GREATER THAN 5 FEET DEPTH. At least one chair must be located so the lifeguard is able to maintain surveillance of all pool floor area having a depth greater than 5 feet.

009.01(C) LIFEGUARD CHAIR LOCATION. All lifeguard chairs must be:

- (i) Located so the guard is not required to protect a segment greater than 180°;
- (ii) Placed at waterside in locations to minimize the effect of glare on the water; and
- (iii) Placed to give complete coverage of the pool(s).

009.02 SIGNS. All pool regulations must be stated on signs with clear, legible print.

009.02(A) WARNING SIGNS. At Class B, C, D, E, and F swimming pools, where lifeguard service is not continuously provided, a warning sign must be placed in plain view of the user and must state: "WARNING – NO LIFEGUARD ON DUTY" in letters at least four inches high, and "CHILDREN UNDER THE AGE OF 16 MUST NOT USE POOL WITHOUT AN ADULT IN ATTENDANCE" in letters at least two inches high.

009.02(B) POOL REGULATIONS. Must be conspicuously posted in the swimming pool area, or in the dressing rooms at all swimming pools, including wading pools. Signs must have the title "Pool Regulations" in letters at least four inches high and must list the following regulations:

- (i) No person is permitted to use the pool without first having taken a warm water shower, using soap.
- (ii) No person having an obvious communicable disease, skin eruption, cut, sore or lesion, eye, ear, nose, or throat infection, is permitted to use any public swimming pool.
- (iii) Spitting or spouting of water, blowing the nose, or any other similar activities in the swimming pool is strictly prohibited.
- (iv) No running, boisterous or rough play, except supervised water sports, is permitted in the pool, or on the runways, diving boards, floats, platforms, or in the dressing rooms.
- (v) Maximum patron load is \_\_\_ persons.

009.02(C) SPA REGULATIONS. Must be conspicuously posted in the spa area. Signs must have the title "Spa Regulations" in letters at least four inches high and must list the following regulations:

- (i) No person is permitted to use the spa without first having taken a warm water shower, using soap.
- (ii) Pregnant women, elderly persons, and persons suffering from heart disease, diabetes, or high or low blood pressure should not enter the spa or hot tub without prior medical consultation and permission from their doctor.
- (iii) Do not use the spa or hot tub while under the influence of alcohol, tranquilizers, or other drugs that cause drowsiness or that raise or lower blood pressure.
- (iv) Do not use at water temperatures greater than 104° Fahrenheit (40°C).
- (v) Do not use alone.
- (vi) Unsupervised use by children under the age of 16 is prohibited.
- (vii) Enter and exit slowly.
- (viii) Observe reasonable time limits (that is, 10-15 minutes), then leave the water and cool down before returning for another brief stay.
- (ix) Long exposure may result in nausea, dizziness, or fainting.
- (x) Keep all breakable objects out of the area.
- (xi) Maximum patron load is \_\_\_ persons.
- (xii) "No one under the age of 5 years is permitted in spa" must be on the same sign or on a separate sign.

009.03 BATHHOUSES. All Class A pools must have a bathhouse.

009.03(A) BATHHOUSE SANITATION. Bathhouses must be kept in good repair and kept free from dirt and algae. They must be kept clean at all times and disinfected at least once each day.

009.03(B) SOAP DISPENSERS. Liquid or powdered soap dispensers and soap must be provided. Glass soap dispensers and bar soap are not acceptable. Each handwashing sink or shower must be provided with a dispenser, however, two adjacent handwashing sinks or showers can share a dispenser located between them.

009.03(C) BATHING SUITS AND TOWELS. All bathing suits and towels furnished to bathers must be thoroughly washed with detergent and water, thoroughly rinsed, completely dried, and stored in a clean place after each use.

009.03(D) SHOWERS. Showers must supply water at a temperature of at least 90° Fahrenheit (32° C.) and no more than 115° Fahrenheit (46° C.). Sinks must supply water at a temperature of at least 90° Fahrenheit and no more than 115° Fahrenheit (46° C.). Single temperature fixtures must supply water at a temperature of at least 90° Fahrenheit (32° C.) and no more than 105° Fahrenheit (41° C.).

010. POOL CLOSING. If the Department, upon inspection and investigation of a swimming pool, finds any condition that poses a serious health risk to patrons that warrants prompt closing of the pool, the Department will notify the owner or Nebraska swimming pool operator that the pool must be closed. The owner or Nebraska swimming pool operator of a swimming pool must prohibit any person from using the pool upon such notification.

010.01 PROMPT CLOSING. Conditions that warrant prompt closing of a pool include, but are not limited to the following:

- (1) Water quality that fails to meet the standards in 178 NAC 2-007.02 (A-J);
- (2) Not meeting the main drain, suction outlet, or anti-entrapment requirements of 178 NAC 2-005.11(H) and 2-005.11(I);
- (3) Not meeting the phone requirements of 178 NAC 2-007.01(9);
- (4) For Class A pools, or other pools where lifeguards are provided, an insufficient number of or unqualified lifeguards;
- (5) Not meeting backboard requirements per 178 NAC 2-007.01(6);
- (6) No shepherd's crook, and no ring buoys or rescue tubes accessible at Class B or F pools;
- (7) No Nebraska swimming pool operator at Class A pool; or
- (8) No Nebraska swimming pool operator available for Class B, C, or F pools.

011. DENIAL, SUSPENSION, OR REVOCATION OF PERMIT. The Department may deny, suspend, or revoke a swimming pool permit for violations of the Swimming Pool Act or its related regulations. Before a permit is denied, suspended, or revoked, the Department will send a written notice to the applicant or permit holder enumerating instances of failure to comply with the Act or its related regulations, or of the nature of the invalidity of the original application for a permit. If the permit is denied, suspended, or revoked, the person may request a hearing before the Department within 30 days of receipt of notice of denial, suspension, or revocation. On the basis of the hearing, the Department will affirm or revoke its previous action.

011.01 The denial, suspension, or revocation of the permit will terminate and the permit will be issued or reissued, as the case may be, upon proper application and upon the presentation of evidence sufficient to show that the deficiencies and the unsafe or unsanitary conditions causing the denial, suspension, or revocation have been corrected.