PLAN REVIEW CHECKLIST FOR PUBLIC SWIMMING POOLS

BEFORE ANY REVIEW OF THE PLAN CAN BE DONE, THE RDP SEAL MUST BE INSPECTED

- 1.) The seal may be applied by stamp or electronically, however the signature must be individually applied to each page and cannot be applied as a facsimile.
- 2.) Original paper plans with an original ink signature are acceptable.
- 3.) Electronic copies must have signatures applied individually to the original plan pages. If the plans are submitted electronically the RDP must be contacted and verbally confirm they prepared and sealed the plans.
- 4.) Additional FAQs are answered here: https://www.ncbels.org/wp-content/uploads/2019/03/sealbrochure.pdf
- 5.) Do not provide any written comments until this step has been completed. Plans can be disapproved based on .2509(a) if necessary to meet the 30-day response requirement.

A) CALCULATIONS

1)Complete SWIMMING POOL PLAN REVIEW CALCULATIONS, COMPONENTS AND PIPING April 2021) form

B) DRAIN SAFETY DATA SHEET

Complete Pool Drain Safety (VGB) Compliance Data form (2023)

2) Documentation provided for the maximum possible pump flow rate for each pump suction system. (This shall be the maximum pump flow shown on the manufacturer's pump performance curve except where flow reductions are justified with total dynamic head measurements or calculations): Rule .2539 (c)(1)

15A NCAC 18A .2539 SUCTION HAZARD REDUCTION

Prior to issuance of operation permits, owners of all public swimming pools shall provide documentation to the Department to verify suction outlet safety compliance. This documentation shall include:

(1) Documentation of the maximum possible flow rate for each pump suction system. This shall be the maximum pump flow shown on the manufacturer's pump performance curve except where flow reductions are justified with total dynamic head measurements or calculations; and

3. Documentation that cover covers/grates are installed in compliance with the standard and manufacturer's instructions on a single or double-drain pump suction system rated to meet or exceed the maximum pump system flow: Rule .2539 (c)(2)

.15A NCAC 18A .2539 SUCTION HAZARD REDUCTION

(c) Prior to issuance of operation permits, owners of all public swimming pools shall provide documentation to the Department to verify suction outlet safety compliance. This documentation shall include:

(2) Documentation that cover/grates meeting ASME/ANSI A112.19.8-2007 are installed in compliance with the standard and manufacturer's instructions. This includes documentation that each cover/grate on a single or double-drain pump suction system is rated to meet or exceed the maximum pump system flow and that cover/grates on a pump suction system with three or more suction outlets are together rated to always meet or exceed the maximum pump system flow with one drain completely blocked; and

4) Documentation provided that drain sumps meet the dimensional requirements specified in the cover/grate manufacturer’s installation instructions: Rule .2539 (c)(3)

.15A NCAC 18A .2539 SUCTION HAZARD REDUCTION

(c) Prior to issuance of operation permits, owners of all public swimming pools shall provide documentation to the Department to verify suction outlet safety compliance. This documentation shall include:

(3) Documentation that drain sumps meet the dimensional requirements specified in the cover/grate manufacturer's installation instructions.

C) POOL AREA SITE PLAN:

1) Adequate water supply available: Rule .2512 (a)

15A NCAC 18A .2512 WATER SUPPLY

(a) The water supply serving the swimming pool and all plumbing fixtures including drinking fountains, lavatories, toilets, and showers, shall meet all requirements in 15A NCAC 18A .1700 or be an approved public water supply in accordance with 15A NCAC 18C. However, the Department may approve the use of water from natural sources, including the use of saline water, for the swimming pool.

2) Adequate sewage disposal facilities available: Rule .2513 (a)

15A NCAC 18A .2513 SEWAGE SYSTEMS AND OTHER WASTEWATER DISPOSAL

(a) Sewage shall be disposed of in a public sewer system or, in the absence of a public sewer system, by an approved, properly operating sanitary sewage system.

3) Perimeter fence and gates meet Rule .2528 (Request fence detail drawing if not available.)

15A NCAC 18A .2528 FENCES

(a) Public Swimming pools shall be completely enclosed by a fence, wall, building, or other enclosure, or any combination thereof, which encloses the swimming pool area such that all of the following conditions are met:
(1) The top of the barrier shall be at least 48 inches above grade measured on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be two inches measured on the side of the barrier that faces away from the swimming pool;
(2) Openings in the barrier shall not allow passage of a four-inch-diameter sphere and shall provide no external handholds or footholds. Solid barriers that do not have openings shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints;
(3) Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more, spacing between the vertical members shall not exceed four inches. Where there are decorative cutouts within the vertical members, spacing within the cutouts shall not exceed 1.75 inches in width;

(5) Maximum mesh size for chain link fences shall be a 2.25 inch square unless the fence is provided with slats fastened at the top or the bottom that reduce the openings to no more than 1.75 inches;

(6) Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be no more than 1.75 inches;

(7) Access gates shall comply with the dimensional requirements for fences and shall be equipped to accommodate a locking device. Effective April 1, 2011, pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device except where a gate attendant and lifeguard are on duty. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from the bottom of the gate, the release mechanism shall require the use of a key, combination or card reader to open or shall be located on the pool side of the gate at least three inches below the top of the gate, and the gate and barrier shall have no openings greater than 0.5 inch within 18 inches of the release mechanism; and

(8) Ground level doors and windows opening from occupied buildings to inside the pool enclosure shall be self-closing or child protected by means of a barrier or audible alarm.

(b) Public swimming pool fences constructed prior to May 1, 2010 may vary from the provisions of Paragraph (a) of this Rule as follows:

(1) the maximum vertical clearance between grade and the bottom of the barrier may exceed two inches, but shall not exceed four inches;

(2) where the barrier is composed of vertical and horizontal members and the space between vertical members exceeds 1.75 inches, the distance between the tops of the bottom horizontal member and the next higher horizontal member may be less than 45 inches, but shall not be less than 30 inches;

(3) gates other than pedestrian access gates are not required to have self-latching devices if the gates are kept locked; and

(4) gates may swing towards a pool where natural topography, landscape position or emergency egress requirements prevent gates from swinging away from the pool.

(c) Public swimming pools permitted prior to April 1, 2010 with existing fences that do not comply with the dimensional requirements of Subparagraphs (a)(1) through (a)(6) and (b)(1) through (b)(2) shall not be denied an operation permit solely due to the preexisting non-compliance. Operation permits shall be denied to an owner or operator who fails to comply with Subparagraphs (a)(1) through (a)(6) and (b)(1) through (b)(2) of this Rule when:

(1) at least fifty percent (50%) of the fence has been damaged or destroyed; or

(2) the owner or operator elects to replace the fence.

4) Clear walking space around each pool meets deck area requirements: Rule .2522

15A NCAC 18A .2522 DECKS

(a) Outdoor swimming pools shall have a continuous deck extending completely around the swimming pool. The width of the deck or walkway shall provide at least six feet of clear walking space at all points. If the swimming area of the pool is 1600 square feet or larger, at least eight feet of clear walking space is required.

(b) Indoor swimming pools shall have a continuous deck or walkway extending completely around the swimming pool. The width of the deck shall provide at least five feet of clear walking space at all points. Structures covering swimming pools, including temporary domes, shall be constructed to maintain a vertical clearance of at least seven feet from all parts of the required clear walk space.

(c) Wading pools shall have a continuous deck extending completely around the wading pool. The width of the deck or walkway shall provide at least four feet of clear walking space at all points.

(d) Spas shall have a continuous deck extending at least one-half way around the spa. The width of the deck or walkway shall provide at least four feet of clear walking space at all points.

(e) There shall be at least five feet of clear walking space around any diving board, handrail, slide or other permanent structure installed on a swimming pool deck.

(f) All deck areas and walkways shall be sloped at a grade of one-fourth inch to one-half inch per foot to a deck
drain or sheet drain to deck edge. Deck drains shall not be connected to the circulation system in any manner.
(g) All decks and walkways shall have a slip-resistant, impervious surface.
(h) Sufficient hose bibs shall be provided to allow all areas of the deck to be reached with a 100 foot hose.
(i)Special purpose pools such as waterslides and wave pools may vary from the minimum deck area requirements to the extent necessary to accommodate the special features of the pool.
(j) Structures necessary to provide access to a public swimming pool by persons with disabilities shall be allowed to vary from the provisions of this Section to the extent necessary to accommodate such access. Such structures shall be approved on a case-by-case basis and shall be designed so as to minimize obstruction of the deck.
(k) For all swimming pools constructed after April 1, 2000 decks shall be continuous with the top of the pool wall or gutter and shall not be more than nine inches above the standard operating water level.

5) Deck materials impervious, slip resistant: Rule .2522 (g)

15A NCAC 18A .2522 DECKS

(g) All decks and walkways shall have a slip-resistant, impervious surface.

6) Deck sloped to drain: Rule .2522 (f)

15A NCAC 18A .2522 DECKS

(f) All deck areas and walkways shall be sloped at a grade of one-fourth inch to one-half inch per foot to a deck drain or sheet drain to deck edge. Deck drains shall not be connected to the circulation system in any manner.

7) Deck lighting meets illumination requirements: Rule .2524 (House Bill 56, Oct 4 2017 eliminates (e).

15A NCAC 18A .2524 LIGHTING AND VENTILATION

(a) Artificial lighting shall be provided at all pools that are to be used at night, or when natural lighting is insufficient to provide visibility in the pool area.

(b) Lighting fixtures shall be of such number and design as to illuminate all parts of the pool, the water, the depth markers, signs, entrances, restrooms, safety equipment and the required deck area and walkways.

(c) Fixtures shall be installed so as not to create hazards such as burning, electrical shock, mechanical injury, or temporary blinding by glare to the bathers, and so that lifeguards, when provided, can see every part of the pool area without being blinded by glare. The illumination shall be sufficient so that the floor of the pool can be seen at all times the pool is in use.

(d) If underwater lighting is used, it shall provide at least 0.5 watts or 8.35 lumens per square foot of water surface and deck lighting shall provide not less than 10 foot candles of light measured at 6 inches above the deck surface.

(f) Mechanical ventilation is required for all indoor pools.

8) Hose bibs located within 100’ of deck per .2522(h), 50’ of dressing rooms per .2526(d), 50’ of equipment room per .2533(g).

15A NCAC 18A .2526 DRESSING AND SANITARY FACILITIES

(d) Hose bibs shall be provided such that all parts of the dressing facility interior can be reached with a 50 foot hose.

15A NCAC 18A .2533 EQUIPMENT ROOM

(g) A hose bib with an approved backflow prevention device shall be provided within 50 feet of the equipment room.

9) Decorative features on pool decks must meet .2515(g)(1) through (6)

15A NCAC 18A .2515 DESIGN DETAILS

(g) Decorative features such as planters, umbrellas, fountains and waterfalls located on pool decks shall comply with the following:

(1) Decorative features shall not occupy more than 20 percent of the pool perimeter;

(2) If located adjacent to a water depth of greater than five feet, decorative features shall not be more than 20 feet wide;

(3) Decorative features shall not provide handholds or footholds that could encourage climbing above deck level;

(4) A walkway shall be provided to permit free access around decorative features and shall be as wide as the lesser of five feet or the deck width required in Rule .2528 of this Section;

(5) Decorative features shall not obstruct the view of any part of the pool from any seating area; and

(6) Features with moving water shall be separate from the pool recirculation system.

10) ADA equipment shown on plans: Rule .2522(j)

15A NCAC 18A .2522 DECKS

(j) Structures necessary to provide access to a public swimming pool by persons with disabilities shall be allowed to vary from the provisions of this Section to the extent necessary to accommodate such access. Such structures shall be approved on a case-by-case basis and shall be designed so as to minimize obstruction of the deck.

11) Equipment room meets construction, ventilation and space requirements: Rule .2533

15A NCAC 18A .2533 EQUIPMENT ROOM

(a) All pumps, chemical feeding apparatus and other mechanical and electrical equipment shall be enclosed in a weatherproof structure with a minimum ceiling height of seven feet. The equipment room shall be provided with a door with a permanent lock that must be kept locked when not in use by the pool operator. Filters located outside the equipment room shall be completely enclosed by a fence.

(b) Lighting to allow the operator to read all gauges and control devices shall be provided.

(c) Valves and control devices shall be accessible and visible to the pool operator. At least three feet of clear walkway shall be provided to allow access to equipment.

(d) Drainage in and around the equipment room shall preclude the possibility of water entering or accumulating on any interior surface of the enclosure. Equipment room floors shall be sloped not less than ¼ inch per foot toward the drains.

(e) Natural cross draft or continuous forced ventilation is required.

(f) A permanent means of access shall be provided to all equipment rooms.

(g) A hose bib with an approved backflow prevention device shall be provided within 50 feet of the equipment room.

12) Chemical storage room provided meets construction, ventilation and space requirements: Rule .2534

15A NCAC 18A .2534 CHEMICAL STORAGE ROOM

A separate chemical storage room that meets the following criteria shall be provided:

(1) The chemical storage room shall be in a dry, weatherproof structure with a minimum ceiling height of seven feet.

(2) For public swimming pools built after May 1, 1996, chemical storage space shall be provided based on a minimum of five square feet for the first 10,000 gallons of pool water plus one additional square foot for each additional 3,000 gallons or portion thereof up to a total area of 100 square feet. Public swimming pools constructed after April 1, 2004 shall provide a separate room for storage of pool chemicals.

(3) Natural cross draft or continuous forced ventilation is required.

(4) Provision shall be made for dry storage of all pool chemicals in waterproof containers or above the floor on shelves, pallets or dollies.

(5) The chemical storage room shall be arranged so that chemicals which can react with other pool chemicals are stored separately and shall be constructed and arranged to permit easy cleanup of chemical spills.

(6) Lighting shall be provided in chemical storage rooms.

13) Safety equipment specified and telephone provided with signs: Rule .2530 (a), (b) and (f)

15A NCAC 18A .2530 SAFETY PROVISIONS

(a)Swimming pools shall have lifesaving equipment conspicuously and conveniently on hand at all times. A unit of lifesaving equipment shall include the following:

(1) A pole not less than 12 feet long, with a body hook securely attached. The pole attached to the body hook shall be non-telescoping, non-adjustable and non-collapsible.

(2) A minimum ¼ inch diameter throwing rope as long as one and one-half times the maximum width of the pool or 50 feet, whichever is less, attached to a U.S. Coast Guard approved ring buoy. A rescue tube or rescue can shall be accepted as a substitute for the ring buoy where it is accompanied by a lifeguard who has been trained to use it properly.

(b) Two units of lifesaving equipment must be provided for any pool that exceeds 3,000 square feet (186 sq m) of total surface area.

(f) A telephone capable of directly dialing 911 or other emergency notification system shall be provided and accessible to all pool users. Effective April 1, 2005 the telephone shall be permanently affixed to a location inside the pool enclosure or outside the enclosure within 75 feet of a bather entrance. The telephone shall be visible from within the pool enclosure or a sign shall be posted indicating the location of the emergency telephone. A sign with legible letters shall be posted at the telephone providing dialing instructions, address of the pool location and the telephone number. Where the telephone does not directly access 911, the emergency notification system shall:

(1) Provide 24 hour monitoring of all incoming calls by a telecommunicator who answers only emergency calls;

(2) Be capable of routing calls to the local 911 telecommunicator via the 911 dedicated emergency trunk line; and

(3) Electronically transfer Automatic Number Identification and Automatic Locator Identification for the emergency telephone at the pool to the Enhanced 911 system for all calls routed to 911.

14) Warning signs provided with exact wording and proper sized lettering: Rule .2530 (c), (d), (e) and (f)

15A NCAC 18A .2530 SAFETY PROVISIONS

(c) When a swimming pool does not have at least one lifeguard on duty, a sign shall be posted with legible letters of at least four inches (10 cm) in height stating: "WARNING-NO LIFEGUARD ON DUTY." In addition there shall be signs legible from all bather entrances with a minimum letter size of one inch stating: "CHILDREN SHOULD NOT USE THE SWIMMING POOL WITHOUT ADULT SUPERVISION", and: "ADULTS SHOULD NOT SWIM ALONE". Wading pools that do not have a lifeguard inside the wading pool enclosure shall have a sign posted stating "WARNING NO LIFEGUARD ON DUTY". Such signs shall be mounted permanently.

(d) A sign prohibiting pets and glass containers in the pool area shall be provided.

(e) Pool closed signs shall be provided and shall be posted at bather entrances whenever an operation permit is suspended for water quality or safety violations.

15) Mechanical ventilation provided for indoor pools: Rule .2524 (f)

15A NCAC 18A .2524 LIGHTING AND VENTILATION

(f) Mechanical ventilation is required for all indoor pools.

16) Bathhouse or restrooms to be located and constructed according to Rule .2526

15A NCAC 18A .2526 DRESSING AND SANITARY FACILITIES

(a) Dressing and sanitary facilities shall be provided at all pools, except for pools at hotels, motels, condominiums, and apartments where pool use is restricted to residents or guests. At hotels, motels, condominiums and apartments where the farthest unit is more than 300 feet from the pool, as measured along walkways provided for access by residents or guests to the pool area, a toilet and lavatory shall be provided. All public swimming pools shall post a sign visible upon entering the pool enclosure directing pool users to shower before entering the pool.

(b) Partitions shall be of material, not subject to damage by water and shall be designed so that a waterway is provided between partitions and floor to permit thorough cleaning of the walls and floor areas with hoses and brooms.

(c) Dressing facility floors shall be continuous throughout the areas. Floors shall have a slip-resistant surface that shall be smooth, to insure complete cleaning. Floor drains shall be provided, and floors shall be sloped not less than ¼ inch per foot toward the drains to insure positive drainage.

(d) Hose bibs shall be provided such that all parts of the dressing facility interior can be reached with a 50 foot hose.

(e) The minimum number of fixtures required in dressing and sanitary facilities shall be based upon the maximum bather load.

(f) One water closet, one lavatory, and one urinal shall be provided for the first 100 male users. One additional water closet, lavatory, and urinal shall be provided for each additional 200 male users up to a total of 500 users. Where user load exceeds 500 male users, two additional water closets or urinals and one lavatory shall be provided for each additional 250 male users. Where the maximum bather load includes less than 50 male users, one water closet and one lavatory will be sufficient.

(g) Two water closets and two lavatories shall be provided for the first 100 female users. One additional water closet and lavatory shall be provided for each additional 100 female users up to a total of 500 users. Where user load exceeds 500 female users, two additional water closets and one lavatory shall be provided for each additional 250 female users. Where the maximum bather load includes less than 50 female users, one water closet and one lavatory will be sufficient.

(h) Showers shall be provided in the proportion of one for each 200 persons at the time of maximum bather load.

(i) The water heater shall be inaccessible to users. The system shall be designed such that water temperature at the shower heads and lavatories cannot exceed 110° Fahrenheit.

(j) Soap dispensers with either liquid or powdered soap shall be provided at each lavatory or required shower. The dispenser shall be of all metal or plastic type, with no glass permitted in these units.

(k) If mirrors are provided, they shall be of shatterproof materials.

(l) Toilet paper holders with toilet paper shall be provided at each water closet.

(m) Dressing and sanitary facilities shall be kept clean and in good repair.

17) Sign at pool enclosure directing all pool users to “shower before entering the pool” per .2526(a)

15A NCAC 18A .2526 DRESSING AND SANITARY FACILITIES

(a)Dressing and sanitary facilities shall be provided at all pools, except for pools at hotels, motels, condominiums, and apartments where pool use is restricted to residents or guests. At hotels, motels, condominiums and apartments where the farthest unit is more than 300 feet from the pool, as measured along walkways provided for access by residents or guests to the pool area, a toilet and lavatory shall be provided. All public swimming pools shall post a sign visible upon entering the pool enclosure directing pool users to shower before entering the pool.

D) POOL SHELL:

1) Approved materials: Rule .2514 (a) and (b)

15A NCAC 18A .2514 MATERIALS OF CONSTRUCTION

(a)Pools and appurtenances shall be constructed of materials which are inert, non-toxic to man, impervious and permanent, which can withstand design stresses and which can provide a water-tight tank with a smooth and cleanable surface. Use of vinyl liners is prohibited; however, liners no less than 60 mil thick may be used provided the underlying pool shell is of approved construction. If this material is used for repairs, the existing pool shall be remodeled in accordance with this Rule.

(b)Sand or earth bottoms are prohibited in swimming pool construction.

2) Pool finish, bottom and sides, shall be of white or light colored material: Rule .2514 (c)

15A NCAC 18A .2514 MATERIALS OF CONSTRUCTION

(c) Pool finish, including bottom and sides, shall be of white or light colored material determined visually to contrast least with a value of gray whiter than 50 percent black on an artists gray scale, or shown by reflectance testing to reflect more than 50 percent of visible light.

3) Corners rounded (coved or radiused) at intersection of floors and walls: Rule .2516 (a)

15A NCAC 18A .2516 POOL PROFILE

(a) The vertical walls of a public swimming pool shall not exceed 11 degrees from plumb. Corners formed by intersection of walls and floors shall be coved or radiused. Hopper bottomed pools are prohibited.

4) Slip resistant surfaces where required: .2514 (d)

15A NCAC 18A .2514 MATERIALS OF CONSTRUCTION

(d) Pool surfaces in areas which are intended to provide footing for bathers including steps, ramps, and pool bottoms in areas with water less than three feet deep, shall be designed to provide a slip-resistant surface.

5) Shallow end depth meets Rule .2515 (d) and (e)

15A NCAC 18A .2515 DESIGN DETAILS

(d) The minimum depth of water in the swimming pool shall be three feet (0.91 m) except where a minimum depth of less than three feet is needed to provide non-swimming areas such as children's activity areas and sun shelves.

(e) The maximum depth at the shallow end of a swimming pool shall be three and a half feet (1.07 m) except for pools used for competitive swimming, diving or other uses which require water deeper than three and a half feet.

6) Shallow area slope meets Rule .2516 (c) and deep area slope meets Rule .2516 (d)

15A NCAC 18A .2516 POOL PROFILE

(c) The slope of the bottom of any portion of any public swimming pool having a water depth of less than five feet (1.52 m) shall not be more than one foot vertical change in 10 feet (10 cm in one meter) of horizontal distance and the slope shall be uniform.

(d) In portions of pools with water depths greater than five feet (1.52 m), the slope of the bottom shall not be more than one foot vertical in three feet (33.3 cm in one meter) of horizontal distance.

7) Vertical walls of pools not exceeding 11° from plumb: Rule .2516 (a)

15A NCAC 18A .2516 POOL PROFILE

(a)The vertical walls of a public swimming pool shall not exceed 11 degrees from plumb. Corners formed by intersection of walls and floors shall be coved or radiused. Hopper bottomed pools are prohibited.

8) No underwater ledges: Rule .2516 (b)
9) Underwater seats, sun shelves or benches meet Rule .2516 (b)

15A NCAC 18A .2516 POOL PROFILE

(b) Underwater ledges or protrusions are prohibited; except that underwater stairs, sun shelves, seats and benches may be installed in areas of the pool no more than four feet deep. Underwater benches shall have a maximum seat depth of two feet from the water surface, protrude no more than 18 inches from the wall and be marked by a two inch contrasting color band on the leading edge. Underwater protrusions may provide seating at swim-up bars located in offset areas away from swim lanes. Underwater stairs may adjoin a sun shelf to deeper water provided the depth at the bottom of the stairs is no more than four feet and the stairs meet all provisions of Rule .2521 of this Section.

10) Diving area dimensions meet Rule .2517 (a) and (c)

15A NCAC 18A .2517 DIVING EQUIPMENT

(a) When diving equipment is installed in a public swimming pool, it shall be located in the diving area of the pool so as to provide the minimum dimensions as shown in Tables 1A and 1B of this Rule and shall conform to the following specifications:

(1) Diving equipment shall be designed for swimming pool use and shall be installed in accordance with the manufacturer's recommendations.

(2) Installation instructions and specifications shall be provided with each unit.

(3) A label shall be permanently affixed to the diving equipment and shall include:

(A) manufacturer's name and address;

(B) board length;

(C) type of diving board;

(D) fulcrum setting specifications if applicable.

(4) Diving equipment shall have slip-resistant tread surfaces.

(c) There shall be a completely unobstructed clear vertical distance of 13 feet above any diving board measured from the center of the front end of the board. This area shall extend horizontally at least eight feet behind, eight feet to each side, and 16 feet ahead of Point A in Table 1A.

11) Water fountain feature in pool, if shown meets .2516 (f) (1)-(5)

15A NCAC 18A .2516 POOL PROFILE

(f) Fountains installed in public swimming pools shall be approved prior to installation and shall comply with the following:

(1) Fountains shall not be installed in an area with a water depth exceeding 18 inches;

(2) Fountains shall be recommended by the manufacturer for use in a public swimming pool;

(3) Fountains shall be installed in accordance with the manufacturer's instructions;

(4) Fountains shall be separate from the pool water recirculation system; and

(5) Fountains shall not release water at a velocity greater than 10 feet per second.

12) Stairs, ladders and handrails provided and meet Rule .2521

15A NCAC 18A .2521 LADDERS, RECESSED STEPS, AND STAIRS

(a)If the vertical distance from the bottom of the swimming pool to the deck is over two feet (0.61 m), recessed steps, stairs, or ladders shall be provided in the shallow area of all swimming pools. Recessed steps or ladders shall be provided at the deep portion of all pools; and, if the swimming pool is over 30 feet (9.14 m) wide, such recessed steps or ladders shall be installed on each side near the deep end. A stairway, ladder or set of recessed steps shall be provided every 75 feet along the shallow area perimeter. Where stairs are provided in the shallow area of the pool, one ladder may be deleted in the shallow area for each stairway provided.

(b) Pool Stairs - The design and construction of pool ladders and stairs shall conform to the following:

(1) Stair treads shall have a minimum unobstructed horizontal depth of 10 inches, a maximum horizontal depth of 36 inches, and a minimum unobstructed surface area of 240 square inches.

(2) Risers at the centerline of the treads shall have a maximum height of 12 inches and shall be within one inch of a uniform height with the bottom riser height allowed to vary plus or minus two inches from the uniform riser height.

(3) Each set of stairs shall be provided with at least one handrail to serve all treads and risers. For stairs wider than 20 feet, additional handrails shall be provided and spaced no more than 10 feet from adjacent handrails or stair ends.

(A) Handrails, if removable, shall be installed in such a way than they cannot be removed without the use of tools.

(B) The leading edge of handrails facilitating stairs and pool entry/exit shall be no more than 18 inches horizontally from the vertical plane of the bottom riser.

(C) The outside diameter of handrails shall be between one inch and one and nine-tenths inches.

(4) The leading edge of stair treads shall be marked with a contrasting color band or line at least two inches (5 cm) wide visible from above the stairs. Use of contrasting color tiles installed in the stair tread is acceptable provided the tiles are spaced no more than one inch (2.5 cm) from the edge of the tread or from adjacent tiles.

(5) Swimming pool ladders shall be corrosion-resistant and shall be equipped with slip-resistant treads. All ladders shall be designed to provide a handhold and shall be installed rigidly. There shall be a clearance of not more than six inches (15.3 cm), nor less than three inches (7.6 cm), between any ladder and the swimming pool wall. If the steps are inserted in the walls or if step holes are provided, they shall be of such design that they may be cleaned easily and shall be arranged to drain into the swimming pool to prevent the accumulation of dirt thereon. Step holes shall have a minimum tread of five inches (12.7 cm) and a minimum width of 14 inches (35.6 cm)

(6) When step holes or ladders are provided within the swimming pool, there shall be a handrail at each side.

13) Decks continuous with the top of the pool wall or gutter, <9” above operating water level per .2522(k).

15A NCAC 18A .2522 DECKS

(k) For all swimming pools constructed after April 1, 2000 decks shall be continuous with the top of the pool wall or gutter and shall not be more than nine inches above the standard operating water level.

E) APPURTENANCES:

1) Fill spout properly located: Rule .2512 (c)

15A NCAC 18A .2512 WATER SUPPLY

(c) Whenever an over-the-rim spout is used to introduce water into the swimming pool, it shall be shielded so as not to create a hazard. The open end of the spout shall have no sharp edges, shall not protrude more than two inches (5.1 cm) beyond the edge of the pool and shall be at least two pipe diameters above the deck or pool overflow level. The over-the-rim spout shall be located under the diving board or within six inches of a ladder or handrail.

2) Floating safety ropes and bottom markings provided where required: Rule .2523 (e

15A NCAC 18A .2523 DEPTH MARKINGS AND SAFETY ROPES

(e) A minimum of ¾ inch diameter safety rope shall be provided at the breakpoint where the slope of the bottom changes to exceed a 1 to 10 vertical rise to horizontal distance at a water depth of five feet (1.5 m) or less. The position of the rope shall be marked with colored floats at not greater than a five-foot spacing and a minimum two inch wide contrasting color band across the pool bottom. Float ropes shall be positioned within two feet on the shallow side of the breakpoint marker.

3) Recessed anchors for safety ropes: Rule ,2515 (f)

15A NCAC 18A .2515 DESIGN DETAILS

(c) Provisions shall be made for complete, continuous circulation of water through all areas of the swimming pool. Swimming pools shall have a circulation system with approved treatment, disinfection, and filtration equipment as required in the rules of this Section.

4) Contrasting color bands provided on stair treads and seats: Rules .2521 (b) (4) and .2516 (b)

15A NCAC 18A .2521 LADDERS, RECESSED STEPS, AND STAIRS

(b) Pool Stairs - The design and construction of pool ladders and stairs shall conform to the following:

(4) The leading edge of stair treads shall be marked with a contrasting color band or line at least two inches (5 cm) wide visible from above the stairs. Use of contrasting color tiles installed in the stair tread is acceptable provided the tiles are spaced no more than one inch (2.5 cm) from the edge of the tread or from adjacent tiles.

15A NCAC 18A .2516 POOL PROFILE

(b) Underwater ledges or protrusions are prohibited; except that underwater stairs, sun shelves, seats and benches may be installed in areas of the pool no more than four feet deep. Underwater benches shall have a maximum seat depth of two feet from the water surface, protrude no more than 18 inches from the wall and be marked by a two inch contrasting color band on the leading edge. Underwater protrusions may provide seating at swim-up bars located in offset areas away from swim lanes. Underwater stairs may adjoin a sun shelf to deeper water provided the depth at the bottom of the stairs is no more than four feet and the stairs meet all provisions of Rule .2521 of this section.

5) Diving equipment meets Rule .2517

15A NCAC 18A .2517 DIVING EQUIPMENT

(a)When diving equipment is installed in a public swimming pool, it shall be located in the diving area of the pool so as to provide the minimum dimensions as shown in Tables 1A and 1B of this Rule and shall conform to the following specifications:

(1) Diving equipment shall be designed for swimming pool use and shall be installed in accordance with the manufacturer's recommendations.

(2) Installation instructions and specifications shall be provided with each unit.

(3) A label shall be permanently affixed to the diving equipment and shall include:

(A) manufacturer's name and address;

(B) board length;

(C) type of diving board;

(D) fulcrum setting specifications if applicable.

(4) Diving equipment shall have slip-resistant tread surfaces.

(b) Supports, platforms, and steps for diving equipment shall be of sufficient strength to carry safely the maximum anticipated loads. Steps shall be of corrosion-resistant design. Handrails shall be provided at all steps and ladders leading to diving boards that are one meter or more above the water.

(c) There shall be a completely unobstructed clear vertical distance of 13 feet above any diving board measured from the center of the front end of the board. This area shall extend horizontally at least eight feet behind, eight feet to each side, and 16 feet ahead of Point A in Table 1A.

(d) Public pools with diving facilities in excess of three meters in height, or pools designed for platform diving,shall meet the Federation Internationale De Nation Amateur (FINA) guidelines that are incorporated by reference in accordance with G.S. 130B-21.6 including any subsequent amendments or additions.

(e) Starting platforms used for racing starts during competition shall be secured from use when the pool is open for general use by removal; covering; or signage and active supervision. Minimum water depth for starting platforms shall be measured at a distance of 3 feet, 3 ½ inches (1.0 meter) to 16 feet, 5 inches (5.0 meters) from the end wall. Height of starting platforms shall not exceed the following:

(1) In pools with water depth less than 3 feet, 6 inches (1.07 meters) at the starting end, raised starting platforms shall be prohibited.

(2) In pools with water depth 3 feet, 6 inches (1.07 meters) to less than 4 feet (1.22 meters) at the starting end, starting platforms shall be no more than 18 inches (0.46 meter) above the water surface.

(3) In pools with a water depth of 4 feet (1.22 meters) or greater at the starting end, starting platforms shall be no more than 30 inches (0.762 meter) above the surface of the water. Starting platforms shall be constructed to be easily removed from the deck when the swimming pool is used for other than competitive purposes.

6) Hydrostatic relief valve provided: Rule .2515 (b)

15A NCAC 18A .2515 DESIGN DETAILS

(b) A hydrostatic relief valve shall be provided for in-ground swimming pools which extend more than two feet below the grade of surrounding land surface unless a gravity drainage system is provided.

7) Skimmers NSF designed and constructed in accordance with Section 8 of NSF Standard 50: Rule .2518 (k) (3)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(k) Surface Overflow Systems.

(3) Whenever a recessed automatic surface skimmer or skimmers are installed, they shall be designed and constructed in accordance with section 8 of NSF Standard #50 for circulation system components for swimming pools, spas, or hot tubs. Recessed automatic surface skimmers shall be installed as follows:

(A) The flow-through rate through any one recessed automatic surface skimmer shall be between 20 gallons per minute and the maximum flow the skimmer is certified for under NSF Standard Number 50;

(B) There shall be at least one recessed automatic surface skimmer for each 400 square feet of water surface area of the swimming pool or fraction thereof;

(C) When two or more recessed automatic surface skimmers are required, they shall be so located as to minimize interference with each other and as to insure proper and complete skimming of the entire swimming pools water surface; and

(D) Skimmers shall not protrude into the swimming pool. Automatic surface skimmer or skimmers without a perimeter overflow system shall be installed so that the operating level of the pool is no more than nine inches below the finished deck level so that the deck can be used as a handhold.

8) Skimmers protected from air entrainment: Rule .2518 (l)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(l) Where flooded suction on the pump is not possible to prevent cavitation and loss of prime, skimmers shall have a device or other protection to prevent air entrainment in the suction line. The inlet to the equalizer line shall be provided with a grate.

9) Underwater lights, if provided, meet illumination requirements in Rule .2524 (d)

15A NCAC 18A .2524 LIGHTING AND VENTILATION

(d) If underwater lighting is used, it shall provide at least 0.5 watts or 8.35 lumens per square foot of water surface and deck lighting shall provide not less than 10 foot candles of light measured at 6 inches above the deck surface.

10) Depth markings and “No Diving” markers provided and properly located: Rule .2523

15A NCAC 18A .2523 DEPTH MARKINGS AND SAFETY ROPES

(a) On swimming pools the depth of the water shall be marked at or above the water surface on the vertical wall of the swimming pool where possible and on the edge of the deck next to the swimming pool. Where depth markers cannot be placed on the vertical walls at or above the water level, other means shall be used; provided the markings shall be visible to persons in the swimming pool. Depth markers shall be placed at the following locations:

(1) at the points of maximum and minimum depths;

(2) at the transition point where the slope of the bottom changes from the uniform slope of the shallow area;

(3) if the pool is designed for diving, at points to denote the water depths in the diving area; and

(4) at both ends of the pool.

(b) Depth markers shall be so spaced that the distance between adjacent markers is not greater than 25 feet (7.5 m) when measured along the perimeter of the pool.

(c) Depth markers shall be in Arabic numerals at least four inches (10 cm) high and of a color contrasting with the background. Depth markings shall indicate the depth of the pool in feet of water and shall include the word "feet" or symbol "ft" to indicate the unit of measurement. Depth markings installed in pool decks shall provide a slip resistant walking surface.

(d) "No Diving" markers shall be provided on the pool deck adjacent to all areas of the pool less than five feet deep. "No Diving" markers shall consist of the words "No Diving" in letters at least four inches high and of a color contrasting with the background or at least a six-by-six inch international symbol for no diving in red and black on a white background. The distance between adjacent markers shall not be more than 25 feet. Posting of "No Diving" markers shall not preclude shallow diving for racing starts and competitive swimming practice.

(e) A minimum of ¾ inch diameter safety rope shall be provided at the breakpoint where the slope of the bottom changes to exceed a 1 to 10 vertical rise to horizontal distance at a water depth of five feet (1.5 m) or less. The position of the rope shall be marked with colored floats at not greater than a five-foot spacing and a minimum two inch wide contrasting color band across the pool bottom. Float ropes shall be positioned within two feet on the shallow side of the breakpoint marker.

11) Pool slides meet Rule .2527

15A NCAC 18A .2527 SWIMMING POOL SLIDES

All swimming pool slides installed at a public swimming pool shall be labeled by the manufacturer for use in public pools, and shall be installed in accordance with manufacturer's instructions.

12) Where provided, integral vacuum ports shall be located on the pool wall at least 6 inches and no greater than 18 inches below the water level, provided with self-closing cap designed to be opened with a tool: Rule .2518(f)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(f) A vacuum cleaning system shall be provided to remove debris and foreign material that settles to the bottom of the swimming pool. Where provided, integral vacuum ports shall be located on the pool wall at least six inches and no greater than 18 inches below the water level. Skimmer vacuums may be used in pools with two or fewer skimmers provided the skimmer basket remains in place while the vacuum is in operation. Integral vacuum cleaning systems shall be provided with valves and protective caps. Integral vacuum ports constructed after May 1, 2010 shall have self-closing caps designed to be opened with a tool.

13) Water falls located on decks shall have no handholds or foothold to a height of 4 feet per .2543(c).

15A NCAC 18A .2543 WATER RECREATION ATTRACTIONS

(c) When waterfalls are incorporated in water recreation attractions, they shall be constructed with no handholds or footholds to a height of four feet to discourage climbing.

F) POOL PIPING

1) If fresh water is introduced into the swimming pool, either directly or by the circulation system, back-flow prevention required per .2512 (b).

15A NCAC 18A .2512 WATER SUPPLY

(b) The water distribution system serving the swimming pool and auxiliary facilities shall be protected against backflow. Water introduced into the pool, either directly or by the circulation system, shall be supplied through an air gap (American National Standards Institute A112.1.2-1979), a pipe-applied atmospheric vacuum breaker (ANSI/American Society of Sanitary Engineering No. 1001-1971), a pressure type anti-siphon vacuum breaker (ANSI/ASSE No. 1020-1976), or a reduced-pressure principle backflow preventer (ASSE No. 1013-1979, American Water Works Association No. C506-1978), which are hereby adopted by reference in accordance with G.S. 150B14(c) or equivalent

2) Skimmer equalizer lines prohibited per .2518(j)(3) APSP-7

15A NCAC 18A .2518 CIRCULATION SYSTEM

(j) Drains.

(3) Public swimming pools constructed after May 1, 2010 shall comply with ANSI/APSP -7 2006American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins which is hereby incorporated by reference including any subsequent amendments and editions. Copies may be obtained from APSP, 2111 Eisenhower Avenue, Alexandria, VA 22314 at a cost of three hundred fifty dollars ($350.00).

3) Valves provided to control flow from drains, surface skimmers or surface overflow systems, and vacuum cleaning system: Rule .2518 (c) and (f)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(c) The circulation piping shall be designed and installed with the necessary valves and pipes so that the flow from the swimming pool can be from main drains or the surface overflow system. The circulation piping shall be designed such the flow of water from the swimming pool can be simultaneous from the surface overflow system and the main drains. Skimmer piping constructed after May 1, 2010 shall be sized to handle the maximum flow rate for the required number of skimmers, but in no case less than 100 percent of the design flow rate. Perimeter overflow system piping constructed after May 1, 2010 shall be sized to handle 100 percent of the design flow rate. The main drain piping constructed after May 1, 2010 shall be sized to handle 100 percent of the design flow rate.

(f) A vacuum cleaning system shall be provided to remove debris and foreign material that settles to the bottom of the swimming pool. Where provided, integral vacuum ports shall be located on the pool wall at least six inches and no greater than 18 inches below the water level. Skimmer vacuums may be used in pools with two or fewer skimmers provided the skimmer basket remains in place while the vacuum is in operation. Integral vacuum cleaning systems shall be provided with valves and protective caps. Integral vacuum ports constructed after May 1, 2010 shall have self-closing caps designed to be opened with a tool.

4) Vacuum cleaning system with integral ports or portable vacuum system provided: Rule .2518 (f) Skimmer vacuums may be used in pools with two or fewer skimmers . . .

15A NCAC 18A .2518 CIRCULATION SYSTEM

(f) A vacuum cleaning system shall be provided to remove debris and foreign material that settles to the bottom of the swimming pool. Where provided, integral vacuum ports shall be located on the pool wall at least six inches and no greater than 18 inches below the water level. Skimmer vacuums may be used in pools with two or fewer skimmers provided the skimmer basket remains in place while the vacuum is in operation. Integral vacuum cleaning systems shall be provided with valves and protective caps. Integral vacuum ports constructed after May 1, 2010 shall have self-closing caps designed to be opened with a tool.

5) Drainage from pool overflow, deck drains and filter backwash discharged through an air gap: Rule .2513 (b)

15A NCAC 18A .2513 SEWAGE SYSTEMS AND OTHER WASTEWATER DISPOSAL

(b) There shall be no direct physical connection between the sewer system and any drain from the swimming pool or circulation system. Overflow from the swimming pool, and discharges from the circulation system, when discharged to the sewer system, storm drain or other approved natural drainage course, shall be discharged through a suitable air gap so as to preclude the possibility of back flow of sewage or other waste water into the swimming pool or the swimming pool piping system. Deck drainage shall be discharged through an indirect drain.

G) CIRCULATION SYSTEM

1) Hair and lint strainer included; spare basket provided: Rule .2518 (e)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(e) The circulation system shall include a strainer to prevent hair, lint, and other debris from reaching the pump. A spare basket shall be provided. Strainers shall be corrosion-resistant with openings not more than ¼ inch (6.4 mm) in size that provide a free flow area at least four times the cross-section area of pump suction line and are accessible for daily cleaning.

2) Pumps 3 HP or smaller meet or exceed NSF Standard 50; self-priming or located below pool water level; sized properly: Rule .2518 (h)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(h) A pump or pumps shall be provided with capacity to recirculate the swimming pool water four times in 24 hours, and shall be so located as to eliminate the need for priming. If the pump or pumps, or suction piping is located above the overflow level of the pool, the pump or pumps shall be self-priming. The pump or pumps shall be capable of providing a flow adequate for the backwashing of filters. Unless headloss calculations are provided by the designing engineer, pump design shall be based on an assumed total dynamic head of 65 feet of water. Pumps three horsepower or smaller shall be NSF International (NSF) listed or verified by an independent third-party testing laboratory to meet all applicable provisions of NSF/ANSI Standard 50 which is incorporated by reference including any subsequent amendments or editions. Copies may be obtained from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140 at a cost of one hundred fifty-five dollars ($155.00). Verification shall include testing and in-plant quality control inspections. Larger pumps for which NSF listing is not available shall be approved by the Department on a case-by-case basis.

3) Filter meets NSF Standard 50, sized properly, necessary valves provided: Rule .2519

15A NCAC 18A .2519 FILTERS

(a) All swimming pools shall be equipped with a filtration system for the purpose of clarifying the swimming pool water; said filtration system shall be an integral part of the circulation system and shall consist of one or more units of sand type filters, of diatomacious earth type filters, or of cartridge type filters.

(b) All filter units shall be designed and constructed in accordance with Section 5 of the National Sanitation Foundation's Standard number 50 which is hereby adopted by reference in accordance with G.S. 150B-14(c), or equivalent.

(c) When a sand type filter is installed on a swimming pool, it may be either a gravity or a pressure sand type filter, and it may be either a standard-rate sand type filter which shall be designed for filtration rates not in excess of three gallons per minute per square foot (122 L per minute per square meter) of sand bed area, or a high-rate sand type filter which shall be designed for filtration rates not in excess of 15 gallons per minute per square foot (612 L per minute per square meter) of sand bed area or the flow rate indicated for commercial pools in the most recent NSF listing.

(d) When a sand type filter is installed on a swimming pool, it shall be designed and installed such that it may be backwashed at a rate recommended by the manufacturer or, in the absence of manufacturer's recommendations, at a rate not less than 15 gallons per minute per square foot (612 L per minute per square meter) of filter bed area. The backwash water shall be discharged to waste. A sight glass or other means for viewing the clarity of the backwash water shall be provided.

(e) If the sand type filter is designed to be operated in conjunction with a coagulant, a chemical feeder shall be provided for adding the coagulant ahead of the filters.

(f) When a diatomacious earth type filter is installed on a swimming pool, it may be either a pressure or vacuum type and it may be designed to operate either with or without continuous body feed. Diatomaceous earth filters which operate with continuous body feed shall be designed for filtration rates not in excess of 2.5 gallons per minute per square foot (102 L per minute per square meter) of filter area; and diatomaceous earth filters which operate without continuous body feed shall be designed for filtration rates not in excess of two gallons per minute per square foot (82 L per minute per square meter) of filter area.

(g) When a diatomaceous earth type filter is installed on a swimming pool, it shall be designed and installed with provisions for cleaning by one or more of the following methods:

(1) backwashing at two gallons per minute per square foot minimum;

(2) air-bump-assist backwashing;

(3) spray wash, (either mechanical or manual); or

(4) agitation.

(h) The water used in cleaning a diatomaceous earth type filter shall be discharged to waste, or in a manner approved by the Department.

(i) When a cartridge type filter is installed on a swimming pool, it shall be designed for filtration rates not in excess of 0.375 gallons per minute per square foot (15 L per minute per square meter) of effective filtration area.

(j) When a cartridge type filter is installed on a swimming pool, it shall be designed and installed with provisions being provided for cleaning or replacement as recommended by the manufacturer. Two sets of filter cartridges shall be provided to facilitate the cleaning and drying of one set while the filter is operating.

(k) All filters on swimming pools shall be designed and installed so as to provide easy accessibility for cleaning, operating, maintaining, and servicing. All filter tanks shall be so positioned as to provide adequate circulation of air beneath and around all sides, when necessary, to reduce corrosion and to facilitate cleaning. Whenever filter tanks are installed in the ground (i.e. buried), provisions shall be made so that the tanks are protected against corrosion and are installed in accordance with the recommendations of the manufacturer.

(l) Filters on swimming pools shall be equipped with an approved type pressure gauge or gauges.

(m) Filters on swimming pools shall be designed and installed with all the necessary valves and piping which may be needed to drain the filters completely.

(n) All pressure filters on swimming pools shall be designed and installed with an air-relief valve or valves which shall be located at or near the high point of the filters.

4) Pressure gauge and air relief valve on filter: Rule .2519 (l) and (n)

15A NCAC 18A .2519 FILTERS

(l) Filters on swimming pools shall be equipped with an approved type pressure gauge or gauges.

(n) All pressure filters on swimming pools shall be designed and installed with an air-relief valve or valves which shall be located at or near the high point of the filters.

5) Automatic chlorine or bromine feeder meets NSF Standard: Rule .2535 (6)

15A NCAC 18A .2535 WATER QUALITY STANDARDS

(6) When chlorine or bromine are used as the disinfectant, automatic chemical feeders shall be used. Automatic chlorine or bromine feeders shall be manufactured and installed in accordance with NSF/ANSI Standard number 50. Automatic chlorine and bromine feeder pumps shall be automatically prevented from operating when the circulation pump is not in operation.

6) Automatic chlorine or bromine feeder pump automatically prevented from operating when the circulation pump is not in operation: Rule .2535 (6)

15A NCAC 18A .2535 WATER QUALITY STANDARDS

(6) When chlorine or bromine are used as the disinfectant, automatic chemical feeders shall be used. Automatic chlorine or bromine feeders shall be manufactured and installed in accordance with NSF/ANSI Standard number 50. Automatic chlorine and bromine feeder pumps shall be automatically prevented from operating when the circulation pump is not in operation.

7) Flow meter on filtered water line: Rule .2518 (g)

15A NCAC 18A .2518 CIRCULATION SYSTEM

(g) A rate-of-flow indicator, reading in liters or gallons per minute, shall be installed on the filtered water line and located so that the rate of circulation is indicated. The indicator shall be capable of measuring flows that are at least 1½ times the design flow rate, shall be accurate within 10 per cent of true flow, and shall be easy to read. The indicator shall be installed in accordance with manufacturers' specifications.

8) Pool heater meets Rule .2525, flow velocity through heater piping complies with Rule .2518 (d)

15A NCAC 18A .2525 HEATER AND TEMPERATURE REQUIREMENTS

(a) Pool heaters shall be designed for the purpose intended.

(b) Heaters shall be equipped with thermostatic controls capable of assuring that the maximum operating temperature of spa water does not exceed 104 degrees Fahrenheit (40 degrees C), and that the maximum operating temperature of other heated public swimming pools does not exceed 90 degrees Fahrenheit (32 degrees C). Such controls shall be accessible only to the operator.

15A NCAC 18A .2518 CIRCULATION SYSTEM

(d) Piping shall be designed to reduce friction losses to a minimum and to carry the required quantity of water at a maximum velocity not to exceed six feet per second for suction piping and not to exceed 10 feet per second for discharge piping except for copper pipe where the velocity shall not exceed eight feet per second. Piping shall be of non-toxic material, resistant to corrosion, and able to withstand operating pressures. If plastic pipe is used, a minimum of Schedule 40 PVC is required. Flexible pipe shall not be used except that flexible PVC hoses that meet NSF Standard 50 may be affixed to spa shells where rigid pipes do not provide the necessary angles to connect circulation components. Exposed pipes and valves shall be identified by a color code or labels.

Questions?