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| **Project:** |  | | County: | |  | | | **Date:** | **4/29/2024** | |
| Permit #: |  | | | | | Original | Revision | | | Modification |
| Engineer: |  | Reviewed by: | | T. Marsh, S. Sombutmai, A. Flanery, C. Robbins | | | | | | |

Items needing correction or clarification are marked by an "N" beside the appropriate section number of the Florida Administrative Code citation (Current 64E-9, FAC, or current FBC 454.1). We have left the 64E-9 requirements in this checklist because they are critical for public health and therefore the pool will be checked for these items by the County Health Department at the first operating permit inspection after the Building Official’s final inspection approval of the construction.

**FBC DEFINITIONS**

**“Interactive water features”** means a structure designed to allow for recreational activities with recirculated, filtered, and treated water; but having minimal standing water. Water from the interactive fountain type features is collected by gravity below grade in a collector tank or sump. The water is filtered, disinfected and then pumped to the feature spray discharge heads. The collector tank and water filtration features required make this structure a type of public swimming pool.

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| **COMPLIANCE:** | **FLORIDA BUILDING CODE, FLORIDA STATUTES, OR FLORIDA ADMINISTRATIVE CODE:** | **DETAILS:** |
| **SUBMITTAL REQUIREMENTS** | | |
| YNN/A | 514.031(1)(a) | Plans review fees received as required by Florida Statute 514.031(1)(a) |
| YNN/A | 514.031(1)(a) | A current version of application (DH 4159) for approval of swimming pool plans received. |
| YNN/A | 514.031(1)(a) | A set of construction plans that include the following:  1. A description of the structure, its appurtenances, and its operation.  2. A description of the source or sources of water supply, and the amount and quality of water available and intended to be used.  3. The method and manner of water purification, treatment, disinfection, and heating.  4. The safety equipment and standards to be used.  5. A copy of the final inspection from the local enforcement agency as defined in s. 553.71.  6. Any other pertinent information deemed necessary by the department. |
| **SIZING REQUIREMENTS** | | |
| REFERENCE | 454.1.1.1 | The public pools provided at a transient facility shall have a minimum 6 square feet (0.56 m²) of surface area and a minimum of 1 gallon per minute (0.063 L/s) of recirculation flow per living unit. The public pools provided at non-transient facilities shall have a minimum of 4.5 square feet (0.42 m²) of surface area and a minimum of 0.75 gallon per minute (0.047 Ls) of recirculation flow per living unit. Recreational vehicle sites, campsites and boat slips designated for liveaboards shall be considered a transient living unit. For properties with multiple pools, this requirement includes the cumulative total surface area and recirculation rate of all swimming pools, spas, wading pools and interactive water features. If the only pools at a facility are spa pools or interactive water features, this requirement does not apply. The bathing load for conventional swimming pools, wading pools, interactive water features, water activity pools and special purpose pools shall be computed on the basis of one person per 5 gpm (0.32 L/s) of recirculation flow. The bathing load for spa type pools shall be based on one person per each 10 square feet (0.9 m2) of surface area. All other types of projects shall be sized according to the anticipated bathing load and proposed uses. |
| YNN/A | 454.1.1.1 Transient | **Transient Calculations:**  # of Living Units x 6 square feet surface area and 1 gallon per minute per unit. (For All Pools, Spas, Etc. Combined)  Required Bather Load = Total recirculated rate ÷ 5 Gallons Per Minute = Bather load (For All Pools, Spas, Etc. Combined)  Required Spa Bather Load = Surface area ÷ 10 (For only Spa pools) |
| YNN/A | 454.1.1.1 Non-Transient | **Non-Transient Calculations:**  # of Living Units x 4.5 square feet surface area and 0.75 gallon per minute per unit. (For All Pools, Spas, Etc. Combined)  Required Bather Load = Total recirculated rate ÷ 5 Gallons Per Minute = Bather load (For All Pools, Spas, Etc. Combined)  Required Spa Bather Load = Surface area ÷ 10 (For only Spa pools) |
| YNN/A | 454.1.1.1 | Bathing load: The bathing load is computed on the basis of 1 person per each 5 gpm of water recirculated. |
| **IWF SPECIFIC REQUIREMENTS** | | |
| YNN/A | 454.1.9.8.1 | Waters discharged from all fountain or spray features shall not pond on the feature floor but shall flow by gravity through a main drain fitting to a collection system which discharges to a collector tank. |
| YNN/A | 454.1.9.8.1 | The minimum size of the collector tank shall be equal to the volume of 3 minutes of the combined flow of all feature pumps and the filter pump. Smaller tanks may be utilized if hydraulically justified by the design engineer. |
| YNN/A | 454.1.9.8.1 | Adequate access shall be provided to the sump or collector tank. Stairs or a ladder shall be provided as needed to ensure safe entry into the tank. |
| YNN/A | 454.1 Definitions | “Collector tank” means a reservoir, with a minimum of 2.25 square feet (0.2 m2) water surface area, that is vented by piping and/or open to the atmosphere, from which the recirculation or feature pump takes suction and which receives the gravity flow from the main drain line and surface overflow system or feature water source line, and that is cleanable.  The vent shall measure a minimum of 12.56 square inches (8,103 mm2) in area. A vent cap assembly shall be installed to minimize rainwater entry into the tank while still allowing for adequate air movement. The vent cap assembly shall be designed to prohibit entry by animals. The vent opening, where connected to the tank, must be set above the static water surface elevation and crown of the overflow piping, if installed. Tanks with vented lids shall not be required to be equipped with a separate vent. Tanks not located in a room or enclosure shall have a lockable lid. Tanks shall be constructed of concrete or other impervious and structurally rigid material, with adequate access for maintenance and cleaning, shall be watertight, shall be free from structural cracks and shall have a nontoxic smooth finish. |
| YNN/A | 454.1.5.5 | Below grade collector tank(s) must have adequate access for cleaning, maintenance and inspection. |
| YNN/A | 454.1.9.8.6.5 | An automatic water level controller shall be provided. |
| YNN/A | 454.1.9.8.6.6 | An overfill waste line with air gap shall be provided. |
| YNN/A | 454.1.9.8.6.7 | A means of vacuuming and completely draining the tank(s) shall be provided. |
| YNN/A | 454.1.9.8.4 | If night operation is proposed, 6 foot-candles (60 lux) of light shall be provided on the pool deck and the water feature area. For IWF’s that are operated with attendants or lifeguards, 3 foot-candles (30 lux) of light is acceptable. |
| YNN/A | 454.1.9.8.5 | All electrical work shall comply with Chapter 27 of the Florida Building Code, Building. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| YNN/A | 454.1.9.8.6.1 | IWF recirculation system shall be sized to treat the contained volume of water in the tank and piping system based in a 30-minute turnover. |
| YNN/A | 454.1.9.8.6.1 | All water discharged to the spray features must first be treated with UV disinfection as described in Section 454.1.6.5.16.6, with final treatment provided by disinfectant adjustment chemicals, before any of this treated water is piped to the spray features |
| YNN/A | 454.1.9.8.6.4 | The flow rate through the feature nozzles of the water features shall be such as not to harm the patrons and shall not exceed 20 feet per second (6096 mm/s) unless justified by the design engineer and by the fountain system manufacturer. |
| YNN/A | 454.1.9.8.6.9 | IWF’s shall be fenced in the same fashion as wading pools as noted in Section 454.1.7.7. Where the walking distance is at least 50 feet (15 240 mm) between the IWF and all other pools and the IWF is not designed to have any standing water, fencing requirements should be carefully considered by the applicant to control usage but are not required by rule. Effective barriers that are designed to define the walking path shall be subject to review and approval by the department. |
| YNN/A | 454.1.9.8.6.10 | A minimum 4-foot-wide (1219 mm) wet deck area shall be provided around all IWF’s. The wet deck shall meet the requirements of Section 454.1.2.2.3; however, up to 50 percent of the perimeter may be obstructed. |
| YNN/A | 454.1.9.8.6.11 | IWF’s shall be constructed of concrete or other impervious and structurally rigid material. |
| YNN/A | 454.1.9.8.6.12 | Floor slopes of an IWF shall be a maximum 1 foot (305 mm) vertical in 10 feet (3,048 mm) horizontal and a minimum of 1 foot (305 mm) vertical in 60 feet (18 288 mm) horizontal. |
| **SIGNAGE AND RULE REQUIREMENTS** | | |
| YNN/A | 64E-9.008(9)(a) | The bathing load will be posted at the IWF as required in the bathing rules. |
| YNN/A | 454.1.2.3.5 | The lettering for the IWF rules sign is at least 1" high (25.4 mm). |
| YNN/A | 454.1.9.8.6.13; 454.1.2.3.5 | The following rules in **BOLD** will be posted at or near poolside and will be legible from IWF deck:  1. **NO FOOD OR BEVERAGES IN THE IWF OR ON IWF WET DECK. COMMERCIALLY BOTTLED WATER IN PLASTIC BOTTLES IS ALLOWED ON THE POOL WET DECK FOR POOL PATRON HYDRATION.**  2. **NO GLASS OR ANIMALS IN THE FENCED IWF AREA (OR 50 FEET (15,240 MM) FROM UNFENCED IWF).**  **Exception: Service animals as defined in s. 413.08, F.S. All animals are prohibited to enter the pool water or onto the drained area of an interactive water feature**  3. **BATHING LOAD: \_\_\_ PERSONS.**  4. **POOL HOURS: \_\_ A.M. TO \_\_ P.M.**  (DAWN TO DUSK is approved for IWF hours if the IWF is not certified for night usage)  5. **SHOWER BEFORE ENTERING.**  6. **DO NOT SWALLOW THE FOUNTAIN WATER, IT IS RECIRCULATED.**  7. **DO NOT USE FOUNTAIN IF YOU ARE ILL WITH DIARRHEA.** |
| **APPURTENANCES** | | |
| YNN/A | 454.1.9.8.6.11; 454.1.3.1.1 | IWF wet decks shall be constructed of concrete or other nonabsorbent material having a smooth slip resistant finish. Wet deck area finishes shall be designed for such use and shall be installed in accordance with the manufacturer’s specifications. ***Wooden decks and walkways are prohibited.*** |
| YNN/A | 454.1.9.8.6.12; 454.1.3.1.2 | IWF wet decks shall be uniformly sloped away from the pool or to deck drains to prevent standing water. |
| YNN/A | 454.1.9.8.6.12; 454.1.3.1.2 | The minimum slope for the wet deck is 2 percent, but in the portions of the deck intended to be accessible to disabled persons, it may be 1% less than the maximum allowable cross slope given by the *Florida Building Code, Accessibility*. The maximum slope is 4 percent. A minimum of 1 percent deck slope is allowable for paver type decks. |
| YNN/A | 454.1.3.1.2 | Textured deck finishes that provide pitting and crevices of more than 3/16 inch (4.8 mm) deep that accumulate soil are prohibited. |
| YNN/A | 454.1.3.1.2 | If settling or weathering occurs that would cause standing water, the original slopes shall be restored, or corrective drains installed. |
| YNN/A | 454.1.3.1.4 | Traffic barriers shall be provided as needed so that parked vehicles do not extend over the deck area. |
| YNN/A | 454.1.3.1.5 | Walkways shall be provided between the pool and the sanitary facilities and shall be constructed of concrete or other nonabsorbent material having a smooth slip resistant finish for the first 15 feet (4,572 mm) of the walkway measured from the nearest pool water’s edge. |
| YNN/A | 454.1.3.1.5 | A hose bibb with a vacuum breaker shall be provided to allow the deck to be washed down with potable water. |
| YNN/A | 454.1.3.1.7 | Food or drink service facilities shall not be located within 12 feet (3658 mm) of the water’s edge. |
| YNN/A | 454.1.3.1.8 | The vertical clearance above the IWF deck shall be at least 7 feet (2137 mm). |
| YNN/A | 454.1.3.3.4 | A room or space shall be provided for chemicals to be stored in a cool, dry, and well ventilated area under a roof and the area shall be inaccessible to the public. |
| YNN/A | 454.1.4.1 | Electrical equipment wiring and installation, including the bonding and grounding of pool components shall comply with Chapter 27 of the Florida Building Code, Building. Outlets supplying pool pump motors connected to single phase 120-volt through 240-volt branch circuits, whether by receptacle or by direct connection, and outlets supplying other electrical equipment and underwater luminaires operating at voltages greater than the low voltage contact limit, connected to single phase, 120-volt through 240-volt branch circuits, rated 15 or 20 amperes, whether by receptacle or by direct connection, shall be provided with ground fault circuit interrupter protection for personnel. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| **WIRING/ELECTRICAL REQUIREMENTS** | | |
| YNN/A | 454.1.4.2.4 | Overhead wiring. Overhead service wiring shall not pass within an area extending a distance of 10 feet (3048 mm) horizontally away from the outer edge of the IWF  Allowances for overhead conductor clearances to pools that meet the safety standards in the *National Electrical Code* may be used instead. Electrical equipment wiring and installation including the grounding of pool components shall comply with Chapter 27. |
| YNN/A | 454.1.4.2.5 | Voltage limitation. Underwater lighting, or lighting that may be exposed to nozzle directed pool water, shall not exceed 30 volts DC or 15 volts AC. Such lights shall be installed in accordance with manufacturer’s specifications and approved for such use by UL or NSF. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| **EQUIPMENT AREA** | | |
| YNN/A | 454.1.5.1 | Equipment designated by the manufacturer for outdoor use may be located in an equipment area, all other equipment must be located in an equipment room or enclosure. |
| YNN/A | 454.1.5.1 | An equipment area shall be surrounded with a fence at least 4 feet (1219 mm) high on all sides not confined by a building or equivalent structure. A self-closing and self-latching gate with a permanent locking device shall be provided if necessary, for access. An equipment room shall be protected on at least three sides and overhead. Any fence or gate installed shall use members spacing that shall not allow passage of a 4-inch (102 mm) diameter sphere. The fourth side may be a gate, fence, or open if otherwise protected from unauthorized access. |
| YNN/A | 454.1.5.1 | An equipment enclosure shall be lockable or otherwise protected from unauthorized access. |
| YNN/A | 454.1.3.1.9 | A latched, lockable gate shall be placed in the fence within 10 feet (3,048 mm) of the closest point between the pool and the equipment area for service access. |
| YNN/A | 454.1.5.2 | Indoor equipment. Equipment not designated by the manufacturer for outdoor use shall be located in an equipment room. An equipment room shall be protected on at least three sides and overhead. The fourth side may be a gate, fence or open if otherwise protected from unauthorized entrance. |
| YNN/A | 454.1.5.3 | The equipment enclosure, area or room floor shall be of concrete or other nonabsorbent material having a smooth slip resistant finish and shall have positive drainage, including a sump pump if necessary |
| YNN/A | 454.1.5.3 | Ancillary equipment, such as a heater, not contained in an equipment enclosure or room shall necessitate an equipment area as described above (454.1.5.1). |
| YNN/A | 454.1.5.4 | Equipment rooms shall have either forced draft or cross ventilation. |
| YNN/A | 454.1.5.4 | All below grade equipment rooms shall have a stairway access with forced draft ventilation or a fully louvered door and powered intake within 6 inches (152 mm) of the floor. |
| YNN/A | 454.1.5.4 | Where stairway access is not necessary to carry heavy items into the below grade room or vault, a “ship’s ladder” may be used if specified by the design engineer who must consider anticipated workload including equipment removal; and the ladder slope, tread height and width; and construction material of the ladder. |
| YNN/A | 454.1.5.5 | The opening to an equipment room or area shall be a minimum 3 feet by 6 feet (914 mm by 1829 mm) and shall provide easy access to the equipment. |
| YNN/A | 454.1.5.6 | The size of the equipment enclosure, room or area shall provide working space to perform routine operations. |
| YNN/A | 454.1.5.6 | Clearance shall be provided for all equipment as prescribed by the manufacturer to allow normal maintenance operation and removal without disturbing other piping or equipment. |
| YNN/A | 454.1.5.6 | In rooms with fixed ceilings, the minimum height shall be 7 feet (2,137 mm). |
| YNN/A | 454.1.5.7 | The equipment room is lighted to provide a minimum 30 fc (300 lux) of illumination at floor level. |
| YNN/A | 454.1.5.8 | Equipment enclosures, rooms or areas **shall not be used for storage of chemicals** emitting corrosive fumes or for storage of other items to the extent that entrance to the room for inspection or operation of the equipment is impaired. |
| YNN/A | 454.1.5.9 | A hose bibb with vacuum breaker shall be located in the equipment room or area. |
| **SANITARY FACILITIES** | | |
| YNN/A | 454.1.6.1 | Sanitary facilities: Restrooms shall include a water closet, a diaper change table and a lavatory. The entry doors of all restrooms shall be located within a 200-foot (60 960 mm) walking distance of the nearest water’s edge of each pool served by the facilities.  (Swim diapers are recommended for use by children that are not toilet trained. Persons that are ill with diarrhea cannot enter the pool.)  **Exception:** Where a swimming pool serves only a designated group of residential dwelling units including hotel rooms and not the general public, poolside sanitary facilities are not required if all living units are within a 200-foot (60 960 mm) horizontal radius of the nearest water’s edge, are not over three stories in height unless serviced by an elevator, and are each equipped with private sanitary facilities. |
| YNN/A | 454.1.6.1.1 | Sanitary facilities: Required fixtures shall be provided as indicated on Table 454.1.6.1. rounded up to the next whole number. The fixture count on this chart is deemed to be adequate for the pool and pool deck area that is up to three times the area of the pool surface provided. |
| YNN/A | 454.1.6.1.1 | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **TABLE 454.1.6.1** | | | | | | | **PUBLIC SWIMMING POOL—REQUIRED FIXTURE COUNT PER SQUARE FOOT OF POOL SURFACE** | | | | | | | **SIZE OF POOL (square feet)** | **MEN’S RESTROOM** | | | **WOMEN’S RESTROOM** | | | **For SI: 1 FT2 = 0.0929 m2.** | **Urinals** | **WC** | **Lavatory** | **WC** | **Lavatory** | | 0 – 1,250 | 1 | 1 | 1 | 1 | 1 | | 1,251 – 2,500 | 1 | 1 | 1 | 2 | 1 | | 2501 – 3,750 | 2 | 1 | 1 | 3 | 1 | | 3,751 – 5,000 | 2 | 1 | 1 | 4 | 1 | | 5,001 – 6,250 | 2 | 2 | 2 | 5 | 2 | | 6,251 – 7,500 | 2 | 2 | 2 | 6 | 2 | | 7,501 – 8,750 | 3 | 2 | 2 | 7 | 2 | | 8,751 – 10,000 | 3 | 2 | 2 | 8 | 2 | |
| TABLE NOTE: | 454.1.6.1 | Square footage of interactive water features (IWF’s) is required to be included when calculating the size of pool for the purposes of determining the type and number of fixtures for the sanitary facilities. For those facilities with an IWF in addition to the pool, causing the combined pool size square footage to exceed the threshold required category fixture count, a unisex restroom may be installed to satisfy the fixture requirement for every additional 1,250 square feet or fraction thereof. The IWF feature flow for one unisex restroom shall not exceed 100 gpm, nor shall bathing load exceed 20 patrons. |
| NOTE: | 454.1.6.1.1 | **Exception:** When a public swimming pool meets all of the following conditions the following shall apply:  1. The pool serves only a designated group of dwelling units,  2. The pool is not for the use of the general public, and  3. A building provides sanitary facilities;  The fixture requirement for the building shall be determined and if it exceeds the requirement in Table 454.1.6.1 then the building requirement shall regulate the fixture count, otherwise the fixture count shall be based on the requirement for the pool. **Under no circumstances shall the fixture counts be cumulative.** |
| YNN/A | 454.1.6.1.1 | **Additional fixtures** required for each additional 2,500 square feet (233 m²) over 10,000 square feet, or proportion thereof (929 m²): – Women’s (1) WC  **Additional fixtures** required for each additional 5,000 square feet (465 m²) over 10,000 square feet, or proportion thereof (929 m²): Men’s – (1) WC, Women’s - (2) WC  **Additional fixtures** required for each additional 10,000 square feet (929 m²) over 10,000 square feet, or proportion thereof (929 m²): Men’s - (2) WC, (1) Lavatory, Women’s - (4) WC, (1) Lavatory. |
| YNN/A | 454.1.6.1.2 | Sanitary facilities: Outside access to facilities shall be provided for bathers at outdoor pools. Where the restrooms are located within an adjacent building and the restroom doors do not open to the outside, the restroom doors shall be within 50’ (15 240 mm) of the building’s exterior door. |
| YNN/A | 454.1.6.1.2 | Sanitary facilities: If the restrooms are not visible from any portion of the pool deck, signs shall be posted showing directions to the facilities. Directions shall be legible from any portion of the pool deck; letters shall be a minimum of 1” (25 mm) high. |
| YNN/A | 454.1.6.1.3 | Sanitary facilities: Floors of sanitary facilities shall be constructed of concrete or other nonabsorbent materials, shall have a smooth, slip resistant finish, and shall slope to floor drains, which must be installed within the facility. |
| YNN/A | 454.1.6.1.3 | Sanitary facilities: There are no foot baths, carpet or duck boards on the floor. |
| YNN/A | 454.1.6.1.3 | Sanitary facilities: The intersection between the floor and walls shall be coved where either floor or wall is not made of waterproof materials such as tile or vinyl. |
| YNN/A | 454.1.6.1.4 | Sanitary facilities: A hose bibb with vacuum breaker is in or within 25’ (7620 mm) each restroom for ease of cleaning. |
| **RECIRCULATION AND TREATMENT** | | |
| YNN/A | 454.1.6.2 | A minimum of one rinse shower shall be provided on the pool deck of all outdoor pools within the perimeter of the fence. |
| YNN/A | 454.1.6.3 | An atmospheric break or approved backflow prevention device shall be provided in each pool water supply line that is connected to a public water supply. |
| YNN/A | 454.1.6.3 | Vacuum breakers shall be installed on all hose bibbs. |
| YNN/A | 454.1.6.5.1 | Recirculation and treatment equipment such as filters, recessed automatic surface skimmers, ionizers, ozone generators, disinfection feeders and chlorine generators shall be tested and approved using the NSF/ANSI 50-2020, *Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs and other Recreational Water Facilities*, which is incorporated by reference. |
| YNN/A | 64E-9.004(5) | The IWF recirculation system must be operated at all times when the pool is open for use. The recirculation system may be shut off three hours after the pool closes but must resume operation three hours before opening the pool. Shut down time must be controlled by a time clock. When a variable speed pump is used, the recirculation system shall be operated such that it achieves the equivalent of 6 hours of treatment at 100% design flowrate during the daily closed period, or at least one complete water volume turnover, whichever is greater. Exception: vacuum DE systems are excluded from this allowance. \*\*\*If multiple recirculation pumps are used the required flowrate, filtration, & chemical treatment must be maintained, or the entire system shall not operate. Example: System must not be able to operate without one pump if the additional pumps are not able to maintain the proper flowrate, filtration, and chemical treatment (some type of audible alarming system audible may be employed to ensure requirement is met). |
| YNN/A | 64E-9.004(1) | IWF makeup water supply is from an approved potable water system or meets those requirements with bacteriological/chemical reports to county health department. |
| YNN/A | 454.1.6.5.4 | If the pump or suction piping is located above the water level of the pool, the pump shall be self-priming. |
| YNN/A | 454.1.6.5.4 | Pumps that take suction prior to filtration shall be equipped with a hair and lint strainer. |
| YNN/A | 454.1.6.5.4 | Pressure filter system pump shall be selected to provide the required recirculation flow against a minimum total dynamic head of 60 feet (18 288 mm) unless hydraulically justified by the design engineer. |
| YNN/A | 454.1.6.5.4 | Vacuum filter system pumps shall provide at least 50 feet (15 240 mm) of total dynamic head. Should the total dynamic head required not be appropriate for a given project, the design engineer shall provide an alternative. |
| YNN/A | 454.1.6.5.5 | Filters sized to handle the required recirculation flowrate shall be provided. |
| **D.E. FILTER SYSTEMS** | | |
| YNN/A | 454.1.6.5.5.2.1 | D.E. Type filters or regenerative media type filters: The filter is sized such that the filtration rate does not exceed 2 gpm/ft². [or 3 if so approved using the procedure stated in Section 454.1.6.5.1] |
| YNN/A | 454.1.6.5.5.2.1 | D.E. type filters: Pressure filter systems shall be equipped with an air relief valve, influent and effluent pressure gauges with minimum face size of 2 inches (51 mm) reading 0–60 psi (0–414 kPa). |
| YNN/A | 454.1.6.5.5.2.2 | D.E. type filters: Vacuum filter systems shall be equipped with a vacuum gauge which has a 2-inch (51 mm) face and reads from 0–30 inches of mercury. |
| YNN/A | 454.1.6.5.5.2.3 | D.E. type filters: A precoat pot or collector tank shall be provided. |
| YNN/A | 454.1.6.5.5.3 | D.E. type filters: The D.E.-type filter tank and elements shall be installed such that the recirculation flow draw down does not expose the elements to the atmosphere whenever only the main drain valve is open. |
| YNN/A | 454.1.6.5.5.3 | D.E. type filters: The filter area shall be determined on the basis of effective filtering surfaces with no allowance given for areas of impaired filtration, such as broad supports, folds, or portions which may bridge. |
| YNN/A | 454.1.6.5.5.3 | D.E. type filters: D.E. type filter elements shall have a minimum 1-inch (25 mm) clear spacing between elements up to a 4 square foot (0.4 m2) effective area. The spacing between filter elements shall increase 1/8 inch (3 mm) for each additional square foot of filter area or fraction thereof above an effective filter area of 4 square feet (0.4 m2). |
| YNN/A | 454.1.6.5.5.3 | D.E. type filters: Vacuum filter tank has coved intersections between the wall and the floor and the tank floor slopes to the filter tank drain. |
| YNN/A | 454.1.6.5.8 | D.E. type filters: The filter and vacuuming system shall have the necessary valves and piping to allow filtering to pool, vacuuming to waste, vacuuming to filter, complete drainage of the filter tank, D.E. type filters and precoat recirculation for D.E.-type filters. |
| YNN/A | 454.1.6.5.15 | D.E. type filters: Disposal of water from pools using D.E. powder shall be accomplished through separation tanks which are equipped with air bleed valves, bottom drain lines, and isolation valves, or through a settling tank with final disposal being acceptable to local authorities. D.E. separator tanks shall have a capacity as rated by the manufacturer, equal to the square footage of the filter system |
| **SAND FILTER SYSTEMS** | | |
| YNN/A | 454.1.6.5.5.1 | Sand type filters: The filter is sized such that the filtration rate does not exceed 3 gpm/ft² for rapid sand filter or 15 gpm/ft² for high rate sand filters [or 20 if so approved using the procedure stated in Section 454.1.6.5.1] |
| YNN/A | 454.1.6.5.5.2.1 | Sand type filters: Pressure filter systems shall be equipped with an air relief valve, influent and effluent pressure gauges with minimum face size of 2 inches (51 mm) reading 0–60 psi (0–414 kPa), and a sight glass when a backwash line is required. |
| YNN/A | 454.1.6.5.8 | Sand type filters: The filter and vacuuming system shall have the necessary valves and piping to allow filtering to collector tank, vacuuming to waste, vacuuming to filter, complete drainage of the filter tank, backwashing for sand filters |
| **CARTRIDGE FILTER SYSTEMS** | | |
| YNN/A | 454.1.6.5.5.1 | Cartridge type filters: The filter complies with the maximum filtration rate of 0.375 gpm/ft² for pleated type cartridges. |
| YNN/A | 454.1.6.5.5.2.1 | Cartridge type filters: Pressure filter systems shall be equipped with an air relief valve, influent and effluent pressure gauges with minimum face size of 2 inches (51 mm) reading 0–60 psi (0–414 kPa) |
| YNN/A | 454.1.6.5.5.2.2 | Cartridge type filters: Vacuum filter systems shall be equipped with a vacuum gauge which has a 2-inch (51 mm) face and reads from 0–30 inches of mercury. |
| YNN/A | 454.1.6.5.5.3 | Cartridge type filters: Vacuum filter tank has coved intersections between the wall and the floor and the tank floor slopes to the filter tank drain. |
| YNN/A | 454.1.6.5.5.3 | Cartridge type filters: All cartridges used in public pool filters shall be permanently marked with the manufacturer’s name, pore size and area in square feet of filter material. All cartridges with end caps shall have the permanent markings on one end cap. |
| YNN/A | 454.1.6.5.8 | Cartridge type filters: The filter and vacuuming system shall have the necessary valves and piping to allow filtering to collector tank, vacuuming to waste, vacuuming to filter, complete drainage of the filter tank, backwashing for sand and pressure. |
| **PIPING** | | |
| YNN/A | 454.1.6.5.6 | All plastic pipe used in the recirculation system shall be imprinted with the manufacturer’s name and the NSF-pw logo for potable water applications. Size, schedule and type of pipe shall be included on the drawings. |
| YNN/A | 454.1.5.1, 454.1.6.4, &  454.1.6.5.6 | Plastic pipe subject to a period of prolonged sunlight exposure must be coated to protect it from ultraviolet light degradation. |
| YNN/A | 454.1.6.5.7 | Return line, main drain line, and surface overflow system lines each have proportioning valves. |
| YNN/A | 454.1.6.5.8 | All pressure piping is sized such that the flow velocity does not exceed 10' per second (2,038 mm/s) at the design flow rate. (**Exception**: Precoat lines when higher velocity is needed for agitation purposes.) |
| YNN/A | 454.1.6.5.8 | All suction piping is sized such that the flow velocity does not exceed 6' per second (1829 mm/s) at the design flow rate. (**Exception**: Vacuum filter header assembly where velocity may be up to 10' per second (3048 mm/s).) |
| YNN/A | 454.1.6.5.8 | Main drain systems and surface overflow systems which discharge to collector tanks are sized such that the flow velocity does not exceed 3' per second (914 mm/s) at the design flow rate. |
| YNN/A | 454.1.6.5.13 | A rate of flow indicator (flowmeter), reading in gpm, shall be installed on the return line following filtration and prior to chemical injection |
| YNN/A | 454.1.6.5.13 | The rate of flow indicator shall be properly sized for the design flow rate and shall be capable of measuring from three-quarters to at least one and one-quarter times the design flow rate. The flow measuring device shall have an operating range appropriate for the anticipated flow rates and be installed where it is readily accessible to read and for routine maintenance. |
| YNN/A | 454.1.6.5.13 | The clearances upstream and downstream from the rate of flow indicator shall comply with manufacturer’s installation specifications. |
| YNN/A | 64E-9.004(e) | Landscape irrigation water that wets the wet deck area of the pool, the pool itself, enters the collector tank, or wets an interactive water feature must be potable water from a public water system or shall meet the bacteriological quality of potable water as evidenced by annual laboratory analysis submitted to the department. Reclaimed water may not be used in these areas. If reclaimed water is used in the vicinity of the pool (inside of the pool fence or within 100’ of the pool water’s edge) it must employ drip irrigation or soaker hoses. Signs shall be posted notifying pool patrons that reclaimed water is in use and is not to be consumed. |
| **HEATERS** | | |
| YNN/A | 454.1.6.5.14 | Pool heaters shall comply with nationally recognized standards acceptable to the jurisdictional building department and to the design engineer. |
| YNN/A | 454.1.6.5.14 | Pools equipped with heaters shall have a fixed thermometer mounted in the pool recirculation line downstream from the heater outlet. **Thermometers mounted on heater outlets do not meet this requirement.** |
| YNN/A | 454.1.6.5.14 | A sketch of any proposed heater installation including valves, thermometer, pipe sizes, and material specifications shall be included in the application for permit prior to installation. |
| YNN/A | 454.1.6.5.14 | Piping and influent, effluent and bypass valves which allow isolation or removal of the heater from the system shall be provided. *\*\*\*Valves must be proportional type, gate type valves prohibited* |
| YNN/A | 454.1.6.5.14 | Materials used in solar and other heaters shall be nontoxic and acceptable for use with potable water. |
| YNN/A | 454.1.6.5.14 | Heaters shall not prevent the attainment of the required turnover rate. |
| **POOL WASTEWATER** | | |
| YNN/A | 454.1.6.5.15 | Pool wastewater shall be discharged through an air gap. |
| YNN/A | 454.1.6.5.15 | Pool wastewater disposal shall be to sanitary sewers, storm sewers, drain fields, or by other means, in accordance with local requirements including obtaining all necessary permits. |
| YNN/A | 454.1.6.5.15 | All lines shall be sized to handle the expected flow. |
| YNN/A | 454.1.6.5.15 | There shall not be a direct physical connection between any drain from a pool or recirculation system and a sewer line. |
| **ADDITION OF CHEMICALS** | | |
| YNN/A | 454.1.6.5.19 | Automated oxidation reduction potential (ORP) and pH controllers with sensing probes shall be installed to assist in maintaining proper disinfection and pH levels. |
| YNN/A | 454.1.6.5.18 | Only NSF 60 approved chemicals shall be provided. |
| YNN/A | 64E-9.004(10) | A test kit is provided and is capable of testing for free active halogens, total or combined available chlorine and pH. **PROVIDE APPROVED TEST KIT** |
| YNN/A | 64E-9.004(10)(a) | If a cyanurate type feeder is used, a cyanuric acid test kit is provided. **PROVIDE APPROVED TEST KIT** |
| YNN/A | 64E-9.004(10)(a) | If a salt solution in the pool water is necessary for a chlorine generator, a sodium chloride test kit is provided. **PROVIDE APPROVED TEST KIT** |
| YNN/A | 454.1.6.5.16 | Disinfection and pH adjustment shall be added to the pool recirculation flow using automatic feeders meeting the requirement of ANSI/NSF 50. |
| YNN/A | 454.1.6.5.16 | All chemicals shall be fed into the return line after the pump, heater and filters unless the feeder was designed by the manufacturer and approved by the NSF to feed to the collector tank or to the suction side of the pump. |
| **HYPOHALOGENATION AND ELECTROLYTIC CHLORINE GENERATORS** | | |
| YNN/A | 454.1.6.5.16.2 | Hypohalogenation: The hypohalogenation-type feeder and electrolytic chlorine generators shall be adjustable from 0 to full range. |
| YNN/A | 454.1.9.8.3, & 454.1.9.8.6.1 | Chemical feeders shall be in accordance with Section 454.1.6.5; except that the disinfection feeder shall be capable of feeding 12 ppm of free chlorine to the pressure side of the recirculation system or the collector tank (based upon a hypothetical 30-minute turnover of the contained volume within the system). |
| YNN/A | 454.1.6.5.16.2 | Hypohalogenation: An electrical feeder, when used, has electrical interlock with the recirculation pump to prevent the disinfectant from siphoning or feeding directly into the pool or pool piping under any type failure of the recirculation equipment. A flow sensor controller may be used. |
| YNN/A | 454.1.6.5.16.2 | Hypohalogenation: Solution crock has a volume equal to at least 50% of the maximum daily feed capacity of the solution feeder. Solution crock is marked to indicate contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing liquid chemicals. Tanks not located in a room or enclosure shall have a lockable lid. |
| YNN/A | 454.1.6.5.16.2 | Erosion type feeder shall have a flowmeter and flow adjustment valve. |
| **FEEDER FOR pH ADJUSTMENT** | | |
| YNN/A | 454.1.6.5.16.3 | Feeders for pH adjustment shall be provided on all pools. |
| YNN/A | 454.1.6.5.16.3 | pH adjustment feeder: pH adjustment feeders shall be positive displacement type, shall be adjustable from 0 to full range. |
| YNN/A | 454.1.6.5.16.3 | pH adjustment feeder: An electrical feeder has electrical interlock with the recirculation pump to prevent discharge when the recirculation pump is not operating. |
| YNN/A | 454.1.6.5.16.3 | pH adjustment feeder: When soda ash is used for pH adjustment, the maximum concentration of soda ash solution to be fed shall not exceed 1/2-pound (0.2 kg) soda ash per gallon of water. Feeders for soda ash shall be capable of feeding a minimum of 3 gallons (11 L) of the above soda ash solution per pound of gas chlorination capacity. |
| YNN/A | 454.1.6.5.16.3 | pH adjustment feeder: Solution crock has a volume equal to at least 50% of the maximum daily feed capacity of the solution feeder. Solution crock is marked to indicate contents. The solution reservoirs shall be manufactured to accommodate corrosive and oxidizing liquid chemicals. Tanks not located in a room or enclosure shall have a lockable lid |
| **ULTRAVIOLET (UV) LIGHT DISINFECTANT EQUIPMENT** | | |
| YNN/A | 454.1.6.5.16.6 | Ultraviolet (UV) light disinfectant equipment may be used as supplemental water treatment on public pools [and additional treatment on interactive water features (IWF’s)] subject to the conditions of this paragraph and manufacturer’s specifications. UV is encouraged to be used to eliminate or reduce chlorine resistant pathogens, especially the protozoan cryptosporidium. |
| YNN/A | 454.1.6.5.16.6 (1) | UV equipment and electrical components and wiring shall comply with the requirements of the National Electrical Code and the manufacturer shall provide a certification of conformance to the jurisdictional building department. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| YNN/A | 454.1.9.8.6.1 & 454.1.6.5.16.6 (2) | UV equipment shall meet UL standards and shall be electrically interlocked with recirculation pump(s) on all pools and with feature pumps(s) on an IWF such that when the UV equipment fails to produce the required dosage as measured by an automated sensor, the feature pump(s) are disabled so the water features do not operate. |
| YNN/A | 454.1.6.5.16.6 (3) | UV equipment shall be certified for secondary or supplemental disinfection per NSF 50-2020. |
| YNN/A | 454.1.6.5.16.6 (4) | UV equipment that is certified for secondary disinfection per NSF 50-2020 shall be installed and configured to constantly produce a validated dosage of at least 40 mJ/cm2 (millijoules per square centimeter) at the end of lamp life, or conform with all other third party validation criteria in accordance with USEPA Ultraviolet Disinfectant Guidance Manual dated November 2006, publication number EPA 815-R-06-007, whenever these devices are used in high-risk pools for secondary disinfection |
| YNN/A | 454.1.6.5.16.6 (4) | UV equipment shall constantly produce a validated dosage of at least 40 mJ/cm2 (millijoules per square centimeter) at the end of lamp life. |
| YNN/A | 454.1.6.5.16.6 (5) | The UV equipment shall not be located in a side stream flow and shall be located to treat all water returning to the pool or water features. Any treatment chemicals shall be injected downstream of the UV equipment. |
| YNN/A | 454.1.9.8.6.2 | All IWF’s must comply with one of three options for filtration and disinfection listed below |
| YNN/A | 454.1.9.8.6.2 - Option 1. | A single pump may be used for water treatment and to supply the water features. Flow must be filtered, treated by a UV unit certified for supplemental/secondary disinfection per NSF Standard 50, then treated with disinfectant adjustment chemicals prior to discharge to the spray features. Excess flow not required by the features must be directed back to the collector tank following UV treatment and must be treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. |
| YNN/A | 454.1.9.8.6.2 - Option 2. | Separate filter and features pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be filtered, treated by a unit certified for supplemental/secondary disinfection per NSF Standard 50, then treated with disinfectant adjustment chemicals prior to discharge to the spray features. UV flow capacity must meet the feature pump(s) flow capacity and a rate of flow indicator complying with Section 454.1.6.5.13 shall be provided for each UV system. |
| YNN/A | 454.1.9.8.6.2 - Option 3. | Separate filter and features pumps may be utilized. The filter flow must be filtered and treated with disinfectant and pH adjustment chemicals prior to discharge to the tank. All feature flow must be treated by a UV disinfection certified for supplemental/secondary disinfection per NSF Standard 50 and Section 454.1.6.5.16.6 (4) then treated with disinfection adjustment chemicals prior to discharge to the water features. UV flow capacity must meet the feature pump(s) flow capacity, and a rate of flow indicator complying with Section 454.1.6.5.13 shall be provided for each UV system. |
| **OZONE EQUIPMENT** | | |
| YNN/A | 454.1.6.5.16.4 | Ozone generating equipment may be used for supplemental water treatment on public swimming pools subject to the conditions of this section. |
| YNN/A | 454.1.6.5.16.4.1 | Ozone generating equipment electrical components and wiring shall comply with the requirements *of Chapter 27 of the Florida Building Code, Building* and the manufacturer shall provide a certificate of conformance. The process equipment shall be provided with an effective means to alert the user when a component of this equipment is not operating. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| YNN/A | 454.1.6.5.16.4.2 | Ozone generating equipment shall meet the NSF/ANSI Standard 50. |
| YNN/A | 454.1.6.5.16.4.3 | The concentration of ozone in the return line to the pool shall not exceed 0.1 mg/L. |
| YNN/A | 454.1.6.5.16.4.4 | The injection point for ozone generating equipment shall be located in the pool return line after the filtration and heating equipment, prior to the halogen injection point, and as far as possible from the nearest pool return inlet with a minimum distance of 4 feet (1219 mm). Injection methods shall include a mixer, contact chamber, or other means of efficiently mixing the ozone with the recirculated water. The injection and mixing equipment shall not prevent the attainment of the required turnover rate of the recirculation system. Ozone generating equipment shall be equipped with a check valve between the generator and the injection point. Ozone generating equipment shall be equipped with an airflow meter and a means to control the flow. The generator shall be electrically interlocked with the recirculation pump to prevent the feeding of ozone when the recirculation pump is not operating. A flow sensor controller can also be used to turn off the feeder when flow is sensed. |
| YNN/A | 454.1.6.5.16.4.5 | Ventilation requirements. Ozone generating equipment shall be installed in equipment rooms with either forced draft or cross draft ventilation. Below grade equipment rooms with ozone generators shall have forced draft ventilation and all equipment rooms with forced draft ventilation shall have the fan control switch located outside the equipment room door. The exhaust fan intake for forced draft ventilation and at least one vent grille for cross draft ventilation shall be located at floor level. |
| YNN/A | 454.1.6.5.16.4.6 | A self-contained breathing apparatus designed and rated by its manufacturer for use in ozone contaminated air shall be provided when ozone generator installations are capable of exceeding the maximum pool water ozone contact concentration of 0.1mg/L. The self-contained breathing apparatus shall be available at all times and shall be used at times when the maintenance or service personnel have determined that the equipment room ozone concentration exceeds 10 mg/L. Ozone generator installations which require the self-contained breathing apparatus shall also be provided with Draeger type detector tube equipment which is capable of detecting ozone levels of 10 mg/L and greater.  **Exception:** In lieu of the self-contained breathing apparatus an ozone detector capable of detecting 1 mg/L may be used. Said detector shall be capable of stopping the production of ozone, venting the room and sounding an alarm once ozone is detected. Said detector shall be capable of stopping the production of ozone, venting the room and sounding an alarm once ozone is detected. |
| **IONIZATION EQUIPMENT** | | |
| YNN/A | 454.1.6.5.16.5 | Ionization units may be used as supplemental water treatment on public pools subject to the condition of this section. |
| YNN/A | 454.1.6.5.16.5.1 | Ionization equipment and electrical components and wiring shall comply with the requirements of *Chapter 27 of the Florida Building Code, Building* and the manufacturer shall provide a certification of conformance. **\*TO BE REVIEWED BY BUILDING DEPT.** |
| YNN/A | 454.1.6.5.16.5.2 | Ionization equipment shall meet the NSF/ANSI Standard 50, *Circulation System Components and Related Materials for Swimming Pools, Spas/Hot Tubs*, or equivalent, shall meet UL standards and shall be electrically interlocked with a recirculation pump. |
| **COPPER/SILVER IONIZATION EQUIPMENT** | | |
| YNN/A | 454.1.10.3 | The installation of copper or copper/silver ionization units and ozone generators capable of producing less than a pool water ozone contact concentration of 0.1 milligrams per liter (mg/L) shall not be considered a pool repair or alteration provided compliance when the following is met:  1. The ionization or ozone generator unit complies with paragraph 64E9.008 (10)(e), Florida Administrative Code.  2. The manufacturer provides one set of signed and sealed engineering drawings indicating the following:  a. The unit does not interfere with the design flow rate.  b. The unit and the typical installation meet the requirements of the National Electrical Code.  c. A copper test kit and information regarding the maximum allowed copper and silver level and the minimum required chlorine level shall be available to the pool owner.  d. The unit shall meet the requirements of NSF/ANSI Standard 50.  3. At least 7 days before the time of installation, the installer will provide a photocopy of the above drawings and a letter of intent identifying the pool on which the unit is to be installed.  4. Upon completion of the installation, a professional engineer or electrician licensed in the state of Florida shall provide a letter to the county health department, indicating the unit was properly installed in accordance with the typical drawings, the National Electrical Code and local codes. |
| **ELECTRICAL \*TO BE REVIEWED BY BUILDING DEPT.** | | |
| YNN/A | 454.1.10.4.1 | Ground fault circuit interrupter protection for personnel. Outlets supplying repaired, replaced, altered, or relocated pool pump motors connected to single-phase, 120-volt through 240-volt branch circuits, whether by receptacle or by direct connection, and outlets supplying all other repaired, replaced, altered, or relocated electrical equipment and underwater luminaires operating at voltages greater than the low voltage contact limit, connected to single-phase, 120-volt through 240-volt branch circuits, rated 15 and 20 amperes, whether by receptacle or by direct connection, shall be provided with ground fault circuit interrupter protection for personnel. |
| **EQUIPOTENTIAL BONDING \*TO BE REVIEWED BY BUILDING DEPT.** | | |
| YNN/A | 454.1.10.4.2 | Equipotential bonding. Any of the parts specified in Sections 680.26(B)(1) through(B)(7) of the NFPA 70, National Electrical Code that are repaired, replaced, altered, or installed new at an existing swimming pool shall be connected to the existing bonding system using solid copper conductors, insulated, covered, or bare, not smaller than 8 AWG or with rigid metal conduit of brass or other identified corrosion resistant metal. Connections to bonded parts shall be made in accordance with Section 250.8 of NFPA 70, *National Electrical Code*. An 8 AWG or larger solid copper bonding conductor provided to reduce voltage gradients in the pool area shall not be required to be extended or attached to remote panelboards, service equipment, or electrodes. All metallic float in light rings shall be connected to the equipotential bonding grid. Float in light rings with no provision for bonding, and other devices which do not provide an electrical connection between a metallic underwater luminaire and the forming shell of a wet niche fixture, including screws or bolts not supplied by the luminaire’s manufacturer and listed for use with the specific luminaire, shall not be allowed for use with any underwater luminaire that is required to be grounded. Where none of the bonded parts is indirect connection with the pool water, the pool water shall be in direct contact with an approved corrosion resistant conductive surface that exposes not less than 9 square inches (5800 mm2) of surface area to the pool water at all times. The conductive surface shall be located where it is not exposed to physical damage or dislodgement during usual pool activities, and it shall be bonded in accordance with Section 680.26(B) of the NFPA 70, *National Electrical Code.* A bonded concrete pool shell shall be considered to be a conductive surface. The interior metallic surface or surfaces of any forming shell (wet niche) shall not be covered with any material, including plaster, except potting compound covering internal bonding connections in conformance with 680.23(B)(2)(b) of NFPA 70, *National Electrical Code*, shall be allowed. |

**Appendix A**

**STEPS REQUIRED TO DETERMINE CODE COMPLIANCE**

Calculate required minimum bathing load – Transient (minimum 6 sq.ft. surface area and 1.0gpm per unit) or Non-Transient (minimum 4.5 sq.ft. surface area and 0.75gpm per unit)

Divide GPM calculations by 5 to determine required bather load. **ALL CALCULATIONS SHOULD BE ‘ROUNDED UP’**

**EXAMPLES**

**Transient Pool with 200 Living Units**

Living Units x 6sq.ft. = 1,200 sq.ft. minimum surface area required, **and**

Living Units x 1.0gpm = 200gpm minimum design flow required.

Pool/s must meet both criteria.

200gpm ÷ 5 = 40 bathers

**Non-Transient Pool with 117 Living Units**

Living Units x 4.5sq.ft. = 526.50 sq.ft. minimum surface area required, **and**

Living Units x 0.75gpm = 87.75gpm minimum design flow required (rounded up to 88gpm)

88gpm ÷ 5 = 17.60 bathers (rounded up to 18 bathers and 90gpm minimum flow)

Pool/s must meet both criteria

*If a facility decides to have a pool, spa and IWF the sizing can be split between all three bodies of water.*

**Multi-feature Transient Facility with 462 living units**

Living Units x 6sq.ft. = 2,772 sq.ft. minimum surface area required, **and**

Living Units x 1.0gpm = 462gpm minimum design flow required.

462gpm ÷ 5 = 92.40 bathers (rounded up to 93 bathers and 465gpm minimum flow)

**Main Pool**

Surface area = 2,200 sq.ft.

Bathers = 56

Potential flow = 280gpm

**Spa**

Surface area = 120 sq.ft.

Bathers = 12

Minimum flow = 60gpm

**Interactive Water Feature**

Surface area = 452 sq.ft.

Bathers = 25

Potential flow = 125gpm

**Multi-feature Non-Transient Facility with 462 living units**

Living Units x 4.5sq.ft. = 2,079 sq.ft. minimum surface area required, **and**

Living Units x 0.75gpm = 346.5gpm minimum design flow required.

347gpm ÷ 5 = 69.40 bathers (rounded up to 70 bathers and 350gpm minimum flow)

**Main Pool**

Surface area = 1,507 sq.ft.

Bathers = 33

Potential flow = 165gpm

**Spa**

Surface area = 120 sq.ft.

Bathers = 12

Minimum flow = 60gpm

**Interactive Water Feature**

Surface area = 452 sq.ft.

Bathers = 25

Potential flow = 125gp