



Inspections & Permits Department

316 North Academy Street
Cary, NC 27513
(919) 469-4000
Email: 311@carync.gov
www.carync.gov

POOLS, SPAS, AND HOT TUBS

POOLS, SPAS, AND HOT TUBS

FREQUENTLY ASKED QUESTIONS

Why are permits required for pools, spas, and hot tubs?

It is required by State law (G.S. 160A-417). Obtaining the proper permits and inspections helps ensure the equipment is properly installed and has the appropriate safeguards in place to help prevent injuries and deaths due to drowning, near-drowning, and electrocution.

Who makes the rules for pools, spas, and hot tubs?

The State's design requirements are set forth in Appendix V of the North Carolina Residential Code. Town of Cary ordinances list additional requirements in LDO 5.3.4(l).

HOW TO APPLY FOR A PERMIT

Please Submit:

[Apply for a Permit Here](#)

- Signed Residential Swimming Pool Certification and Acknowledgment form**
- Plot plan showing the location of proposed pool and all decking/paving, and above-ground mechanical and utility equipment and the screening (including the screening required around the above-ground mechanical and utility screening)**
- A sketch of the pool barrier fence (see last 2 pages for examples)**
 1. Provide **plot plan/survey**.
 2. The plan needs to show all lot lines, existing structures, easements, buffers, etc.
 3. Show the **location of the pool** and all pool decking or paving, and above-ground mechanical and utility equipment and related screening; dimensioned to the property lines.
 - a. All pool and decking and above-ground mechanical and utility equipment (including the required screening of this equipment) needs to remain 5-feet from a side or rear property line.
 - b. For corner lots, no encroachment is allowed in a roadway side setback.
 - c. The pool, decking, and above-ground mechanical and utility equipment (including the required screening of this equipment) may not be located in a public easement. Gaining permission to encroach a private easement is the responsibility of the homeowner.
 - d. An as-built survey may be required if the pool, pool decking, or above-ground mechanical and utility equipment (including the required screening of this equipment) is within 5' of a setback line or easement. Pool barriers within 5-feet of public easements require an as-built survey. The need for an as-built survey will be determined in plan review.
 4. Show the location of the **pool barrier** on the plan.



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- a. The pool barrier may go up to the property line. **The pool barrier must be installed and maintained entirely within the property boundary of the lot where the pool is located. Using a fence or barrier located on a neighboring lot is not permissible.**
 - b. The pool barrier may not be located in a public easement. Gaining permission to encroach a private easement is the responsibility of the homeowner.
5. **Buffers** on residential lots typically require a 5-foot set-back off the buffer for all pool, decking, and above- ground mechanical and utility equipment (including the required screening of this equipment). In many cases, pool barriers can be located in buffers if no vegetation is disturbed. Check with the Residential Plan Examiner for specifics about your lot.
6. If your lot has an **impervious surface limit**, calculate the area of all new concrete decking and show the amount on the plan. Pool water and slated decking does not count toward the impervious surface amount. To determine if your lot has an impervious surface limit, check the recorded plat for your neighborhood, or call 311 within Cary or 919-469-4000 outside of Cary.

If your lot has a **septic field**, please provide a copy of the “Wastewater Accessory Structure” permit from Wake County. Call 919-856-7400 for information.

INSPECTION INFORMATION

Inspections for pools, spas, and hot tubs will cover five areas:

- (1) Electrical work
- (2) Proper barrier protection
- (3) Entrapment protection
- (4) Pool heater = clearances/gas piping/venting
- (5) Above-ground mechanical equipment screening

Required inspections may vary depending upon the specific equipment and installation, such as mechanical work for heated pools. It is the responsibility of both the owner and contractor to ensure the installation is done in compliance with all applicable laws and regulations.

IMPORTANT!

Installer’s verification that entrapment protection was installed to meet code will need to be provided at final inspection. See page 4 for details.

ELECTRICAL INSPECTION for POOLS

Electrical work must comply with Article 680 of the National Electrical Code. Typical inspections are listed below. Other inspections may be required depending upon the specific equipment and installation.

Electrical Groundwork Inspection (EX10 & EX22) includes, but is not limited to:

- Bare copper ties to wall rebar
- Potting compound at underwater lights
- Junction boxes
- Underground conduits



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- Bare copper ties to metal light fixture shells, cups for ladders, handrails, etc.
- Other bonding & grounding depending on type of pool
- Underground copper ties from house/electrical panel to pool equipment
- Equipotential bonding of perimeter surfaces

Electrical Final Inspection (EX30) includes, but is not limited to:

- Pool equipment grounding
- Junction boxes
- Completion of electrical work
- Ground fault protection
- Required receptacles, required distances

ELECTRICAL INSPECTIONS for SPAS AND HOT TUBS

Electrical work must comply with Part IV of Article 680 of the North Carolina Electrical Code, which includes all pertinent sections of Parts I and II. Typical inspections are listed below. Other inspections may be required depending upon the specific equipment and installation.

Electrical Groundwork (EX10 & EX22) includes, but is not limited to:

- Required on spas and hot tubs installed outside (equipotential bond and power to tubs or spas)

Electrical Final Inspection (EX30) includes, but is not limited to:

- Pool equipment grounding
- Junction boxes
- Completion of electrical work
- Ground fault protection
- Required receptacles, required distances

MECHANICAL INSPECTIONS FOR POOLS, SPAS, and HOT TUBS (if applicable)

If the pool, spa, or hot tub is fueled by natural or propane gas, the mechanical gas piping work must comply with the North Carolina Mechanical and Fuel Gas Codes

Mechanical and Gas Piping Rough-In Inspections (MX20) includes but is not limited to:

- Inspection of heating equipment components (verify clearances, etc.)
- Inspection of gas piping that will be concealed (ex. underground / under slab / under patio)
- Gas piping pressure test of any gas piping that will be concealed (visual inspection / pressure gauge)

Mechanical and Gas Piping Final Inspections (MX30) includes but is not limited to:

- Inspection of fuel fired equipment and components (verify clearances, combustion air etc.)
- Inspection of complete gas piping system
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Gas piping pressure test of total complete system (visual Inspection / pressure gauge)

BUILDING INSPECTIONS FOR POOLS, SPAS, and HOT TUBS



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Building inspections for residential pools, spas, and hot tubs are performed to verify compliance with the barrier and entrapment protection requirements set forth in Appendix V of the North Carolina Residential Code (NCRC).

Some of the requirements are listed below. Always consult Cary's ordinances and NCRC Appendix V for specific details and alternate methods.

Building Final Inspection (BX30) includes, but is not limited to:

BARRIERS (provide a sketch of the existing or proposed fence for this property)

- Top of fences or solid barriers shall be 48 inches
- Maximum clearance under the barrier is 2 inches
- Openings must not allow passage of a 4-inch diameter sphere
- Horizontal members of fences must be at least 45 inches apart with 4-inch space between vertical members
- Horizontal members of fences less than 45 inches apart require 1¾ inches or less between vertical members
- Decorative cutouts in barrier must not exceed 1¾ inches
- Solid barriers shall not have protrusions or indentations that can be used for climbing
- Gates shall be self-closing, self-latching device, and open away from pool
- Release mechanism height is required to be at least 54 inches
- Release mechanism heights less than 54 inches require gate and barrier to have openings no greater than 0.5 inches for 18 inches on each side of the mechanism and 3 inches below the top of gate on the pool side
- Doors with pool access require an alarm that activates within 7 seconds, is audible for 30 seconds, and can be heard throughout house
- The alarm shall be listed in accordance with UL 2017
- A deactivation switch is allowed that at 54 inches above the door threshold and lasts for not more than 15 seconds.
- Self-closing, self-latching doors may be used instead of an alarm if the opening mechanism is at least 54 inches above the door threshold
- Ladders or steps to an above-ground pool must be capable of being secured, locked, or removed, or have a barrier surrounding the pool access point
- Barriers must be kept 36" away from permanent structures to prevent climbing

EXCEPTION: Spas or hot tubs may have a safety cover complying with ASTM F 1346

ENTRAPMENT PROTECTION

- Suction fittings must comply with ANSI /ASME A112.19.8M or must have covers at least 18 inches x 23 inches
- Safety vacuum release systems must conform to ASME A112.19.17
- Two required suction outlets shall be at least 36 inches apart
- Suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum- relief-protected line to the pump or pumps
- Pool cleaner fittings shall be in an accessible location between 6 inches and 12 inches below the minimum operable water level.



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ZONING REQUIREMENTS

SCREENING REQUIRED FOR ABOVE-GROUND MECHANICAL AND UTILITY EQUIPEMENT FOR POOLS, HOT TUBS, OR SPAS

- (a) Screening materials must immediately surround all vertical sides of the equipment and may include walls, fencing and other appropriate materials so long as 100% opacity is achieved at the time of installation.
- (b) Screening materials shall exceed the height of the equipment and shall not interfere with the operation of the equipment.
- (c) Inclusive of screening materials, associated above-ground mechanical and utility equipment shall be required to meet the setback provisions for accessory structures indicated in Table 6.3-1.

General Notes:

- (a) Screening is *not* required for internally encapsuled mechanical and utility equipment.
- (b) The screening materials must be setback five feet from property lines.
- (c) Mechanical and utility equipment associated with pools, hot tubs or spas is subject to the [Chapter 22](#) of Town of Cary Code of Ordinances, Sounds impacting residential life. Except as provided by Chapter 22, it shall be unlawful to create or cause a sound that exceeds 60 dB(A) affecting any occupied residential structure or unit other than the unit occupied by the person creating the sound. *This is generally measured at the property line between residential lots.*

FEES:

Fees are per Cary's current approved budget document found on our website: www.carync.gov

RESIDENTIAL SWIMMING POOL CERTIFICATION AND ACKNOWLEDGEMENT

See the next page.

For more information, please visit our [Inspections and Permits website](#).



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RESIDENTIAL SWIMMING POOL CERTIFICATION AND ACKNOWLEDGMENT

Building permit #: _____

Homeowner Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

Outdoor Residential Swimming Pools are required to be fully enclosed by pool barriers that comply with both Town of Cary Land Development Ordinance Section 5.3.4(l)(1)(a) and North Carolina Residential Building Code Appendix V, Section AV105. Among other items, these and other applicable regulations mandate that:

- 1. Permanent Pool Barriers be constructed in specific manners, dimensions, and locations so as to prevent individuals from passing over, under, or through them;
2. Permanent Pool Barriers be located as-to prohibit permanent structures, equipment, or similar objects from being used to climb them. Climbable structures must remain at least 36" from the pool barrier;
3. Temporary Barriers be installed throughout construction, around all pool excavations, filled or unfilled;
4. Swimming in the pool is prohibited until all inspections are approved and the Certificate of Occupancy is obtained by the property owner or the pool contractor; and
5. An as-built survey may be required to ensure pool and/or barrier location.
6. The pool barrier must be installed and maintained entirely within the property boundary of the lot where the pool is located. Using a fence or barrier located on a neighboring lot is not permissible.
7. Mechanical and utility equipment is subject to the Town of Cary Code of Ordinances, Sec. 22-107, Sounds impacting residential life, which limits sound to 60 dB(A) in residential areas (generally measured at the property line between residential lots).

Information regarding additional requirements related to the construction and operation of outdoor residential swimming pools can be found in the Residential Pools, Spas & Hot Tub Guide.

I hereby certify and acknowledge that I, as the property owner, am responsible for (1) understanding and complying with all laws and regulations regarding swimming pools and pool barriers; (2) ensuring that I have a swimming pool barrier that complies with all applicable laws and regulations; and (3) ensuring that my swimming pool barrier encloses my pool at all times.

Homeowners Printed Name: _____ Date: _____

Homeowner's Signature: _____



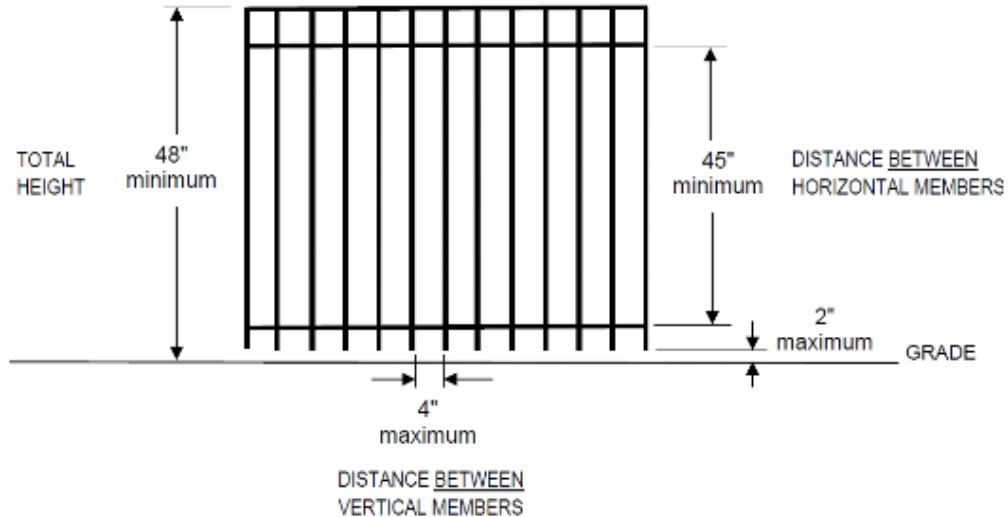
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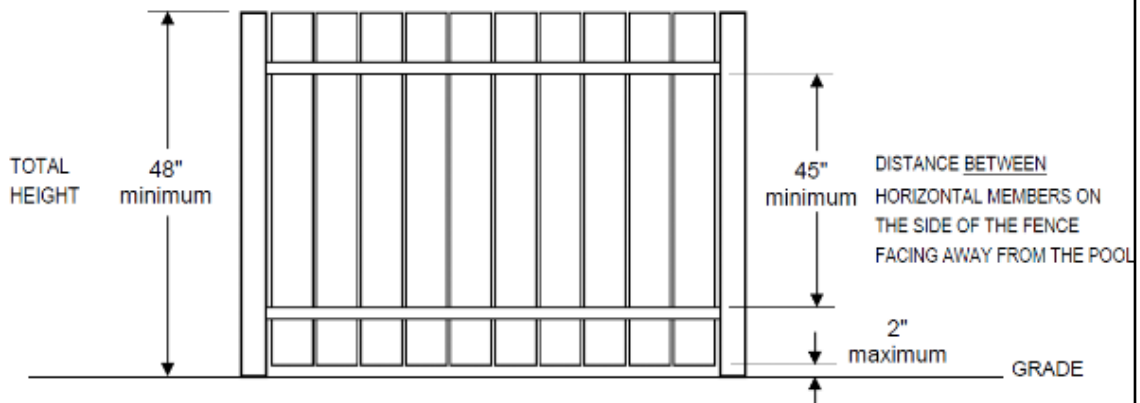
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SAMPLE FENCE SKETCH

(see NC State Residential Code Appendix G for a complete list of requirements)



METAL FENCE
(aluminum or wrought iron)



WOOD FENCE