

# Reviewing Pool Plans

Basic Swimming Pool Plan Review Training

# Items You Will Need

- Pool Plans and Equipment Specifications
- Pool Rules
- Pool Plan Review Checklist
- Calculator, Architect's Scale and Engineer's Scale
- Flow Chart for Schedule 40 Pipe – Velocity
- Highlighters (3 or 4 different colors)
- NSF.org

# What Should Plans Include?

- Rule .2509 states the plans shall be prepared by a “registered design professional”, which is either a:
  - Professional Engineer (P.E.), or a
  - Registered Architect
- Two complete sets of plans shall be submitted
  - Minimum size (18 x 24 inches)
  - Maximum size (36 x 42 inches)
  - Plans shall be drawn to scale
  - Plans shall include specifications

## REQUIREMENTS REGARDING THE USE OF PROFESSIONAL SEALS

Seals properly signed and dated for use in this State:

### ARCHITECT SEAL



### ENGINEER SEAL (signature may be adjacent to seal)



Seals properly noted for interim review are not required to have a signature and date and may include the following acceptable statements:

Preliminary – Do not use for construction.

Progress drawings – Do not use for construction.

Final Drawing – For review purposes only.

Proper statements for engineers are found in 21 NCAC 56 .1103(c)

### A & E RED FLAGS FOR PLAN REVIEWERS

Be alert to these issues:

- Architectural ("A") sheets sealed by an engineer.
- Engineering ("E", "C", "S", "P", "M") sheets sealed by an Architect.
- Plans sealed by an architect or engineer who is an employee of a non-licensed firm or company.
- Incomplete documents sealed without a disclaimer.
- Plans that have not been sealed, signed and dated by the licensee.
- Standard design documents or plans that do not bear the seal of the original preparer.
- Standard design documents or plans that do not bear the seal of a NC licensee and disclaimer.
- Plans for up-fitting a shell structure without a current certificate of occupancy.
- Unsealed church plans stating that the "plans are for oneself".
- Seals appear to be cut and pasted.
- Signatures are identical on each sheet (digitized or scanned).
- Contact person is not the licensee or it is difficult to contact the licensee.
- Plans, details, letter reports, etc. do not appear to apply to the project.
- Plans have numerous or serious code violations.
- Non-dated revisions.



### WHAT TO DO?

- Question the professional as to circumstances and qualifications
- Get corrected
- Reject
- Contact Licensing Board
- File a complaint

### WHOM CAN I CONTACT?

Architects: 919-733-9544  
[ncba@ncbarch.org](mailto:ncba@ncbarch.org) [www.ncbarch.org](http://www.ncbarch.org)

Engineers: 919-791-2000  
[info@ncbels.org](mailto:info@ncbels.org) [www.ncbels.org](http://www.ncbels.org)



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## Moving Forward

- Do not accept plans for review which do not meet the guidelines provided by NCBELS.org
- If the seals all match or are incomplete, contact the RDP and ask for them to review the sealing information online and correct and resubmit the plans
- **ALL CORRESPONDENCE involving the design of the pool MUST go through the RDP- NOT the designer.** The RDP should be doing the drawing or supervising the drawing, not just sealing the plans after the designer creates the design.

## What to do with pending plans?

- Within the 30-day review window, look at the plans and return to RDP if needed for corrections.
- Approved plans: Review and if the plans have a complex element such as a diving well, climbing wall, any elevation change in required deck area or perimeter, unusual perimeter design, water features or decorative features, contact Pool Regional for a quick review.
- If simple pool plans and you are confident the plan meets the rules, okay to continue. **IF IN DOUBT, CONTACT YOUR REGIONAL.**
- This guidance may change as more information becomes available.

# What Should Plans Include?

1. Plan and sectional view dimensions of both the pool and the area enclosed by the barrier fences to include the bathhouse and the equipment room and pool accessories
2. Specifications of all treatment equipment used and their layout in the equipment room
3. A piping schematic showing piping, pipe size, inlets, main drains, skimmers, gutter outlets, vacuum fittings and all other appurtenances connected to the pool-piping system

# What Should Plans Include?

4. Layout of the chemical storage room
5. Specifications for the water supply and wastewater disposal systems that include aspects such as well location and backwash water disposal where applicable.

# Pool Plan Review Deadline

- The Department shall approve, disapprove, or provide written comments on plans and specifications for public swimming pools **within 30 days of their receipt.**

\*If such action is not taken within 30 days, the plans and specifications shall be deemed approved.

# What To Do First?

- Follow the Pool Plan Review Checklist – Look for each of the checklist items on the plans. Determine if the items meet the rules.
- If items don't meet the rules – flag the item – it will need to be addressed in the letter to the engineer or architect.
- You may want to try the calculations first. (Volume, Turnover Rate, Pipe Sizes)

# What To Do Next?

- If some specifications are not included, try to complete as much of the checklist as possible.
- Contact the engineer or architect to send the necessary specifications.
- If specifications can't be obtained quickly – send a disapproval letter indicating the specifications that are needed to complete the plan review.

# Reviewing the Plans

- Once you have completed the plan review checklist, you have the information that you need to write an approval or a disapproval letter. Items you have “flagged” will be the items you list in your letter.
- In some cases, you may have only minor items flagged that can be communicated as conditions in an approval letter. (You can also include reminders.)

# Pool Plan Review Correspondence

## Top 10 Things to Remember

1. You have 30 days to approve, disapprove, or provide written comments.
2. Let them know when you received the pool plans.
3. Always give a written approval or disapproval.
4. Approvals are valid for 1 year.

# Pool Plan Review Correspondence

## Top 10 Things to Remember

5. If approved – List any conditions that must be met and are not specifically addressed in the submitted plans. (Number the conditions for easy reference and provide rule citations for each condition.)

# Pool Plan Review Correspondence

## Top 10 Things to Remember

6. If disapproved – List all reasons the plan was not approved. Be specific, cite the rule language and the rule numbers. Also, include Formal Appeals Procedure on each disapproval letter.
7. Remind builders/designers/owners that you will need to inspect the pool piping before concrete is poured for the pool shell or deck.

# Pool Plan Review Correspondence

## Top 10 Things to Remember

8. Remind them that a statement signed by a registered architect or a registered professional engineer stating that construction is complete and in accordance with approved plans shall be submitted to the health department prior to issuance of the operation permit. (Remind them that they also need to apply for an operation permit.)

# Pool Plan Review Correspondence

## Top 10 Things to Remember

9. Remind them of where they need to obtain building/construction permits.
10. Send copies of all correspondence concerning the pool plan review to all relevant parties.

# Other Reminders to Include in Approval Letters

- Pools shall be constructed by swimming pool contractors licensed by the North Carolina Licensing Board for General Contractors.
- Requirements for the fence and gates.
- Any modifications to the plans must be approved.
- Signs and safety equipment shall be in place prior to permitting.

# Important Things to Remember

- There have been some changes in the rules since 2010 that you need to be aware of when reviewing plans.
  - Open-pipe inspection - .2509(e)
  - Pool finish (use artist gray scale or reflectance testing to determine if finish is light enough) - .2514 (c)
  - Sun shelves - .2515 (b) – connect to pool with stairs or properly sloped floor.
  - Skimmer piping (after 5/1/2010) 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 - .2518 (c)

# Important Things to Remember

- Perimeter overflow system piping (after 5/1/2010) shall be sized to handle 100 percent of the design flow rate. - .2518 (c)
- The main drain piping (after 5/1/2010) shall be sized to handle 100 percent of the design flow rate. - .2518 (c)
- Vacuum ports that are provided shall be at least 6 inches and no greater than 18 inches below the water line and shall have a self-closing cap designed to be opened with a tool. - .2518 (f)

# Important Things to Remember

- Flow-through rate for each skimmer is between 20 gpm and the maximum flow the skimmer is certified for under NSF Standard 50. - .2518(k)(3)(A)
- For stairs wider than 20 feet, additional handrails shall be provided and spaced no more than 10 feet from adjacent handrails or stair ends. - .2521 (b)(3)
- Lighting – now 10 foot candles of light as measured at 6 inches above the deck surface. - .2524 (e)
- Fences – 45 inches between horizontal members and no more than 2 inches underneath. .2528

# Important Things to Remember

- Drain Safety Compliance in Rule .2539 SUCTION HAZARD REDUCTION.
- Drain Safety Data Sheet completed: Ask RDP to include.