Public Health

State Mandated Changes to 2017 Pool and Spa Permit Applications

FORM COMPLETION –

- Only One pool, spa and wading pool per application.
- Only completed applications will be processed.
- Pump, drain sump measurements and drain cover/data is required for each pumping system. Space will be provided on the application.
    - Example all Spas have at least 2 pumping systems and the above information must be provided for both systems
- Applications will be mailed out by March 1, 2017.
- Records can be requested at healthinspector@dconc.gov

The application must be filled in completely and verified for an operation permit to be issued. All pumping system information must be submitted for pools/spas with more than one pump.

1. **PUMP FLOW** – Enter the maximum flow from the manufacturer's pump performance curve. Pump curves can be found online at http://ehs.ncpublichealth.com/faf/pti/drainsafety.htm and http://charmeck.org/mecklenburg/county/HealthDepartment/EnvironmentalHealth/PublicSwimmingPools/Pages/default.aspx\

2. **DRAIN SUMP MEASUREMENTS** – Measurements are needed to determine the size of the cover/grate and to assure the sump is deep and wide enough to meet the requirements in the cover/grate manufacturer's specifications. Information on documenting the size of the drain sump can be found at: http://ehs.ncpublichealth.com/faf/pti/drainsafety.htm

3. **DRAIN COVER/GRATE DATA** – Enter the manufacturer, model, lifespan expiration date and maximum flow for the main drain cover(s).Various approved covers can be found under *VGB Approved Drain Covers and Equalizer Covers* listed at the following website: http://charmeck.org/mecklenburg/county/HealthDepartment/EnvironmentalHealth/PublicSwimmingPools/Pages/default.aspx\ or at the drain cover manufacturer's website.

4. **EQUALIZER COVERS** – Enter the number of operable equalizer line covers, the manufacturer, model, lifespan expiration date and maximum flow for the equalizer covers. Various approved covers can be found under *VGB Approved Drain Covers and Equalizer Covers* listed at the following website: http://charmeck.org/mecklenburg/county/HealthDepartment/EnvironmentalHealth/PublicSwimmingPools/Pages/default.aspx\ or at the equalizer cover manufacturer's website. If all equalizer lines are disabled or pool has no equalizer lines, please indicate and provide details on the application.

5. **SAFETY VACUUM RELEASE SYSTEM (SVRS)** – SVRS is required if dual drains are closer than 3 feet on center or pump has a single drain with a blockable cover or blockable sump. Enter the manufacturer of the safety vacuum release system (SVRS). If using another secondary method of preventing bather entrapment allowed in Rule .2539(b), please attach documentation.

6. **VACUUM LINE** – If vacuum line ports are present in the pool, please indicate the type of cover(s) on the application.

The Durham County Department of Public Health understands that the required information and/or measurements may be beyond the scope of owners or operators. In those cases, it is recommended that you contact

- **a Registered Design Professional (Professional Engineer or Licensed Architect) or**
- **a knowledgeable pool professional to assist you in completing the application**

Electrical System Safety at Public Swimming Pools

As you may have heard from statewide news reports, a lifeguard was killed in a tragic accident over the 2016 Labor Day weekend at a public swimming pool in Raleigh. The preliminary autopsy indicated that the lifeguard was electrically shocked and then drowned in the pool. The North Carolina Department of Labor, OSHA and other code and law enforcement agencies investigated how this accident occurred.

The inspection report points to a severed underground grounding conductor. The grounding conductor, which was located a significant distance from the pool, was buried several feet underground. The conductor appeared to be damaged by time and corrosion. If you are interested in reviewing the full report, it is available at this link:
https://mgtvwncn.files.wordpress.com/2016/09/heritage-point-community-pool.pdf

Regular inspections, by a licensed electrician, can help reduce the risk of electrocutions at pools due to faulty or deteriorated electrical system components. It is recommended that every pool facility evaluate the safety of its electrical systems on a regular basis. Most electrical systems are comprehensively inspected only once during the course of initial construction. In all likelihood, the electrical system at your pool was last inspected in its entirety when your pool was built. Even if you have had recent electrical work done and permits were pulled and inspectors were onsite, it is very unlikely that you your pool's electrical system, as a whole, was inspected. Typically, only the work being completed at the time is inspected. If your pool has added electrical components that were not installed by a licensed electrician or has not been inspected to determine if it is within code, you may be placing your swimmers and your employees at considerable risk. **It is a good idea to have the entire electrical system inspected at regularly defined intervals by a licensed electrician.**

Here are items that pool facilities may want their electrician to be aware of:

SHIELD YOUR ELECTRICAL SYSTEMS WITH GROUND FAULT CIRCUIT INTERUPTERS

The electrical codes did not begin to require that all electrical inputs at pools be protected by GFCI equipment until 2014. As a result of the recent tragedy, all facilities should consider upgrading their electrical equipment panels to current standards, in particular installing GFCI (Ground Fault Circuit Interrupters) on all power sources.

MAKE SURE THAT ALL ELECTRICAL COMPONENTS IN THE PUMP ROOM ARE PROPERLY GROUNDED

Pool pumps and other electrical devices in the pump room should be properly grounded at all times.

Disabling (Plugging) Skimmer Equalizer Lines

January 13, 2017

- As industry is moving away from submerged suction outlets in new or remodeled pools, pool owners have also expressed a desire or need to eliminate skimmer equalizer line covers all together at existing pools. Some pool operators struggled last season to find properly adapted equalizer covers for pools already in operation. Some pools were permitted last season with equalizer lines plugged under skimmer baskets and the permits were conditioned temporarily allowing the single plug in the skimmer with undersized but current equalizer covers on the wall. It is our desire to completely eliminate those scenarios this season.
- Beginning immediately, pools may disable (plug) their skimmer equalizer lines.
- Disabling or plugging skimmer equalizer lines will eliminate the need for equalizer line covers and thus eliminate potential submerged suction hazards at many pools.
- Pools are not required to permanently disable or plug their skimmer equalizer lines. It is optional.
- Existing pools that would like to keep their equalizer lines covered with appropriate equalizer fittings may do so. The pool owner or operator will need to provide information regarding the manufacturer, model, maximum flow, life span and installation date on the Pool Drain Safety Compliance Data form that is submitted to the local health department each year.
- For pools that choose the option to permanently disable or plug their skimmer equalizer lines, it will eliminate the need to maintain and provide updated equalizer line covers.
- This applies to the equalizer line only, skimmers must remain operational and be equipped with weirs, baskets and appropriate lids on the deck level.
- For pools that disable or plug their skimmer equalizer lines, the owner or operator will need to indicate this on a new Pool Drain Safety Compliance Data form prior to permitting and attach information describing how the equalizer lines were disabled and the date on which it was completed.

Option #1 – Plugged at wall

- Plug with a solid plug that will not allow water to pass through or around it.
- Plug at the wall cannot protrude more than 2 inches from the finished pool wall surface.
- Plug should not be able to be removed by hand. A tool should be needed to remove the plug at the wall. Underwater adhesive or pipe glue can be used per label directions.
- Plug equalizer line under skimmer basket. (Plug the equalizer line, not the line to the pump.)
- There should be no stagnant water between the plugs. The water level of the pool will need to be lowered below the equalizer line opening below the skimmer to do this.

Option #2 – Plastered over at wall

- Plaster at wall should be flush as possible and cannot protrude more than 2 inches.
- Plug equalizer line under skimmer basket. (Plug the equalizer line, not the line to the pump.)
- There should be no stagnant water between the plaster and the plug. The water level of the pool will need to be lowered below the equalizer line opening below the skimmer to do this.

Note: If skimmer equalizer lines are disabled (plugged), then the owner/operator must be sure to maintain the pool's water level up to the mouth of the skimmers at all times to ensure that the pump maintains flooded suction. If the water level falls below the skimmer mouth, this can cause the pump to draw in air and the pump may fail. Autofill systems to maintain the pool water level are not required, but are recommended.

Questions and Answers

Q1. What are methods that can be used to disable (plug) skimmer equalizer lines?

A1. First, the equalizer cover will need to be removed. For pipes that are threaded, a threaded plug can be used. It should be tight enough that it cannot be removed by hand. For unthreaded pipes, plugs will probably need to be glued in.

Q2. Can the equalizer line opening be plastered over?

A2. Yes. The equalizer line opening can be plastered over so that it is flush or even as possible with the existing pool wall. The entire equalizer line back to the skimmer can be filled with plaster and plugged under the basket in the skimmer.

Q3. Can the equalizer skimmer line just be plugged under the skimmer basket while allowing the VGB compliant equalizer cover to remain in place until it expires?

A3. Yes, but only as a temporary measure due to equalizer covers not meeting the flow requirements. This should be stated as a condition on the permit. Once the equalizer covers expire, then the covers shall be removed and the opening plugged. Be aware that broken equalizer covers can cause mechanical entrapments so it is recommended that the equalizer lines be plugged on both ends as soon as possible if new higher flow covers will not be installed.

Q4. How does this need to be documented by the pool owner or operator?

A4. For pools that disable or plug their skimmer equalizer lines, the owner or operator will need to indicate such on the Pool Drain Safety Compliance Data form and attach information describing how the equalizer lines were disabled and the date on which it was completed.

Q5. Does the skimmer line need to be plugged at the pool wall and under the skimmer basket?

A5. Yes. The complete equalizer line needs to be disabled by plugging both ends or completely filling with plaster.

Q6. Do the disabled equalizer lines need to be drained and free of water?

A6. Yes. The disabled equalizer lines need to be drained to prevent the retention of stagnant water and potential freezing that can cause pipe damage during the winter.

Q7. Are pools required to disable (plug) their skimmer equalizer lines?

A7. No. This is optional. Existing pools that want to keep their VGB compliant equalizer line covers may do so. However, they will need to maintain them, replace damaged and expired

covers, and provide all required information each year on the Pool Drain Safety Compliance Data form.

Q8. When can pools begin disabling (plugging) their skimmer equalizer lines?

A8. Pools may begin disabling (plugging) their skimmer equalizer lines immediately.

Q9. Can a pool disable some equalizer lines and leave some open?

A9. Yes. Some pools had already plugged equalizer lines that were in inaccessible places or areas where a VGB cover could not be installed. As long as the operable skimmer equalizer lines are fitted with unexpired VGB covers and the combined flow of the operable skimmer covers, minus one, exceeds the maximum pump flow, then they can keep equalizer covers on their operable equalizer lines.

Q10. What if an equalizer line is on the floor of the pool, can it be plugged?

A10. Yes. It can be plugged as long as the installed plug does not protrude more than 2 inches vertically from the finished surface of the surrounding pool floor. It is recommended that low-profile plugs be used in pool floors so as not to create trip hazards.

Q11. Why do the equalizer lines need to be plugged on both ends?

A11. In case the plug at the pool wall is somehow removed, the plug on the other end of the line in the skimmer basket will serve as an extra layer of protection to keep water from moving through the entire line and creating a submerged suction hazard at the wall opening.

Q12. How will this be inspected and verified by local health department?

A12. For pools that disable their equalizer lines, the health department will need to be sure that this information is included on a new Pool Drain Safety Compliance Data form prior to issuing an operation permit. During the initial permitting inspection and all subsequent inspections, the Environmental Health Specialist will look to see that all equalizer lines are plugged or plastered over at the pool wall and also check inside each skimmer basket to see that all equalizer lines are plugged there too.

Q13. What permit action should be taken if equalizer line plugs are missing or broken?

A13. If any equalizer line plugs are missing or broken (either at the pool wall or inside the skimmer baskets) during the initial permitting inspection, then the permit shall be denied until the violation is corrected. If any equalizer line plugs are missing or broken (either at the pool wall or inside the skimmer baskets) during an inspection of a pool that has an operation permit, then the permit shall be immediately suspended until the violation is corrected.

Q14. Why are autofill systems only recommended and not required for pools that plug their skimmer equalizer lines?

A14. Rule .2518(l) states: “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.” After consulting with representatives from the North Carolina Attorney General’s Office, they agreed that a device, such as an autofill, is not required to prevent air entrainment in the suction line. “Or other protection” can include a method or operational practice such as regularly monitoring and keeping the water level up to the mouth of the skimmers at all times the pool pump is operating.

Q15. Why can pools disable their equalizer lines now?

A15. In 2010, the North Carolina Rules Governing Public Swimming Pools were amended to incorporate ANSI/APSP-7 by reference including subsequent amendments and editions. The latest edition of ANSI/APSP-7 does not allow the installation of skimmer equalizer lines in newly constructed pools. Pools constructed prior to 1993, before adoption of the state pool rules, were not required to have or install skimmer equalizer lines. Properly disabled equalizer lines will eliminate potential submerged suction hazards and save pool owners and operators valuable time and resources. It will also allow pool owners and operators to spend more time on main drain compliance and safety