

VGBA Drain Cover Compliance Verification Form Instructions

This guidance is meant to be used when completing the *Virginia Graeme Baker Pool and Spa Safety Act* [VGBA Drain Cover Compliance Verification Cover Replacement Form](#) to aid pool owners, designers, and builders in ensuring compliance with ANSI/APSP/ICC-16 2017. In 2008, the first version of the Virginia Graeme Baker Act went into effect under the ASME/ANSI A112.19.8-2007 safety standard to prevent suction entrapment. In May 2021, these safety standards were updated and now require further review of main drains and other suction fitting outlet assemblies (SOFAs), including recirculation outlets for jets and equalizer lines.

The [VGBA Drain Cover Compliance Verification Cover Replacement Form](#) must be completed before SOFA cover replacement or modification and submitted to the local health department. Note, that some local health departments have their own compliance and verification tracking forms. Ensure to work with your local health inspector to determine the appropriate form and submittal agency. ***We encourage you to consult with a pool professional when replacing your drain cover.***

When is a Construction Permit & Plan Review required?

I am replacing with the same cover.	I am replacing with a different cover.	I am modifying the sumps or piping.
<ul style="list-style-type: none"> • If all manufacturer’s requirements are met, a construction permit is not required.* The following is required: • Verify all manufacturer’s requirements are met during installation. • Document with pictures if your facility lacks engineered plans showing your sumps. • Keep all installation documentation 	<ul style="list-style-type: none"> • A construction permit is required. • May be submitted by a pool professional or an engineer/architect. 	<ul style="list-style-type: none"> • A construction permit is required. • May be submitted by a pool professional or any engineer/architect. • An engineer or architect must stamp plans.

*If requirements are not met, installation is not in compliance, and you must go through a plan review to make changes. Visit <https://doh.wa.gov/community-and-environment/water-recreation/regulated-facilities/construction-permit> for more information.

1. Facility

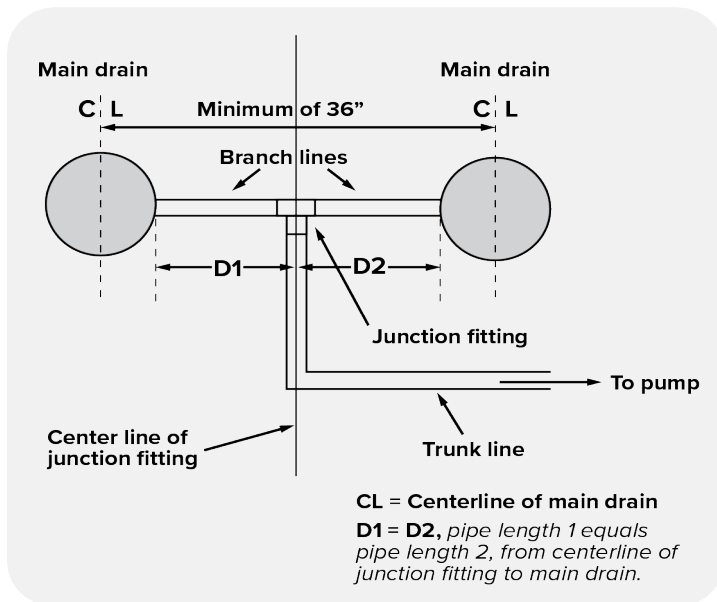
List the name and address of the facility. Provide the facility owner’s contact name and information or their authorizing agent. List the number of each type of pool at the water recreation facility. *Professional or hired contractor information, if filling out the form on the owner's behalf, is included at the end of this section.*

2. Main drain & SOFA Information

2.1 Pool Information

Choose the type of pool. List the name of the pool or facility where the pool is located. If there are multiple pools of the same type at the address, include some identifier, e.g., Main Apartments west pool.

2.2 Do you have a single main drain or are your main drains closer than 3 feet apart?



Main drains must be at least 3 feet (36 inches) apart when measured between the centers of the drain covers. Use the diagram to check your main drains are at least 3 feet apart. Main drain outlets must also be plumbed in the configuration shown in the figure so they are hydraulically balanced, see further in the form to indicate if your drains are connected in series. If they are not 3 feet apart or you only have 1 main drain, the pool must be equipped with additional entrapment prevention equipment.

2.3 Additional Entrapment Prevention Equipment

Water recreation facilities with a single main drain or drains closer than 3 feet apart must have a secondary device to prevent entrapment. The federal law

identifies several equipment options but does not include manual shut-off switches and alarms. To meet the federal law, pools must have one of the following five options. Select which you have implemented for each pool:

- Safety Vacuum Release Systems
- Suction Limiting Vent Systems
- Gravity Drainage Systems
- Drain Disablement
- Unblockable Drains with Emergency Shut-off Switches and Alarms

Review DOH's **Single Main Drain Guidance** for more information:

<https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/333-119.pdf>

What is an "Unblockable" drain?

An "unblockable drain" is a suction outlet fitting assembly (i.e., main drain and sump included) that cannot be shadowed by an 18-by-23-inch body blocking element. The new ANSI/APSP/ICC-16 2017 standard defines "unblockable" while the previous standards did not. Unblockable drains with blockable sumps that were previously compliant in Washington with the additional installation of a manual shutoff switch and audible alarm may require additional entrapment protection when upgrading their covers to the new ANSI/APSP/ICC-16 2017 standard.

Review DOH's **Single Unblockable Drain Guidance** for more information:

<https://doh.wa.gov/sites/default/files/legacy/Documents/4300/WaterRec-DrainRulingReversed.pdf>

2.4 Pumps

List the **number of pumps**, the **make and model**, and the **horsepower (HP)**. **NOTE:** If you have more than one recirculation pump, such as a hot tub with two pumps —one for filtration/disinfection and the other for therapy jets —use the [Additional Pool Drain Cover Replacement Form](#).

List the **maximum and minimum flows** in gallons per minute (GPM) for conditions where the filter was clean and dirty, including the **total dynamic head (TDH)**. To determine maximum flow rate, minimum flow rate, and total dynamic head:

- **(A) Approved Engineering Plans:** If a copy of the approved engineering plans is available, they should provide flow information. If the pumps have been replaced since the pool's construction and replaced with pumps different than those in the approved plans, a construction permit will be needed, and an engineer will need to evaluate the existing pump systems.
- **(B) Engineer Design Analysis:** If a copy of approved engineering plans cannot be obtained, an engineer may provide an analysis of the current pumps and pump systems to determine the maximum and minimum flow rates. Engineering calculation may include:
 - Determination of total dynamic head (TDH) for the system
 - Determination of simplified TDH calculation. This method finds the maximum system flow rate using hydraulic calculation based on the lowest possible total dynamic head for a circulation system.
- **(C) Field Test Methods.** See [American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins, ANSI/APSP-7 2006 Appendix B – Field checklist for identifying suction entrapment hazards](#) (page 16) for methods to determine the maximum flow rate of an existing system. These field methods include calculations with pressure and vacuum readings (*preferred*); using the maximum pump flow rate specified by the manufacturer; and measuring flow with a 5-gallon bucket and stopwatch. Note that each field method may not be suitable for all pools, depending on their design or size. ***We encourage you to consult with a pool professional if you plan to use a field test method to determine the maximum pump flow.***

2.5 Drains

List the number of **drains** (suction outlets) connected to the pump and indicate if they are located on the pool floor or wall.

- If jet or other outlet pipes are in drains already listed, indicate this, e.g., same drains as recirculation.

List the **distance between the drain cover** centers in inches.

- If your drain covers are closer than 3 feet (36 inches) apart, refer to section 2.3

When completing the [Additional Pool Cover Replacement Form](#) for multiple pumps, indicate whether the drain covers share suction outlets with other pumps.

2.6 Sump Information

Most pools have two main drains, under the cover of each drain is a sump. Sumps can be **manufactured** in a factory and then installed or constructed by the pool builder (**field-built**) when building your facility. To be compliant with VGBA, your sump must meet the requirements of the drain cover manufacturer.

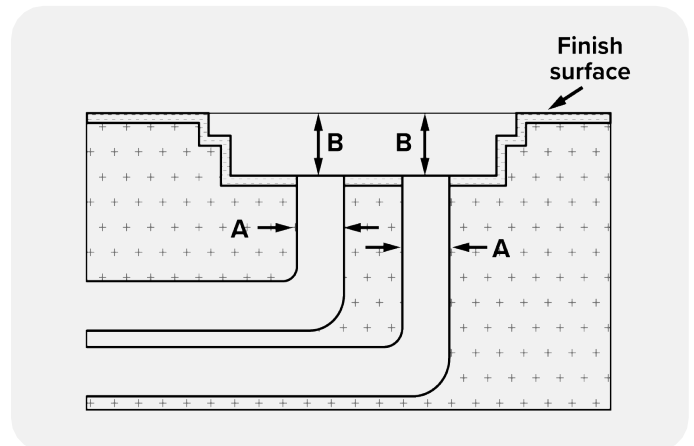
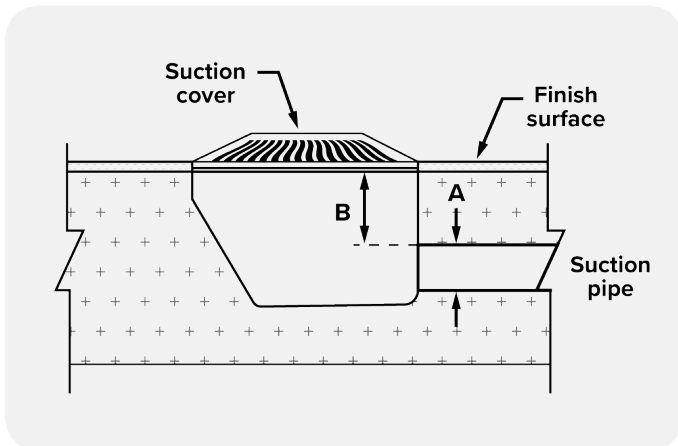
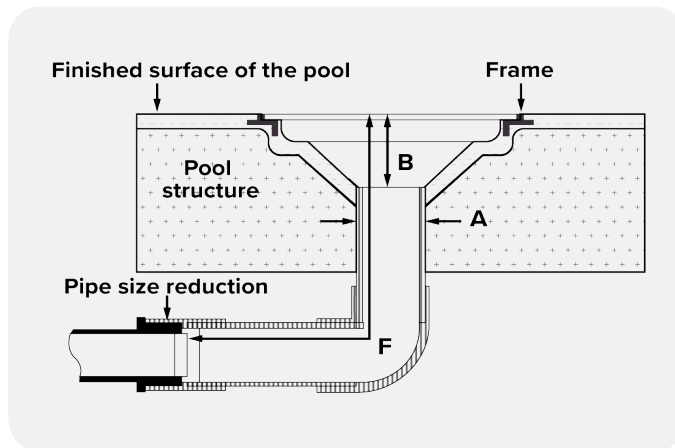
If the sump is **manufactured**, list the make and model. Whether the sump is **manufactured** or **field-built**, list the outlet pipe diameter (dimension A), pipe orientation, minimum pipe depth (B), and minimum length

before pipe size reduction if applicable (F). Indicate the diameter or length and width in the second table using the diagram below to help take measurements. This may be done best by a pool professional who can work underwater. For safety, turn off all pumps when working underwater around the suction outlet. If the pool is drained to perform this work, ensure it can be drained without compromising its structural or hydraulic integrity and that it is drained according to the approved wastewater disposal plan.

Dimension F may be impossible to determine without further scoping of piping to determine whether the pipe size is reduced. Review the drain cover manufacturer's installation instructions and materials to assess dimension F min/max and if they allow for your suspected configuration. Note that if a suspected pipe size is reduced within dimension F or it cannot be verified, the reduced pipe length diameter is used to determine flow ratings.

Bottom pipe orientation

Pipe Dimension Key	
A.	Pipe diameter
B.	Minimum pipe depth
F.	Minimum length before reduction



2.7 Cover Replacement Information

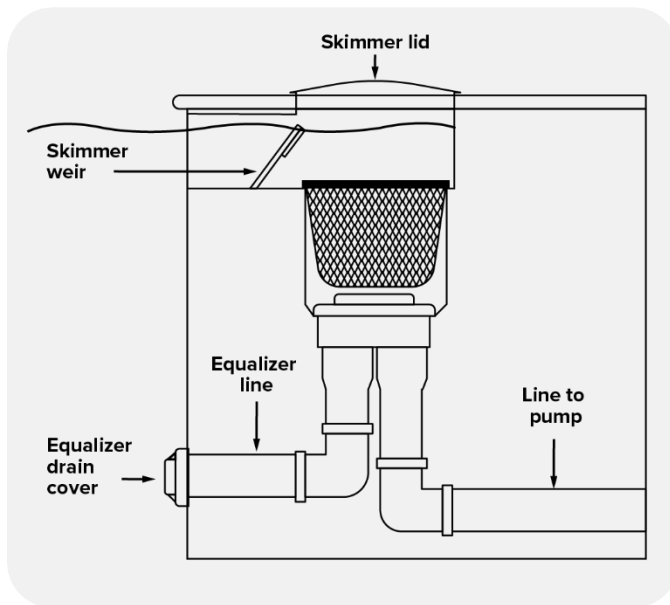
On May 24, 2021, ANSI/APSP/ICC-16 2017 became the successor drain cover standard; manufactured covers certified to the newest standard will be marked with **VGBA 2017**. Look for a drain cover that is rated for the specific drain location and type of drain system in your pool. Manufactured covers will be rated for use and location. This information will be on the cover, packaging, or product literature. Facility owners, operators, and pool professionals must select a cover that is suitable for their system, taking into account the location of

the SOFAs (i.e., pool wall or floor), suction outlet pipe size, sump configuration, and the maximum flow rate of the recirculation system. The maximum flow rate of the pool shall not exceed the manufacturer's drain cover flow rating. The drains, piping, and pump system are often more complex than one might think when observing the number and location of drains. **We encourage you to consult with a pool professional when replacing your drain cover.**

- For *each* drain cover, list the information below, as provided in the cover manufacturer's literature.
- **Manufacturer** (make) & **Model** (name/#)
- **Open Area** in square inches for a single cover.
- **Flow Rating** is the cover's allowable maximum flow based on the cover's location (floor or wall) and on the plumbing size and configuration below the cover. Review the literature carefully to be sure you have the correct data.
- Indicate if the cover is **Blockable** or **Unblockable**. Prior successor standards would specify whether the cover was rated for single or multiple drains.
- List the **Cover Install Date** and the date of the next replacement calculated by the rated years of service.

List the make and model of the **Frame** or collar that the cover will attach to or "NA" if there isn't one. If a frame or collar is present, list the **Frame Install Date** and the date of the next replacement calculated by the rated years of service.

3. Equalizer line information



You may have equalizer lines installed. Equalizer lines help protect the pump if your water level drops. Use this diagram to figure out if you have equalizer lines. You may see a hole underneath or close to your skimmer. Equalizer lines must have covers that prevent entrapment like main drains.

Some pools will have equalizer lines connected to the main drain recirculation outlet piping. If the piping configuration is unknown, additional testing may be necessary.

As with the main drain suction fitting outlets, complete all fields for covers and sump.

DOH 333-381 March 2026

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email doh.information@doh.wa.gov.