WATERTITE FIBERGLASS POOLS, LLC.

Installation Guide

Step 1. Planning For Installation

In planning for the installation of a new Watertite Fiberglass pool, there are many important factors that must be evaluated to achieve a functional, long-lasting, and aesthetically pleasing addition to a home. When choosing a location, consider the following:

1. **Grade:** Pools and decks are normally constructed on level ground. Extreme variations in grade should be resolved before the excavation of the pool begins. A relatively level and flat location is preferred so, time and effort are not wasted on radical fluctuation in grade.

2. **Excavation equipment access and Pool Delivery**: Determine the most efficient route for equipment to enter and access the site. Keep in mind that a well-planned route can save time and money, by enabling multiple pieces of equipment to work in unison. *For example: Coordinate the delivery of the pool with the completion of the excavation and prepping of the hole. If a track excavator was used to prepare the site, it may also be utilized to unload and set the pool with the use of a proper spreader bar.* Finally, consider the placement of the equipment. If possible, position the equipment so the pool can be unloaded and place directly into the excavation.

3. **Underground utilities:** Check with local authorities for the locations of underground water, gas, power, and sewer lines.

4. Overhead Power Lines.

5. Local Building Codes: Determine the setbacks from property line, easements, house footing, etc.

6. Water Drainage: Water should always drain away from the pool. Failure to keep ground water away from the exterior of the pool may result in damage to the pool that is not covered under warranty. Every Watertite pool is shipped with a standpipe sump system kit and must be installed to certify a warranty. Pea gravel is optimal for setting the sump line kit. *(*Well points do not replace this system.)*

7. Local Fencing Codes.

8. Location of Pool Equipment: Locate to within 20' of the pool.

9. Electrical Run for Pool Equipment

10. Underground Water Conditions.

11. Exposure to Sunlight.

12. Surrounding Foliage.

13. View from Residence.

Notice: Failure to read and follow specific instructions contained in this manual will void your pool warranty.

Step 2. Pool Layout

When laying out the pool, note that to dimensions are to the outside edge of the pool coping. Most permit plans are measured to the water's edge, the coping of a Watertite Fiberglass Pool is approximately 6" on all sides. There is a difference of 12" between the length and width dimensions in the installation guide and those of the permit plans. Depending on the customer and the local building inspector, this fact can be a critical consideration. Distances between the water's edge to most property line, electrical lines, and other structures such as houses, garages, sheds, and patios must be exact to plan specifications.

Step 3. Elevation

Elevation and grade of the pool area are two of the most often overlooked or miscalculated variable in the installation process. While considering all the variables concerning elevation and grade. Always remember that you want water to run away from the pool.

Check the four corners of the pool layout with the aid of a transit level or an eight level to determine the highest corner. This corner will be used in planning the elevation of the pool, in typical installation, the elevation of the pool should be 4-6 inches above the existing grade around the pool. However, careful consideration should be given to pool type. Size and drainage of the future pool deck as well as the elevation of surrounding landscape and existing structures, patios, and sidewalks.

Step 4. Excavation

Correct excavation of the pool is especially important. A hole that is too small can mean hours of picking and shoveling by hand. A hole that is too large will require extra import material, which if not dealt with properly, can result in setting or bulging of the pool.

The excavation should be dug close to the pool size with a minimum disturbance to the un-excavated soil which will support the pool. The depth of the excavation is determined with the use of a transit level and a measuring stick. The bottom of the excavation is over dug 3" to 4".

The excavation should be total depth of shallow end to deep end from the desired elevation of the pool. It can be helpful to give yourself an extra room the first 6" in width and 12" in depth of the hole, to get past the coping, and allow space for the skimmer and the main drain. Also keep in mind that the wall of our pools is tapered, usually 1" in for every 12" in depth. A place for the skimmer must also be dug in the side of the excavation wall. The skimmer dug out should be 2' by 2' and 3' deep for placement.

If dramatic over digging occurs in the bottom of the hole, never use excavated material to fill in the hole to the desired depth. The material will settle. We suggest road base (a tamper may be needed) compacted thoroughly and topped with sand. If the sides of the hole are dramatically over dug, gravel base should be used beyond the six inches of sand. Pea gravel or sand should be compacted thoroughly during the backfill process. In the case of over excavation on the sides of the pool in seasonal high water or poor drainage area, you may want to mix 10% Portland cement to the backfill for stabilization.

A permanent sump line must be installed on all Watertite Fiberglass Pools as conditioned in the warranty. This helps to monitor and extract ground water when needed. Watertite Fiberglass Pools provides a kit for this, one 10" corrugated pipe with a 10' 4" perforated pipe that snaps together. The 10" pipe will come up either deep end corner or 4" pipe lays across the deep end of the hole. This must be buried in the gravel for proper operation. If using sand, the sump line must be covered with gravel prior to the sand base.

Step 5. Preparation Of the Bottom Surface of The Excavation

The preparation of the excavation bottom is critical so the pool will fit properly. Thorough preparation will eliminate settling, stress cracks and a minimum of time will be spent setting the pool.

First, install 2" by 4" screed rails length wise on both sides of the excavation, using wood or metal stakes. Make sure the diagonal measurement is exact to ensure that the bottom is square. Adjust the screed rails to the appropriate height, using a transit. Next spread a layer of sand or pea gravel 3" to 4" evenly over the bottom of the excavation. Rake the gravel or sand flat to the top of the screed rails. Compaction of the sand is achieved using water and walking over the entire bottom using your body weight. Pea gravel is self-compacting. Rake and compact the area several times. Screed the bottom of the excavation, filling any low spots as you go. The completed area will resemble slab of finished concrete. Remove the creed rails and fill in the voids with pea gravel or sand, being careful not disturb the sand.

Step 6. Setting The Pool

Your Pool will arrive on a truck-trailer combination. Be sure to inspect the pool for damage that may have occurred during transportation and for conformity to order specifications. A crane or excavator will lower the pool into the excavation. Please note that Watertite Fiberglass Pools requires lifting all pool models with a lifting bar or 20' lifting straps from a crane. Once the pool is set in the excavation, the pool should be checked for level and the bottom should be walked over to detect any voids in sand that might be present. The pool is then lifted and reset as many times as necessary to achieve a "good fit". A good fit is realized by raking the surface of the sand to see where the pool's perimeter is touching (footprint) after it is removed and by walking around on the inside of the pool to detect low spots. It is normal to feel a slight void under the center of the pool. This will disappear under the weight of the water. It is important to make certain that the bottom perimeter and all transition points are sitting firmly against the underlay. The pool can be separated from the lifting equipment when the entire perimeter of the pool (including all transitions) leaves a clear footprint, and the pool is within 1/2" of level.

A properly prepared hole should not require the filling of large voids beneath the pool. Blindly washing sand beneath a pool can cause more harm than good. It is important that any adjustments to the pool's elevation be made before water is added. If a pool was properly set, nothing more than a few minor adjustments should be made.

Step 7. Plumbing

When the pool is set, start running plumbing Watertite recommends 2" schedule 40 with pressure fittings only. All fittings installed are slip joints. All waterline returns, drains, and cleaner fittings, and bubblers should be run on the bottom of hole not placed on the backfill. This will prevent settling from pulling down on plumbing potentially breaking a line or fitting.

A basic swimming pool circulation system is relatively simple in operation. Water in the pool is drawn through the main drain and skimmer to the pump, which pushes it through the filter back to the pool via the returns. See your contractor for more advanced filtering systems that may include sanitizers, jets, blowers, automatic pool cleaner, etc. Watertite Fiberglass Pools recommends the use of schedule 40,2" plumbing on most pools. Visually inspect all fittings installed at the factory upon the delivery of the pool and during the back fill process.

To prevent accidentally draining the pool, Watertite Fiberglass Pools suggests placing the equipment at or slightly above the elevation of the pool and plumbing the pool so that the water leaves the pool via the skimmer and into the main drain. You should not place the equipment higher than 6" above pool level. The equipment becomes less efficient the greater the distance away from the pool. If the equipment is placed below the water level, shut off valves must be installed to prevent accidental siphoning of the pool. Pipes may now be glued at the equipment pad and circulation of the filtering system may begin. Check all connections for leaks and proper circulation before covering them. Local building codes may require pressure testing of the plumbing system before the installation is complete.

Step 8. Backfilling and Leveling

"Locking In" is the process of placing the first 6" of backfill around the radius of the pool to hold it firmly in place during the installation process. After your pool is "Locked In", start the water in the pool and continue the backfill process. The level of water in the pool and the level of fill outside the pool should be within 6" of each other. Continue filling the pool and backfilling until 4" to 6" of water are in the pool. Check the level of the pool. If the pool was properly "Lock In", no adjustments should be necessary. If any movement has occurred, small adjustments must be made at this time by placing a lever assembly under the coping of the pool. If adjustments are needed, (low condition) raise the pool to the proper height and place fill under the pool. When the proper height is achieved, continue the filling and back filling process. If the pool is too high, remove sand as needed. It is particularly important that the radius of the pool is packed properly. Poorly packed radius can result in hairline cracks or structural cracks due to deflection. Be sure to backfill slowly and thoroughly. When the proper height is achieved, continue with the filling and back filling process.

After approximately 12" of water is in the pool and backfill has been placed evenly, the water should be allowed to precede the backfill be 12". As the water approaches the shallow end, pay particular attention to all the unsupported areas of the pool. Steps and swim outs should be supported, so slight adjustments may need to be made with the leveling device as mentioned before. Be sure you wait until sufficient amounts of water surrounds the area

(usually 12”) to keep the rest of the pool in place, or you may raise more than you intend. The walls of the pool may bulge inward if too much backfill has preceded the water in the pool, or outward if too much water precedes the backfill. If bulging occurs during installation, the only remedy is to dig that area out and proceed correctly. Slight bulging has only visual effects, while not affecting the structure of the pool. A string line is extremely useful in determining the straightness of the pool wall during the back filling process.

Step 9. Electrical

If the installer or homeowner is not qualified to do electrical work, an electrician should be hired, and a building official should inspect the work. All electrical work should be done to National Electric Code specifications and any local codes. Watertite Fiberglass Pools does not recommend wet niche lights, but rather the use of fiberoptic lighting. Wet niche lights tend to corrode and leak. Fiberoptic lights are easy to install, versatile and do not require a bonding inspection, which can delay installation. Watertite Fiberglass Pools will not be held responsible for any electrical work.

Step 10. Pouring Concrete

Forms are now put up around the perimeter of the pool. Half inch holes may be drilled into the lip of the pool every 3”. Two-foot lengths of 3/8” re-bar is placed in each hole and bent at 90-degree angles. This will ensure a bonding or anchoring effect on the sides of the pool. The walkway may also be reinforced with 6” No. 10 wire mesh or No. 3 re-bar on 2' center. Watertite Fiberglass Pools recommends cantilever concrete decking. Concrete should be poured at least 3' around the perimeter of the pool and at least 4” deep. Watertite Fiberglass Pools will not be held responsible for any concrete work or cracks that may result from its use.

Warning to the Buyer

This pool is designed to be always kept full. The shell could be damaged if the water level is allowed to drop below the skimmer. When appreciable draw-down is noticed, or if it becomes necessary to drain the pool, contact Watertite Fiberglass Pools, or their dealers for instructions. The pool shell may be damaged and separation from the concrete may occur if the pool is allowed to overflow or if heavy water drainage is allowed to over-run the deck to pool shell connection. Keep the water level in the middle of the skimmer. Watertite Fiberglass Pool will not be held responsible for any unforeseen problems or circumstances which arise from inadequate site drainage or incorrect deck installation practices that may void the pool's warranty.