FIBERGLASS POOL INSTALLATION AND CONTRACTOR'S GUIDE

CONTENTS

OVERVIEW

1. SUPPORTING THE POOL SHELL

WATER WEIGHS ABOUT 8½ POUNDS PER GALLON. IF THE POOL HOLDS 10,000 GALLONS OF WATER, THAT'S 85,000 POUNDS THAT MUST BE SUPPORTED. COMBINE THIS WITH THE SHOCK LOAD OF PEOPLE JUMPING INTO THE WATER, AND FREEZE-THAW CYCLES AND YOU CAN SEE THE IMPORTANCE OF GROUND SUPPORT FOR THE POOL. A HOLLOW PLACE BETWEEN THE BOTTOM OF THE POOL AND THE SUPPORTING MATERIAL WILL PROBABLY RESULT IN A STRESS CRACK IN THE GEL COAT OR WORSE, STRUCTURAL FAILURE. ALTHOUGH FIBERGLASS POOLS HAVE CONSIDERABLE STRENGTH ON THEIR OWN, THEY MUST BE SUPPORTED BY THE SUBSOIL AND THE SAND OR STONE DUST AROUND THEM.

2. LEVELING THE POOL

A POOL THAT IS OUT OF LEVEL IS PROBABLY THE WORST THING THAT CAN HAPPEN IN THE EYES OF THE POOL BUYER. IF A FIBERGLASS POOL IS NOT SUPPORTED WHEN IT IS FIRST LEVELED, IT WILL PROBABLY SETTLE WHEN IT GETS ABOUT HALF OR THREE-QUARTERS FULL, AND YOU WILL HAVE TO DRAIN THEN RE-LEVEL IT.

WATER COMPACTION

WATER COMPACTION IS RELATED TO THE FIRST TWO ITEMS. IF SAND OR STONE DUST IS NOT WATER COMPACTED DURING THE BACKFILLING PROCESS, THEN AS WATER WEIGHT IS ADDED TO THE POOL, THE PRESSURE AGAINST THE FIBERGLASS SHELL WILL NOT BE SUPPORTED BY THE LOOSE MATERIAL AND THE SHELL WILL DISTORT AND CRACK. A FIBERGLASS POOL IS BACKFILLED ON THE OUTSIDE AS WATER IS ADDED ON THE INSIDE. THIS PROCESS IS DONE IN STAGES, ABOUT ONE FOOT OF WATER THEN ONE FOOT OF BACKFILL. THIS ALLOWS EACH STAGE OF THE BACKFILL TO BE WATER COMPACTED. BY THE TIME THE POOL IS FULL, ALL THE BACKFILL MATERIAL IS COMPACTED.

TOOLS AND SUPPLIES FOR FIBERGLASS POOL INSTALLATION

TOOLS AND EQUIPMENT

- WHEELBARROW(S)
- 1 1/2" OR 2" GASOLINE PUMP AND HOSES (IF GROUNDWATER IS SUSPECTED)
- 1” BOOSTER PUMP (LOW WATER PRESSURE)
- TRANSIT OR LASER LEVEL WITH TRIPOD
- STORY POLE
- SHOVELS (FLAT AND ROUND)
- RAKE(S)
- CONCRETE RAKE
- TYPICAL HAND TOOLS
- SMALL SLEDGEHAMMER
- MARKER PEN OR PENCIL
- 100' TAPE AND A 25' TAPE
- STRING LINE
- 2-50' LENGTHS OF 3/8" POLY ROPE
- SAWZALL AND BLADES
- 4” OR 4½” ANGLE GRINDER WITH A DIAMOND BLADE
- CORDLESS DRILL
- #2 PHILLIPS BIT
- SET OF DRILL BITS
- CAULKING GUN
- 12” CHANNEL LOCK PLIERS
- 16” CHANNEL LOCK PLIERS
- 3/4" GARDEN HOSE (100’ MINIMUM)
- 2 BRASS GARDEN HOSE SHUT OFF VALVES
- 50' OF #14 EXTENSION CORD
- 2 ½” HOLE SAW AND ARBOR
- 4-20 FOOT LIFTING STRAPS
- 1-10 FOOT LIFTING STRAP
- 1-6' X 3/8" LOGGING CHAIN
- 3-2 OR 4-TON BOTTLE JACKS

SUPPLIES

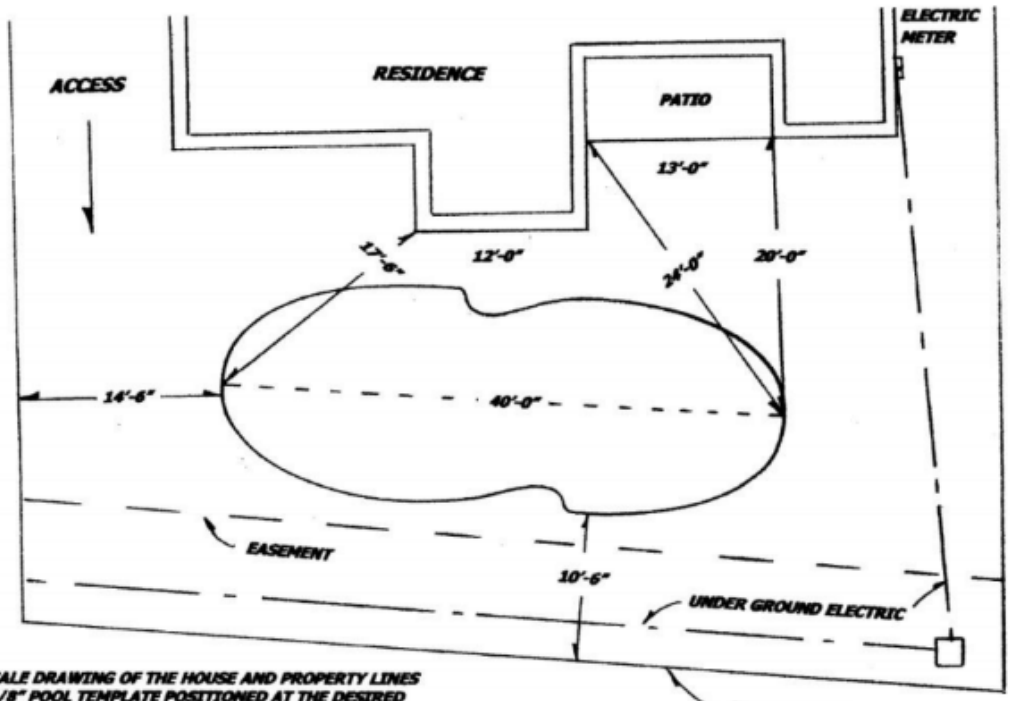
- 1 TANDEM TRUCKLOAD OF SAND OR STONE DUST
- 500 LBS. (MINIMUM) OF BAGGED OR LOOSE DRAINAGE ROCK (FOR DRY WELL)
- SMALL BOX OF 1 5/8'" SCREWS
- 1 ½ " AND OR 2” PVC FLEX PIPE
- 1 ½” AND 2” SCH. 40 PVC PIPE
- 1 ½” AND 2” PVC FITTINGS SCH. 40 (NOT DWV FITTINGS)
- 1 QT. PVC CLEAR PRIMER
- 1 QT. PVC CLEAR LIGHT BODY GLUE
- 1 QT. PVC BLUE GLUE
- 2-CANS OF CONTRACTORS PAINT
- 2-8 FOOT 4X4 OR LANDSCAPE TIMBERS
- 2X6 OR 2X8 SCRAP LUMBER
- 1 OR 2 (IF THE POOL HAS A HEATER), PRECAST OR PLASTIC EQUIPMENT PADS 24”X36”
- POOL EQUIPMENT
- PVC CONDUIT
- THREE-WAY JANDY VALVES OR PVC BALL VALVES
- A BUNDLE OF WOOD STAKES OR STEEL STAKES FOR HARD GROUND (18 OR 24 INCHES)
- 1"X 4" LUMBER(THE TOTAL LENGTH SHOULD BE TWICE THE LENGTH OF THE POOL)
- 1 2”X 4” X 12’ STRAIGHT

POOL LOCATION

DETERMINING THE LOCATION OF THE POOL IN THE YARD BEFORE FINAL DECISIONS ARE MADE IS VERY IMPORTANT. IF THE POOL IS INSTALLED IN THE WRONG LOCATION, EASEMENTS, PROPERTY LINES, AND SETBACK LINES COULD BE VIOLATED. SOME MANUFACTURERS OFFER FULL-SIZE POOL TEMPLATES THAT MAKE POOL LAYOUT EASIER

.WHEN A DRAWING IS MADE SHOWING THE LOCATION OF THE POOL RELATIVE TO THE HOUSE AND OTHER FIXED ITEMS IN THE YARD, IT IS IMPORTANT THAT THE DRAWING IS ACCURATE. IF THE DRAWING IS WRONG, THE POOL WILL LAY OUT WRONG. THE WRONG POOL LOCATION WILL AFFECT THE PERMIT, THE DECK, EASEMENTS, AND MORE.

THE FOLLOWING ILLUSTRATED DRAWINGS MAY HELP BY EXPLAINING THE TRIANGULATION METHOD FOR LOCATING THE POOL AND OTHER FIXED OBJECTS IN THE POOL AREA

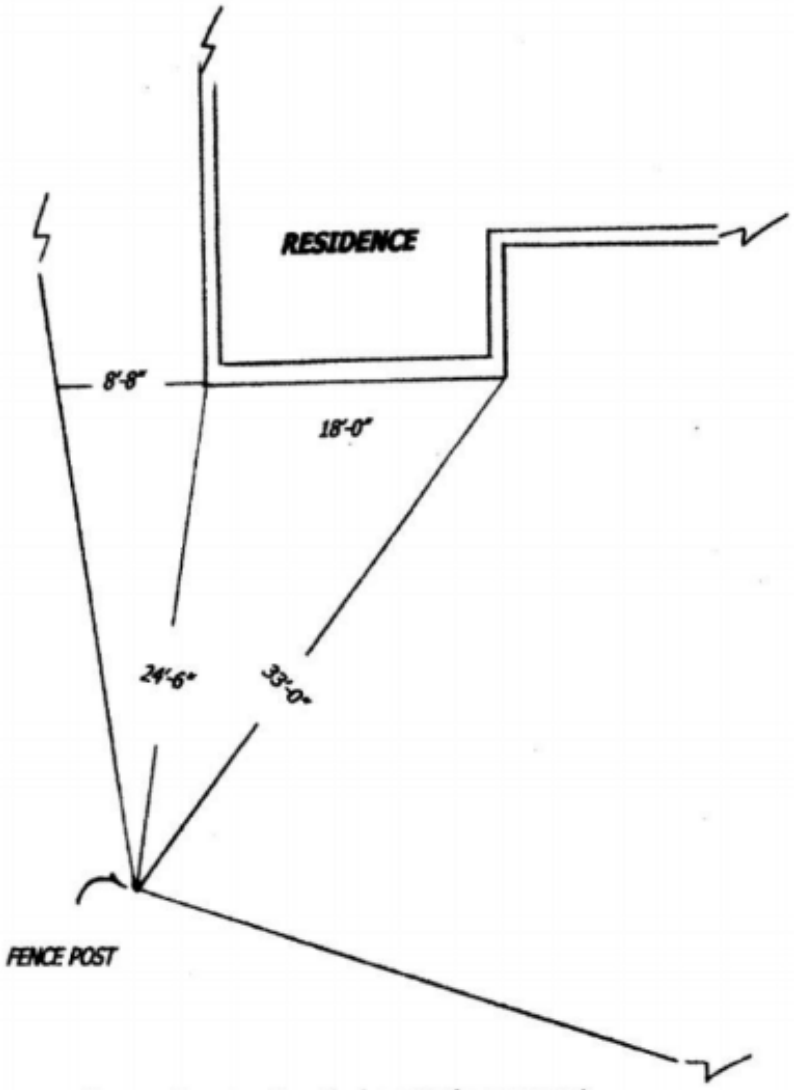


A 1/8" SCALE DRAWING OF THE HOUSE AND PROPERTY LINES WITH A 1/8" POOL TEMPLATE POSITIONED AT THE DESIRED LOCATION WITH TRIANGULAR MEASURMENTS MAKES IT POSSIBLE TO TRANSFERRE THE DRAWING INFORMATION TO THE GROUND ALONG WITH THE INFORMATION REQUIERED FOR MOST PERMITS

TRIANGULATION POOL LAY OUT

Stand in the middle of the back yard and draw a free hand diagram of all that you see around you. Measure all the walls at the back of the house and mark them on the drawing. Measure from the corners of the house to the back and side property lines. If the lot is odd shaped, measure from two locations at the back of the house to each of the corners at the back fence or property line (triangulation). Mark on the drawing any permanent objects that will effect the location of the pool such as electric lines trees, septic tanks, etc. and if necessary triangulate their location. Take measurements from the house to each of these objects. With this information, you can make a 1/8" scale drawing of the house and yard. If you are lucky, the home owner will have a plat of his property that shows all this information. See the information below for more detail about triangulation

Detail for locating an object by triangulation



The two dimensions from the house to the corner post can be transferred to a 1/8 scale drawing. The point at which the two dimensions intersect on the drawing will represent accurately the location of the post.

POOL LAYOUT INSTRUCTIONS

1. THE LAYOUT BEGINS BY DRIVING A STAKE AT THE SHALLOW END WATERS EDGE CENTERLINE POINT.

2. CONNECT A 50' OR 100' TAPE TO THE SHALLOW END STAKE AND EXTEND IT ALONG THE CENTERLINE 2' OR 3' PAST THE DEEP END WATER'S EDGE AND LAY IT ON THE GROUND.

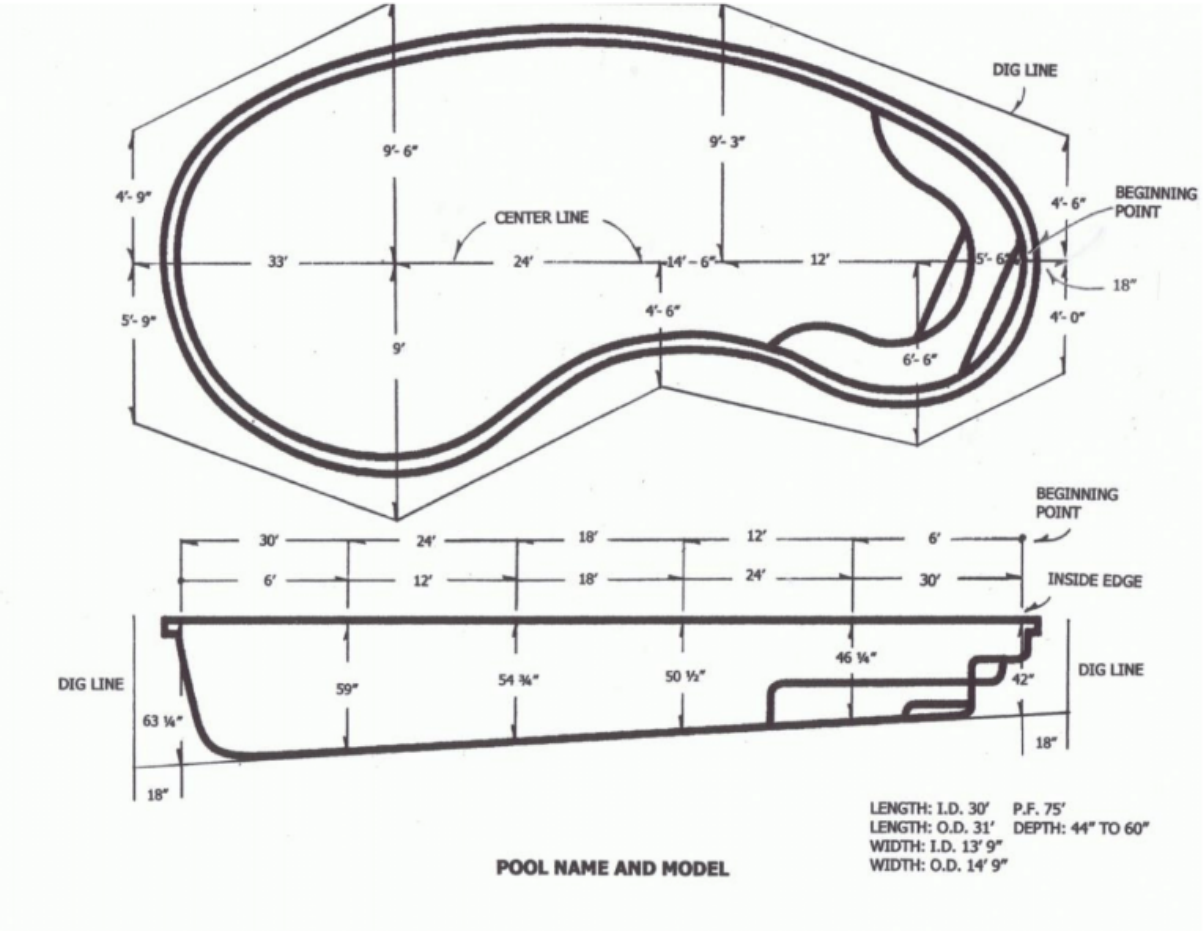
3. IF YOU ARE USING A FACTORY POOL LAYOUT TEMPLATE, POSITION THE TEMPLATE TO CORRESPOND WITH THE CENTERLINE. MEASURE OUT 12 INCHES FROM THE EDGE OF THE TEMPLATE AND STAKE OR PAINT A LINE AROUND THE TEMPLATE. THIS WILL BE YOUR DIG LINE. (IF YOU ARE NOT USING A FACTORY TEMPLATE, CONTINUE TO THE NEXT STEP)

4. MOVING DOWN THE LENGTH OF THE POOL CENTERLINE FROM THE SHALLOW END, LOCATE THE FIRST PERPENDICULAR POINT. MEASURE OUT FROM THIS POINT TO THE DIMENSION NOTED ON THE PLAN AND DRIVE A STAKE. CONTINUE DOWN THE LINE AND REPEAT THIS PROCESS TO THE DIG LINE AT THE DEEP END. BE SURE TO KEEP THE TAPE MEASURE SQUARE TO THE CENTERLINE.

5. FROM THE SHALLOW END WATERS EDGE CENTERLINE POINT, MEASURE 18"(UNLESS OTHERWISE INDICATED) ALONG THE CENTERLINE AWAY FROM THE SHALLOW END, THEN DRIVE A STAKE AT THAT POINT. MEASURE OUT FROM THAT POINT THE APPROPRIATE PERPENDICULAR DIMENSIONS, AND DRIVE THE MARKER STAKE.

6. CONNECT THE OUTSIDE STAKES OR MARKS WITH STRING OR CONTRACTOR PAINT AND YOU ARE READY TO DIG.

7. KEEP THE CENTERLINE STAKES IN PLACE, OR EXTEND THE CENTERLINE OUT OF THE WAY OF THE EXCAVATOR SO YOU CAN USE THEM FOR FUTURE REFERENCE. REMOVE ALL OTHER STAKES TO REDUCE CONFUSION.



ELEVATION CALCULATIONS

DETERMINE THE ELEVATION YOU WANT FOR THE TOP OF THE DECK WHERE IT MEETS WITH A PATIO. IF THE DECK IS FREE-STANDING, FIND THE ELEVATION AT THE HIGH POINT OF THE GROUND NEAR THE PROPOSED EDGE OF THE DECK. SUBTRACT AT LEAST THREE INCHES FROM THAT READING FOR DRAINAGE. THIS POINT WILL BE REFERRED TO AS THE "FINISH GRADE". CONCRETE DECKING SHOULD SLOPE DOWN AND AWAY FROM THE WATER'S EDGE APPROXIMATELY 1/4" FOR EVERY FOOT OF DECK WIDTH.

TOP OF POOL CALCULATIONS

THE FINAL ELEVATION OR "FINISH GRADE" IS NORMALLY THE DESIRED TOP OF THE DECK NEXT TO AN EXISTING PATIO OR OTHER FIXED LOCATION. IF THE POOL AND DECK ARE LOCATED IN AN OPEN AREA THEN THE HIGH SPOT ON THE GROUND WHERE THE OUTSIDE EDGE OF THE DECK WILL BE, PLUS THE THICKNESS OF THE DECK WILL BE THE FINISH GRADE. ONCE THE FINISH GRADE IS DETERMINED, THEN USING THE CALCULATOR BELOW, THE TOP OF THE POOL ELEVATION CAN BE DETERMINED.

"Finish grade" A. _____

Width of concrete deck _____ multiplied by ¼" B. _____

The thickness of the cantilever form, brick, etc. C. _____
(Leave blank if deck will be flush with the top of the pool)

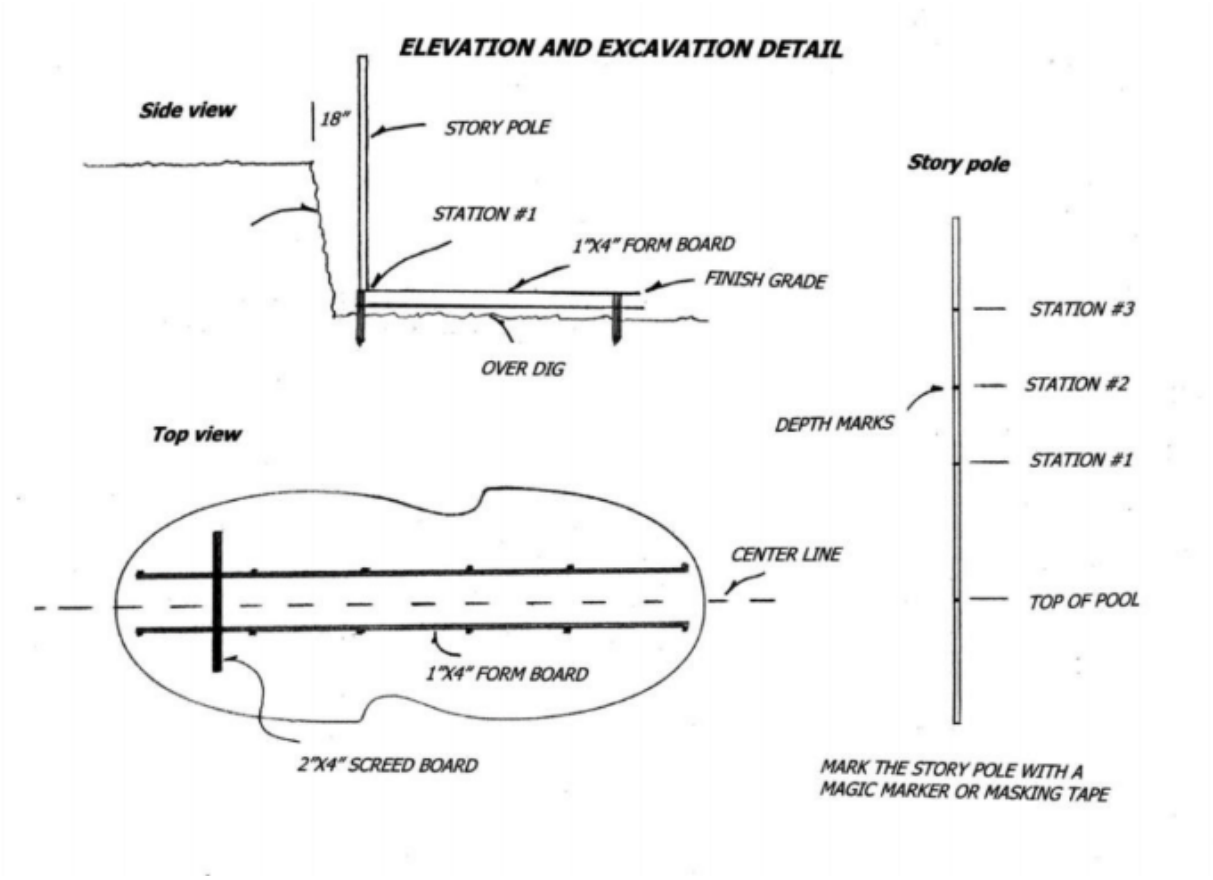
A._____Minus B._____ Plus C. _____ Equals _____
(Top of pool)

GROUND PREPARATION

BEFORE EXCAVATION BEGINS, THE POOL AREA MUST BE LEVELED. IF THE CONTOUR OF THE GROUND IS VERY STEEP, THEN GRADING SHOULD BE DONE TO PREPARE FOR RETAINING WALLS. IF FILL MATERIAL FROM THE EXCAVATION IS USED TO LEVEL THE POOL OR DECK AREA, IT MUST BE COMPACTED BEFORE THE POOL EXCAVATION BEGINS. UNCOMPACTED FILL MAY RESULT IN MOVEMENT OF THE POOL AND/OR THE DECK. BACK DRAG OR SMOOTH THE AREA AROUND THE POOL TO ALLOW A PLACE FOR SAND TO BE PILED UP FOR BACKFILL. DO NOT LEAVE PILES OF DIRT AROUND THE EXCAVATION, AS THIS WILL INTERFERE WITH ALL THE OTHER INSTALLATION ACTIVITIES. KEEP IN MIND, THAT SURFACE WATER MUST HAVE A PATHWAY TO MOVE AROUND THE POOL AREA WITHOUT CREATING DRAINAGE PROBLEMS FOR THE NEIGHBORS.

EXCAVATION

THE MOST EFFECTIVE MACHINE TO USE FOR EXCAVATING A POOL IS A TRACK HOE (EXCAVATOR). FOR ITS SIZE AND WEIGHT, IT HAS THE GREATEST REACH AND POWER. IT TAKES UP THE LEAST AMOUNT OF SPACE AND HAS THE BEST MANEUVERABILITY, AND IT CAN ALSO DOUBLE AS A CRANE FOR SMALLER POOLS. SOME TRACK HOES ARE AVAILABLE WITH RUBBER TRACKS. THE ONLY DRAWBACK TO A TRACK HOE IS ITS INABILITY TO MOVE DIRT AROUND THE SITE. THAT PROBLEM CAN BE SOLVED WITH A SKID STEER LOADER THAT WILL BE NEEDED TO MOVE SAND TO BACKFILL AROUND THE POOL.


ELEVATION AND EXCAVATION DETAIL
Side view
18"
STORY POLE
STATION #1
1"X4" FORM BOARD
FINISH GRADE
OVER DIG
Top view
CENTER LINE
1"X4" FORM BOARD
2"X4" SCREED BOARD
Story pole
STATION #3
STATION #2
DEPTH MARKS
STATION #1
TOP OF POOL
MARK THE STORY POLE WITH A
MAGIC MARKER OR MASKING TAPE

EXCAVATION INSTRUCTIONS

START THE EXCAVATION FROM EITHER END. FROM TOP TO BOTTOM THE WALLS SHOULD TAPER IN ABOUT A FOOT TO SIXTEEN INCHES FROM THE SHALLOW TO THE DEEP END. THIS METHOD WILL REDUCE THE CHANCES FOR CAVE-INS AND WILL SAVE ON BACKFILL MATERIAL.

1. BEGIN DIGGING AT EITHER END OF THE POOL. DEPTH DIMENSIONS ARE FROM THE TOP LIP TO THE POOL FLOOR. SOILS OTHER THAN SAND WILL REQUIRE A 4" TO 6" OVER DIG TO ALLOW FOR A SAND OR STONE DUST BED.

2. CENTERLINE DIMENSIONS ON THE EXCAVATION VIEW ARE CUMULATIVE IN THE DIRECTION OF THE ARROWS FROM BOTH ENDS.

3. AS THE EXCAVATION PROGRESSES AND THE FIRST VERTICAL DIMENSION ON THE CENTERLINE IS REACHED, MEASURE FROM THE EXCAVATED END WALL TO THE FIRST DEPTH MARK ON THE DIG PLAN, USUALLY 18".

4. USING A STORY POLE AND LASER LEVEL OR TRANSIT, CHECK FOR THE CORRECT DEPTH OF THE FIRST VERTICAL DIMENSION AND IF NECESSARY, ADJUST THE DEPTH ACCORDINGLY. INCLUDE THE OVER DIG IF REQUIRED.

5. DRIVE A WOOD OR STEEL STAKE AT THE FIRST VERTICAL DIMENSION ON THE CENTERLINE. MEASURE 3' OUT ON EITHER SIDE OF THIS STAKE AND DRIVE A STAKE AT THESE LOCATIONS. BE SURE TO KEEP THE STAKES IN LINE WITH AND PERPENDICULAR TO THE CENTERLINE STAKE.

6. USE THESE LAST TWO STAKES TO MEASURE FOR EACH OF THE REMAINING VERTICAL DIMENSIONS. **FROM THIS POINT ON ALL HORIZONTAL CENTERLINES, MEASUREMENTS ARE MEASURED AT EXCAVATED GROUND LEVEL AND INCLUDE SLOPE ANGLES.**

7. AS THE EXCAVATION PROGRESSES AND EACH DEPTH DIMENSION POINT IS REACHED, DRIVE A STAKE 3' ON EITHER SIDE OF THE CENTERLINE UNTIL THE EXCAVATION IS COMPLETE. MARK EACH STAKE AT THE APPROPRIATE BOTTOM OF THE POOL DIMENSION. **NOTE**: IF PART OF THE POOL FLOOR IS MISTAKENLY OVER DUG, DO NOT PACK DIRT BACK INTO THE OVER DIG. THIS MAY RESULT IN THE POOL SHIFTING WHEN THIS MATERIAL GETS WET. USE EXTRA SAND OR STONE DUST TO FILL THIS AREA. **NOTE:** BEFORE PROCEEDING TO THE NEXT STEP, REFER TO DRY WELL INSTALLATION.

8. ATTACH 1"X 4" BOARDS TO THE STAKES SO THAT THE TOP OF THE BOARDS ARE FLUSH WITH THE MARKS.

9. PLACE AND RAKE THE SAND FLUSH WITH THE TOP OF THE BOARDS. SCREED THE SAND USING A 2"X 4"X 10'(12') BOARD TO FINISH THE SAND OR STONE DUST TO FINISH THE GRADE.

10. REMOVE THE 1"X 4" BOARDS AND STAKES BEING CAREFUL NOT TO DISTURB THE GRADE MORE THAN NECESSARY. **DOUBLE-CHECK TO REMOVE ALL STAKES!!**

11. FILL IN THE FOOTPRINTS AND 1"X 4" TRACKS AND FINISH RAKING THE SAND.

12. WHILE THE EXCAVATOR IS ON-SITE, IT MAY BE A GOOD IDEA TO HAVE HIM DIG A TRENCH TO THE EQUIPMENT. BE SURE NOT TO BLOCK ACCESS TO THE EXCAVATION SITE.

IF GROUNDWATER IS ENCOUNTERED DURING THE EXCAVATION, OVER DIG THE FLOOR BY ABOUT 3 INCHES AT THE POINT WATER IS ENCOUNTERED. FILL THE OVER DIG WITH CRUSHED 3/4" TO 1” ROCK AND CONTINUE THE PROCESS UNTIL THE EXCAVATION IS COMPLETE THIS WILL ALLOW WATER TO RUN THROUGH THE ROCK WITHOUT ERODING THE FLOOR AND CREATING A MUD HOLE. IF WATER IS SEEPING IN ALONG THE BASE OF THE WALL, BANK SOME ROCK ALONG THE WALL TO REDUCE POSSIBLE CAVE-INS. USE A SUBMERSIBLE PUMP TO CONTROL THE WATER AS THE EXCAVATION CONTINUES. WHEN THE DRY WELL IS INSTALLED, THE WATER CAN BE CONTROLLED THROUGH IT UNTIL THE POOL IS SET AND BACKFILLED.

DRY WELL (SUMP LINE) INSTALLATION

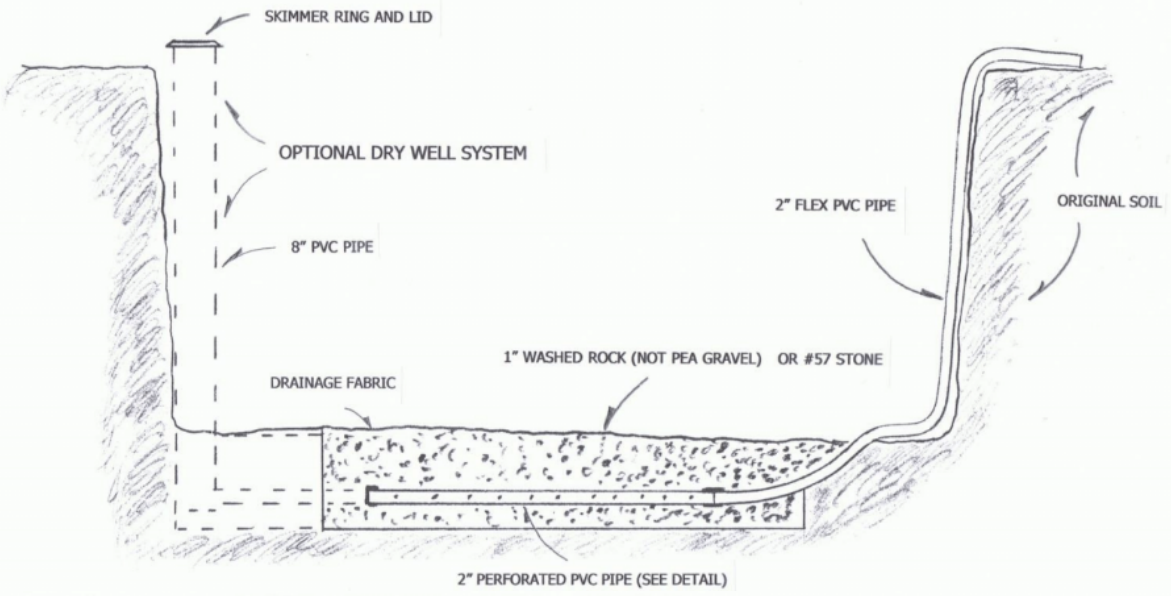
GUNITE AND VINYL LINER POOLS USE A SUMP MAIN DRAIN. A SUMP DRAIN CONTAINS A HYDROSTATIC RELIEF FITTING THAT ALLOWS WATER THAT MAY BE OUTSIDE THE POOL TO ENTER THE POOL IF THE OUTSIDE WATER PRESSURE GETS HIGHER THAN THE INSIDE WATER PRESSURE. THE DESIGN OF FIBERGLASS POOLS MAKES IT VERY DIFFICULT TO USE A SUMP DRAIN. BECAUSE OF THIS, ANOTHER METHOD MUST BE USED TO REMOVE WATER FROM UNDER A FIBERGLASS POOL. CONTROLLING WATER UNDER A FIBERGLASS POOL CAN BE DONE WITH A DRY WELL. A DRY WELL GIVES ACCESS TO WATER UNDER THE POOL THROUGH A PIPE THAT LEADS TO THE SURFACE WHERE A PUMP CAN BE ATTACHED.

AT THE DEEP END FLOOR OF THE POOL EXCAVATION, AND PARALLEL TO THE BACK WALL, DIG A TRENCH ABOUT 8’ LONG AND 18" WIDE, AND 18” DEEP. LINE THE BOTTOM OF THE TRENCH WITH 4 INCHES OF CRUSHED ROCK OR #57 STONE, NOT PEA GRAVEL. PEA GRAVEL WILL ALLOW SILT AND SAND INTO THE SUMP AND RUIN ITS ABILITY TO GATHER WATER. FOR POOLS THAT ARE DEEP IN THE MIDDLE, DIG THE TRENCH FROM THE SIDEWALL TOWARD THE CENTER AT THE DEEPEST AREA OF THE POOL. CUT A 6-FOOT PIECE OF 2" PVC HARD PIPE. A GLUE CAP ON ONE END AND A COUPLING ON THE OTHER. DRILL 1/4" HOLES EVERY 6 INCHES ALONG THE LENGTH OF THE PIPE TO ALLOW GROUNDWATER TO ENTER THE PIPE. GLUE A PIECE OF PVC FLEX PIPE TO THE COUPLING. THE FLEX PIPE SHOULD BE LONG ENOUGH TO REACH THE TRENCH AND EXTEND UP THE EXCAVATED WALL AND ABOUT 6' BEYOND. LAY THE DRILLED PIPE IN THE CENTER OF THE TRENCH AND EXTEND THE FLEX PIPE ALONG THE FLOOR AND UP THE WALL. COVER THE TRENCH AND TWO INCHES ABOVE WITH CRUSHED ROCK AND SPREAD SOME OF THE ROCK AROUND AND PAST THE TRENCHED AREA TO ALLOW GROUNDWATER A PATH TO THE DRY WELL.

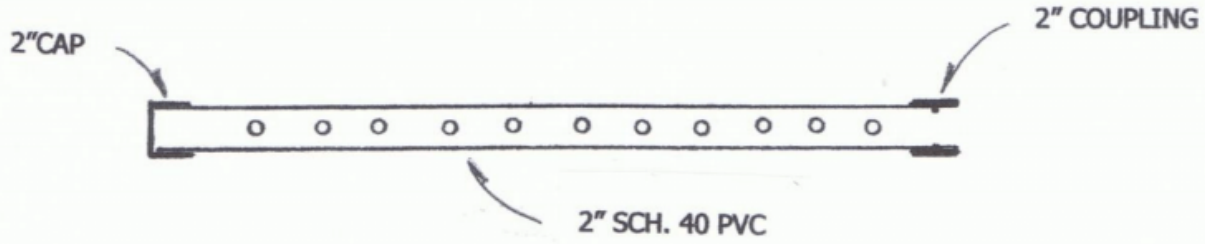
AN OPTIONAL 8” STANDPIPE MAY BE USED IN PLACE OF THE 2” DRAINAGE PIPE. BE SURE TO EXTEND THE DRY WELL BED TO AND SLIGHTLY BEYOND THE STANDPIPE, AND SURROUND THE PIPE WITH ROCK. ADOWN SIDE TO THIS SYSTEM IS THE POSSIBILITY OF THE BOTTOM OF THE STANDPIPE SILTING OVER AND RESTRICTING THE FLOW OF WATER TO A SUBMERSIBLE PUMP. AN UPSIDE TO THIS SYSTEM IS THE ABILITY TO SEE IF WATER IS ACCUMULATING IN THE STANDPIPE AND KNOWING HOW HIGH IT IS RELATIVE TO THE WATER INSIDE THE POOL.

DRY WELL SYSTEM

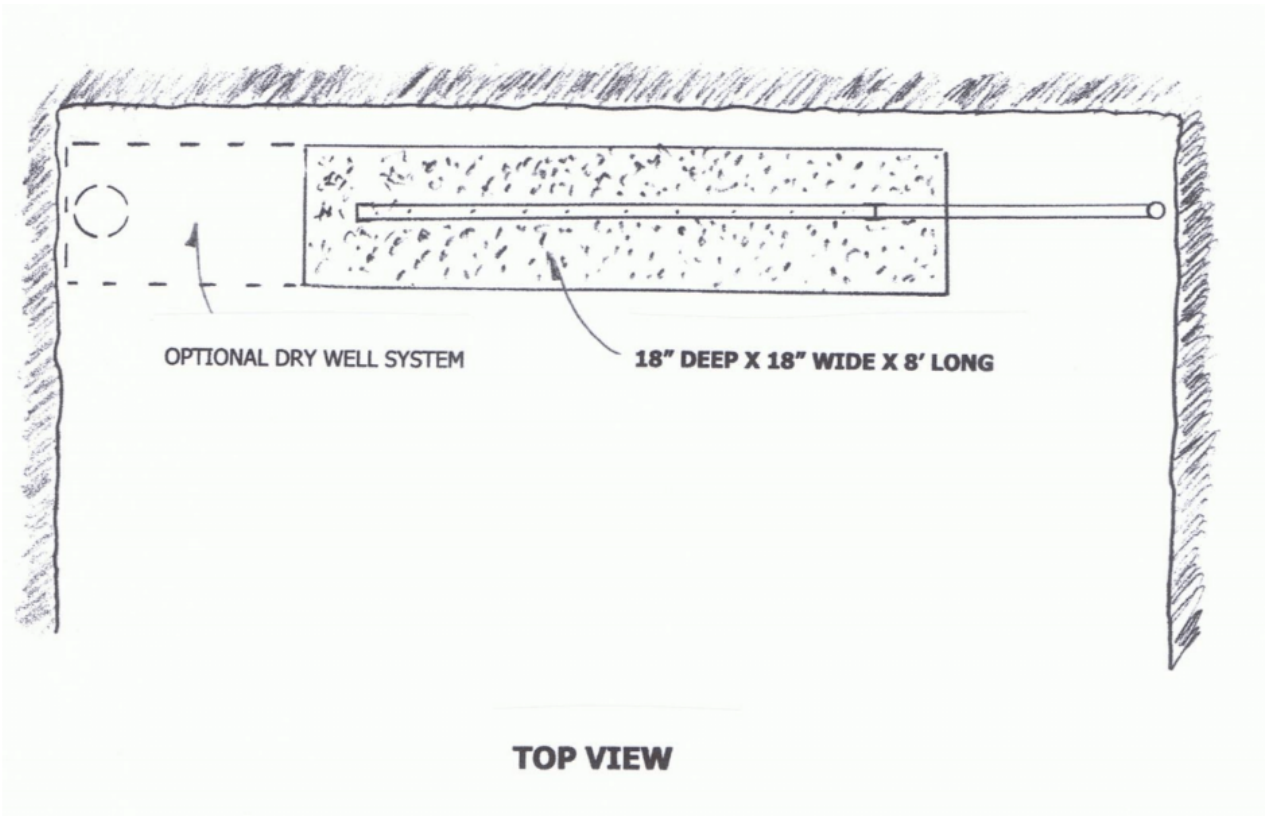
THE DRY WELL SYSTEM IS REQUIRED FOR ALL POOL INSTALLATIONS UNLESS SOIL DRAINS NATURALY



DRY WELL PIPE DETAIL



Drill ¼" holes through the pipe approx. every 6". Rotate the pipe 90 degrees and drill holes through the pipe approx. every 6" between the other holes.



IF YOU NEED TO DRAIN THE POOL IN THE FUTURE, THE WATER THAT MAY ACCUMULATE UNDER THE POOL CAN BE DRAWN OUT BY ATTACHING A PUMP TO THE DRY WELL PIPE. THE DRY WELL PIPE CAN BE EXTENDED TO THE EDGE OF THE DECK AREA WITH A CAP ON IT FOR FUTURE ACCESS, OR IF ONLY ONE OF THE TWO PORTS IS USED IN THE POOL SKIMMER, THE PIPE CAN BE GLUED INTO THE UNUSED PORT THEN CAPPED FROM INSIDE THE SKIMMER FOR FUTURE USE.

IF THE 8" STANDPIPE OPTION IS USED, A SUBMERSIBLE PUMP CAN BE LOWERED INTO THE PIPE AND WATER CAN BE PUMPED OUT AT WILL. IF THE EXCAVATED AREA UNDER THE POOL IS VERY SANDY AND YOU ARE SURE THAT WATER WILL DRAIN THROUGH IT AND THAT THE WATER TABLE WILL NOT RISE INTO IT, THEN A DRY WELL WILL NOT BE NECESSARY.

SAND OR STONE DUST PLACEMENT

ONCE THE DRY WELL IS COMPLETE, IT'S TIME TO PLACE, RAKE, AND SCREED THE SAND OR STONE DUST EVENLY TO THE FINISH DEPTH DIMENSIONS. REMOVE ANY BOARDS OR STAKES BEING CAREFUL NOT TO DISTURB THE FINISH GRADE MORE THAN NECESSARY. **DOUBLE-CHECK TO REMOVE ALL STAKES!!** FILL IN THE FOOTPRINTS AND TRACKS THEN FINISH RAKING THE SAND. THE TYPE AND QUALITY OF THE MATERIAL THAT IS USED TO SUPPORT AND SURROUND A FIBERGLASS POOL IS CRITICAL TO ITS FINAL OUTCOME. SAND THAT HAS TOO MUCH CLAY IN IT MAY NOT SUPPORT THE POOL AS IT BECOMES SATURATED WITH WATER. SAND THAT HAS ROCKS IN IT WILL BE DIFFICULT TO WASH IN AND A ROCK IN THE WRONG PLACE MAY DAMAGE THE POOL. CLEAN SAND IS THE STANDARD AND ACCEPTED MATERIAL. STONE DUST WITH 1/8TH INCH STONE DOWN TO DUST IS PROBABLY THE BEST MATERIAL TO SUPPORT AND SURROUND A FIBERGLASS POOL. IT PACKS EXTREMELY WELL WITH WATER, AND ONCE IT'S IN PLACE IT STAYS THERE.

HANDLING AND SETTING THE POOL

THERE ARE BASICALLY FOUR TYPES OF EQUIPMENT THAT CAN LIFT AND HANDLE A FIBERGLASS POOL; A BACKHOE, A TRACK HOE (EXCAVATOR), AN EXTENDABLE BOOM ALL-TERRAIN FORKLIFT (LULL MACHINE, SKY TRACK, ETC.), AND A CRANE. A BACKHOE IS LIMITED BY ITS REACH. 20-FOOT STRAPS PLUS THE DEPTH OF THE POOL PLUS THE HEIGHT OF THE POOL TRAILER ADD UP TO MORE THAN MOST BACKHOES CAN REACH. **DON'T BE TEMPTED TO USE SHORTER STRAPS UNLESS YOU USE A SPREADER BAR, AS THIS COULD SERIOUSLY DAMAGE THE POOL.**

ANOTHER THING TO CONSIDER ABOUT A BACKHOE IS THE WEIGHT OF THE POOL. WHEN THE BACKHOE IS EXTENDED TO ITS FULL LENGTH, TOO MUCH WEIGHT COULD CAUSE THE BACKHOE TO TIP OVER. A TRACK HOE WITH A LONG ENOUGH REACH WORKS WELL. IT HAS PLENTY OF POWER AND IS BACK-WEIGHTED ENOUGH NOT TO TIP WHEN THE BOOM IS EXTENDED. TRACK HOES CAN BE A LITTLE ROUGH WHEN HANDLING A POOL. THEY ARE NOT DESIGNED TO HANDLE SENSITIVE LOADS, BUT THEY WORK OK IN THE HANDS OF A GOOD OPERATOR. IF YOU DIG THE POOL WITH A TRACK HOE, IT MAY BE THE MOST COST-EFFECTIVE WAY TO HANDLE THE POOL.

A SKY TRACK OFFERS THE BEST OF BOTH BACKHOES AND TRACK HOES. THEY ARE DESIGNED TO LIFT HEAVY OBJECTS, TRANSPORT THOSE OBJECTS, AND LIFT OR SET THEM IN PLACE. THEY ALSO HAVE THE ABILITY TO LEVEL THEMSELVES ON ANGLED TERRAIN. SKYTRACKS COME IN DIFFERENT SIZES. BE SURE TO LET YOUR SUPPLIER KNOW THE WEIGHT OF THE POOL YOU WILL BE HANDLING AND HOW FAR IT WILL HAVE TO REACH.

A CRANE WOULD SEEM THE BEST EQUIPMENT TO HANDLE A POOL, AND IN MOST CASES, IT IS, ESPECIALLY WHEN THE CRANE CAN BE LOCATED NEAR ENOUGH TO THE EXCAVATION TO LIFT THE POOL, SWING, AND SET THE POOL IN ONE MOTION. HOWEVER, CRANES ARE LIMITED IN THEIR MOBILITY. ONCE THEY SET UP AND HAVE THE POOL ON THE HOOK, THEY ARE LIMITED BY THEIR MAXIMUM SWING RADIUS. IF A CRANE HAS TO LIFT AND SET THE POOL REPEATEDLY TO GET IT INTO THE HOLE, IT MAY NOT BE THE BEST AND MOST COST-EFFECTIVE OPTION. IF YOU ARE NOT SURE ABOUT THE PROPER SIZE CRANE THAT YOU NEED, THE CRANE COMPANY REP WILL USUALLY COME TO THE SITE AND GIVE YOU THE BEST OPTIONS.

CRANE COMPANIES CHARGE FOR TRANSIT TIME AS WELL AS ON-THE-JOB TIME, USUALLY AN HOURLY MINIMUM. DELAYS IN POOL ARRIVAL TIME CAN RESULT IN SUBSTANTIAL COST OVERRIDES. CONTACT THE POOL MANUFACTURER A DAY BEFORE THE POOL IS TO BE DELIVERED TO GET THE PHONE NUMBER OF THE POOL DELIVERY DRIVER. A PHONE CALL TO THE POOL DELIVERY DRIVER TO CHECK HIS PROGRESS MIGHT BE A GOOD IDEA BEFORE YOU ORDER THE CRANE.

OTHER THINGS TO CONSIDER ABOUT THESE OPTIONS ARE THE AVAILABILITY OF EQUIPMENT, COST, TYPE OF TERRAIN AT THE POOL SITE, HOW CLOSE THE POOL CAN GET TO THE HOLE, AND MORE. A PERSON WHO CAN OPERATE EXCAVATING EQUIPMENT CAN EASILY OPERATE A SKY TRACK. RENTAL COMPANIES SUPPLY SKY TRACKS AND USUALLY DELIVER AND PICK UP. EACH JOB SITE IS UNIQUE. YOU HAVE PLENTY OF OPTIONS. PICK THE ONE THAT SUITS THE JOB BEST.

WHEN THE POOL ARRIVES, IT WILL BE STRAPPED DOWN TO THE TRAILER. DO NOT REMOVE THESE STRAPS UNTIL THE POOL IS POSITIONED FOR THE POOL TO BE REMOVED. IT IS BEST TO HAVE THE POOL AS CLOSE TO THE EXCAVATION AS POSSIBLE. THIS REDUCES THE HANDLING OF THE POOL ONCE IT IS OFFLOADED.

MOST CRANE COMPANIES CARRY OR HAVE AVAILABLE A SPREADER BAR THAT CAN BE SUSPENDED ABOVE THE POOL TO CREATE A VERTICAL LIFT WITHOUT PULLING THE POOL WALLS IN. WITH LARGER POOLS, THIS PULLING IN OF THE WALLS CAN LEAD TO SEVERE STRUCTURAL DAMAGE. ONCE THE TIE-DOWN STRAPS HAVE BEEN REMOVED FROM THE POOL AND IT IS FREE-STANDING, ATTACH A 20' LIFTING STRAP TO EACH OF THE FOUR LIFTING POINTS OF THE POOL. CONNECT THE OTHER END OF EACH OF THE STRAPS TO THE CRANES LIFTING HOOK OR SPREADER BAR.

WHEN LIFTING A POOL WITH A TRACK HOE OR SKY TRACK, USE A CHAIN TO CONNECT THE STRAPS. A SPREADER BAR CAN ALSO BE USED. **DO NOT LET THE LIFTING STRAPS COME IN CONTACT WITH THE TEETH OF A TRACK OR BACKHOE. THE STRAP COULD BE CUT OR JUMP OFF A TOOTH AND DAMAGE THE POOL**. POSITION THE LIFT POINT OVER THE CENTER OF THE POOL AND SLOWLY TIGHTEN THE STRAPS. ADJUST THE LIFT POSITION TO BE SURE THE STRAPS ARE TIGHTENING EVENLY. ONCE TIGHT, CHECK EACH STRAP AND CHAIN TO BE SURE THEY ARE NOT IN A BIND BEFORE LIFTING THE POOL. BE AWARE OF WHAT THE POOL MAY HIT IF THE POOL SHIFTS A LITTLE WHEN IT IS LIFTED. TAKE PRECAUTIONS TO REDUCE POTENTIAL PROBLEMS BEFORE THEY OCCUR. ATTACH CONTROL ROPES (TAG LINES) TO BOTH ENDS OF THE POOL AT THE LIFTING LUGS OR CHAINS ON THE SAME SIDE OF THE POOL NEAREST THE EQUIPMENT OPERATOR SO THAT BOTH TAG LINE HOLDERS AND OPERATORS CAN EASILY SEE EACH OTHER. TAKE THE SLACK OUT OF THE TAG LINES AND SLOWLY LIFT THE POOL STRAIGHT UP. WHEN THE POOL HAS CLEARED THE TRAILER, HAVE THE DRIVER PULL OUT FROM UNDER THE POOL UNLESS CIRCUMSTANCES PREVENT THIS. ONCE THE TRAILER IS CLEAR, THE POOL CAN BE TRANSPORTED OR SWUNG INTO POSITION.

BEFORE THE POOL IS SET IN THE HOLE, THE MAIN DRAIN AND MAIN DRAIN PIPE SHOULD BE ATTACHED TO THE POOL. ONE END OF A PIECE OF FLEX PVC PIPE CUT LONG ENOUGH TO REACH FROM THE MAIN DRAIN TO ABOUT 5' ABOVE THE TOP OF THE POOL CAN BE CONNECTED TO THE MAIN DRAIN, AND THE OTHER END CAN BE THROWN OVER THE TOP OF THE POOL. USE A PIECE OF HARD PIPE FROM THE MAIN DRAIN AND A 45 OR 90-DEGREE ELBOW FLEX PVC. THE PIPE SHOULD NEVER BE CONNECTED DIRECTLY TO THE MAIN DRAIN. THE SKIMMER AND OTHER FITTINGS AND PIPE SHOULD NOT BE ATTACHED AT THIS TIME.

ONE MISTAKE WHEN LIFTING AND HANDLING THE POOL COULD EASILY BREAK OFF THE SKIMMER OR DAMAGE POOL FITTINGS.

WITH THE MAIN DRAIN PIPING IN PLACE, THE POOL CAN BE SET WITHOUT HAVING TO SQUEEZE BETWEEN THE POOL AND DIRT WALL TO INSTALL IT LATER.

IF THE POOL WAS DELIVERED UPSIDE DOWN, THE FOLLOWING PROCEDURES WILL EXPLAIN THE SAFE WAY TO TURN IT OVER. BEFORE SETTING THE POOL DOWN ON THE COPING, BE SURE THE GROUND IS SOFT AND NO ROCKS OR SHARP OBJECTS WILL BE IN THE WAY OF THE ROLE OVER. IF IN DOUBT, POSITION SEVERAL TIRES OR OTHER SOFT MATERIAL UNDER THE POOL AND ALONG THE COPING AS IT IS BEING SET DOWN.

CONNECT ONE END OF A LIFTING STRAP TO A LUG CHAIN ON ONE SIDE OF THE POOL. INSERT THE END OF THAT STRAP THROUGH THE LOOP OF ANOTHER STRAP. CONNECT THE LOOSE END OF THE FIRST STRAP TO THE OTHER LIFTING LUG CHAIN ON THE SAME SIDE OF THE POOL. POSITION THE SECOND STRAP IN THE MIDDLE OF THE POOL THEN THROW THE LOOSE END OF THE SECOND STRAP OVER THE BOTTOM OF THE POOL TO THE OTHER SIDE. CONNECT ONE END OF A THIRD STRAP TO A LIFTING LUG CHAIN ON THE OTHER SIDE OF THE POOL. INSERT THE LOOSE END OF THE THIRD STRAP THROUGH THE LOOP OF THE SECOND STRAP. ATTACH THE REMAINING END OF THE THIRD STRAP TO THE OTHER LIFTING LUG CHAIN ON THE SAME SIDE OF THE POOL.

FROM THE SIDE OF THE POOL THAT IS TO BE LIFTED, PULL ALL THE STRAPS TIGHT TO THE MIDPOINT OF THE POOL. WHEN ALL THE STRAPS ARE TIGHT, THEY SHOULD BE LAYING FLAT ON THE GROUND OR VERY CLOSE TO IT.

IF NOT, ADJUST THE STRAP LENGTHS BY ADDING OTHER STRAPS TO MAKE IT LONGER OR FOLDING STRAPS IN HALF TO MAKE IT SHORTER, OR ANY COMBINATION THAT WORKS.

ONCE THE RIGHT COMBINATION IS FOUND, CENTER THE LIFTING EQUIPMENT PERPENDICULAR TO THE SIDE OF THE POOL THAT IS TO BE LIFTED SO THAT IT CAN LIFT THAT SIDE UP AND EXTEND OUT AS THE POOL IS ROLLING OVER.

WHEN CONNECTING THE ROLE OVER STRAPS TO THE EQUIPMENT, INCLUDING BOTH THE SIDE STRAP AND THE CROSS OVER STRAPS ON THE HOOK OR CONNECTING CHAIN (THIS IS CRITICAL). BE SURE TO KEEP THE STRAPS TIGHT AS THE POOL PASSES OVER THE TOP DEAD CENTER. CAUTION SHOULD BE USED NOT TO LIFT THE POOL TOO MUCH AS IT APPROACHES THE TOP DEAD CENTER, AS THIS MAY CAUSE THE POOL EDGE ON THE GROUND TO DRAG BACK TOWARD THE LIFTING EQUIPMENT RESULTING IN POSSIBLE DAMAGE TO THE COPING. ONCE THE POOL PASSES THE TOP DEAD CENTER, THE STRAP THAT CAME OVER THE BOTTOM WILL ACT AS A CATCH STRAP TO KEEP THE POOL FROM SLAMMING AGAINST THE ROLE OVER STRAP AND POSSIBLY CAUSING SERIOUS DAMAGE. ALLOW THE POOL TO ROLL OVER AND DOWN UNTIL IT RESTS ON ITS BOTTOM. IF THE GROUND IS ROCKY, POSITION TIRES UNDER EACH PLACE ALONG WITH THE POOL THAT WILL TOUCH THE GROUND DURING THE ROLLOVER. ONCE THE POOL IS RIGHT SIDE UP, RESET THE STRAPS FOR LIFTING AND CONTINUE WITH THE POOL SET.


kobelco
kobelco
kobelco

POSITION THE POOL OVER THE HOLE AND LOWER IT TO A POINT WHERE YOU CAN SEE OVER THE TOP, BUT IT'S NOT TOUCHING THE GROUND. BE SURE NO ROCKS OR OTHER OBJECTS HAVE BEEN KNOCKED INTO THE POOL SET AREA. FINE-TUNE THE POSITION OF THE POOL, AND THEN LOWER IT INTO PLACE. DO NOT PULL THE POOL INTO POSITION WITH THE TAG LINES OR USE BRUTE FORCE AS THAT WILL MAKE IT DIFFICULT TO SET THE POOL ACCURATELY. TAKE YOUR TIME AND LET THE LIFTING EQUIPMENT DO THE WORK. MEASURE THE LOCATION OF THE POOL AND IF IT IS NOT IN THE RIGHT POSITION, LIFT THE POOL AND RESET IT. IF THE POOL HAS A TRANSITION (MORE THAN ONE-FLOOR SLOPE ANGLE), BE SURE THE POOL IS POSITIONED SO THAT THE TRANSITION SLOPE IS AGAINST THE SAND. THIS CAN BE CHECKED BY GETTING IN THE POOL AND WALKING THE TRANSITION AREA AFTER IT IS SET. IF THERE IS A LITTLE FLEX, BUT YOU FEEL SAND OR THERE IS NO GIVE UNDER YOUR FEET, THEN THAT IS GOOD. IF YOU DO NOT FEEL SAND UNDER YOUR FEET, LIFT THE POOL SLIGHTLY AND REPOSITION IT THEN RE-CHECK.

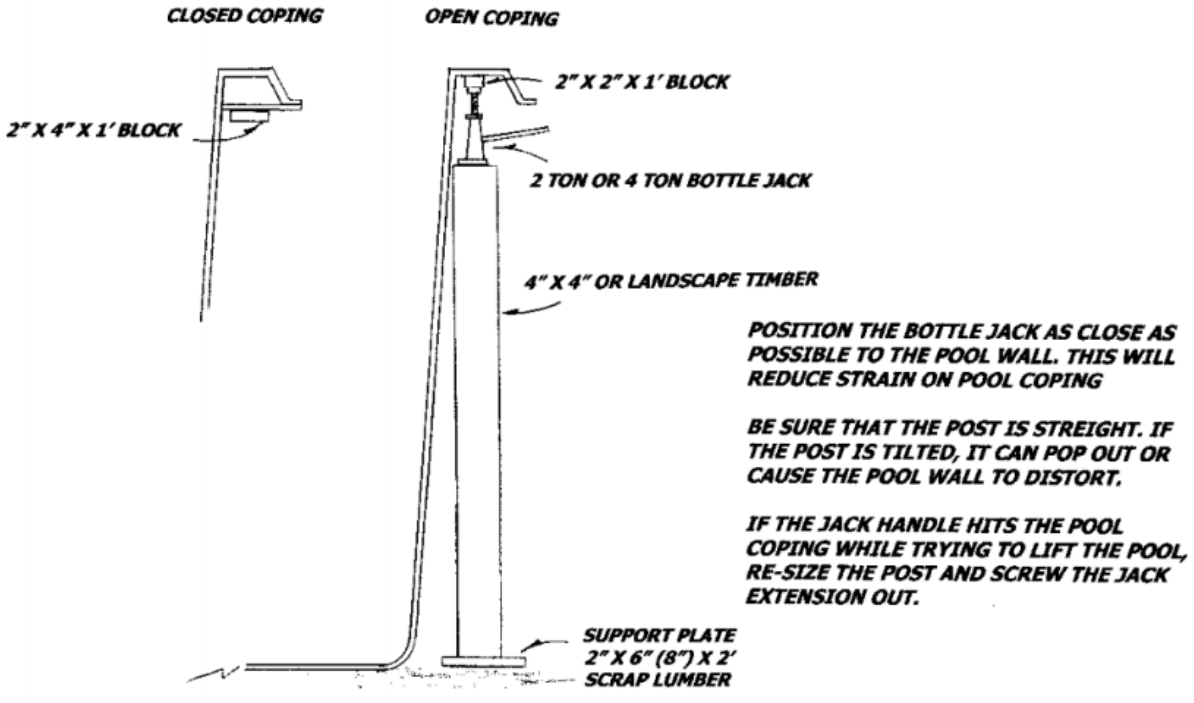
CHECK THE FOUR CORNERS (REAL OR IMAGINARY) FOR ELEVATION WITH THE STORY POLE RESTING ON THE TOP OF THE COPING. IF THE HIGHEST POINT IS AT OR SLIGHTLY BELOW THE DESIRED ELEVATION, AND THE LOWEST POINT IS WITHIN 1 1/2 OF THE DESIRED ELEVATION THEN CONTINUE ON TO THE NEXT STEP. IF THE POOL ELEVATION IS TOO FAR OUT OF TOLERANCE, RE-LIFT THE POOL. OBSERVE THE FOOTPRINT THE POOL LEFT IN SAND OR STONE DUST AND ADD OR REMOVE ENOUGH SAND TO CORRECT THE PROBLEM. RE-SET THE POOL AND CHECK IT AGAIN. ONCE THE POOL IS IN THE PROPER POSITION, GO INSIDE THE POOL AND WALK THE WHOLE FLOOR. MAKE SURE THAT WHEN YOU STEP ON THE POOL FLOOR THAT THE FLOOR TOUCHES THE SAND. CHECK THE ELEVATION AT SEVERAL LOCATIONS AROUND THE POOL TO MAKE SURE THAT THE POOL IS AT OR BELOW THE DESIRED ELEVATION. AT THIS POINT, YOU CAN DISCONNECT THE LIFTING EQUIPMENT.

LEVELING AND BEDDING

THE INITIAL ELEVATION MEASUREMENTS OF THE POOL SHOULD BE TAKEN AT THE FOUR CORNERS OF THE POOL. IF THE POOL IS FREEFORM SHAPED, PICK IMAGINARY FOUR CORNER LOCATIONS. CHECK THE ELEVATION AT ONE OF THE DEEP END CORNERS WITH THE SITE LEVEL OR LASER BY PLACING THE STORY POLE ON TOP OF THE COPING CLOSE TO THE INSIDE EDGE MAKING NOTE OF THE THREADING.

CHECK THE OPPOSITE DEEP END CORNERS, AND COMPARE THE READINGS. DO NOT CHECK ELEVATIONS AT OUTSIDE STEPS OR BENCHES AS THEY MAY GIVE MISLEADING ELEVATIONS. IF ONE SIDE OF THE DEEP END IS LOW, PLACE A 2"X 6" OR 2”X 8”, ABOUT 2 FEET LONG, UNDER THE COPING ON THE GROUND AT THE LOW CORNER. MEASURE FROM THE BOARD TO THE TOP OF THE POOL AND THEN SUBTRACT FROM THAT, THE LENGTH OF A BOTTLE JACK AND AN ADDITIONAL THREE INCHES. CUT A 4"X 4" TO THAT LENGTH. POSITION THE 4"X4" VERTICALLY UNDER THE COPING AND ON TOP OF THE BOARD. POSITION A BOTTLE JACK ON TOP OF THE POST UNDER THE COPING AND AS CLOSE TO THE POOL WALL AS POSSIBLE. PLACE A 3" OR 4" LONG PIECE OF 2"X 2" ON TOP OF THE BOTTLE JACK TO PREVENT DAMAGE TO THE COPING. PUMP THE JACK HANDLE AND LIFT THE POOL UNTIL IT REACHES THE CORRECT ELEVATION. RE-CHECK THE OTHER CORNER OF THE POOL TO MAKE SURE IT HASN'T MOVED. IF IT HAS DROPPED, AND THE DROP IS LOWER THAN ACCEPTABLE LIMITS, PREPARE ANOTHER JACK AND POST TO LIFT THIS SIDE. IF THE DROP IS ACCEPTABLE, RE-ADJUST THE OTHER SIDE TO MATCH. PLACE FILL SAND OR STONE DUST AROUND THE DEEP END AREA OF THE POOL TO ABOUT 18" UP THE POOL WALL. TOO MUCH SAND WILL MAKE THE WASH IN DIFFICULT. TOO LITTLE SAND WILL BE INEFFECTIVE. BEGIN ADDING WATER TO THE POOL, BUT ADD NO MORE THAN 1 FOOT IN THE DEEPEST AREA AT THIS TIME. **NEVER TRY LIFTING THE POOL WITH A SKID LOADER OR BACKHOE BUCKET UNDER THE COPING. THIS MAY RESULT IN SERIOUS DAMAGE TO THE POOL.**

POOL LEVELING DETAIL



POSITION THE BOTTLE JACK AS CLOSE AS POSSIBLE TO THE POOL WALL. THIS WILL REDUCE STRAIN ON POOL COPING

BE SURE THAT THE POST IS STREIGHT. IF THE POST IS TILTED, IT CAN POP OUT OR CAUSE THE POOL WALL TO DISTORT.

IF THE JACK HANDLE HITS THE POOL COPING WHILE TRYING TO LIFT THE POOL, RE-SIZE THE POST AND SCREW THE JACK EXTENSION OUT.

WATER COMPACTION

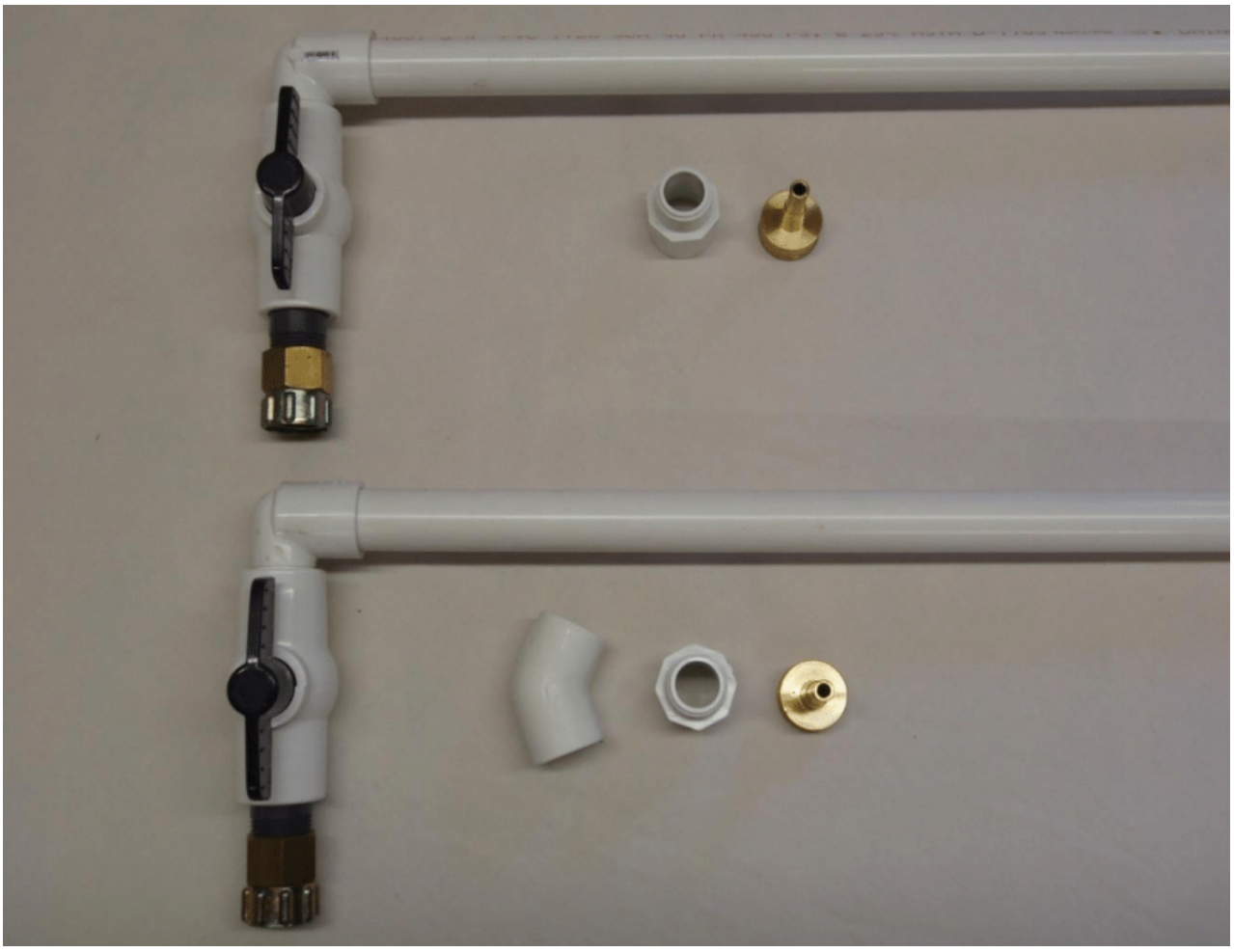
A NOTE ABOUT WATER COMPACTION: WHEN WATER WASHES ALONG THE TOP OF THE SAND, VERY LITTLE COMPACTION TAKES PLACE. BUT WHEN WATER WASHES SAND BETWEEN SAND AND A SOLID OBJECT LIKE A FIBERGLASS POOL SHELL, CONSIDERABLE COMPACTION TAKES PLACE. THE SAND INJECTION WANDS ARE DESIGNED TO MAKE IT POSSIBLE TO WASH SAND UNDER AND AROUND A POOL WITH EXTREMELY GOOD COMPACTION RESULTS. THE DESIGNS OF THESE WANDS ARE ILLUSTRATED BELOW. THE RIGHT TYPE OF NOZZLE WITH THE RIGHT SIZE HOLE IS ALSO REQUIRED.

SAND INJECTION WANDS

PARTS

Item description from left to right: (2) 10' lengths ¾" schedule 40 pvc. (2) ¾" ball valve ~ (2) ¾"x2" pvc. Nipple ~ (2) ¾" street el slip x socket ~ (2) ¾" brass hose x iron pipe swivel fitting ~ (1) ¾" 45 el ~ (2) ¾" male adaptor ~ (2) brass sweeper nozzle
*The brass sweeper nozzles should be drilled to 15/64" for best performance.

ASSEMBLY TOP



ASSEMBLY BOTTOM

ASSEMBLY COMPLETE

THE WAND ON THE LEFT IS DESIGNED TO INJECT SAND UNDER STEPS AND BENCHES. A LENGTH OF ABOUT SIX FEET WORKS WELL. THE WAND ON THE RIGHT IS FOR INJECTING SAND UNDER THE POOL AND AROUND THE FLOOR/WALL RADIUS. THE LENGTH OF THIS WAND SHOULD BE LONG ENOUGH TO REACH THE DEEP END FLOOR PLUS TWO FEET.

IN ORDER TO BE ABLE TO MOVE SAND EFFICIENTLY UNDER A POOL, A MINIMUM OF 40 POUNDS OF WATER PRESSURE IS REQUIRED. MOST WELLS AND SOME MUNICIPAL WATER PRESSURES ARE BELOW 40 POUNDS AND WILL REQUIRE A BOOSTER PUMP. UNLESS YOU HAVE A PRESSURE TESTING DEVICE, A SIMPLE TEST WILL TELL YOU IF YOU HAVE ENOUGH PRESSURE. STAND AT THE END OF THE POOL, AIM THE WASH WAND NOZZLE TOWARD THE OTHER END OF THE POOL AND TURN THE WATER ON. IF THE STREAM OF WATER EASILY GOES ALL THE WAY OVER THE POOL AND HITS THE GROUND ON THE OTHER SIDE, THAT SHOULD BE ENOUGH PRESSURE AND VOLUME TO DO THE JOB. IF A BOOSTER PUMP IS REQUIRED, THE FOLLOWING PICTURE ILLUSTRATES THE RECOMMENDED PUMP, PIPE, AND FITTINGS.

THIS PUMP WILL PRODUCE ABOUT 60 POUNDS OF PRESSURE. PLEASE NOTE THAT MOST TRASH PUMPS AND SUBMERSIBLES WILL NOT BEGIN TO BUILD THIS MUCH PRESSURE.

SIMER UTILITY PUMP MODEL 2825 SS91 (LOWE'S ITEM)

THE PICTURE SHOWS A1" BRASS FOOT VALVE (THE BRASS VALVE IS FOR WEIGHT TO KEEP THE END OF THE FLEX PIPE UNDERWATER), 12' OF 1" FLEX, AND PVC FITTINGS. THE 1" IRON PIPE TO ¾" HOSE FITTING COMES WITH THE PUMP. DROP THE FOOT VALVE AND PIPE INTO THE DEEP END OF THE POOL. APPLY SILICONE ADHESIVE TO THE OTHER END OF THE PIPE AND INSERT IT INTO THE MALE ADAPTOR. PRIME THE PUMP, AND YOU ARE READY TO GO.

BEGIN WASHING SAND UNDER THE POOL AT THE DEEPEST POINT. WITH THE WATER TURNED ON, PUSH THE SAND INJECTION WAND UNDER THE POOL AS FAR AS YOU CAN WITH THE NOZZLE POINTING UP. BE SURE THE WAND GOES UNDER THE POOL, NOT AGAINST IT. IF IT WON'T GO UNDER THE POOL IN THE UP POSITION, TURN THE NOZZLE TO ONE SIDE OR THE OTHER. ONCE UNDER THE POOL, TURN THE NOZZLE UP. YOU SHOULD BE ABLE TO FEEL IT PASS UNDER THE FLOOR WALL RADIUS. REMOVE THE WAND, TURN THE NOZZLE OVER, MAKE A SMALL PUDDLE WHERE THE WAND CAME OUT, AND THEN PUSH THE NOZZLE THROUGH THE PUDDLE AND BACK UNDER THE POOL AT THE SAME LOCATION. DO NOT WASH SAND UNDER ANY AREA OF THE POOL FLOOR THAT IS NOT COVERED BY WATER. AS LONG AS THE SAND CONTINUES TO RUN UNDER THE POOL, CONTINUE THIS PROCESS. HAVE SOMEONE KEEP FEEDING THE AREA YOU ARE WORKING IN SO THAT YOU ARE NOT JUST PUMPING WATER UNDER THE POOL. WHEN WATER RUSHES BACK OUT FROM UNDER THE POOL OR NO MORE SAND WILL GO IN, MOVE THE WAND A FOOT OR TWO AND REPEAT THE PROCESS. PAY PARTICULAR ATTENTION TO BEING SURE THAT THE FLOOR WALL/RADIUS IS WELL PACKED WITH SAND BEFORE MOVING TO THE NEXT POSITION. WHERE THE FLOOR AND WALL OF THE POOL COME TOGETHER IS CALLED THE FLOOR/WALL RADIUS. THE FLOOR/WALL RADIUS IS THE AREA THAT SUPPORTS THE FULL VERTICAL LOAD OF THE POOL WALL, A PORTION OF THE POOL DECK, AND A SUBSTANTIAL AMOUNT OF THE POOL WATER. **THIS IS THE MOST CRITICAL PORTION OF THE POOL FOR SUPPORT FROM THE BACKFILL MATERIAL AND MUST BE THOROUGHLY WASHED IN.**

IF THE BACKFILL MATERIAL MOVES, THEN THE WALL MOVES, AND WELL YOU KNOW THE REST. WHILE THE WASH IN THE PROCESS IS GOING ON, SOMEONE SHOULD BE IN THE POOL MAKING SURE THERE ARE NO HOLLOW PLACES IN THE FLOOR AREA BY FEELING IF THE POOL GIVES UNDER THEIR FEET OR SOUNDS HOLLOW WHEN THEY BANG THE FLOOR WITH THEIR HEAL. DO THIS ONLY IN AREAS WHERE WATER IS COVERING THE FLOOR. ONCE THE AREA OF THE FLOOR COVERED BY WATER IS WASHED IN, RECHECK THE ELEVATION TO BE SURE IT HAS NOT SETTLED. IF IT HAS SETTLED, JACK IT BACK UP AND RE-WASH THE AREA. CHECK SEVERAL LOCATIONS ALONG THE COPING TO BE SURE THE WHOLE AREA COVERED BY WATER IS LEVEL. IF THERE IS A LOW PLACE, PREPARE A POST AND BOTTLE JACK THEN LIFT THE LOW PLACE TO LEVEL AND REWASH THAT AREA. **IF WATER BEGINS ACCUMULATING AROUND THE POOL DURING THE WASH-IN PROCESS, BE SURE TO PUMP IT OUT, AS TOO MUCH WATER MAY FLOAT THE POOL.** IF YOU ADD MORE WATER AND THE POOL IS NOT LEVEL, YOU WILL NOT BE ABLE TO LIFT IT LATER. LIFTING THE POOL WITH TOO MUCH WATER IN IT WILL RESULT IN DISTORTION OF THE POOL WALL OR WORSE. CONTINUE ADDING WATER, WASHING SAND, AND LEVELING THE POOL UNTIL THE COMPLETE FLOOR IS COVERED WITH WATER. YOU MAY REMOVE THE JACKS AND POSTS WHEN THE WATER AND BACKFILL HAVE COME UP THE WALL ABOUT TWO FEET. AT THIS POINT, IF ANY BENCHES OR STEPS ARE NOT LEVEL, POSITION A POST AND JACK UNDER THE COPING IN THESE AREAS AND LIFT THEM TO LEVEL. WASH IN THE BENCHES AND STEPS THE SAME WAY YOU WASHED IN THE FLOOR WALL RADIUS. DO NOT PLACE CONCRETE BLOCKS OR WOOD BRIDGING UNDER THE BENCHES OR STEPS FOR SUPPORT. CONTINUE ADDING WATER AND BACKFILLING WITH SAND UP THE WALLS UNTIL THE SAND IS ABOUT SIX INCHES BELOW THE RETURN INLETS.

THE POOL SHOULD BE WITHIN 1/4" TO 1/2” OF LEVEL ALL ALONG THE TOP OF THE COPING. WHEN FORMING THE DECK AROUND THE POOL THE AREA MAY REQUIRE COMPACTION. TAMPERS MUST STAY AT LEAST TWO FEET AWAY FROM THE EDGE OF THE POOL, AS THE TAMPING ACTION MAY DISTORT THE SHAPE OF THE POOL. **BEFORE POURING THE DECK, CHECK THE POOL TO BE SURE IT IS STILL LEVEL. HEAVY RAINS, UNSTABLE SOIL, AND OTHER CONDITIONS MAY CAUSE THE POOL TO SHIFT OR SETTLE.**

A NOTE ABOUT STRAIGHT WALL POOLS: A FIBERGLASS POOL BY DESIGN IS FLEXIBLE. THIS FLEXIBILITY CAUSES A PROBLEM WITH STRAIGHT WALLS. IT TAKES VERY LITTLE PRESSURE TO PUSH THE WALL IN OR OUT, ALTHOUGH THERE IS MORE OF A TENDENCY FOR THE WALL TO BOW IN. WATER WEIGHT CAN SOMETIMES WORK TO PUSH THE WALL OUT BY LEAVING OUT THE BACKFILL WHILE CONTINUING TO ADD WATER, BUT THIS OFTEN LEADS TO DISTORTION OF THE WALL IN OTHER WAYS. WHEN THE DECK IS BEING FORMED AND POURED, THERE IS A LOT OF WALKING AROUND NEXT TO THE POOL. THE WALKING ACTION CAN EASILY PUSH THE WALL BACK IN. IT IS EASY NOT TO NOTICE THIS PROBLEM UNTIL AFTER THE DECK IS POURED.

ANOTHER METHOD: AFTER THE POOL IS LEVEL AND THE FLOOR AREA IS WASHED IN, LOOK DOWN THE POOL'S STRAIGHT WALL. IF THE WALL IS BOWED IN, VISUALLY LOCATE THE POINT AT WHICH IT IS BOWED IN THE MOST AND MARK THAT SPOT ON THE COPING. AT THAT POINT, DRILL A ½” HOLE IN THE OUTSIDE LOWER PORTION OF THE COPING. DRIVE A 2”X 2” OR LARGER STAKE DEEP INTO THE UNDISTURBED SOIL ANGLING, IT AWAY FROM THE POOL, AND IN LINE WITH THE HOLE. BE SURE THAT THE TOP OF THE STAKE IS LOWER THAN THE BOTTOM OF THE FUTURE DECK.

PUT THE END OF A 3/8” POLY OR NYLON ROPE INTO THE HOLE AND PULL IT THROUGH AND AROUND THE STAKE.

MAKE A LOOP AT THE END OF THE ROPE, THEN PULL THE OTHER END OF THE ROPE THROUGH THE LOOP AND PULL IT AS TIGHT AS POSSIBLE CREATING A CONTINUOUS LOOP.

PUT A STAKE IN THE MIDDLE OF THE CONTINUOUS LOOP AND ROTATE THE STAKE. EACH ROTATION WILL SHORTEN THE ROPE AND PULL THE WALL OUT LIKE A TURNBUCKLE. ONCE THE WALL IS STRAIGHT, LOCK THE END OF THE TURNBUCKLE STAKE IN THE DIRT. LEAVE THIS STAKE AND ROPE IN PLACE. WHEN THE DECK IS POURED, IT WILL COVER THE ROPE AND STAKES.

IF THE WALL BOWS OUT, WHEN THE BACKFILL SAND REACHES THE BOWED OUT AREA, STEP ON THE BACKFILL NEXT TO THE POOL AT THE BOW. THIS WILL PUSH THE WALL IN.

BE SURE TO CHECK THE STRAIGHT WALLS OF A POOL BEFORE THE DECK IS POURED.

OUTFITTING AND PLUMBING A FIBERGLASS POOL

DURING THE POOL FILL AND BACKFILL PROCESS, THERE IS ALWAYS WAITING TIME AS THE POOL IS FILLING. DURING THESE TIMES, POOL FITTINGS CAN BE INSTALLED, EQUIPMENT PADS CAN BE SET, POOL EQUIPMENT CAN BE POSITIONED, AND SOME PIPING CAN BE RUN. IF A HOLE MUST BE CUT FOR A SKIMMER, AN ANGLE GRINDER WITH A DIAMOND BLADE OR A SAWZALL WITH CARBIDE OR METAL CUTTING BLADE WORKS WELL. USE A 2 1/2“ HOLE SAW TO DRILL RETURN INLET FITTINGS. BEFORE YOU DRILL OR CUT, CHECK THE OUTSIDE OF THE POOL TO BE SURE YOU DON’T HAVE SOMETHING IN THE WAY. THE FITTINGS SHOULD FIT FLUSH WITH THE BACKSIDE OF THE POOL. FITTINGS THAT ARE NOT FLUSHED WHEN TIGHTENED MAY LEAK OR BREAK. USING AN ANGLE GRINDER WITH A 36 GRIT OR COARSER SANDING DISC, SAND THE BACKSIDE OF THE POOL TO KNOCK DOWN ANY HIGH SPOTS AND SMOOTH OUT ROUGH AREAS.

ALL THE RETURNS, SKIMMERS, LIGHTS, ETC. (FITTINGS) SHOULD BE INSTALLED WITH SILICONE SEALANT (USE ONLY 100% SILICONE, (BLENDED SILICONE WILL NOT HOLD UP UNDERWATER). REMOVE AND DISCARD ALL GASKETS. APPLY SILICONE TO THE PART OF THE FITTING THAT GOES INSIDE THE POOL AND PUSH IT INTO PLACE. BE SURE THE FRONT AND BACK SIDES OF THE POOL ARE CLEAN AND DRY. A SMALL AMOUNT OF SILICONE SHOULD SHOW AROUND THE EDGE OF THE PART. APPLY SILICONE TO THE PART OF THE FITTING THAT GOES ON THE OUTSIDE OF THE POOL. WIPE OFF ANY EXCESS SILICONE AFTER THE FITTING IS TIGHT. IT IS EASY TO OVERTIGHTEN PLASTIC FITTINGS CAUSING THEM TO BREAK, SO BE CAREFUL. ALL PIPING SHOULD SCHEDULE 40 PVC, AND ALL PIPE FITTINGS SHOULD BE SCHEDULED 40 PRESSURE FITTINGS, NOT DWV. IT IS ALWAYS BEST TO USE PVC CLEANER ON CONNECTIONS. BLUE GLUE HAS EXCELLENT ADHESIVE POWER AND IT WORKS WELL UNDERGROUND. BECAUSE IT IS BLUE, IT IS BETTER TO USE CLEAR GLUE ON ABOVE-GROUND CONNECTIONS. CLEAR SILICONE WORKS VERY WELL ON THREADED CONNECTIONS. IT WILL EXPAND AND CONTRACT WITH THE FITTINGS WITHOUT LOSING ITS BOND AND IT IS HIGHLY HEAT RESISTANT.

THERE ARE TWO WAYS TO PLUMB A POOL SKIMMER. ONE IS TO CONNECT THE MAIN DRAIN PIPE TO THE 1 1/2" PORT IN THE BOTTOM OF THE SKIMMER. FROM THE 2" PORT, CONNECT A 2" PIPE AND DIRECT IT TOWARD THE EQUIPMENT PAD. A DIVERTER INSIDE THE SKIMMER CONTROLS FLOWS FROM THE SKIMMER AND OR THE MAIN DRAIN. THE SECOND METHOD IS TO CAP ONE PORTION OF THE SKIMMER AND CONNECT A 1 ½ OR 2” PIPE TO THE OTHER PORT AND DIRECT THE PIPE TOWARD THE EQUIPMENT PAD. DIRECT THE MAIN DRAIN PIPE TOWARD THE EQUIPMENT PAD. THE ADVANTAGE OF THE SECOND METHOD IS THAT MORE WATER VOLUME CAN FLOW ON THE SUCTION SIDE OF THE PUMP. WITH VALVING AT THE EQUIPMENT, YOU CAN HAVE CONTROL OF THE FLOW FROM THE SKIMMER AND MAIN DRAIN.

DO NOT CONNECT PIPING TO THE RETURN INLETS UNTIL THE BACKFILL HAS BEEN WASHED IN UP TO THE BOTTOM OF THE RETURN INLETS. THIS METHOD WILL GIVE THE PIPE A SOLID BASE TO REST ON AND WILL NOT BE PULLED DOWN AS THE POOL IS BACKFILLED. GLUE A SHORT PIECE OF PIPE INTO THE RETURN INLET AND THEN GLUE TO THAT A 90-DEGREE EL FACING TOWARD THE DIRECTION OF CHOICE. THE 90 SHOULD BE TILTED SLIGHTLY DOWN TO RELIEVE STRAIN WHEN THE PIPING IS ATTACHED. IF YOU ARE USING FLEX PVC, DO NOT CONNECT IT DIRECTLY TO A POOL FITTING. POOL FITTINGS ARE A SOFTER MATERIAL THAN REGULAR PVC AND FLEX PVC CAN WORK ITS WAY LOOSE OVER TIME.

TRY TO KEEP PLUMBING LINES CLOSE TO THE POOL. IF THE DECK COVERS THE PIPE, IT CAN PROTECT IT FROM DAMAGE AND HELP INSULATE IT FROM FREEZING. GATHER ALL THE PLUMBING INTO ONE TRENCH FOR THE RUN FROM THE POOL TO THE EQUIPMENT. KEEP STONES AND OTHER SHARP OBJECTS AWAY FROM THE PIPES. ONCE THE PLUMBING RUN IS COMPLETE, COVER THE PLUMBING WITH SAND OR SOFT BACKFILL.

IF YOU USE A PRE-CAST OR PLASTIC EQUIPMENT PAD, YOU CAN SET THE EQUIPMENT WHILE YOU ARE WAITING FOR WATER TO FILL THE POOL. WHEN CHOOSING A LOCATION FOR THE EQUIPMENT, NOTE WHERE THE ELECTRIC AND GAS METER IS. THE ELECTRIC AND GAS LINE RUNS ARE EXPENSIVE. KEEP THE POOL EQUIPMENT AS CLOSE TO THE POOL AS POSSIBLE TO SHORTEN PLUMBING RUNS. PLUMBING RUNS OVER 30 FEET WILL REQUIRE ONE SIZE LARGER PIPE. THREE-WAY JANDY VALVES WORK VERY WELL FOR CONTROLLING WATER FLOW TO AND FROM DIFFERENT PLACES IN THE POOL. THEY ARE A LITTLE MORE EXPENSIVE, BUT YOU CAN AUTOMATE THESE VALVES IN THE FUTURE FOR REMOTE CONTROL.

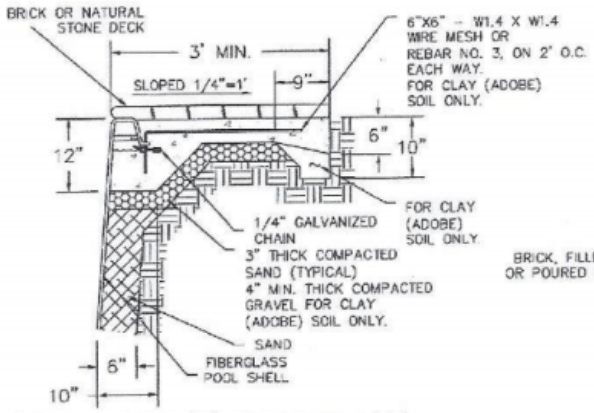
ELECTRICAL

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. WET NICHE LIGHTS ARE NOT RECOMMENDED, BUT RATHER THE USE OF FIBEROPTIC OR LED LIGHTING. WET NICHE LIGHTS HAVE A TENDENCY TO CORRODE AND LEAK. THE FIBERGLASS POOL MANUFACTURER WILL NOT BE HELD RESPONSIBLE FOR ANY ELECTRICAL WORK.

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” REBAR ARE PLACED IN EACH HOLE AND BENT AT 90-DEGREE ANGLES(FIG.6-7). 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 REBAR ON 2’ CENTERS (FIG. 6-7). CANTILEVERED CONCRETE DECKING IS RECOMMENDED. CONCRETE SHOULD BE POURED AT LEAST 3’ AROUND THE PERIMETER OF THE POOL AND AT LEAST 4” DEEP. THE FIBERGLASS POOL MANUFACTURER WILL NOT BE HELD RESPONSIBLE FOR ANY CONCRETE WORK OR CRACKS THAT MAY RESULT FROM ITS USE.

Figure 6 Concrete Deck with Brick or Stone



* For non cantilever decks remove stone or bricks.

Figure 7 Typical Cantilever Concrete Deck

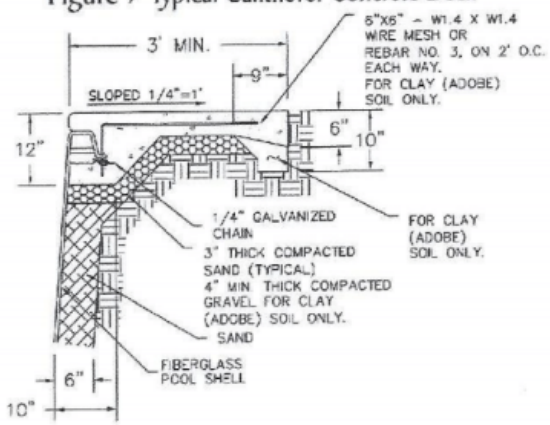
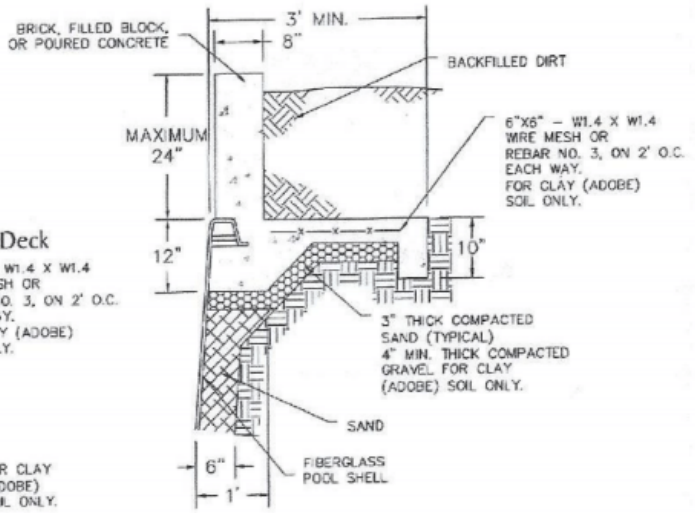


Figure 8 Typical Bond Beam Construction



WARNING TO THE BUYER

THIS POOL IS DESIGNED TO BE KEPT FULL AT ALL TIMES. THE SHELL COULD BE DAMAGED IF THE WATER LEVEL IS ALLOWED TO DROP BELOW THE SKIMMER. WHEN AN APPRECIABLE DRAW-DOWN IS NOTICED, OR IF IT BECOMES NECESSARY TO DRAIN THE POOL, CONTACT THE MANUFACTURER OR DEALER 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. THE MANUFACTURER WILL NOT BE HELD RESPONSIBLE FOR ANY UNFORESEEN PROBLEMS OR CIRCUMSTANCES WHICH ARISE FROM INADEQUATE SITE DRAINAGE OR INCORRECT DECK INSTALLATION. REFER TO THE WARRANTY SENT WITH THE POOL FOR CONDITIONS, CIRCUMSTANCES, OR INSTALLATION PRACTICES THAT MAY VOID THE POOL'S WARRANTY.