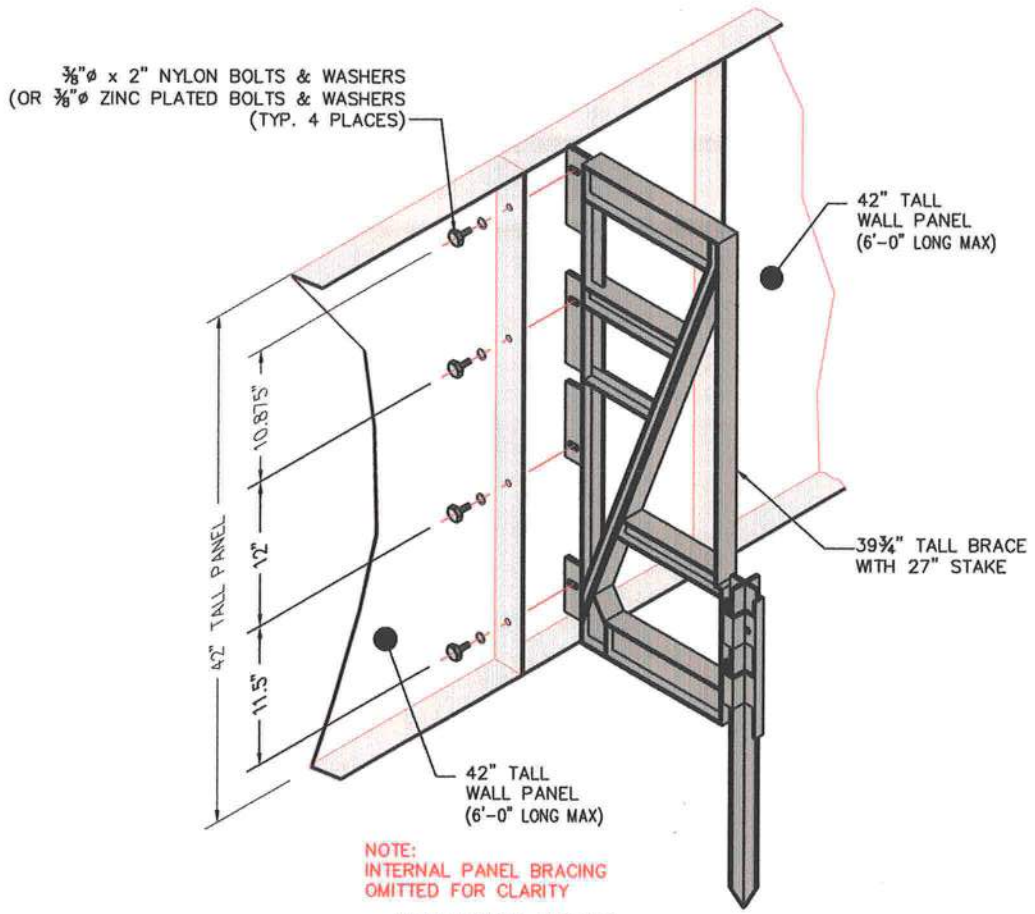
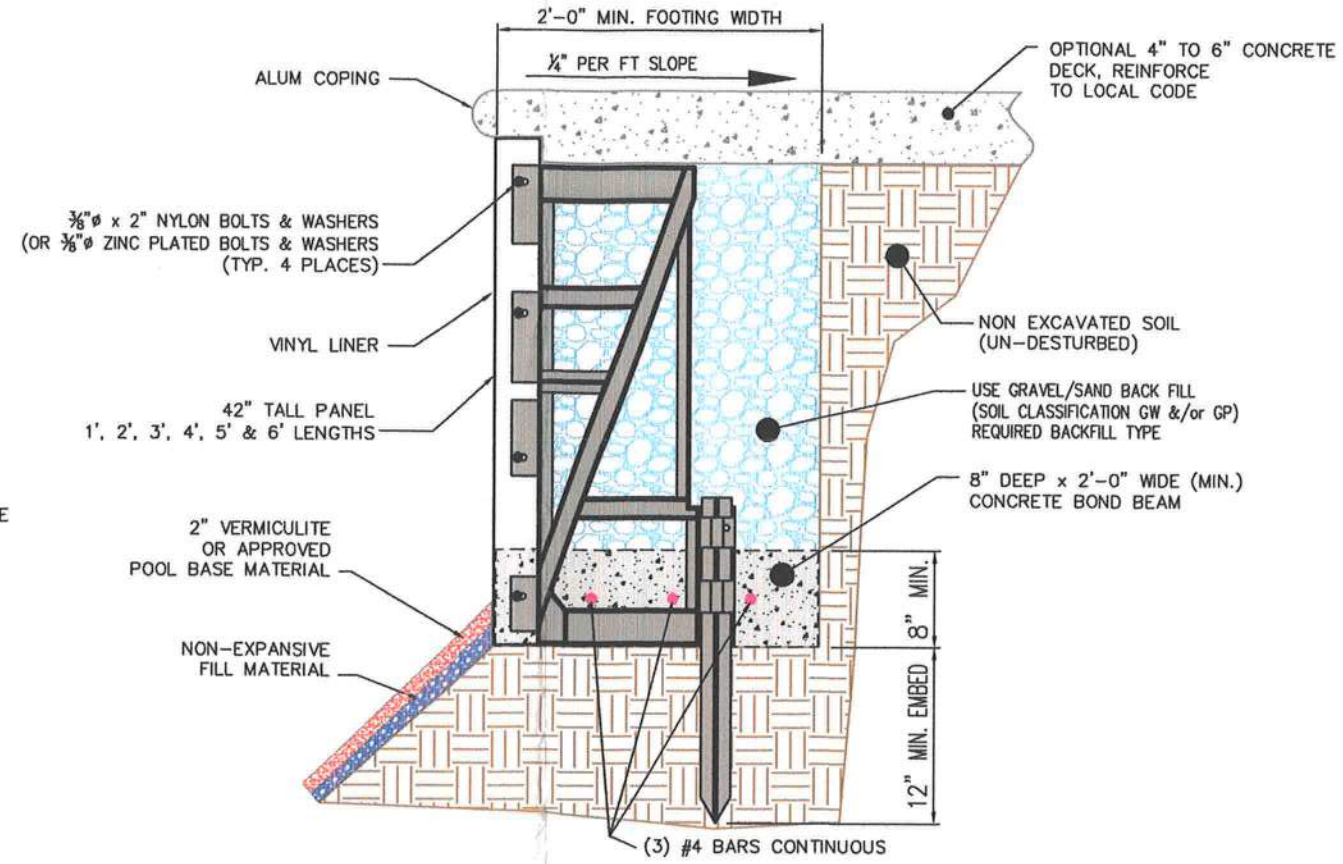
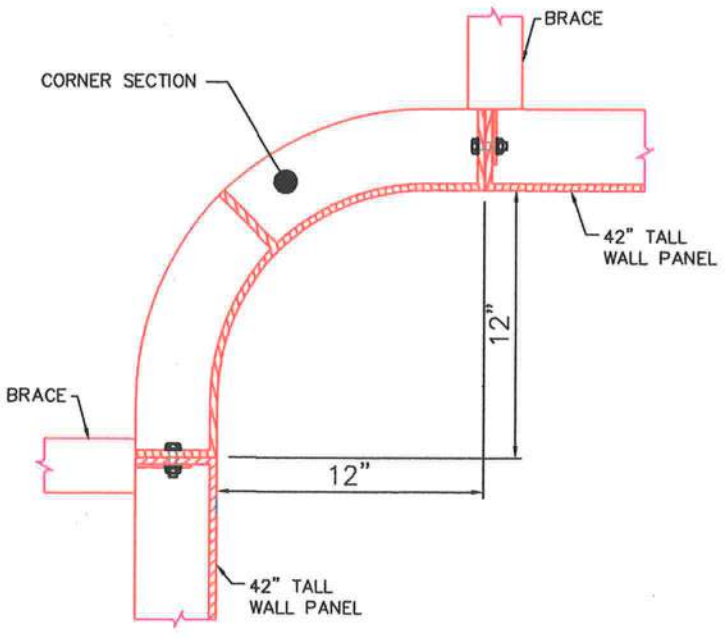


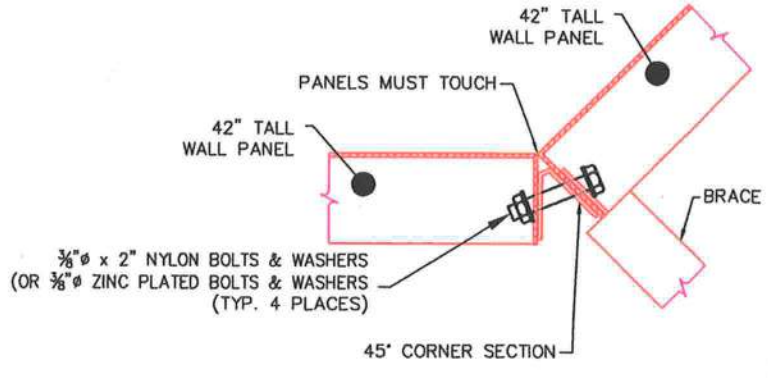
STANDARD BRACE



TYPICAL SECTION



TYPICAL (90°) CORNER ASSEMBLY
W/ 6" RADIUS, 12" x 12" PANEL
NOT TO SCALE



TYPICAL (45°)
CORNER ASSEMBLY
NOT TO SCALE

COLUMBIA COUNTY BUILDING DEPARTMENT
Received
for
FILE COPY
Code
Compliance
PLANS EXAMINER

CARL E. THOMPSON, JR.
LICENSE
No. 36539
6/25/21
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

CARL E. THOMPSON, JR., P.E.

GENERAL NOTES:

1. All design, detailing, fabricating & construction shall conform to the following codes & specifications:
   a. Structural Design complies with The Florida Building Code 7th Edition (2020) Residential The International Residential Building Code (2018 Edition).
   b. The 2018 International Swimming Pool & Spa Code (ISPSC).
   c. All pools are A.P.S.P. (ANSI/APSP/ICC-5 2011) Type 2 & pools comply with APSP/ICC-5, unless otherwise noted.
   d. American Society of Testing & Materials (ASTM) specifications.
2. Vertical dimensions on all pools are from polymer wall heights.
3. The pool is designed to remain full of water at all times. The pool may be damaged if the water level is allowed to drop below the pool inlet(s). When appreciable draw down is noticed or if it becomes necessary to drain the pool, contact Polar Pool, or it's agent immediately for instructions. Temporary shoring of the pool panels is highly recommended.
4. Finished decks &/or grades shall be constructed in accordance with the pool manufacture's guidelines & be sloped away from the pool copings at a rate not less than 1/4" per linear foot.

EXCAVATION NOTES:

1. Surrounding land elevation to be 6" lower than top of pool.
2. Allowed 2'-0" all around pool for working area in excavation. All voids under panels to be filled & compacted in 6" to 8" layers.
3. At no time should compacted backfill exceed water level or vice versa more than 12".
4. Use Gravel/Sand for backfill. Soil classification GW &/or GP Required (no organic materials or top soil).
   Lateral Soil Load = 30 PSF/FT (per FBC Table 1610.1)

FOUNDATION NOTES:

1. Footing design based on 1,500 PSF soil bearing capacity (minimum).
2. Neither Carl E. Thompson, Jr., P.E., T.E.S., nor Polar Pools, shall be responsible for local foundation design, as local conditions must be investigated to determine proper soil bearing capacity.

MATERIAL SPECIFICATIONS:

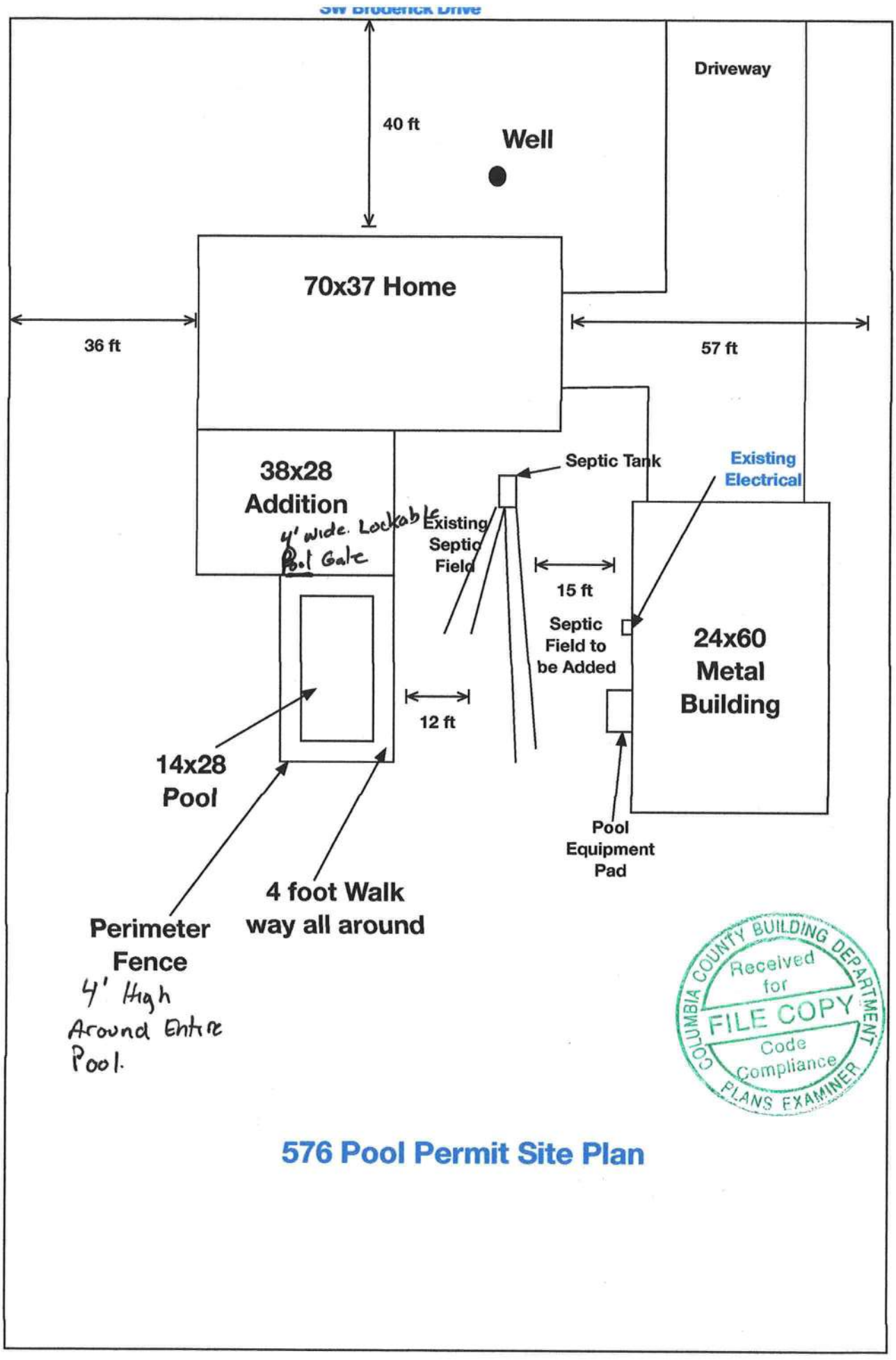
Pool Liner:	20 MIL PVC Vinyl Liner
Pool Panels:	Polystyrene PS 331
Pool Braces:	Polypropylene
Concrete:	f'c=3,500 PSI @ 28 days
Reinforcing Steel:	ASTM-A615-GR 60
Vermiculite:	Light Weight Aggregate Concrete =75 PCF Conforming to ACI 613A & ACI 318-08

POLAR POOLS
522 Ballymote Ct.
Mathews, NC 28104
1-877-207 POOL

42" Tall Polymer Wall Pool Assembly Drawing
Homeowner/Installation Address: Michael Bahr, 576 SW Broderick Drive, Lake City, FL 32025

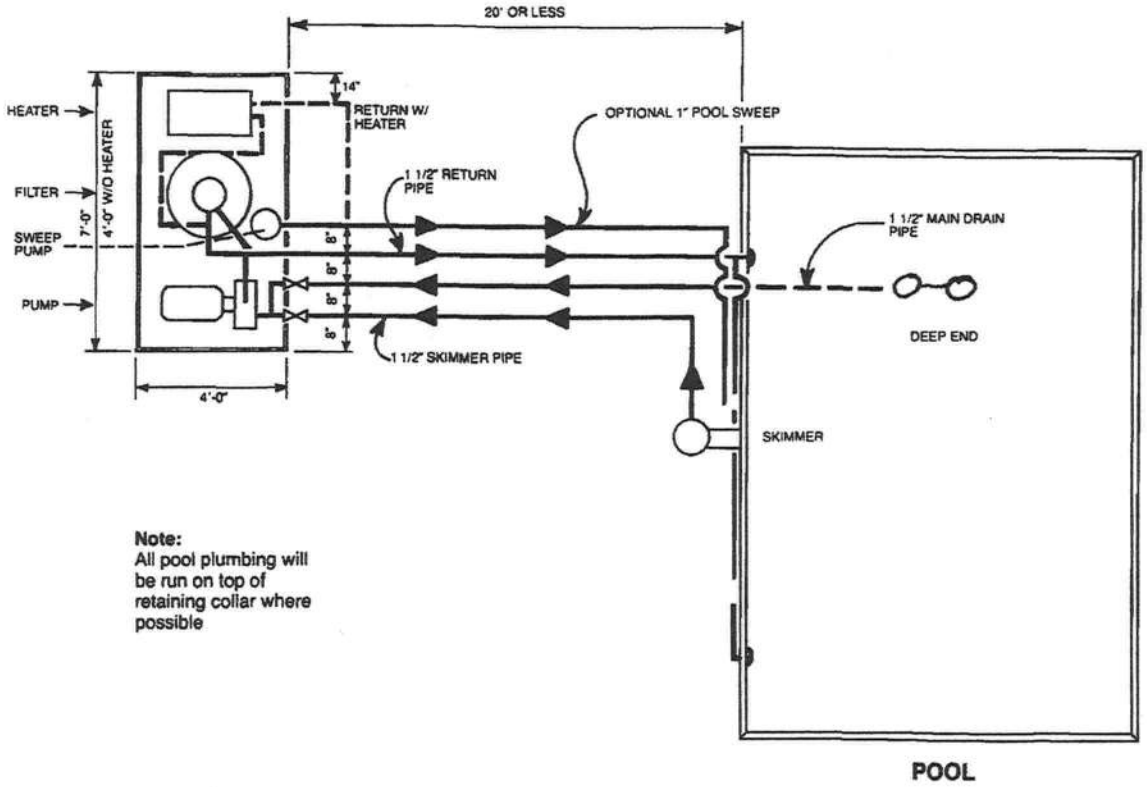
C.E.T.
CARL E. THOMPSON, JR., P.E.
Serving The Industry Since 1984
Phone: (423)781-7336 Fax: (423)781-7337
Email:carl@tesengrs.com Website:tesengrs.com
P.O. Box 1500, Englewood, TN 37329

DRAWN BY:	D.P. Ward
DATE:	June 25, 2021
POLAR POOLS#	Pending
SCALE:	3/4"=1'-0"
PROJ.#	133421
DWG.#	EB-11529

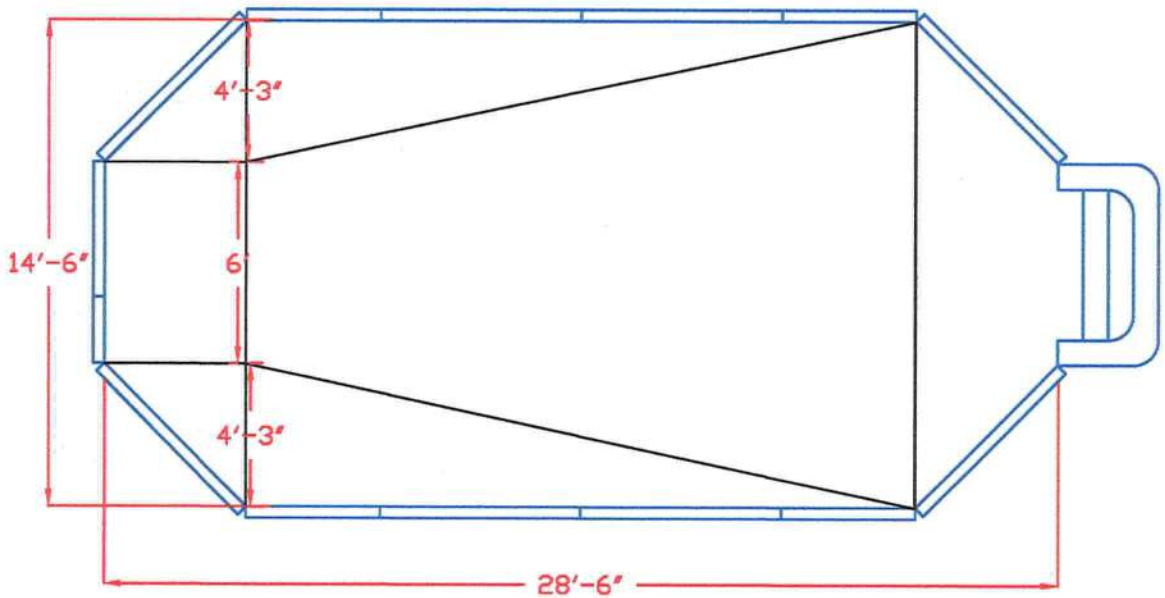


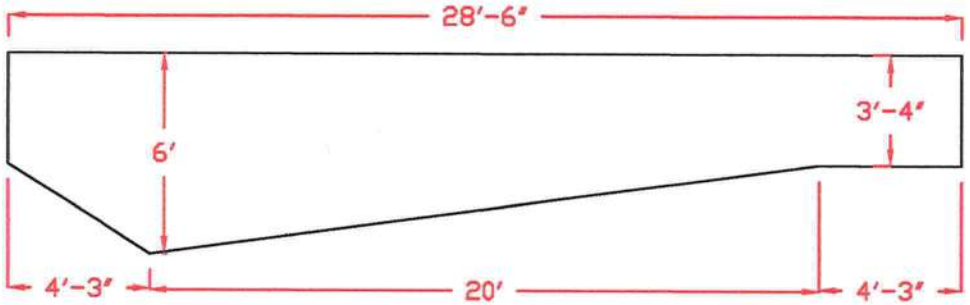
576 Pool Permit Site Plan

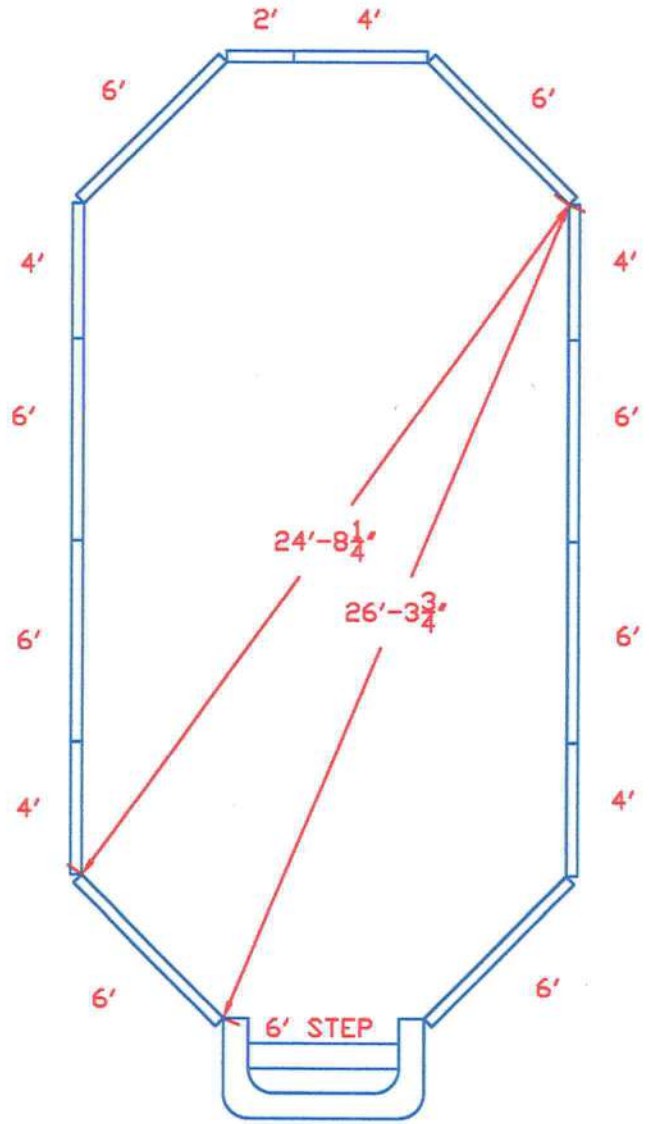
POOL PLUMBING SCHEMATIC



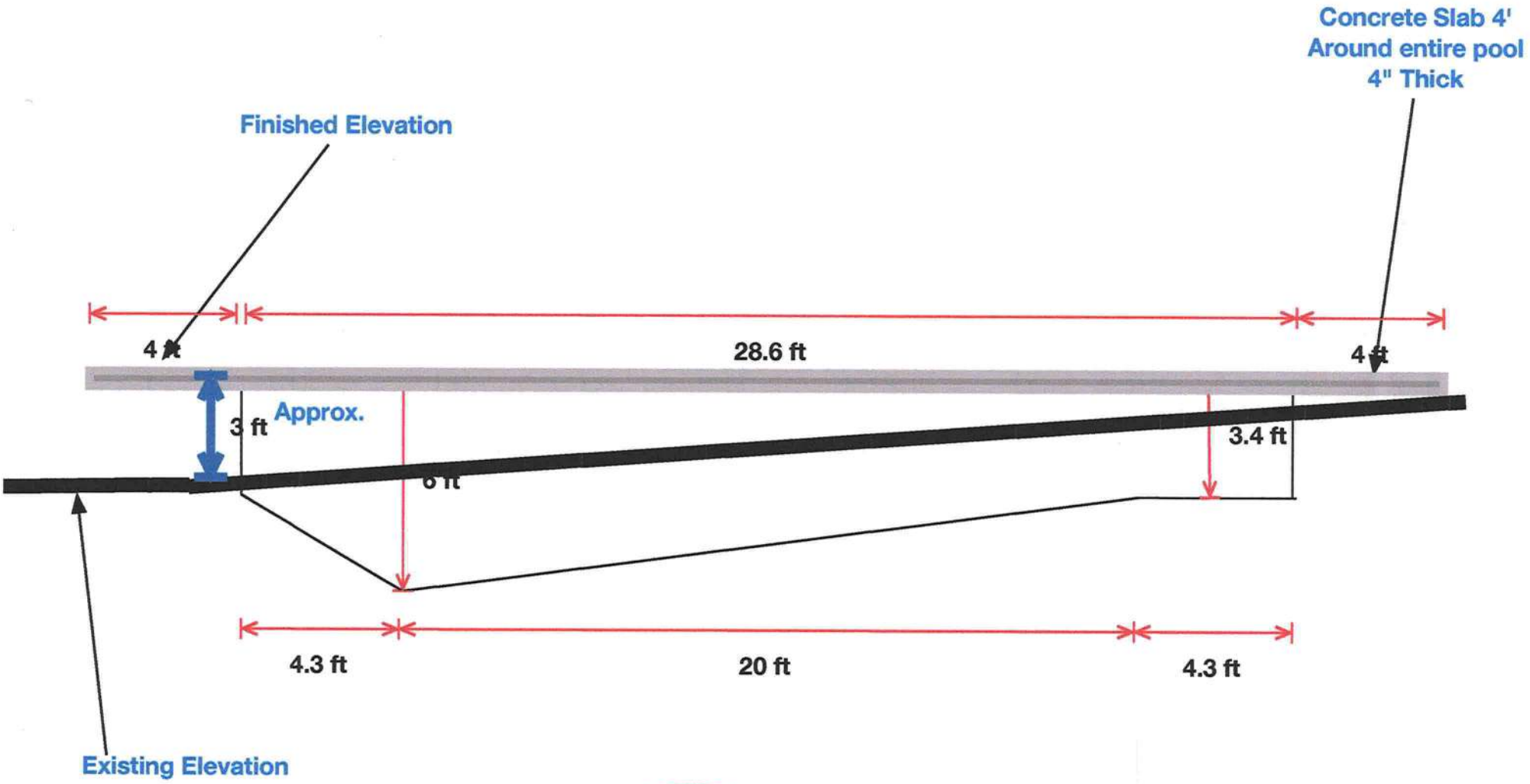
Note:
All pool plumbing will be run on top of retaining collar where possible



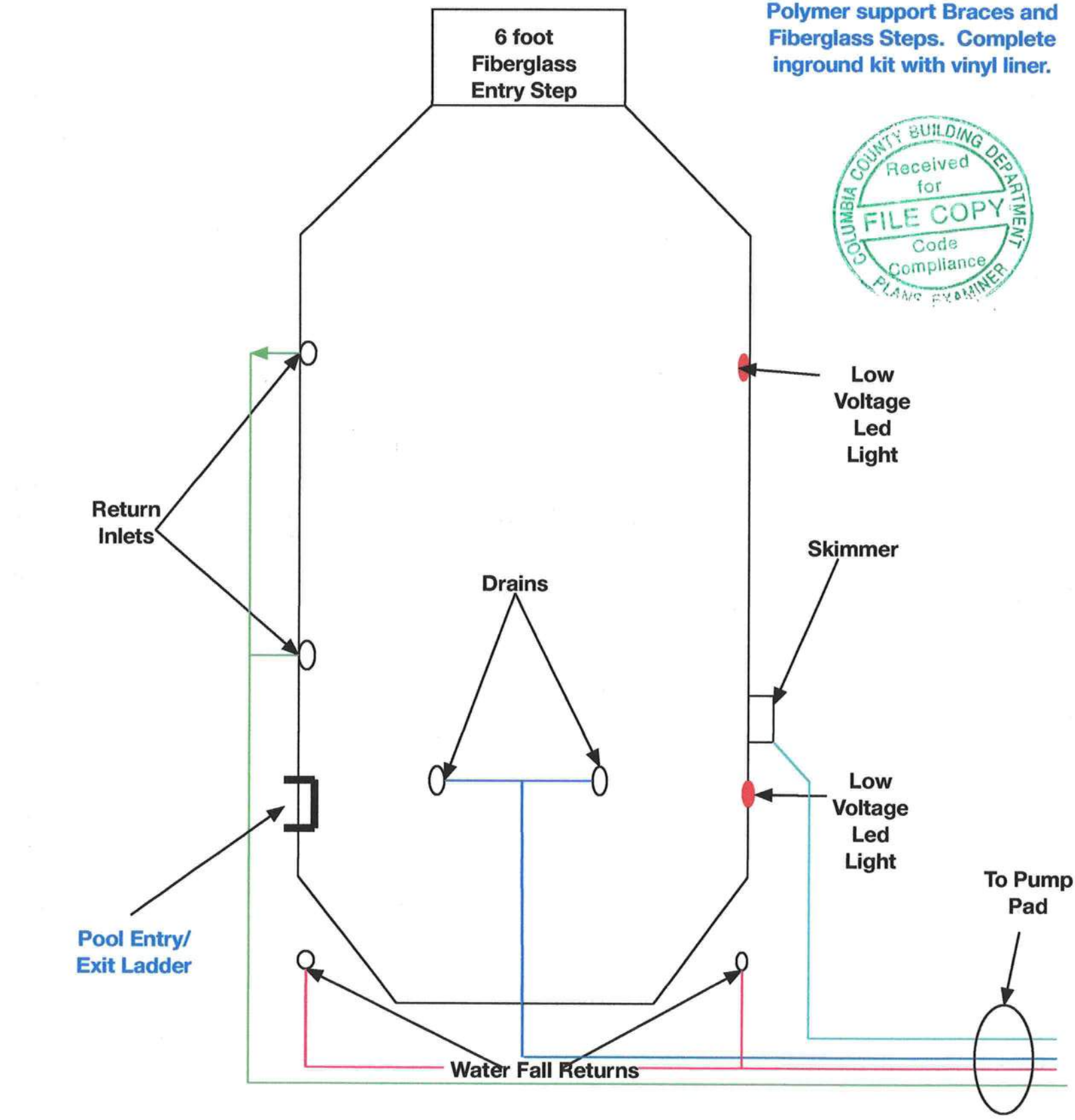




NON DIVING POOL-PLACE NO DIVING PLACARDS BOTH ENDS OF POOL



Polymer Structure pool with Polymer support Braces and Fiberglass Steps. Complete inground kit with vinyl liner.



Vac-Alert provides protection against sunction entrapment
from pool, spa, and hot tub drains with our
Safety Vacuum Release System

The Vac-Alert Model VA-2000L is a Safety Vacuum Release System (SVRS) designed for suction lift applications. Suction lift in this case applies to all applications where the circulating pump suction is either at or above the level of the pool water surface. This unit incorporates a 0.170" diameter orifice opening installed below the surge tube section. This orifice opening is sized to prevent nuisance tripping of the SVRS unit caused by high vacuum surges typical of many pump start-up conditions.

The Model VA-2000L SVRS unit also utilizes a check valve assembly equipped with a 3.5 pound spring, a poppet disc and a one-way (up only) vented poppet This check valve assembly permits continued water flow to the circulating pump while the SVRS unit is in the open or vented position. The 3.5 pound spring further compressed by the poppet disc, creates enough sealing force within the check valve to allow partial water flow to the circulating pump for suction lifts up to 3.5 feet. This is critical to the elimination of circulating pump damage that can be caused by a sustained dry-running condition. The one-way vented poppet allows the surge chamber to be internally recharged when the circulating pump is turned off.

POLAR POOLS INSTALLATION MANUAL FOR ALL POLYMER POOLS

GENERAL GUIDELINES

YOU MUST CHECK YOUR LOCAL BUILDING CODE AND FOLLOW THERE REQUIREMENTS FOR ALL ELECTRICAL AND BONDING REQUIREMENTS. Please obtain all necessary permits.
MAKE SURE YOUR POOL'S COPING, LIGHT, LADDER ANCHORS ARE PROPERLEY BONDED. FAILURE TO MEET THERE REQUIREMENTS COULD CAUSE SERIOUS INJURY AND OR DEATH.

Check pool component list and read the entire installation manual before starting. Use this installation manual, the installation video and the appropriate "dig spec" drawing supplied for your pool.

CONSTRUCTION SEQUENCE

1. Obtain all necessary permits.
2. ***Hire an electrician.***
3. Arrange for water to be delivered, if needed (after liner is installed).
4. Arrange for fencing to be installed (check with building permit office for local codes).
5. Follow installation manual carefully and complete only the steps that pertain to the pool you are installing.

TOOLS NEEDED FOR INSTALLATION

Adjustable Wrench
Screw Drivers
Socket Set
25' and 50' Tape Measure
Utility Knife
Extension Cords
String Line
½ "Drill and Bits
Shovels (Flat &Round)
Trowels (Mags and Finish)
Carpenter's Square Level
2 1/2" and 3"

Large Channel Lock Pliers
Broom
Tamp
Sledge Hammer
Hose
Duct Tape
Transit (Laser Level Preferred)
Rakes
Mighty Vac or Commercial Shop Vac
Pick Axe
Caulk Gun
Marking Spray Paint (for marking ground)
Backhoe (Qualified Operator)

POOL LOCATION/LAYOUT

Choose pool location very carefully, as a less desirable site can increase your time and effort during installation. Consider the following when selecting a pool site:

1) Insure the pool is clear of all property lines and variance.

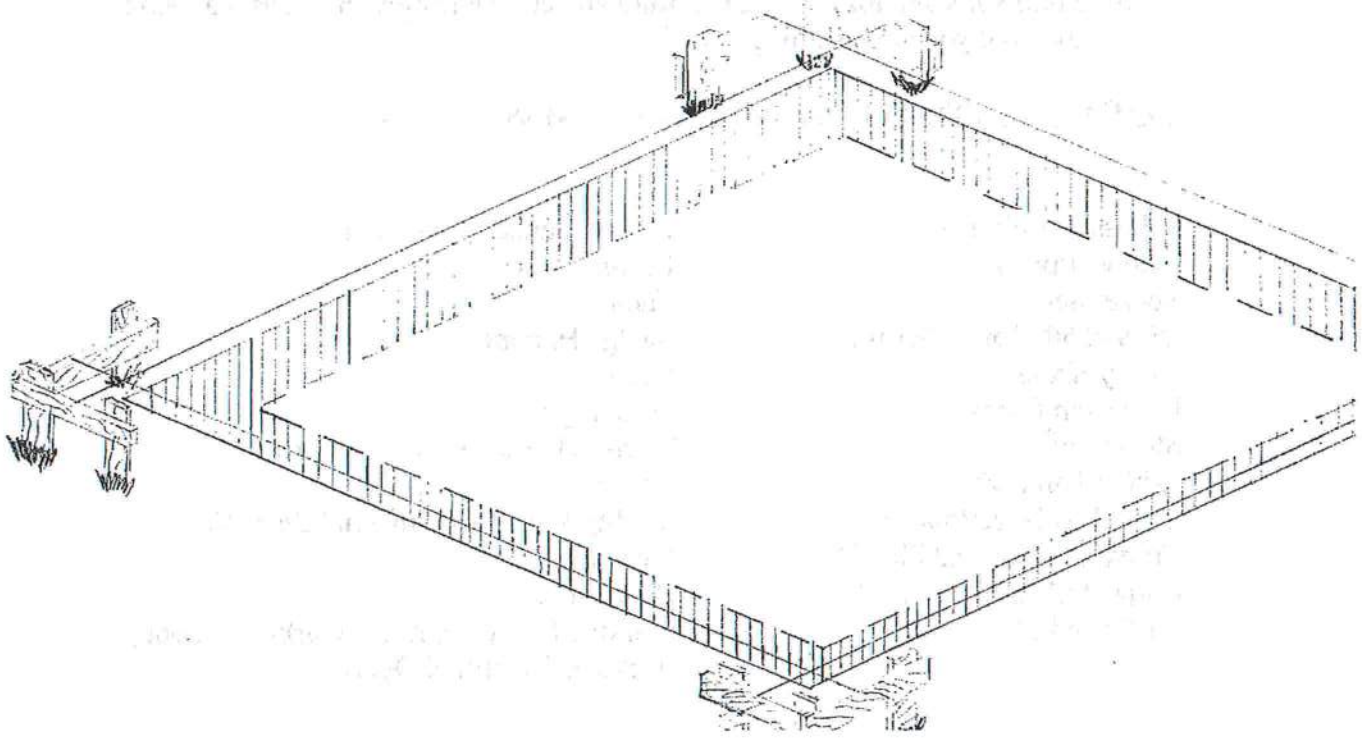
2) Insure a minimum 10' wide opening for access to the pool site by large equipment and concrete trucks.

3) Insure the pool site is clear of all underground pipes, tanks, wire and overhead wires. Check with your building codes for septic set backs.

4) Level ground is preferred, but not required. Water drainage away from all sides of the pool is necessary.

5) The pool site should be in a sunny area, with few, if any, trees around the pool.

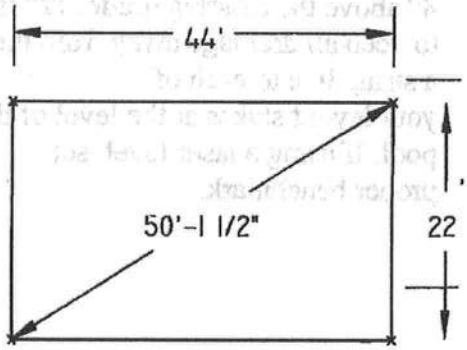
6) Try to position the long wall with the skimmer facing the prevailing winds.



INITIAL LAYOUT

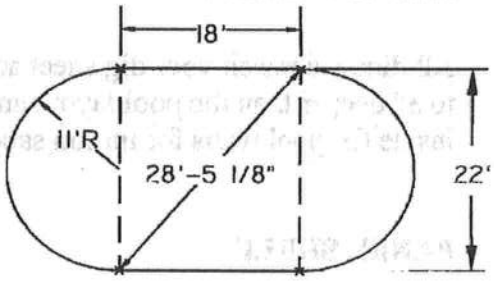
RECTANGLE:

All rectangular pools have a two foot overdig to form a shelf for the panels. Start by driving four stakes in the ground to make a box two feet larger than the pool you are installing. For example, a 20' x 40' pool requires a box that measures 24' x 44'. Square the box by measuring diagonally from stake to stake, ensuring all measurements are the same



OVAL:

All oval pools have a two foot overdig to form a shelf for the panels. Start by driving four stakes in the ground to make a box four feet wider than the pool but only as long as the straight wall. For example, an 18' x 36' pool requires a box that measures 22' x 18'. Square the box by measuring diagonally from stake to stake, ensuring all measurements are the same. To get the radius ends of the pool, locate the center point of the 22' width and drive a stake. Holding the end of a tape measure on the stake, move out 11' and paint an arc, connecting the ends of each straight side

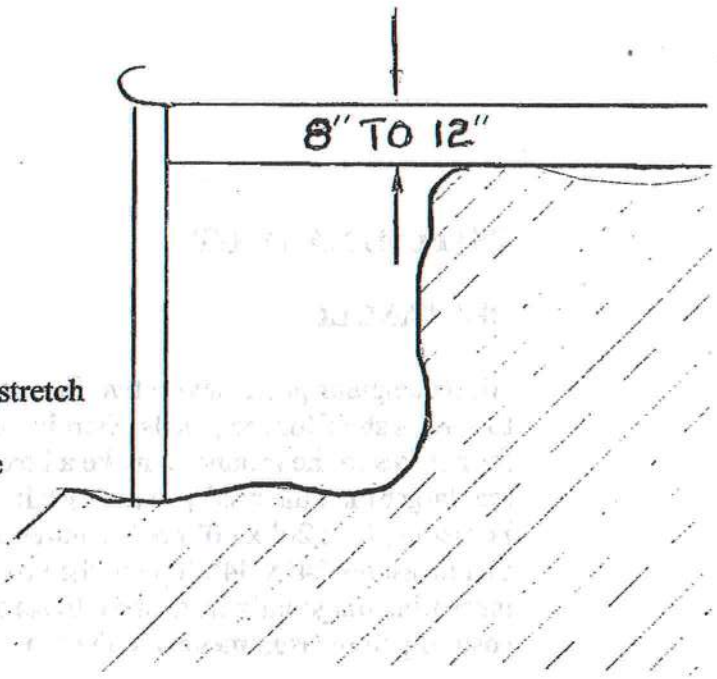


OCTAGON:

All octagon pools have two foot overdig to form a shelf for the panels. Start by driving a stake at the center point of the pool. Holding the end of a tape measure on the stake, move out one half the width of the pool, plus two feet for the overdig, and paint a circle around the center stake. For example a 24' octagon would require a circle 14' from the center stake.

SETTING POOL ELEVATION

The top of the coping should be no less than 8" above the existing grade. 12" is suggested to keep all drainage away from the pool, now stretch a string line to each of your layout stakes at the level of the top of the pool. If using a laser level, set proper benchmark.

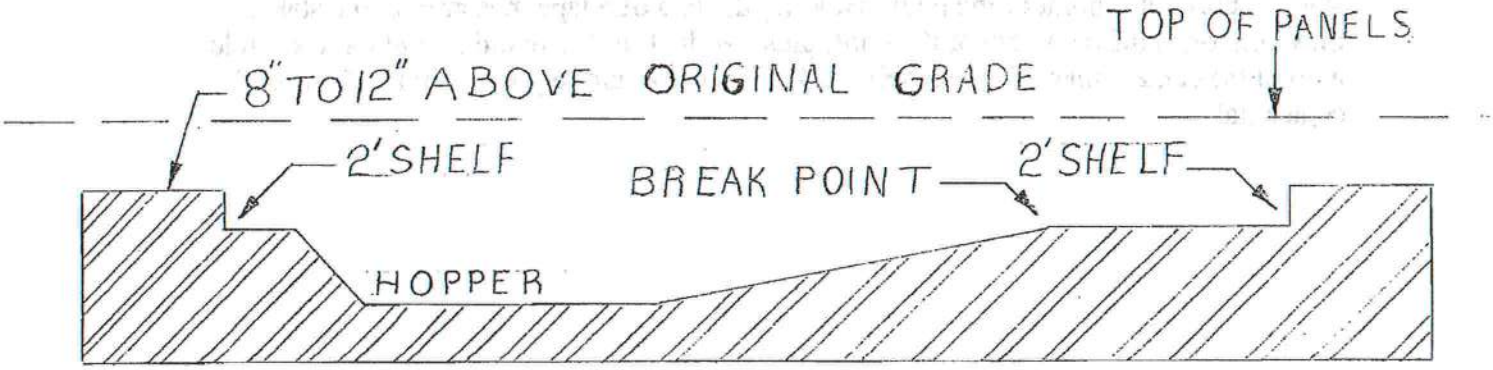


EXCAVATION

All dimensions on your dig sheet are finished so your excavation should always be 2" to 3" deeper than the pool layout and dig dimension drawing. This allows space inside the pool walls for mason sand or vermiculite bottoms.

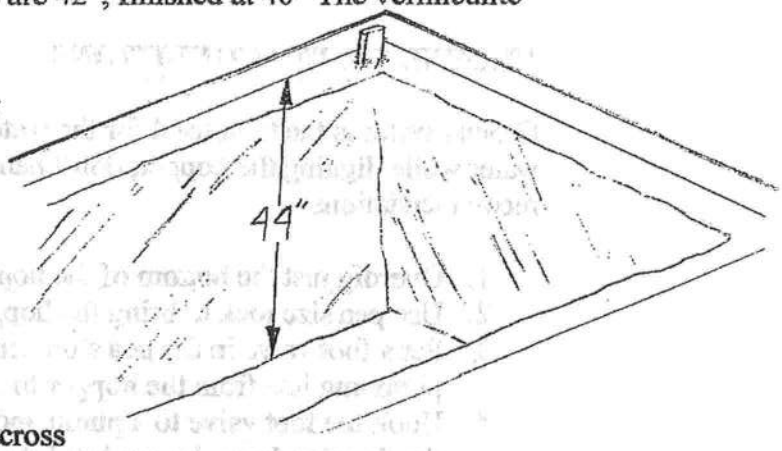
PANEL SHELF

Panels and braces will be assembled, set and leveled on the panel shelf (2' overdig). The shelf is dug 44" down from the string line or from your benchmark. This should be undisturbed earth so use caution when digging the shelf. **DO NOT OVERDIG!!**



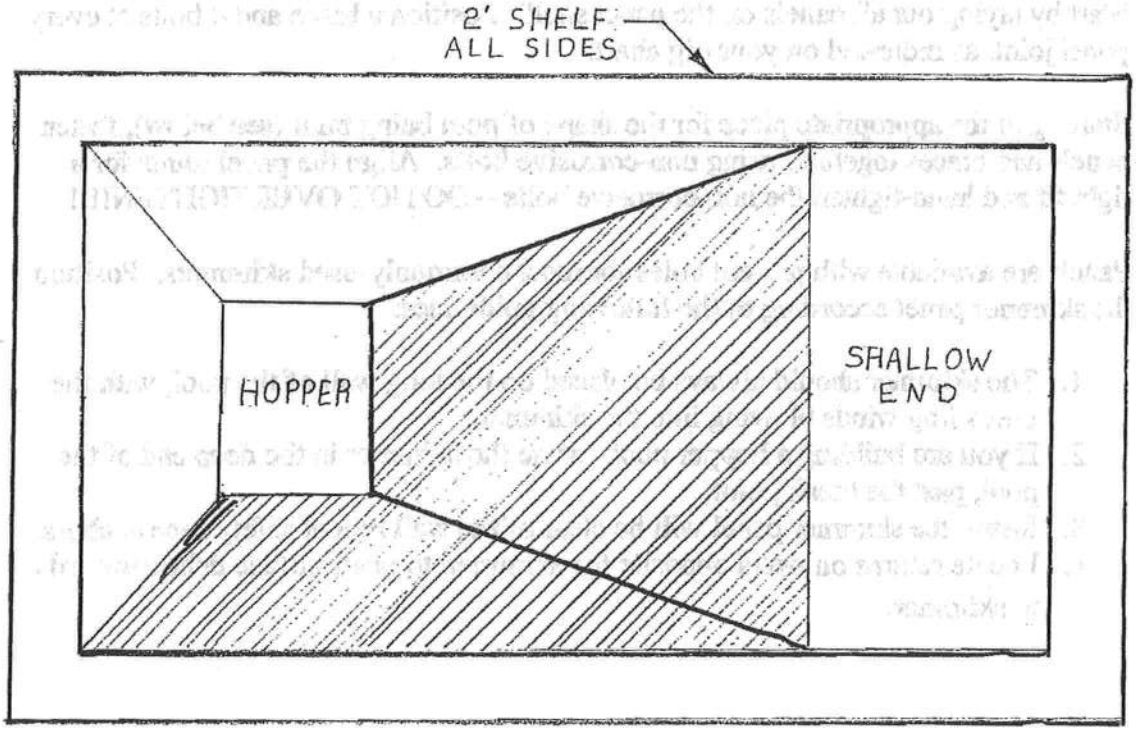
SHALLOW END

The shallow end is part of your shelf. **DO NOT OVER DIG SHALLOW 2" FOR THE POOL BOTTOM.** Your pool walls are 42", finished at 40" The vermiculite pool base is applied 2" up on the wall.
If steps are to be installed,
dig 2' wider than the step and 2' past your panel shelf.



DEEP END

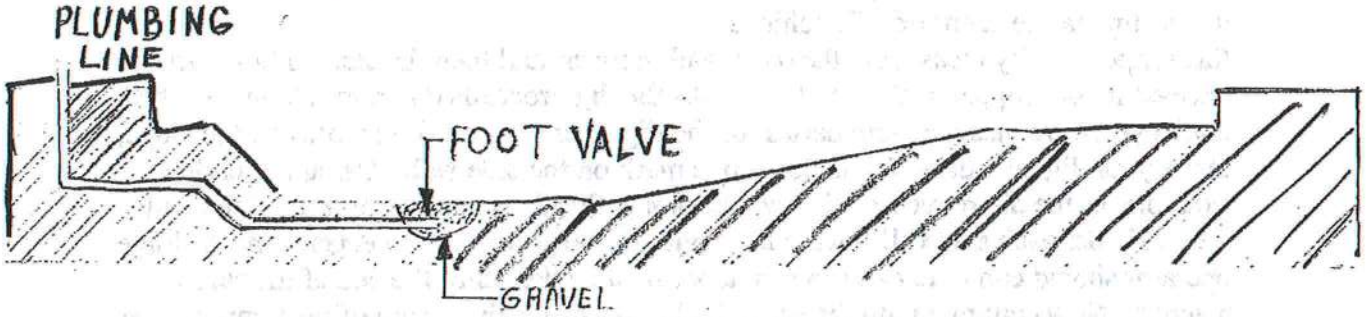
Once the shallow end is dug, paint a line across the pool to represent the break line. To understand the shape of the deep end on a standard hopper pool, envision the hopper as an upside down pyramid, whose top has been cut off. To achieve this shape, start by measuring the back wall, hopper, and then the slope. Now start excavating the hopper at the break line. As the dig proceeds down the slope, use the marks you have made as boundaries for the dig. For each mark you pass on the slope, move your dig boundary in and down one mark on the side wall. Using our earlier example, as the dig moves 3'6" down the slope, the dig boundary on each side would move 1'from each sidewall toward the center of the pool, and 1' deeper. The backhoe operator should continue this process, tapering all sides, until the end of the slope is reached. Now continue with the same dig boundary for the length of the hopper. The back wall should be tapered to the same slope as the side walls at the hopper. Caution your operator to work slowly and accurately, and monitor the digging process closely. **DO NOT OVERDIG OR UNDERDIG.**



GROUND WATER CONDITIONS

Ground water is the term used for the water table. If you should encounter ground water while digging the hopper, don't panic – just follow these simple recommendations:

1. Overdig just the bottom of the hopper by 1' to 2'.
2. Use pea size rock to bring the hopper back to grade.
3. Set a foot valve in the pea stone and plumb it to the outside of the pool. Run a plumbing line from the hopper to near the filter (see Figure 7).
4. Hook the foot valve to a pump and keep the pump running continuously until the liner has been dropped and the pool is full of water.
5. When installation is complete, cap the plumbing line, leaving it available for use in the future, should the liner need to be replaced.



PANEL INSTALLATION

Start by laying out all panels on the panel shelf. Position a brace and 4 bolts at every panel joint, as indicated on your dig chart.

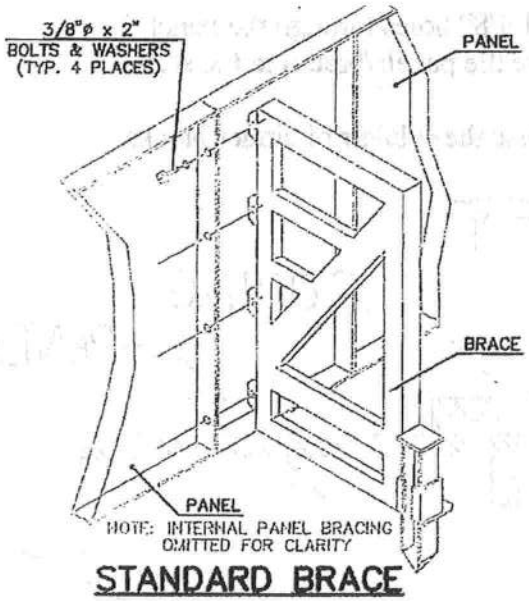
Starting in the appropriate place for the shape of pool being built (see below), fasten panels and braces together, using non-corrosive bolts. Align the panel joints for a tight fit and hand-tighten the non-corrosive bolts – DO NOT OVERTIGHTEN!!!!

Panels are available with pre-cut holes for most commonly-used skimmers. Position the skimmer panel according to the following guidelines:

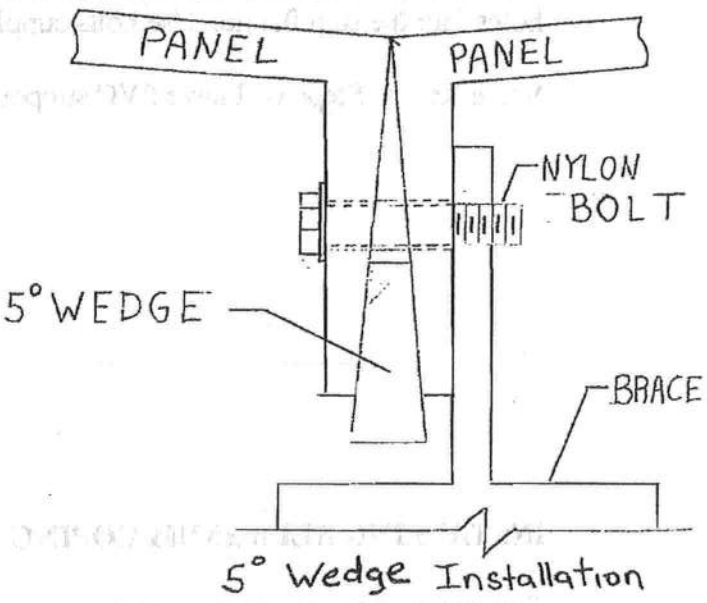
1. The skimmer should always be placed on the long wall of the pool, with the prevailing winds blowing into the skimmer.
2. If you are building a hopper pool, locate the skimmer in the deep end of the pool, past the break point.
3. Insure the skimmer panel will be clear of the wall mount safety rope anchors.
4. Locate returns on walls opposite the skimmer, to push surface debris towards to skimmer.

Starting Point – Rectangle Pools.

Being in the deep end corner. Start by bolting the corner panels together with a brace on either side. Then connect the corner to a straight wall placing a brace at every joint…NO BRACES ARE TO BE INSTALLED ON RADIUS CORNERS. Continue installing the walls as noted in the pool layout sheet for your specific pool. When installing the steps, you must drill the required holes to align the steps to the coping.



STANDARD BRACE AND PANEL ASSEMBLY



5° Wedge Installation

STARTING POINT – OVAL POOLS

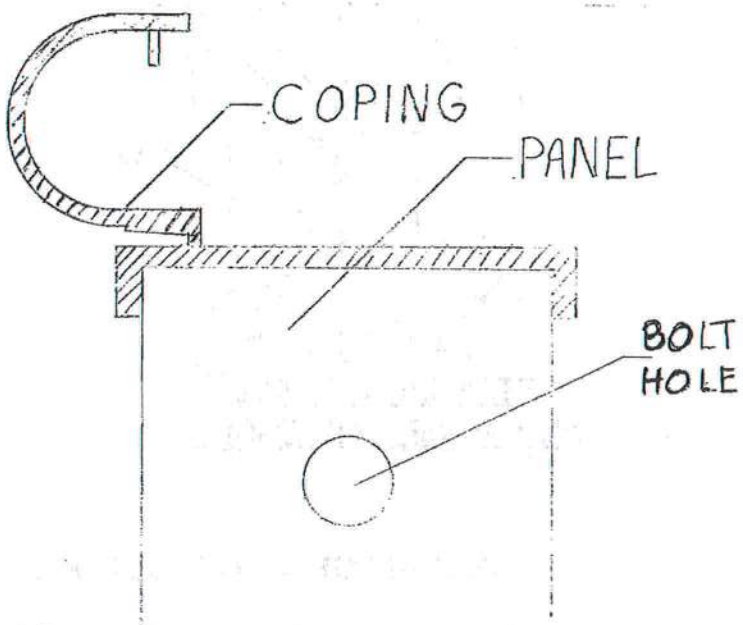
Being at a straight side wall and bolt the straight panels and braces together. Repeat this process for the other straight side wall. Square both side walls by measuring diagonally across the pool at the both top and the bottom of the panels. Drive stakes a few inches into the ground at the ends of the straight sections to hold them in place. Begin assembling the radius ends. Bolt the first curved panel and brace to the end of a straight side wall. If the required, use 5 wedges to adjust the radius, as indicated in dig drawing. If steps are present, determine their location before starting panel assembly and complete the step installation process when you reach their position. Insure the radius is true by driving a stake halfway between the sidewalls, stretching a tape measure from the stake to the radius panels, and checking the distance at various points on the curve. All measurements should be the same. If not, slightly shift the curved panels until a constant radius is achieved.

STEP AND SWIM OUT INSTALLATION

In all polymer pools, steps and swim outs are installed in the same manner. Start by setting the step in the excavated area according to your pool dig chart. **Support the step with two columns of cinder blocks on top step BEFORE POURING BOND BEAM.**
With the step in place, clamp the neighboring pool panel to the step, insuring that the face of the step is flush with the panel and that ***the top of the step is flush with the top of the coping.***

With the panel and step clamped tightly together, drill 3/8" holes through the panel holes into the step flange. Use bolts supplied to secure the panels/braces to the step.

Some Radius Steps will have PVC support columns; use these inleir of cinder blocks



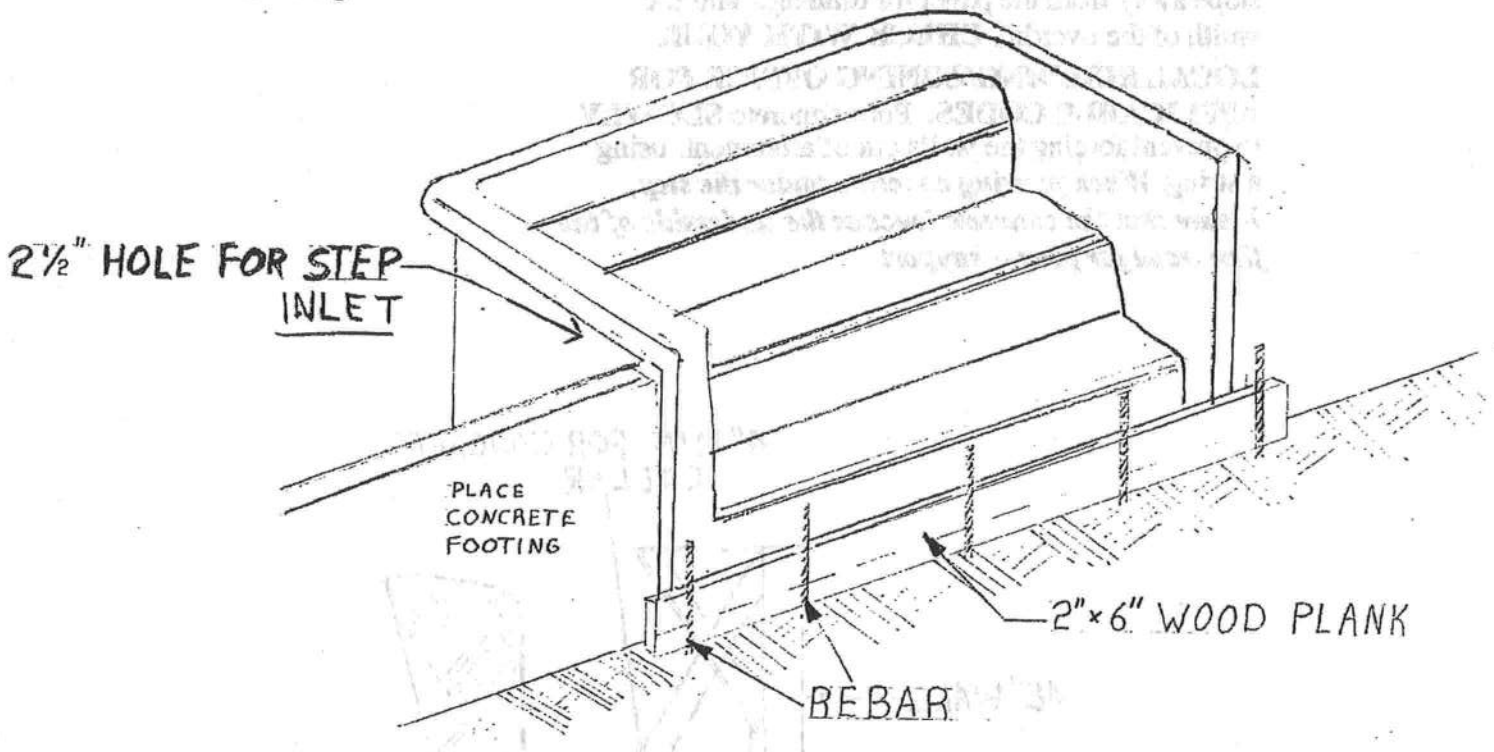
INSTALLING ALUMINUM COPING

Two types of coping are provided
-straight and pre-shaped.
Start by installing all pre-shaped coping. This includes 6", 4' and 9' radius, Roman End 45, Lazy Ell and True Ell. Start by Positioning the pre shaped coping on the appropriate panels. Insuring that the coping lip fits snugly against the face of the panel. Using the self-tapping screws provided, secure the pre-shaped coping to the panels, starting at the ends of each piece of coping, and every 12" along the length of the coping.
Next, install the straight coping onto the panels, **leaving a 3/8" gap between pieces** for expansion. Secure the straight coping to the panels, using the self-tapping screws provided. When installing the straight coping, **insure that the coping joints do not line up with any of the panel joints**, except at the junction of the straight and pre-shaped coping. Finally, snap the coping clips over all coping joints. Your coping is not pre cut, you will have to trim it to fit, especially at the step. Use coping clips to finish edge to step.

FINAL CHECK – ALL POOLS

Once all panels, braces and steps have been bolted together and the coping has been secured to the panels, it is time for one final check. A few extra minutes spent verifying the shape of the pool at the stage of completion will lead to a proper liner fit, and ultimately, your satisfaction.

Check diagonal measurements across the pool, at both the top and bottom of the panels and verify that they are the same.
Level all panels, using patio blocks or bricks at the panel joints, so that the top of the panel is level with the benchmark set at the start of construction.
Check all panels for vertical alignment, using a carpenter's level on the face of the panel.
Check all straight walls for horizontal alignment. To do this, stretch a string the entire length of each straight wall, at the bottom of the panels, insuring that each panel lines up with the string.

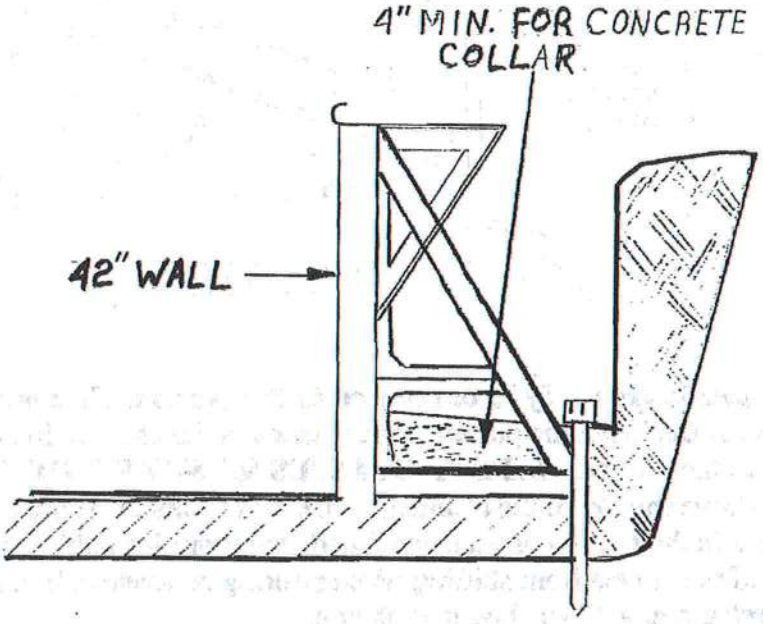


At this point the panels are ready to be secured to the ground. First use a hack saw to detach the polymer stakes from the braces. Place stakes in the channel in back of the brace and drive into the ground. **SAFETY GLASSES MUST BE WORN!** Leave 1" of the stakes visible above the top of the channel. Use 1 ½ "bolts to secure brace to pin. Next drill ½" holes in the bottom of each panel and tap rebar pins half way in. This keeps the bottom of the panels from shifting when pouring concrete collar. Finally brace the step with 3/8 rebar and a 2" x6" board as shown.

CONCRETE BOND BEAM (COLLAR)

Pour collar as soon as pool is level, square and plumb, and main drain is installed, then you can proceed with the rest of the plumbing after bond beam has set!

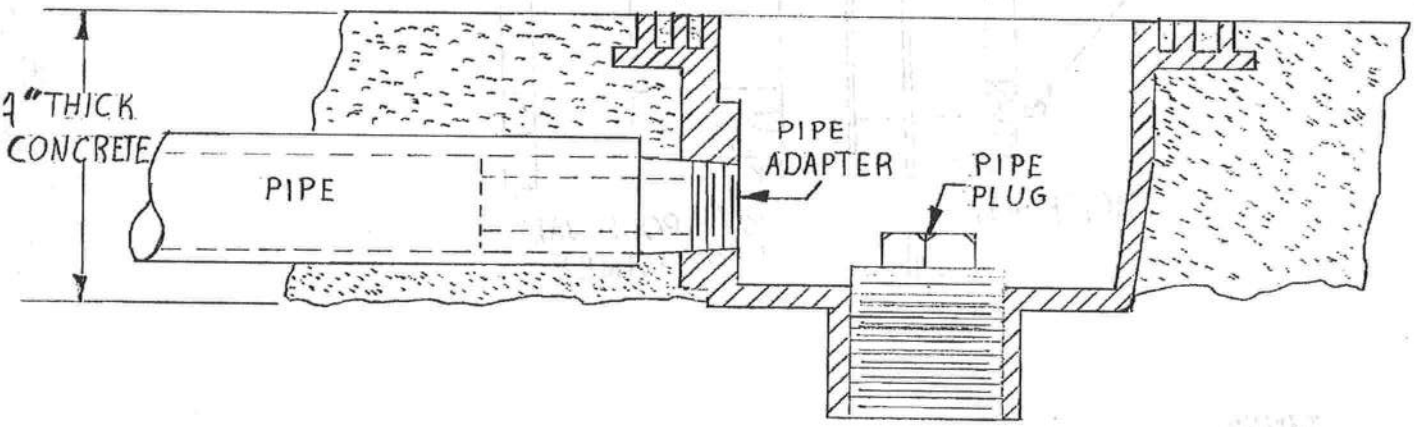
Insure there are no gaps under the panels or steps – if there are, tamp dirt to fill the opening. Now, stretch a string line down the length of each of the straight walls at the back edge of the coping and insure all panels are flush with the string. Now begin pouring your concrete collar. **The concrete should be poured 6" to 8" thick,** with a slight slope away from the panel for drainage, and the width of the overdig. **CHECK WITH YOUR LOCAL BUILDING/ZONING OFFICE FOR APPLICABLE CODES.** Pour concrete **SLOWLY** to prevent forcing the walls out of alignment, using a string. ***When pouring concrete under the step, Insure that the concrete touches the underside of the first tread for proper support.***



PLUMBING

MAIN DRAIN'S AND LIGHT NICHE MUST BE INSTALLED BEFORE BOND BEAM IS POURED

Tap a rebar pin in each corner of your hopper. Using string, crisscross each to establish center of hopper pad. Leave rebar in hopper until ready to install bottom. TEE the Main Drain's in the center of your Hopper at least 3' apart running one line back to your pump. Dig two hole's in the hopper, 1" in diameter and 18" deep. Partially fill the hole's with approximately 14"of the rock. When the main drains are correctly positioned in the hole, the top of the drain should be at the finish grade, and there should be 4" to 6" of the drain exposed above the rock. The remainder of the hole must be filled with concrete to secure the drain in place. **MAIN DRAIN'S MUST BE SET IN CONCRETE.** To install your plumbing line, dig a small trench in the hopper, starting at the main drain, crossing the hopper, up the side or back wall slope(whichever is closest to the filter), and out under a panel. Set your line, cover with dirt and tamp. Leave main drain face plate and gaskets off until the liner is installed.



SKIMMER

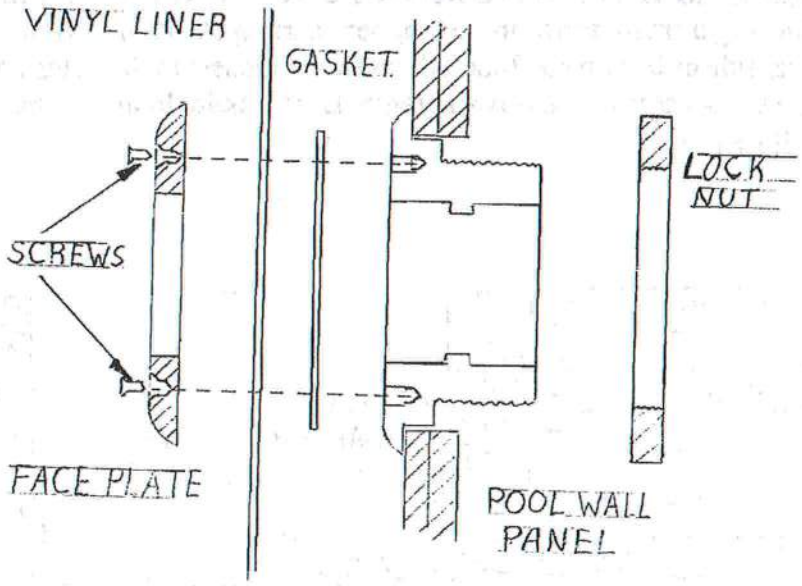
This pool has a through the wall skimmer (Installation is different from the video) Mount the skimmer through the pool panel using the **SP1085CALA Shim Kit** on the face of the skimmer to keep skimmer from going through the pool panel too far. Use two gaskets to "sandwich" the liner on water side before mounting face plate

Skimmer box comes with two sets of screws, use 8 of the longer screws **(SP1084Z4AM)** to hold skimmer into panel. Use Duct tape to cover screws.

Use shorter screws **(SP1084Z4A)** on the skimmer face plate

RETURN FITTINGS

Return fittings can be located on any wall, as long as they produce a circular flow pattern on the surface of the water, toward the skimmer. **Drill a 3"** hole in the panel, 12" to 14" down from top of panel, **NOT** the top of coping. Slide return fittings through the hole from the inside of the panel and install the lock nut – tighten snugly. Leave the fitting the face plate off until liner has been installed and he water is at least 12" deep in the shallow end of the pool. Step hole size is 2 ½ and is different from the wall returns. Step is sandwiched between two rubber gaskets. Use the cardboard gasket on dirt side of pool.



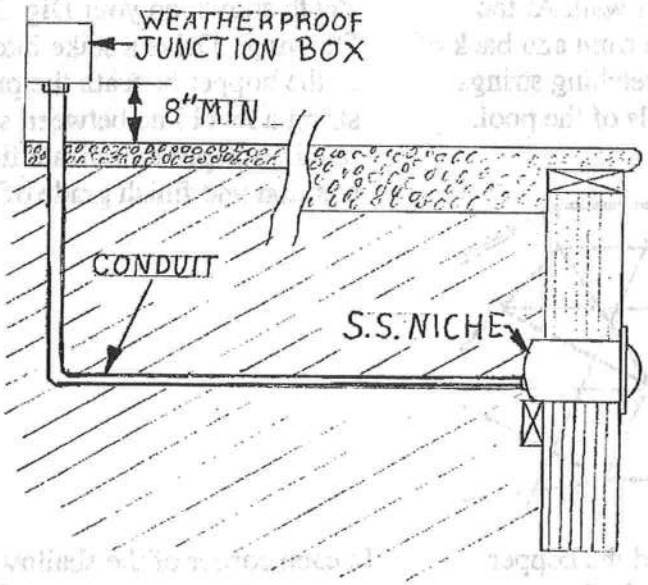
LINES

Now you are ready to run all plumbing lines to filter location. Refer to the Plumbing Schematic inside the back cover. *(Tip) Rum plumbing from equipment pad to pool. Not from pool to the equipment. This is just easier.*

LIGHT

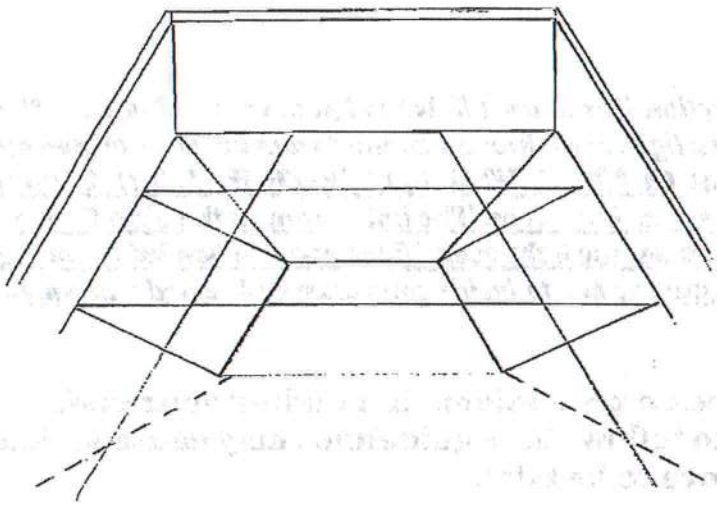
Install Junction Box at least 8' behind pool wall and at least 8" above pool height. Feed light cord through conduit from inside pool leaving enough cord to change light. <u>CONDUIT WILL FILL WITH WATER!!</u> **<u>Light is held in place with ONE screw into niche. The holes around the light fixture are water holes designed to keep the light cool!</u>** ***<u>Niche must be bonded to coping from the outside and from junction box to inside connector and sealed with supplied sealant!</u>***

Please seek a professional in bonding your pool!
Failure to follow these guidelines may cause serious injury and could prove to be fatal!



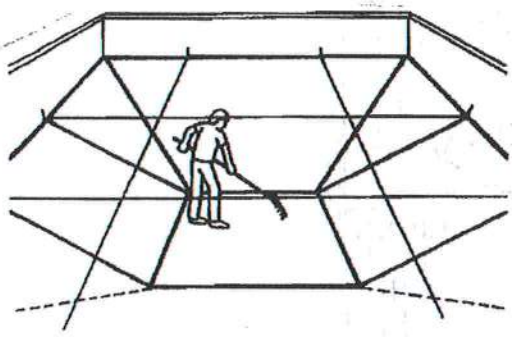
GRADING THE POOL BOTTOM FOR SAND AND CEMENT

The pool must be graded 2" below the finish dimensions on your **Dig Chart**. This will be finished with a 2" layer of Vermiculite, Portland cement mix, or sand and Portland. Vermiculite is preferred.



Locate the sides of the hopper pad by Stretching parallel strings from the break point to the end wall. At the same time, locate the front and back of the hopper pad by stretching strings between the side walls of the pool.

Find finish grade by dropping a plumb bob at the intersection of the strings to the depth shown on your Dig Dimension Drawing. Drive a stake into each corner of the hopper beneath the plumb line and string a level line between stakes at the required depth to indicate the exact position and finish grade of the hopper.



Once you have located the hopper use stakes and strings in the same manner to mark the finish grade of hopper walls, as shown on your Dig Chart.

In each corner of the shallow end measure the required depth from the top of the panels to the pool bottom and place a marker. String a level line between markers to indicate the finish grade of the bottom.

Vinyl Liner Pool Bottoms

A good excavation is very important, if not critical! It will make troweling easier, save time and money; reduce the chances of problems during both installation and the life of the pool! ***Ideally, the pool will be cut so as to allow exactly 2 inches of vermiculite concrete base.***
First mix the water and cement. After they are well mixed, then add the vermiculite, and mix just until the vermiculite is all dampened (often no more than 10-20 seconds and never more than a couple minutes!) Avoid over mixing. Unlike sand concrete, the vermiculite will break down if over mixed. This will suddenly turn the mix very wet and reduce your yield.
If possible, use a paddle mixer not a concrete mixer.

- Try to trowel the vermiculite concrete bottom flat and smooth, but not slick. You do not want a finish which is so smooth that the liner will tend to slip on it, and you do not want to bring so much of the cement fat to the surface that you eventually get surface cracking and crusting.
- If the weather has been very hot and dry, the hopper walls and bottom should be slightly moistened before putting down the vermiculite. Hot, dry sandy soil can "suck" the moisture out of the concrete preventing it from curing properly and resulting in dry "crumbly" bottoms.
- If heavy rains are possible, or if the soil is saturated, ***do not try to trowel a vermiculite concrete bottom.*** Too much ground water or rain can ***wash out*** the Portland cement, which will result in a soft and mushy bottom.
- If weather conditions drop below 40 degrees, do not try to trowel a concrete bottom. Cold weather can retard the curing process too long, and freezing conditions will ruin and weaken uncured concrete.
- If the excavation left large holes, gouges, or indentations, fill these with vermiculite up to the proper ground level first, and work in other areas of the pool while these areas cure a little. Then layer the final amount of vermiculite concrete necessary to obtain a level surface. Two coats give more strength and are better than one deep and heavy application.
- If a mix has been conveyed into the pool bottom and turns out to be too wet, move on to another area and then return after the mix has dried out a little.
- A vermiculite bottom sets up completely in three to five days. ***Liners can be installed almost immediately after troweling; pool owners should be cautioned about using the pool until curing is complete***.

Rectangles, Ovals, Kidneys, and Grecians

	4CF 22 LB Vermiculite	Portland cement
14x28	28 Vermiculite	14 Bags
16x32	32 Vermiculite	16 Bags
18x36	36 Vermiculite	18 Bags
20x40	40 Vermiculite	20 Bags

All True and Lazy L Pools

	4CF 22 LB Vermiculite	Portland cement
16x32x40	56 Vermiculite	28 Bags
16x24x40	50 Vermiculite	25 Bags

Above chart is for a 2" bottom.....Double the amount of vermiculite for a pre-mix material.

VINYL LINER INSTALLATION

GENERAL INFORMATION

Vinyl liners should be stored in areas with temperature above 50 F to prevent excessive shrinkage and permanent folds in the vinyl.

COLD WEATHER INSTALLATION

When installing a liner in temperatures of 65 F of lower, store liner at 70 to 80 F for at least 72 hours prior to installation. When the bottom is finished, bring out the liner and drop it as quickly as possible. Try to drop the liner in direct sunlight to help set the liner properly. Do not leave a boxed liner exposed to the elements.

TOOLS NEEDED FOR LINER INSTALLATION

1) Commercial vacuum(s) (Mighty Vac Recommended
2) Screw Drivers, Phillips and Straight
3) Razor Knife
4) Garden Hose
5) Broom
6) Two to Four People

LINER INSTALLATION, Install immediately after finishing pool bottom!
Vinyl liner can be fast and easy – just follow these guidelines!

1) Before you begin installing the liner, insure that the pool bottom is free of any stones, sticks and footprints.

2) Use duct tape to tape all panel joints. DO NOT USE CAULK!

3) Use silicone to secure gaskets to the main drain and skimmer.

4) Insure liner track is clean and free of any sand, concrete, etc

5) If steps are used, refer to the next section before continuing with liner installation.

6) Remove the liner from the box. Place the liner in the deep end of the pool, with the arrows facing the shallow end. Carefully unfold the liner. Have two people take the shallow end corners and pull the liner to the shallow end (See Figure 22), keeping the liner away from any sharp edges. AVOID DRAGGING THE LINER ACROSS THE SAND BOTTOM.

LINER (CONTINUED)

7) From outside the pool, snap liner bead into the liner track in each shallow end corner. Continue snapping the bead into the track across the shallow end of pool. Now, start down the long sides, toward the deep end. Several feet past the breakpoint, using the seam as a guide. When the liner is square, continue snapping the bead into the track, being careful not to overstretch the liner. Push the liner bead into the liner track completely to insure proper locking.

8) After the liner bead is completely installed in the liner track, adjust the liner in the pool corners, as required, to achieve a smooth, loose fit in the corners. **Do not stretch the liner tightly over inside corners.**

9) When the liner is positioned correctly, remove a small area of the liner bead from the liner track close to the breakpoint and insert approximately 36" of vacuum hose behind the liner. DO NOT ALLOW VACUUM HOSE TO TOCH THE POOL BASE!

10) Turn on vacuum(s). As suction starts to pull the liner down, continually adjust the fit by pulling the excess material on the floor toward the base of the pool walls. If you can't get all the wrinkles out, shut off the vacuum(s), reposition the liner in the pool, turn the vacuum(s) back on and start the process again.

11) Using a standard garden hose, place the hose end in the hopper and start water flow. Once there is a 6" of water in the hopper and when the liner is pulled down snugly with no wrinkles, you are ready to finish installing the main drain. With the gasket in place, screw the faceplate to the main drain, following the manufacturer's instructions. **CAREFULLY**, use a razor knife to cut out the liner material INSIDE the main drain frame and install the main drain cover, the remainder of the pool can be filled from the garden hose or a water truck. **DO NOT ALLOW A STRONG STREAM OF WATER TO DIRECTLY HIT THE POOL BOTTOM.**

12) When the water is 6" deep in the shallow end, remove the vacuum(s) and replace the liner bead in the liner track. If steps are used, install the step gaskets and faceplate now

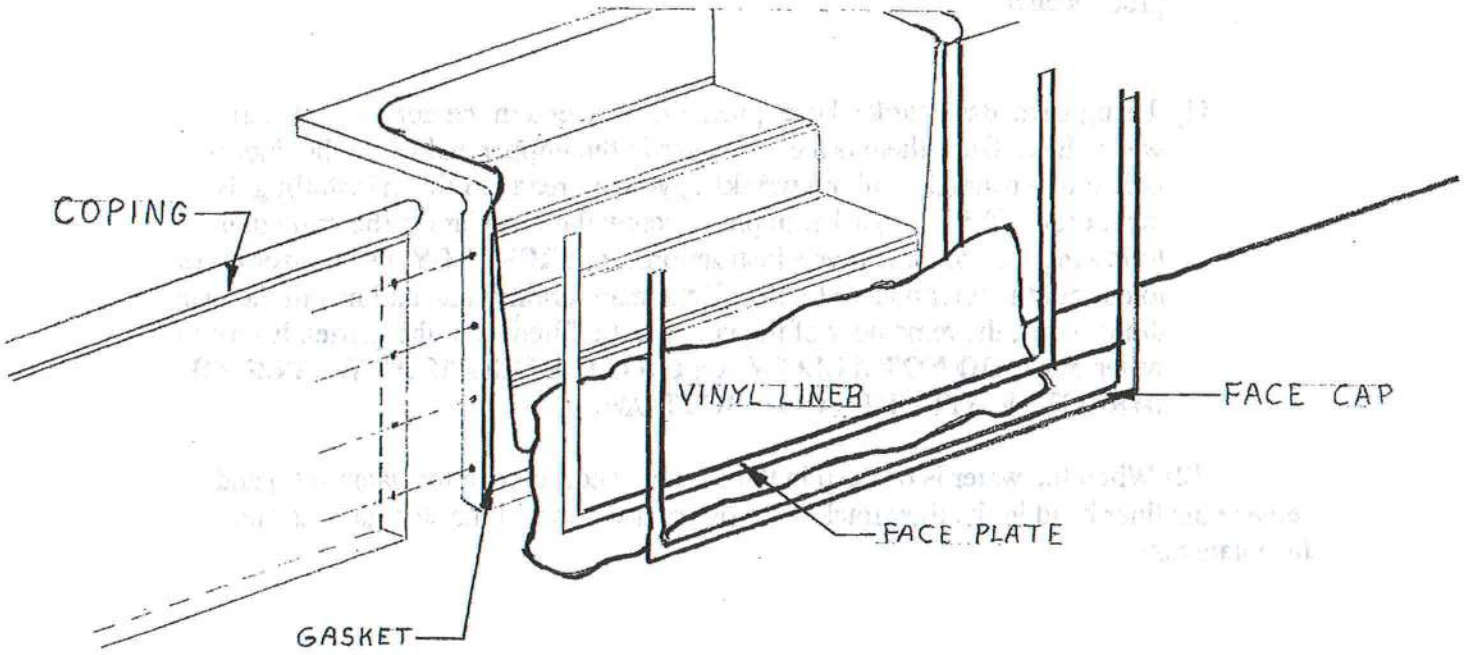
LINER (CONTINUED

13) When the water is at least 12" deep in the shallow end, locate the returns and the skimmer(s). Install the gaskets/faceplates, following the manufacturer's instructions. CAREFULLY, use a razor knife to cut out the liner material INSIDE the returns and skimmer(s).

14) DO NOT REMOVE THE VACUUM(S) WITH LESS THAN 6" OF WATER IN THE SHALLOW END AND DO NOT ALLOW THE VACUUM(S) TO RUN WITH MORE THAN 12" OF WATER IN THE SHALLOW END. IF THE VACUUM(S) IS SHUT OFF FOR ANY REASON BEFORE THE WATER IS 6" DEEP IN THE SHALLOW END, THE WATER MUST ALSO BE SHUT OFF UNTIL THE VACUUM IS RETORED.

STEP AND SWIM OUT LINER INSTALLATION

Using a ¾" piece of plywood, cover the step section. Use duct tape to seal wood over the step and seal all openings around the liner. When the water is 6" deep in the shallow end, install the faceplate and the face cap using screws provided. Carefully use a razor knife to cut liner inside the faceplate.



BACKFILLING

There several methods used in backfilling the pool. One method is to backfill as the pool is being filled with water, keeping the water level even with the backfill material. The backfill material should be placed in layers and kept even all around the pool. USE ONLY NON-EXPANSIVE MATERIALS FOR BACKFILL. DO NOT USE COHESIVE (CLAY) MATERIALS. EXCAVATED materials can be used in low ground frost areas. Bring the backfill grade to within ½" of the top of the braces, leaving the brace top exposed. Sand, #8, or #6 Pea gravel is suitable for immediate settling.

Another method of backfilling is used when pouring the deck, prior to filling the pool with water. Pool walls MUST be braced to avoid panel movement during backfilling and pouring deck. Follow guidelines above.

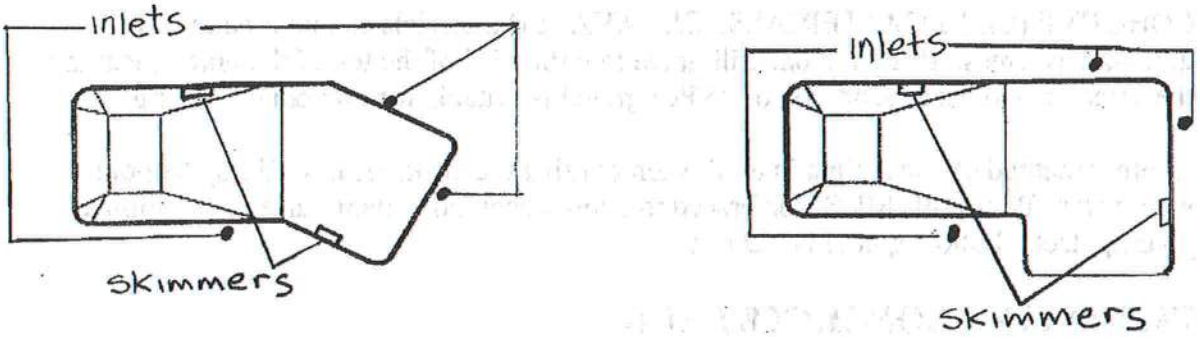
INSTALLING CONCRETE DECK

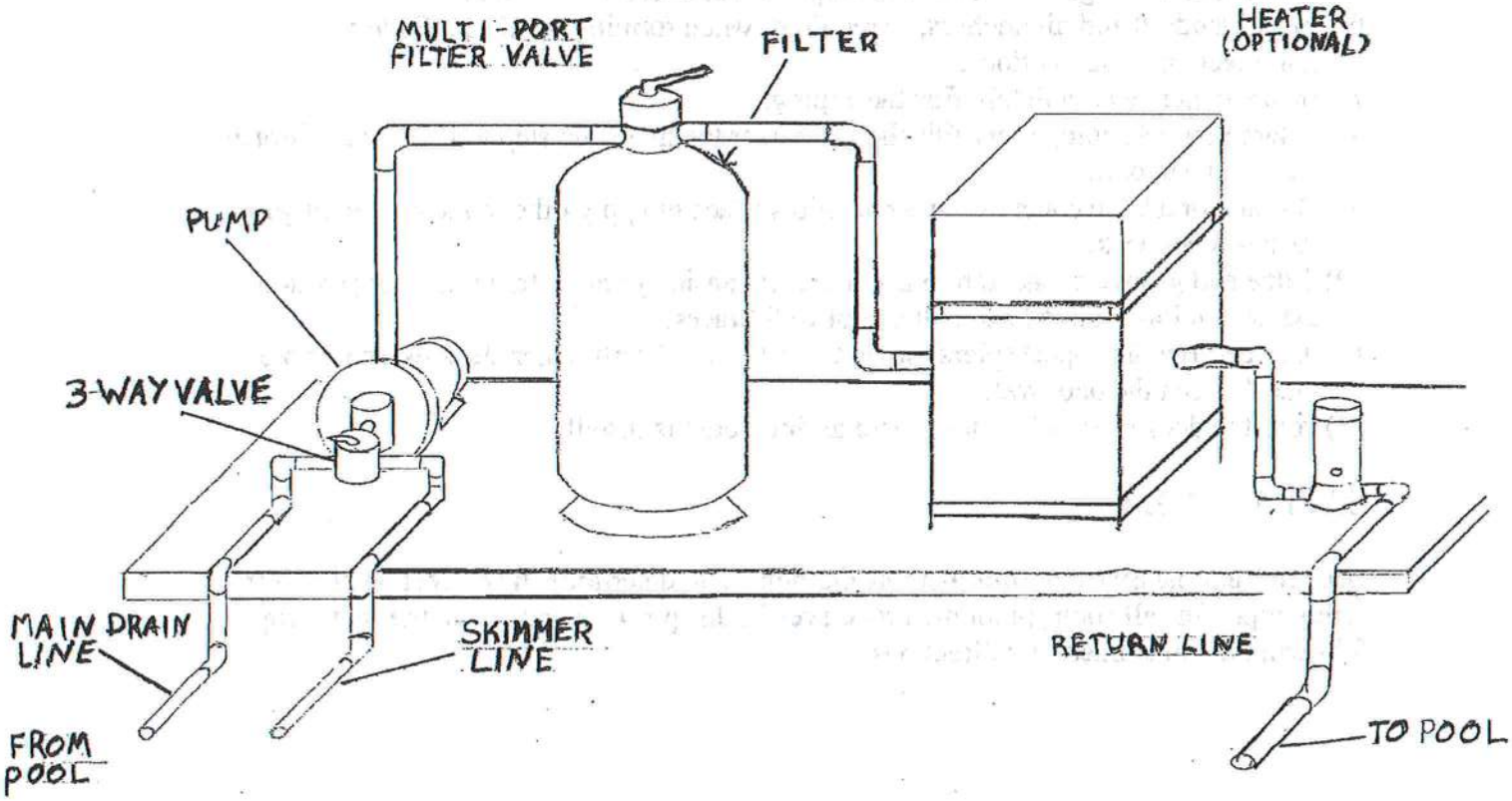
1) Insure tops of the braces are exposed so the concrete can bond to the brace.
2) Insure the coping clips are stalled over the coping joints. Use duct tape to Completely cover the face of all coping, to protect it from splashing concrete.
3) Concrete should be reinforced with either wire mesh or a fiber mesh additive (available from most concrete companies).
4) Concrete should be a minimum of 6" thick at he pool edge and taper down to 3 ½" on the outer edge.
5) For proper drainage, the deck must slope ¼" for every 1' of width.
6) Install ladder/handrail anchors, as required, when forming the deck. Follow manufacturer's instructions.
7) Insure concrete completely fills the coping.
8) Insure concrete completely fills the gap under the lip of the step to provide additional structural support.
9) Brooms finish the concrete for a non-slip surface or apply other concrete toppings, such as cool deck.
10) Edge and groove expansion joints or use expansion joint material. Do not position expansion joints directly over the pool wall braces.
11) Use additional support (piers) down to undisturbed earth when deck extends more than 4' from the pool wall.
12) Pour the deck at least 8' wide where diving board is installed.

SAFETY ROPE

Use the National Spa and Pool Institute Guidelines to determine the correct position for safety rope. Install coping-mounted rope eyes in this position and fasten the safety rope, following the manufacture's directions.

SUGGESTED PLUMBING





IMPORTANT AND USEFUL INFORMATION

Your pool comes with two size bolts. Use the 1 ½" bolts for the braces, 2" bolts for the walls.

Install coping IMMEDIATELY after bolting pool walls together. This will help you level and square up the pool, and keep it all in line.

Do not over tighten pool wall bolts. They should be snug without deforming the wall.

Run all plumbing lines on the same wall if possible. This is done only to make your job easier.

Run all plumbing from the filter and pump to the pool. **NOT** from the pool to the equipment.

Make sure there is plenty of liner along the radius on the shallow end before filling your pool. Please do not rely on the water pressure to move the liner against the radiuses in the shallow end.

Keep vacuum running the entire time the pool is being filled with water.

Returns are measured down from the pool wall, not the coping. This is generally 12" to 14" down. **Wall returns are 3' holes, Step 2 ½" in middle step**

Pour bond beam as soon as the walls are level and plumb, but only after main drain and light niche are installed.

Make sure all other items are installed BEFORE doing pool bottom i.e.: Skimmer, lights and inlets. Pump and filter need to be run immediately after pool is filled to keep the water from becoming stagnant!

Only use the 44" measurement when determining the Benchmark. All measurements there after are from the pool wall NOT THE COPING. Your pool wall is 42" and the coping is 2"

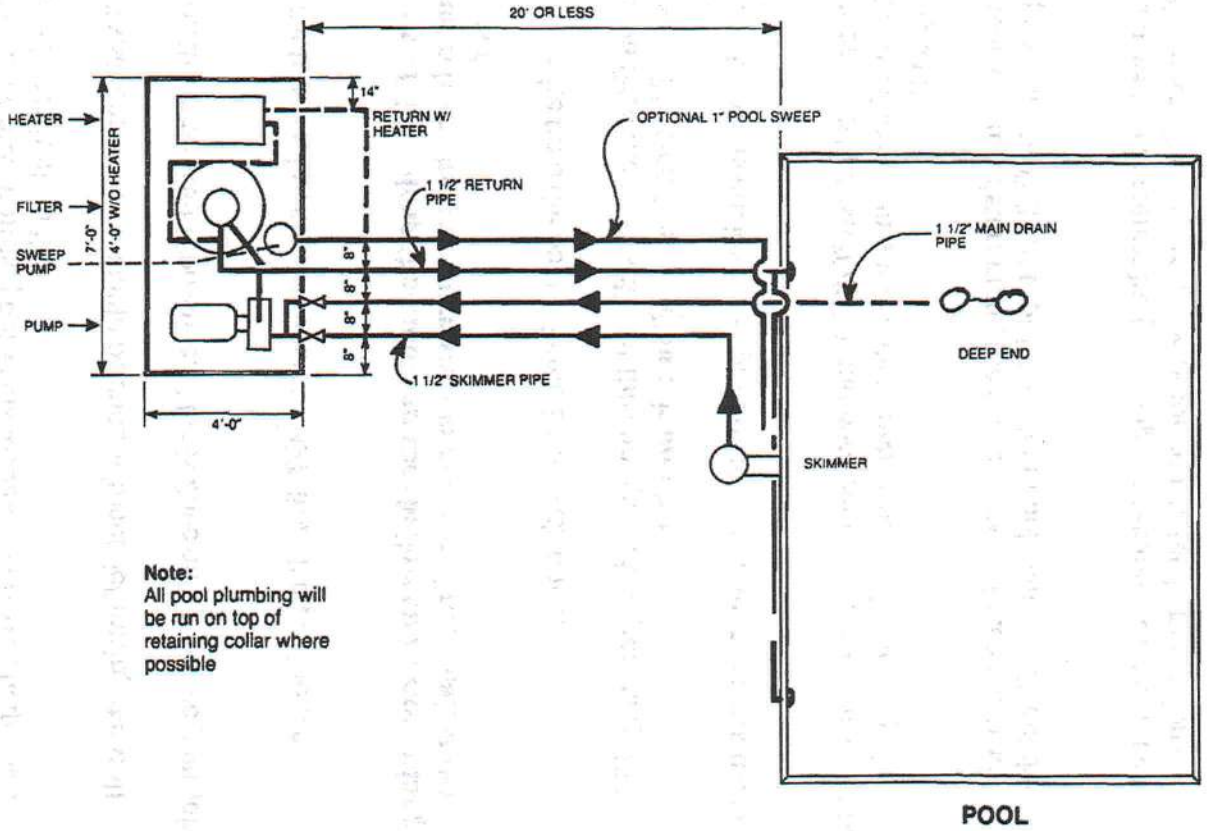
Skimmer and main drain have two openings for plumbing connections. Cap one, and install the plumbing to the other. They come this way for commercial applications.

Step has been redesigned. There is only one gasket needed.

Assemble ladder and ***dry fit*** at desired location in deep end before setting anchors. Then level. Set step hand rail 8" from end of step.

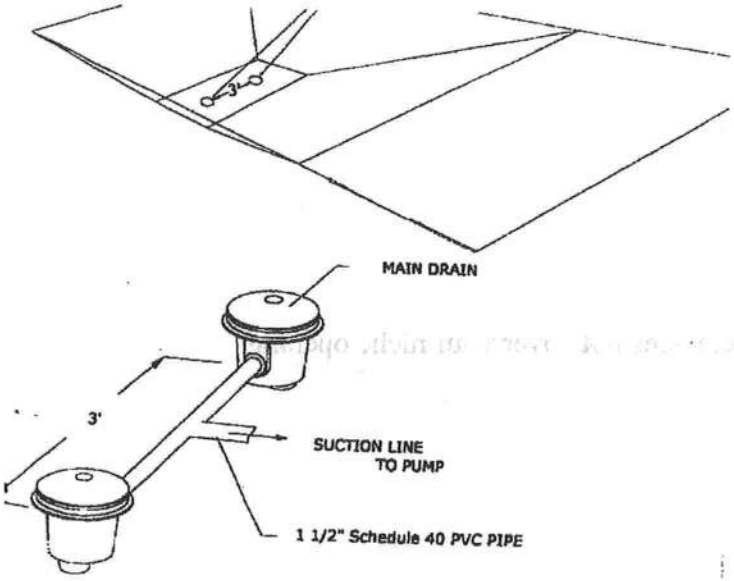
All plumbing is 1 ½ schedule 40 HARD pipe. Do not use flex pipe on your pool!

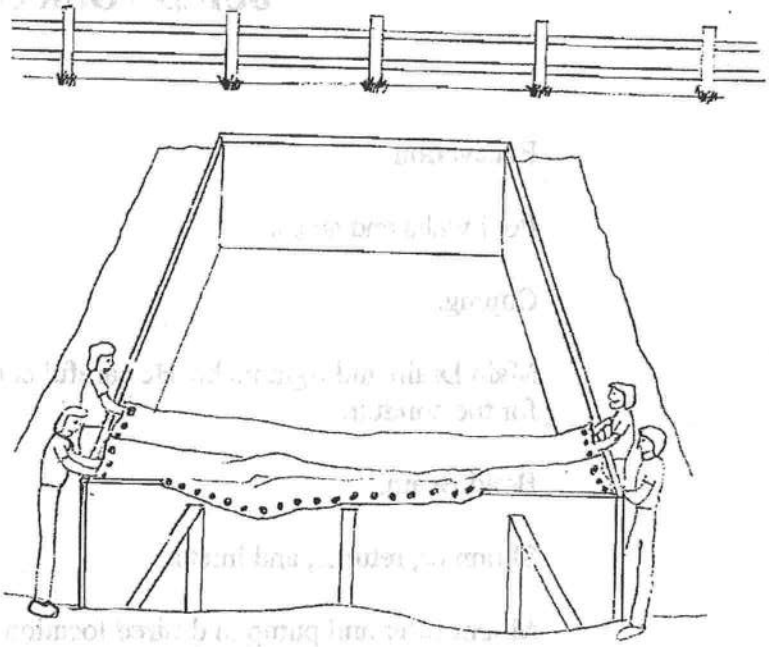
POOL PLUMBING SCHEMATIC



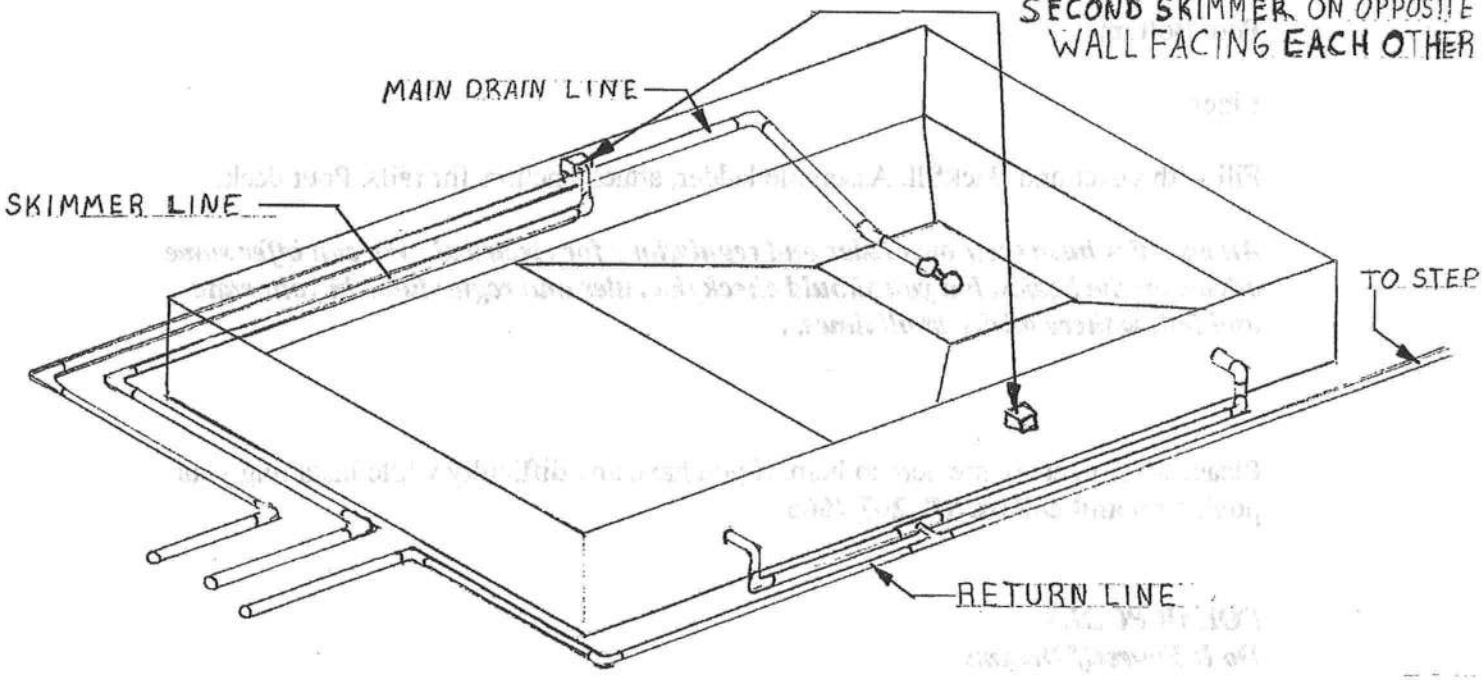
Note:
All pool plumbing will be run on top of retaining collar where possible

DETAILED DRAWINGS





POOLS WITH 2 SKIMMERS, LOCATE SECOND SKIMMER ON OPPOSITE WALL FACING EACH OTHER



BUILD YOUR POOL IN THIS ORDER

Excavation

Pool walls and steps.

Coping.

Main Drain and light niche. Be careful concrete does not cover your niche opening for the conduit.

Bond Beam.

Skimmer, returns, and inlets.

Mount filter and pump in desired location, run all electrical and bonding.

Run plumbing lines

Pool Bottom

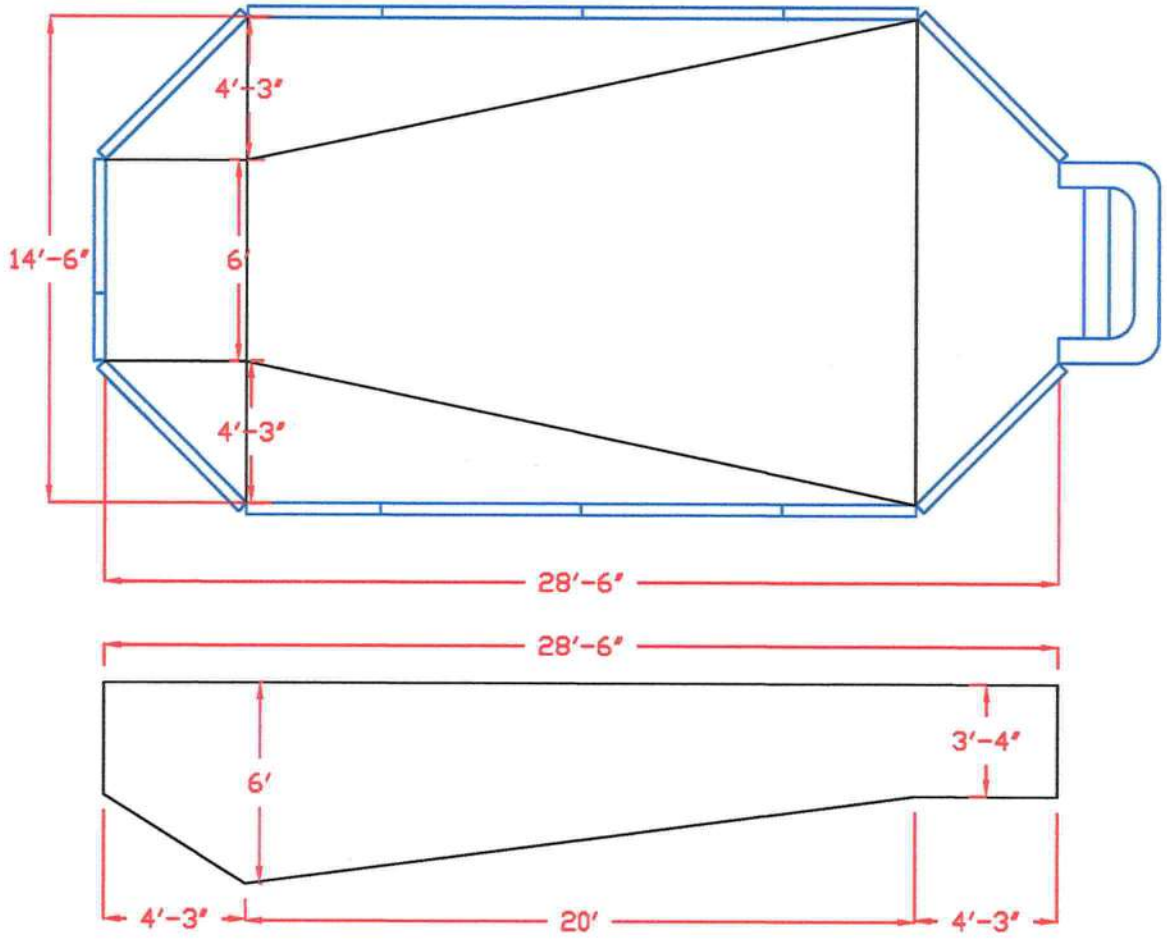
Liner

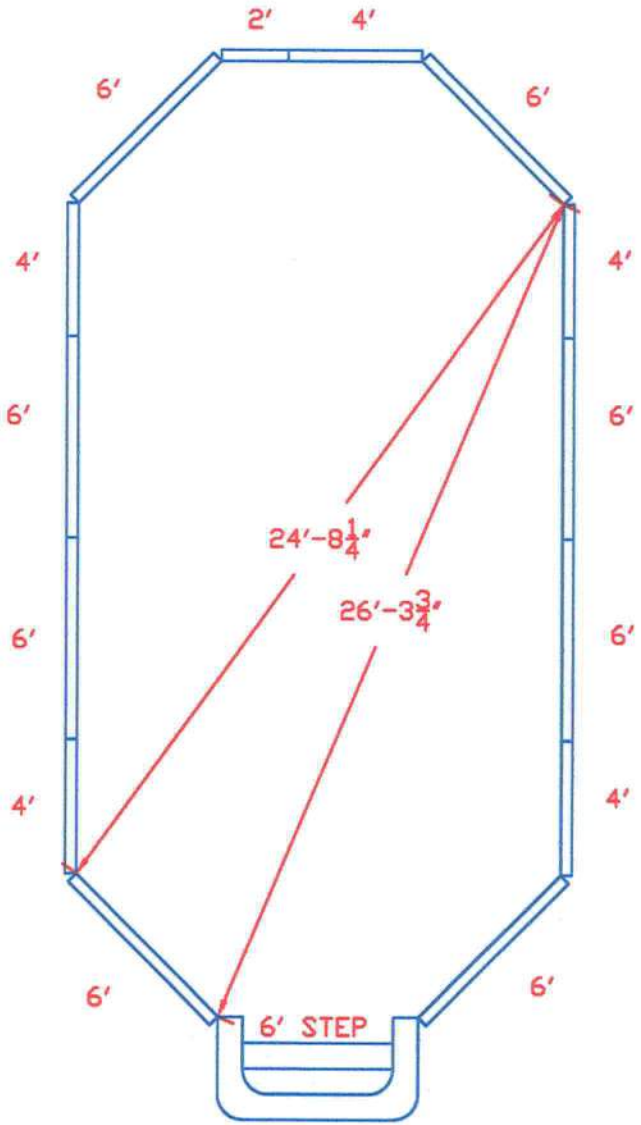
Fill with water and Backfill. Assemble ladder, attach anchors for rails. Pour deck.

All counties have their own rules and regulations for electrical. We can offer some advice on the basics, but you should check the rules and regulations in your state and follow there advice at all times...

Please remember we are here to help. If you have any difficulty while installing your pool, **stop and call us. 877.207.7665**

POLAR POOLS
Do It Yourself Dreams





NON DIVING POOL-PLACE NO DIVING PLACARDS BOTH ENDS OF POOL