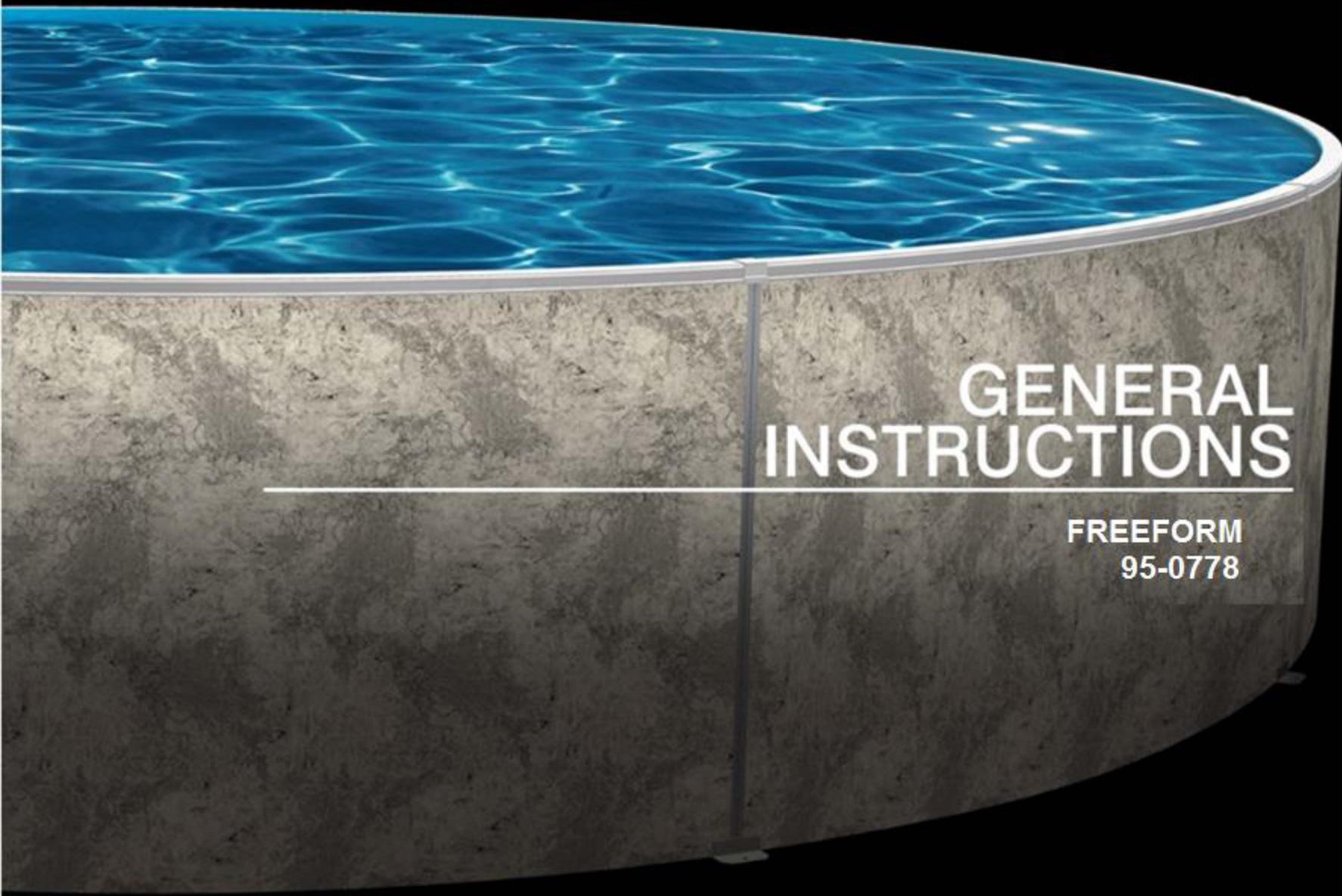




Optimum Pool

by Wilbar



GENERAL INSTRUCTIONS

FREEFORM
95-0778



Optimum Pool

In order for your pool warranty to be deemed valid
you **must** register your pool at

www.mypoolwarranty.com



POOL SAFETY

PLEASE READ PRIOR TO INSTALLATION

WARNING!

Failure to observe these warnings may result in permanent injury, paralysis from a broken neck, and death due to electrocution or drowning. This pool is NOT designed for diving or jumping. Serious injuries can result from jumping or diving into shallow water! Carefully read, understand and follow all information in this user manual before installing and enjoying your swimming pool. These warnings, instructions and safety guidelines address common risks of water recreation, but they cannot cover all possible risks and dangers in all cases. Always use caution and employ common sense and good judgment when enjoying any water activity.

Your pool contains a large quantity of water, and any amount of water, even shallow water, can present serious dangers to life and health unless these safety rules are strictly observed. First-time users run the highest risk of injury. Ensure all bathers understand these safety rules, and encourage all bathers, especially children, to learn how to swim. Learn basic life support (CPR) and refresh this knowledge regularly. Instruct all bathers, including children, what to do in case of emergency. Keep a working phone and a list of emergency phone numbers near the pool. This can save a life. To ensure your pool is used safely, you MUST observe and enforce the following safety precautions:

1. NO JUMPING OR DIVING

The top rail of your pool is not a walkway and must not be used for jumping or diving. Do not permit jumping or diving into the pool from a pool deck, the top rail of the pool, or from any structure outside the pool. Diving or jumping into the pool can result in serious injury.

2. NEVER USE THE POOL ALONE

Never permit the pool to be used unless it is attended by at least one person other than the bather. Someone should always be available to lend assistance in an emergency. Designate a competent adult to supervise the pool when in use. Vigilant supervision of weak swimmers and non-swimmers by a competent adult is required at all times. Children under five are at the highest risk of drowning.

3. NEVER LEAVE CHILDREN UNATTENDED

Never leave a child alone and unsupervised in or near the pool — not even for a second. There is no substitute for constant adult supervision.

4. NO ROUGH PLAY

Do not permit rough playing or roughhousing in and around your pool. Surfaces can become slippery and hazardous when wet.

5. LIGHT THE POOL AT NIGHT

If the pool is used after dusk, adequate lighting must be provided. Illumination in the pool area must be sufficient to allow swimmers to clearly judge pool depth and all features in and around the pool. For lighting recommendations, consult your local licensed electrical contractor.

6. RESTRICT ACCESS TO THE POOL

Do not leave chairs or other furniture beside the pool that could be used by a child to access the pool. Ladders must be removed whenever the pool is unattended. A fence with a lockable gate around the pool or yard is strongly recommended and may be required by law in some areas. Secure doors and windows, where applicable, to prevent unauthorized access to the swimming pool. Remove all toys from the swimming pool and surrounding area when not in use to avoid attracting children to the pool. Barriers, pool covers, pool alarms or similar safety devices are helpful aids, but they are not substitutes for continuous adult supervision.

7. NO ALCOHOL OR DRUGS

Never drink alcoholic beverages or use any intoxicants which could hinder your judgment and reflexes in an emergency.

8. KEEP YOUR POOL CLEAN AND SANITARY

Your filter system will remove suspended particles from the water and the surface skimmer will remove insects, leaves and other debris from the water surface. Use the correct pool chemicals as directed to destroy harmful bacteria and prevent formation of algae. Remember, unsanitary water is a serious health hazard.

8. KEEP OFF THE TOP LEDGES

Do not walk or stand on the top ledges. They can become slippery and result in serious injury.

9. POOL COVER SAFETY

The pool cover (sold separately) must have a tamper-proof locking retainer cable that positions the cover around the pool wall and keeps it securely in place. Never allow anyone, especially small children on the cover. Asphyxiation or drowning could result. Be sure to remove pool cover completely from the water surface before entering the pool. When purchasing any pool cover, please consult a pool professional.

11. ELECTRICAL HAZARD

Never touch or attempt to service electrical equipment, including the filter, when your body and/or the ground is wet. Electrocution or permanent injury due to high voltage (120V AC) could result. The pool should be bonded in accordance with Section 680-26 of the National Electrical Code. For further assistance contact your dealer or a local licensed electrician. Do not use pool during electrical or rain storms.

12. SAFETY ROPE AND POLE

Keep a safety rope measuring at least 50 feet long (15.24 meters) by ¼" thick (.635cm) securely attached to a flotation buoy with an outside diameter of 15" (38.1cm) in a prominent, easily accessible area by your pool. Keep a pole not less than 16 feet (4.88m) long with a blunt or hook end available at poolside in case of emergencies. Weak swimmers and non-swimmers should wear personal protection equipment when using the pool.

13. POOL CHEMICALS

Store pool chemicals out of the reach of children. Do not place chlorine, chlorine tablets or sticks directly into skimmer, or winterize your pool with liquid chlorine. Damage to the skimmer, pool liner and filter will result. Failure to observe this instruction will void all component warranties. Always follow chemical manufacturer's instructions when storing, handling and dispensing pool chemicals.

14. CHECK FOR DAMAGE

Periodically inspect your pool and ladder components for damage and wear. Be sure all screws are in place and tightened according to manufacturer's instructions. Replace all damaged or worn components and tighten all screws before you use the pool, deck or ladders. At first sign of rust, remove and touch up immediately.

15. POOL PARTS

Never modify the pool, its components or its accessories, remove hardware, or drill holes in the pool, deck or ladder components unless instructed to do so by the manufacturer. Your pool wall is made of thin, but strong metal, so please use work gloves to protect your hands during installation. Always utilize original manufactured parts for replacement. Failure to do so may void your warranty.

IMPORTANT NOTICE BEFORE INSTALLATION

SAFETY STICKERS

The safety stickers must be installed as per the following instructions. Failure to properly install warning labels will void warranty. Failure to mount these safety labels may subject you to substantial liability in case of injury. These warnings are not to be removed under any circumstances. If they become discolored or fall off, please request replacements from the manufacturer, which will be provided free of charge.

SITE CHOICE AND PREPARATION:

- Site choice and preparation is your responsibility.
- All parts to be handled with care and free of dirt and debris.
- Confirm you have all parts.
- Assure entire framework is level.
- Pool rupture due to improper installation could cause serious property damage.

FOLLOW ALL SAFETY INSTRUCTIONS

Read and follow all safety instructions packaged with pool, ladder, deck or any other accessory. Additional pool safety publications can be obtained by contacting: The Association of Pool & Spa Professionals (www.apsp.org)

Place signs on liner above water line, opposite entry to pool



Place signs on wall next to pool entry



Remember to watch children



INTRODUCTION

CONGRATULATIONS on becoming the owner of a new above ground swimming pool! This is the instruction packet for installation of your pool. The following are some helpful hints to keep in mind before installing.

- Read through the entire instruction booklet prior to installation so that you can familiarize yourself with everything involved with installing your swimming pool before you begin.
 - **DO NOT ATTEMPT INSTALLATION IN WINDY OR GUSTY WEATHER.** This will make installation more difficult and could damage your pool before it's even completely installed.
 - You will find that steps 1, 2 and 3 will be the most labor intensive and time-consuming steps, although the installation is broken down into many simple steps. Once you have completed the first three steps, you should find that the rest of the installation process moves along much more quickly.
 - Please review all safety material and local code guidelines before beginning your installation. There is a yellow safety envelope packed with your pool. This envelope contains safety material and warning stickers to be placed on your pool. If any of these items are missing, please contact your dealer or the factory to obtain them. The warranty is void if all safety precautions are not followed.
- In the event that you need to make a warranty claim, it is important to know the size and model of your swimming pool in order to expedite the handling of your claim. Please fill in the information below and keep for your records. All of this information can be found on the labels attached to the cartons in which your pool is packed.

NAME OF POOL: _____
SIZE OF POOL: _____
DATE OF PURCHASE: _____
NAME OF POOL WALL: _____
NAME OF LINER: _____

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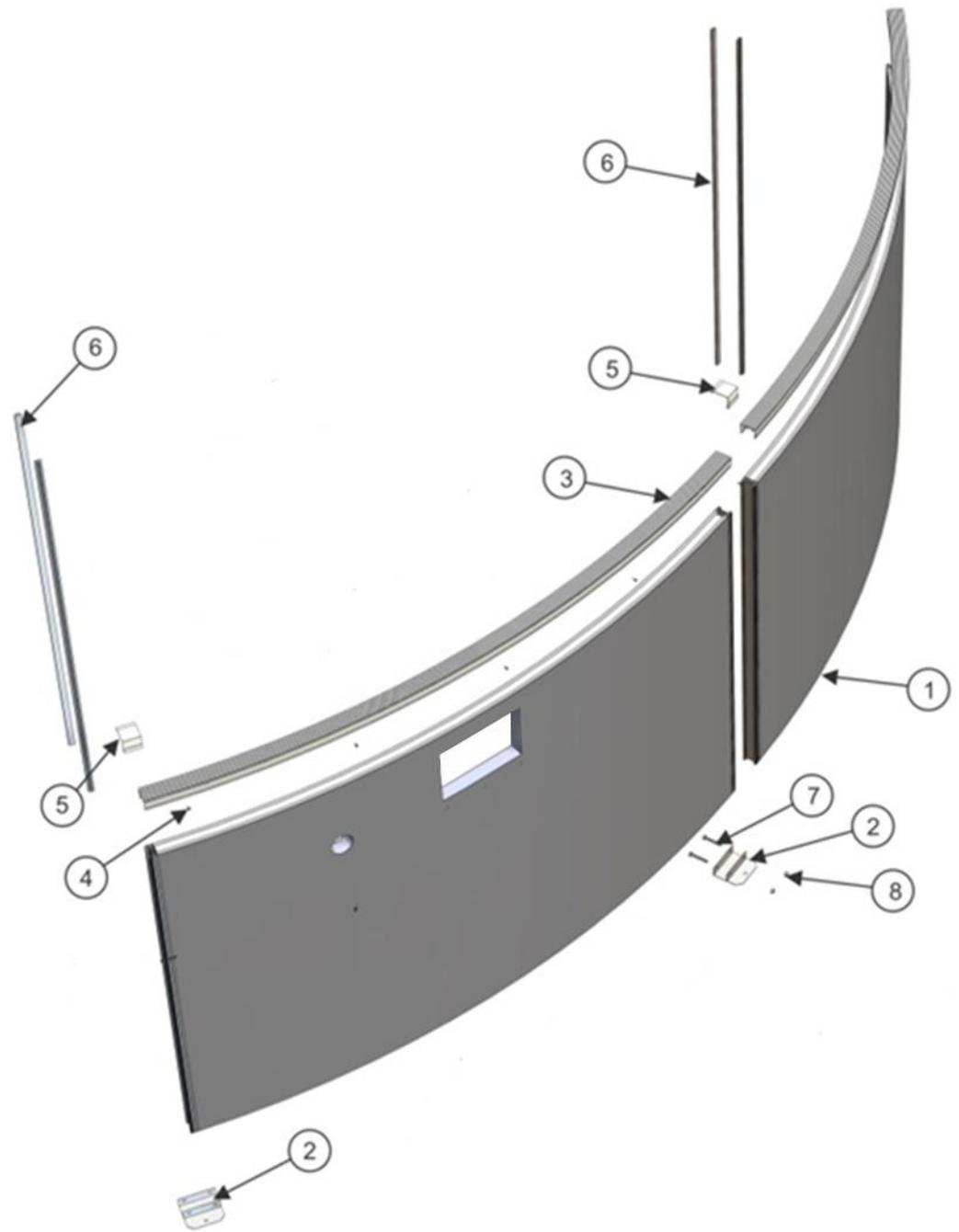
Section 1

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Pool Components Check List

Pool

1	Panels	See Page 8
2	Bottom Plates	#77004
3	PVC Coping 2" Clay	See Page 8
4	Cap Screws - #8 x 1/2"	#99-0138
5	Coping Clip Standard Clay	#77310
6	Splines - 52"	#77002
7	Bolts, Hex Head Alum. - 2 1/2"	#99-0137
8	Nuts, Alum. - 3/8"	#99-0134



Section 1

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Pool Components Check List: Above Ground Skimmer Panel

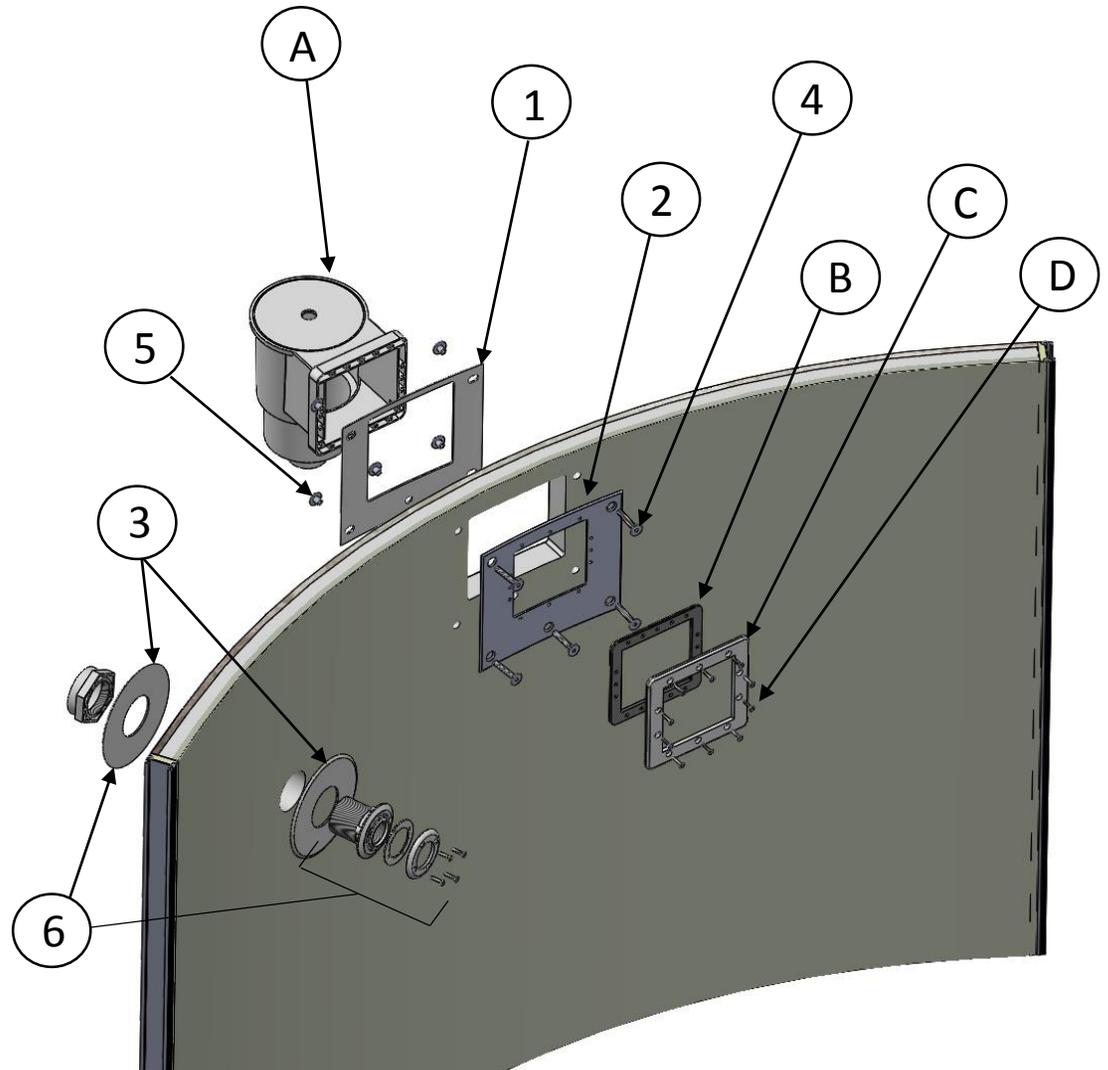
Pool

- | | |
|--------------------------------|----------|
| 1. Skimmer Plate SP1091, White | #77516 |
| 2. Skimmer Plate SP1091, Gray | #77517 |
| 3. White Return Plate | #77064 |
| 4. Bolts, Countersunk SS- 2 ¼" | #99-0131 |
| 5. Nuts, Flat Head Rivet SS | #99-0132 |
| 6. Extended Return Fitting Set | #77092 |

Skimmer Kit – (NOT INCLUDED)

- For Illustration Purposes Only -

- A. Skimmer
- B. Double Layer Gasket
- C. Skimmer Face Plate
- D. Screws, Flat Head



Section 1

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Pool Components Check List: In-Ground Skimmer Panel

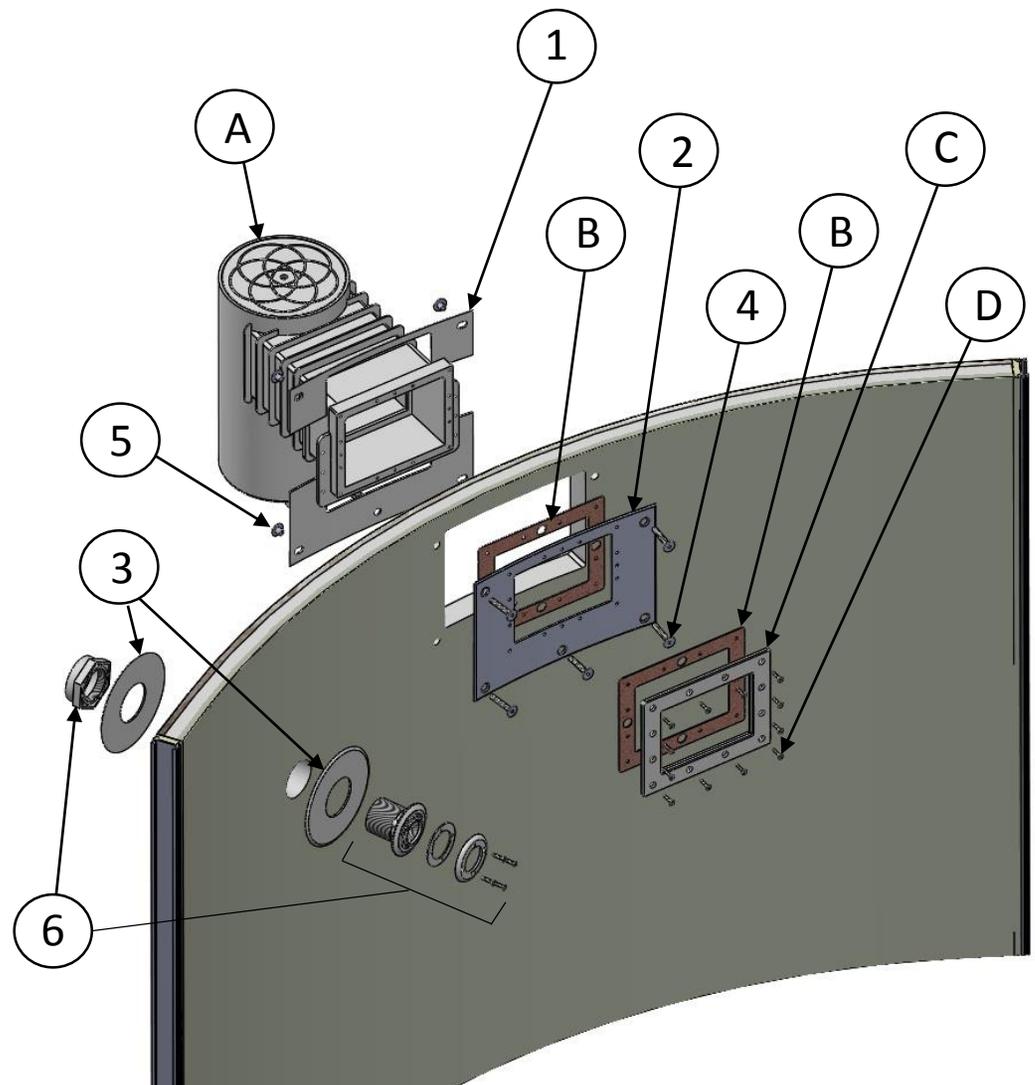
Pool

1. Skimmer Plate SP1084, White #77518
2. Skimmer Plate SP1084, Gray #77519
3. White Return Plate #77064
4. Bolts, Countersunk SS- 2 ¼" #99-0131
5. Nuts, Flat Head Rivet SS #99-0132
6. Extended Return Fitting Set #77092

Skimmer Kit – (NOT INCLUDED) –

- For Illustration Purposes Only -

- A. Skimmer
- B. Synthetic Gasket
- C. Skimmer Face Plate
- D. Screws, Flat Head



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Parts Per Pool Size

1. PANELS	Part No	1423	1528	1730	1932
OPTIMUM 12FT PANEL, STANDARD 72-¼"	77319	5	5		
OPTIMUM 12FT PANEL, INGROUND SKIMMER 72-¼"	77320	1	1		
OPTIMUM 12FT PANEL, ABOVE GROUND SKIMMER 72-¼"	77456				
OPTIMUM 14FT PANEL, STANDARD 84-¼"	77334			5	
OPTIMUM 14FT PANEL, INGROUND SKIMMER 84-¼"	77335			1	
OPTIMUM 14FT PANEL, ABOVE GROUND SKIMMER 84-¼"	77457				
OPTIMUM 16FT PANEL, STANDARD 73-7/16"	77055				7
OPTIMUM 16FT PANEL, INGROUND SKIMMER 73-7/16"	77071				1
OPTIMUM 16FT PANEL, ABOVE GROUND SKIMMER 73-7/16"	77458				
OPTIMUM FREEFORM PANEL - SM BUMP 57"	77378	1			
OPTIMUM FREEFORM PANEL - SM REVERSE BUMP 35-¾"	77379	2			
OPTIMUM FREEFORM PANEL - SM INDENT 38-5/8"	77380	2			
OPTIMUM FREEFORM PANEL - SM REVERSE INDENT 46-9/16"	77381	1			
OPTIMUM FREEFORM PANEL - LG REVERSE BUMP 46-9/16"	77381		2	2	2
OPTIMUM FREEFORM PANEL - LG BUMP 50"	77386		2	2	2
OPTIMUM FREEFORM PANEL - LG INDENT 64-½"	77387		2	2	2
OPTIMUM FREEFORM PANEL - LG REVERSE INDENT 56-5/16"	77388		1	1	1
TOTAL PANEL COUNT	-	12	13	13	15

2. PVC TOP COPING	Part No	1423	1528	1730	1932
PVC COPING STANDARD CLAY 12FT 78-3/16"	77309	6	6		
PVC COPING STANDARD CLAY 14FT 90-¾"	77325			6	
PVC COPING STANDARD CLAY 16FT 77-1/8"	77006				8
PVC COPING STANDARD CLAY SMALL BUMP 61-¾"	77340	1			
PVC COPING STANDARD CLAY SMALL REVERSE BUMP 38-5/8"	77341	2			
PVC COPING STANDARD CLAY SMALL INDENT 41-½"	77342	1			
PVC COPING STANDARD CLAY SMALL REVERSE INDENT	77343	2	2	2	2
PVC COPING STANDARD CLAY LARGE REVERSE BUMP 50"					
PVC COPING STANDARD CLAY LARGE BUMP 53-7/16"	77347		2	2	2
PVC COPING STANDARD CLAY LARGE INDENT 67-¾"	77348		1	1	1
PVC COPING STANDARD CLAY LARGE REVERSE INDENT 60-7/8"	77349		2	2	2

COMPONENTS	Part No	1423	1528	1730	1932
3 BOTTOM PLATE	77004	12	13	13	15
4 CAP SCREWS - #8 X ½"	99-0138	60	75	75	75
5 COPING CLIP STANDARD CLAY	77310	12	13	13	15
6 SPLINE - 52"	77002	24	26	26	30
7 BOLT, HEX HEAD ALUM. - 2-½"	99-0137	24	26	26	30
8 NUT, ALUM. - 3/8"	99-0134	24	26	26	30
9 SLIMMER PLATE SP 1091 WHITE (OUTSIDE POOL)	77516	1	1	1	1
10 SKIMMER PLATE SP 1084 WHITE (OUTSIDE POOL)	77518				
11 SKIMMER PLATE SP 1091 GRAY (INSIDE POOL)	77517	1	1	1	1
12 SKIMMER PLATE SP 1084 GRAY (INSIDE POOL)	77519				
13 RETURN PLATE WHITE (INSIDE/OUTSIDE)	77064	2	2	2	2
14 BOLT, COUNTERSUNK SS - 2"	99-0130	4	6	6	6
15 BOLT, COUNTERSUNK SS - 2-¼"	99-0131	17	17	17	17
16 NUT, FLAT HEAD RIVET SS - 3/8"	99-0132	21	23	23	23
17 REBAR - 3/8 X 15"	77001	4	4	4	6
18 EXTENDED RETURN FITTING	77092	1	1	1	1
19 STRAIGHT PANEL CONNECTOR	77026	8	9	9	9
20 SPLINE, SHORT 5-¾"	77014	32	36	36	36
21 SPINE, EXTENDED 52"	77013	16	18	18	18
22 A-FRAME UPRIGHT	77033	8	9	9	9
23 A-FRAME COVER	77036	8	9	9	9
24 A-FRAME COVER FOAM INSERT	77069	8	9	9	9
25 SCREW, FLAT HEAD 2" LONG	99-0130	16	18	18	18
26 BOLT, HEX HEAD 8" LONG	99-0141	24	27	27	27
27 NUT, 3/8" SS	99-0142	24	27	27	27
28 WASHER - 7/8" ALUMINUM	99-0133	48	54	54	54
29 FREEFORM SIDE BRACE SM - 35"	77395	4			
30 FREEFORM SIDE BRACE SM/LG - 46-¾"	77396	2	4	4	4
31 FREEFORM SIDE BRACE LG - 57-¾"	77397		2	2	2
32 SIDE BRACE MOUNTING BRACKET - LEFT	77153	6	6	6	6
33 SIDE BRACE MOUNTING BRACKET - RIGHT	77155	6	6	6	6

Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Tools You Will Need:

- | | |
|----------------------------------|-------------------------------|
| Tape measure - 100' | Pliers - channel lock |
| Marking spray paint or powder | 9/16" open end wrench |
| String - 25' length | Screwdrivers, flat & Phillips |
| Stake or peg – 12" | Metal file |
| Transit, laser level or 3' level | Utility knife |
| Rubber mallet | PVC pipe cutter |
| Hacksaw | Pool trowel |
| Spade | Cloth rag |
| Square shovel | Cooking spray |
| Pick | Shop vacuum |
| Rake | Soft bristle broom |
| Tamper square 10" or 12" | Extension cord |
| 2x4, straight - 12' | Hose with spray nozzle |
| Square | Wheelbarrow |
| Power drill | |
| 7/16" and 1/8" drill bits | |
| ¼" hex nut driver bit | |
| Socket set | |
| Duct tape | |

Also Needed But Not Included:

Patio blocks - (2" x 12" x 12")

Masonry Blocks - (8" x 8" x 16")

Masonry Sand

Concrete

INGROUND Installations:

Backfill (Crushed stone or gravel 3/8"- 3/4" dia. recommended)

Pool Size	Masonry Sand Cubic Yards	Patio Blocks	Masonry Blocks	Concrete Footing Cubic Yards	Concrete Collar Cubic Yards*
1423	1.7	16	12	4-½	1-½
1528	2.1	16	14	6-½	1-¾
1730	2.6	16	14	6-½	2
1932	3.1	18	14	6-½	2-¼

*Note – Concrete collar is necessary in addition to the concrete footing once pool is installed deeper than 24" below grade.

Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 1 – Select a Pool Location

DO NOT locate the pool:

- over underground lines (electrical, sewage, plumbing, gas).
- over septic tanks.
- under overhead electrical lines.
- near hazardous structures.
- out of compliance with local code restrictions.

DO NOT locate the pool on a site:

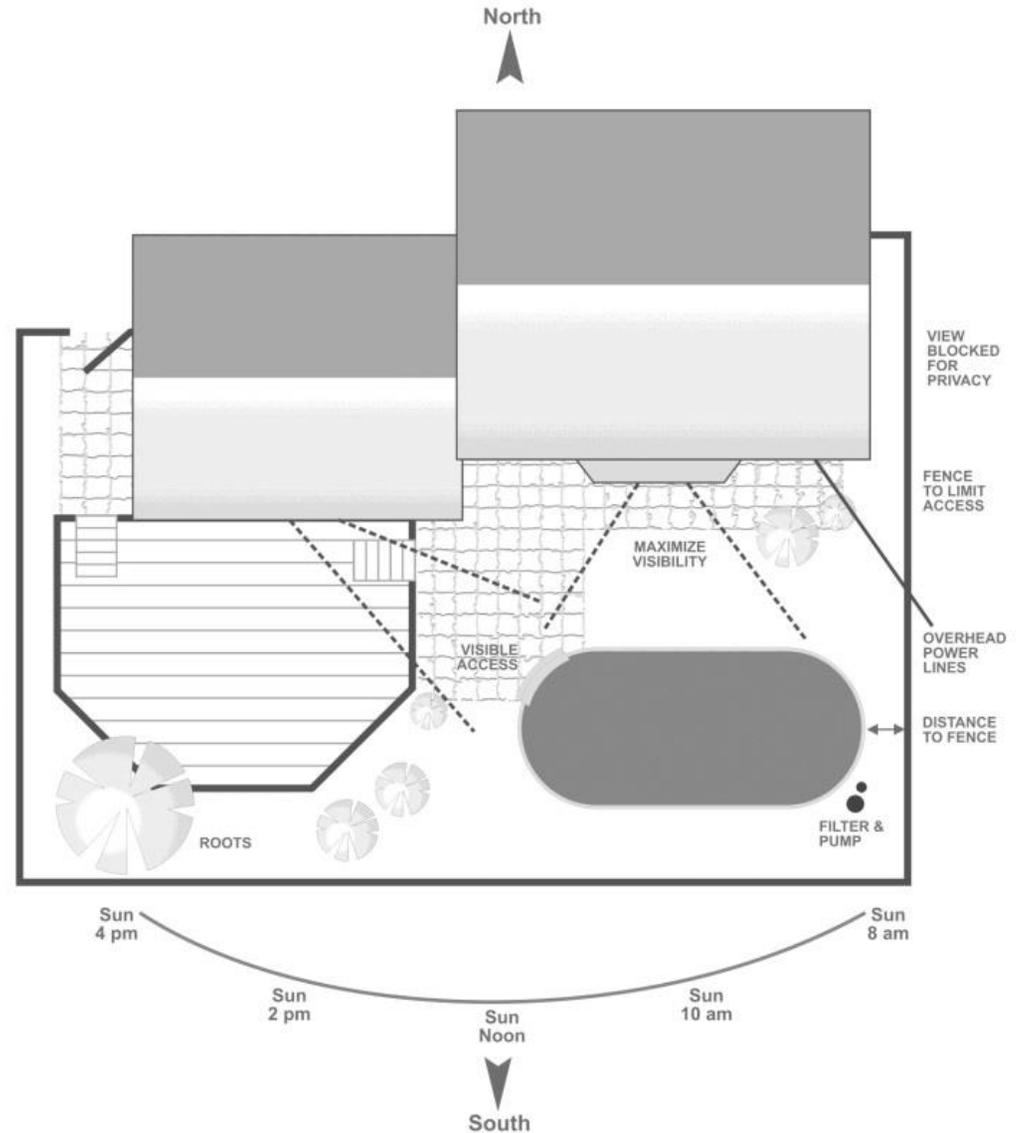
- that is hilly - avoid areas with sudden slopes within 6' of pool
- that has poor drainage or tends to flood.
- in areas with sharp objects.
- on ground that has been treated with weed killer, pesticides or other chemicals.
- that has nut grass, Bermuda grass or bamboo grass growing nearby, as they can grow through your liner and puncture it.

DO NOT assemble your pool:

- on asphalt, tar or oil-based surfaces.
- with components such as filters, pumps, and heaters placed where they can be used to access the pool by young children.

DO ensure:

- the area selected has a level and firm base.
- surface is flat 2' beyond pool diameter.
- access is available to electrical and water supplies.
- the pool is installed far from structures which could encourage dangerous activities, like jumping from a roof or playset.
- you are aware of your local codes and restrictions.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 2 – Create a Foundation

2.2 Define the initial geometry by marking the pool site. The specific dimensions for each pool size is shown on the following footprints located on pages 13 through 16. Establish the centers of the two semi-circles as illustrated by driving a stake into the ground at both center points.

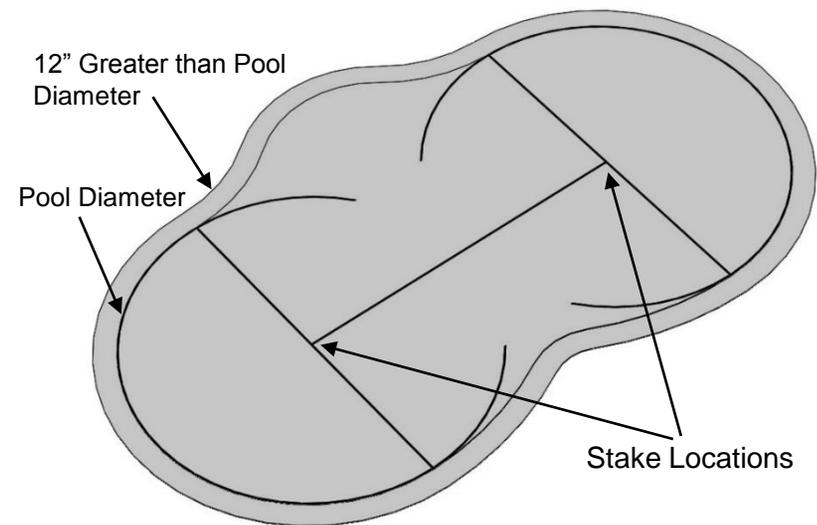
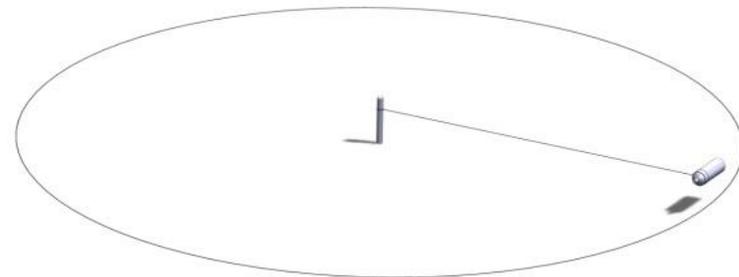
Attach one end of a string to one of the center stakes, measure the string out to equal the pool radius, plus an additional 12 inches for clearance. Holding the string taut, walk the semi-circle of the planned outer perimeter while marking the ground with spray paint, a lawn edger or white powder. Repeat with the opposing stake.

Mark the freeform sections of the pool next to join the two previously created semi-circles. Again use 12" of additional clearance.

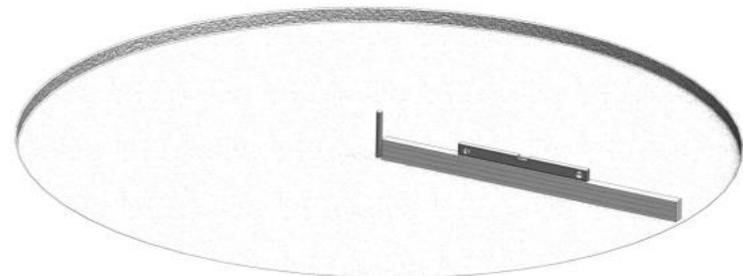
Remove all sod, weeds and other growth from within the marked pool location. Dig to the depth the pool will be installed for below-grade installations. Find the lowest spot within the pool area and level the surrounding ground to this point. Remove protruding roots, stones and other sharp objects that could damage the pool. Tamp down with a square tamper. DO NOT add dirt to raise the low areas as the weight of the filled pool will cause settling.

2.2 Confirm the site is level and flat using a long, straight board or 2x4 and a carpenter's level or transit. Continue to remove high areas of ground where necessary.

2.1



2.2



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 3 – Create Trench and Place Support Blocks

- 3.1 Create two trenches for the freeform section wall foundations.
- Trenches MUST be a minimum of 18- $\frac{1}{2}$ " deep
 - Trenches MUST be 36" wide (24" inward & 12" outward from wall center)
 - Trenches MUST be the length listed on the specific footprint.

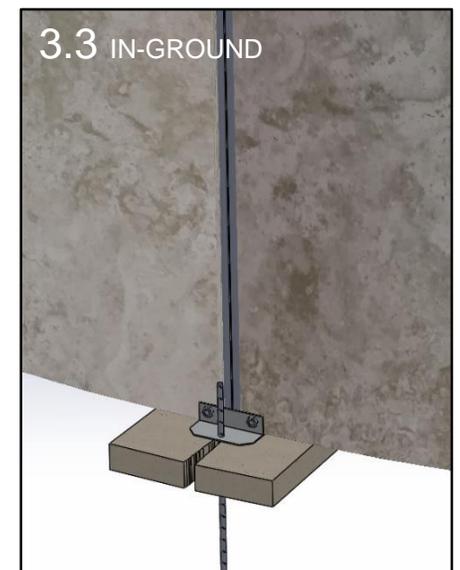
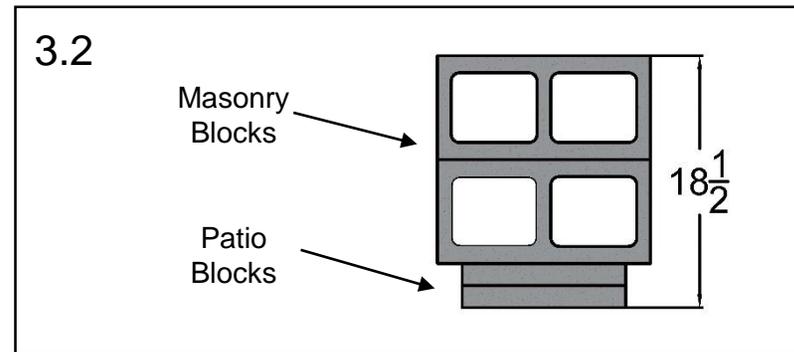
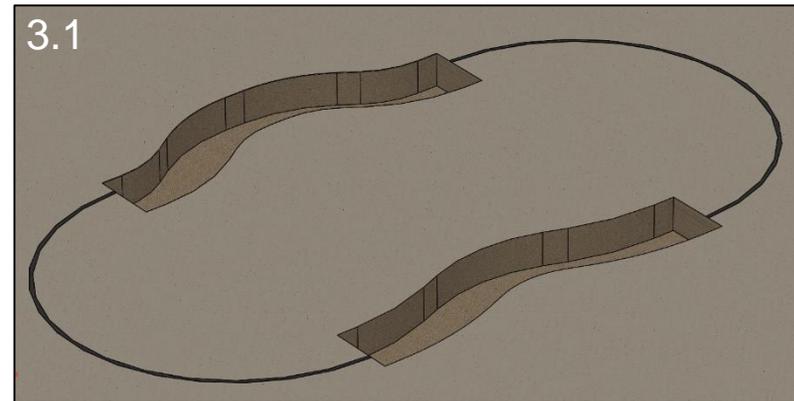
See following pages 13 through 16 for specific trench dimensions and location.

IMPORTANT! IT IS EXTREMELY IMPORTANT TO THE STRUCTURAL STABILITY OF THE POOL THAT THE CONCRETE DIMENSIONS ARE FOLLOWED EXACTLY. FAILURE TO DO SO MAY VOID THE WARRANTY.

- 3.2 Place concrete block support structures as illustrated in Figure 3.2 at the locations specified on the following footprints on pages 13-16.

Each assembly is constructed from two patio blocks (1 $\frac{5}{8}$ " actual) and two masonry blocks (7 $\frac{5}{8}$ " actual), giving a total stacked height of 18 $\frac{1}{2}$ ". This is equal to the depth of the trench dug earlier.

- 3.3 Place patio blocks at each wall joint for the curved ends of the pool. All patio blocks must be flush with the ground, solid and level with each other in all directions. Patio blocks for pools installed deeper than 24" below grade should be split to allow installation of rebar.

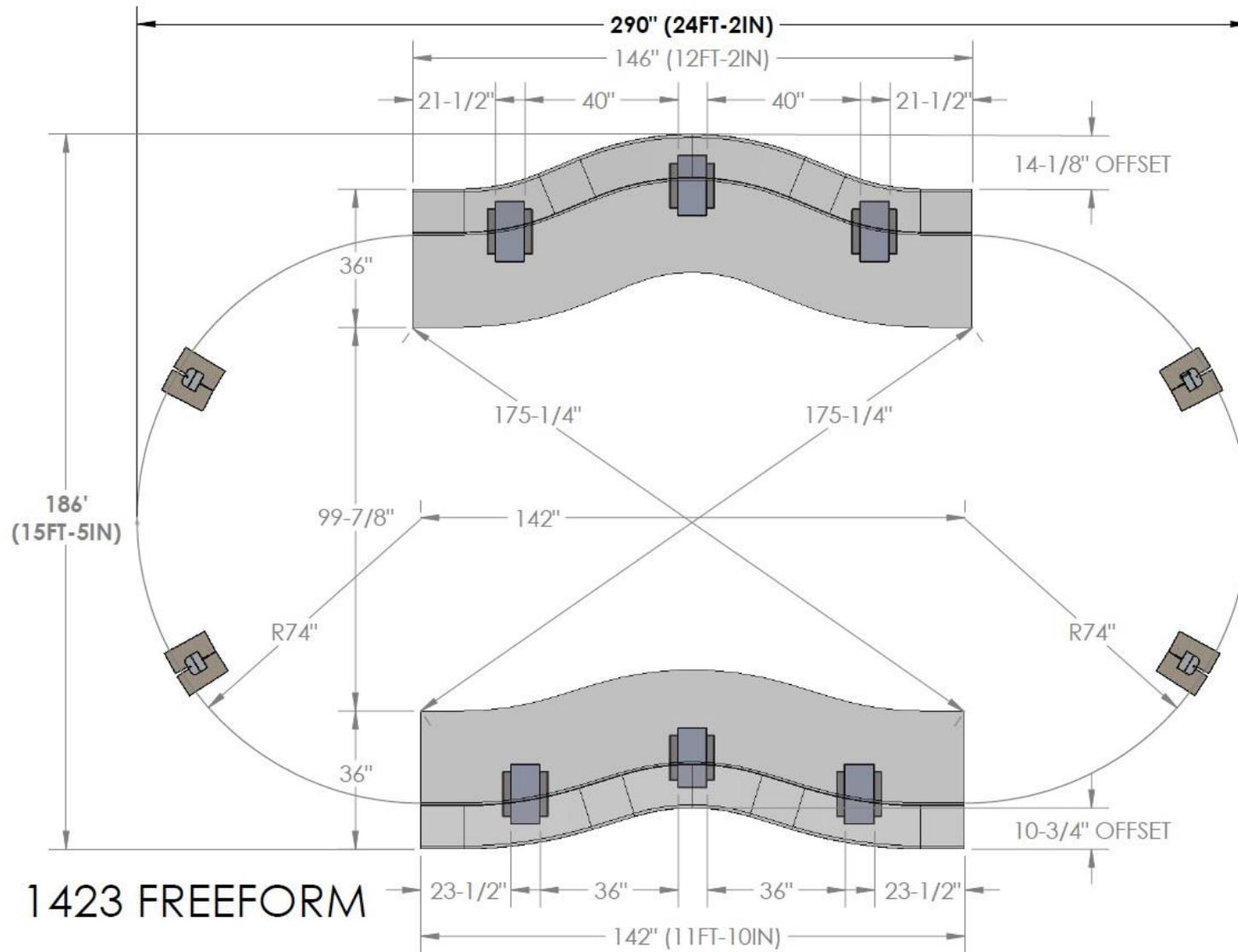


Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 3 – Create Trench & Patio Blocks

Pool Size: 14' x 23'

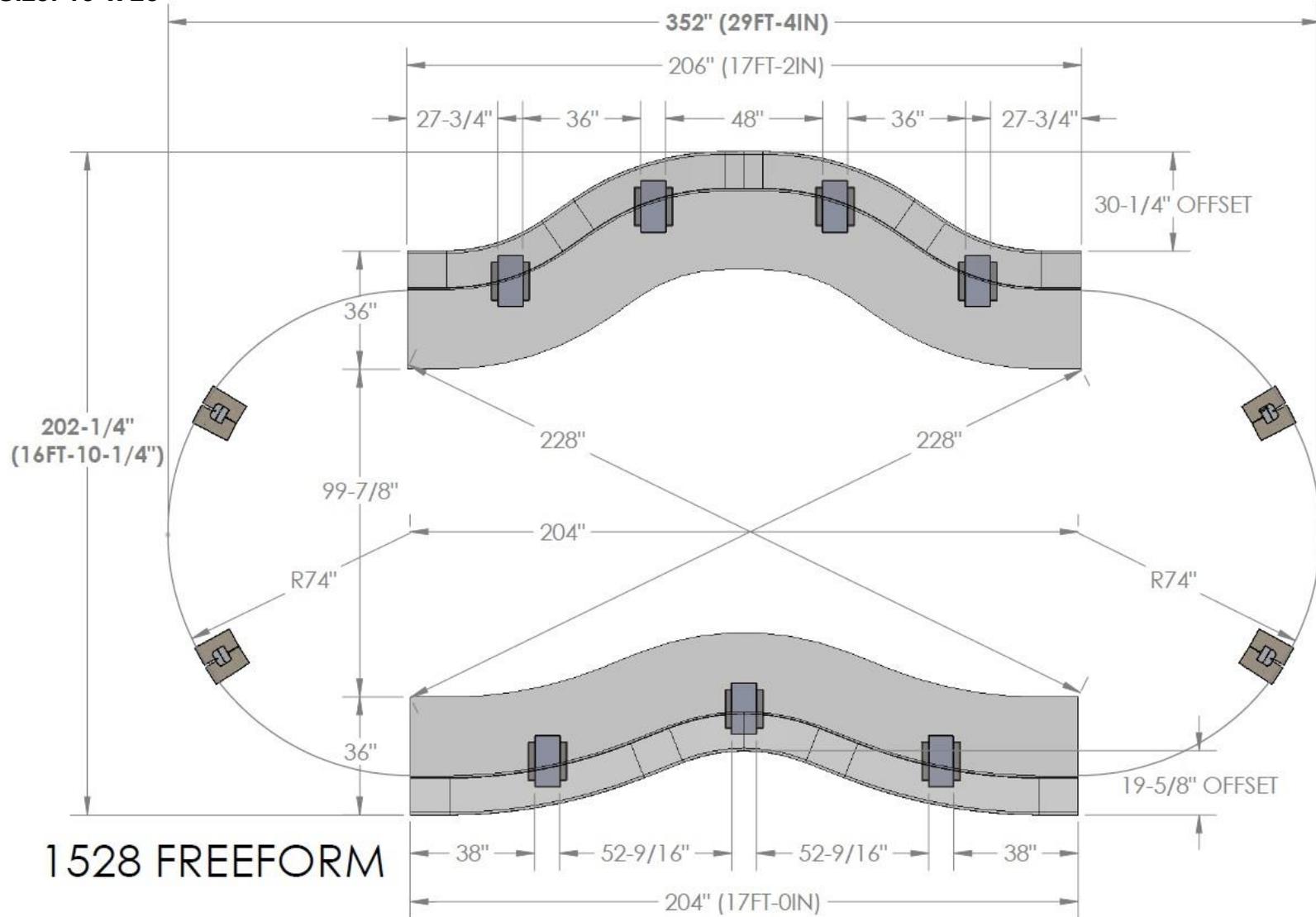


Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 3 – Create Trench & Patio Blocks

Pool Size: 15' x 28'

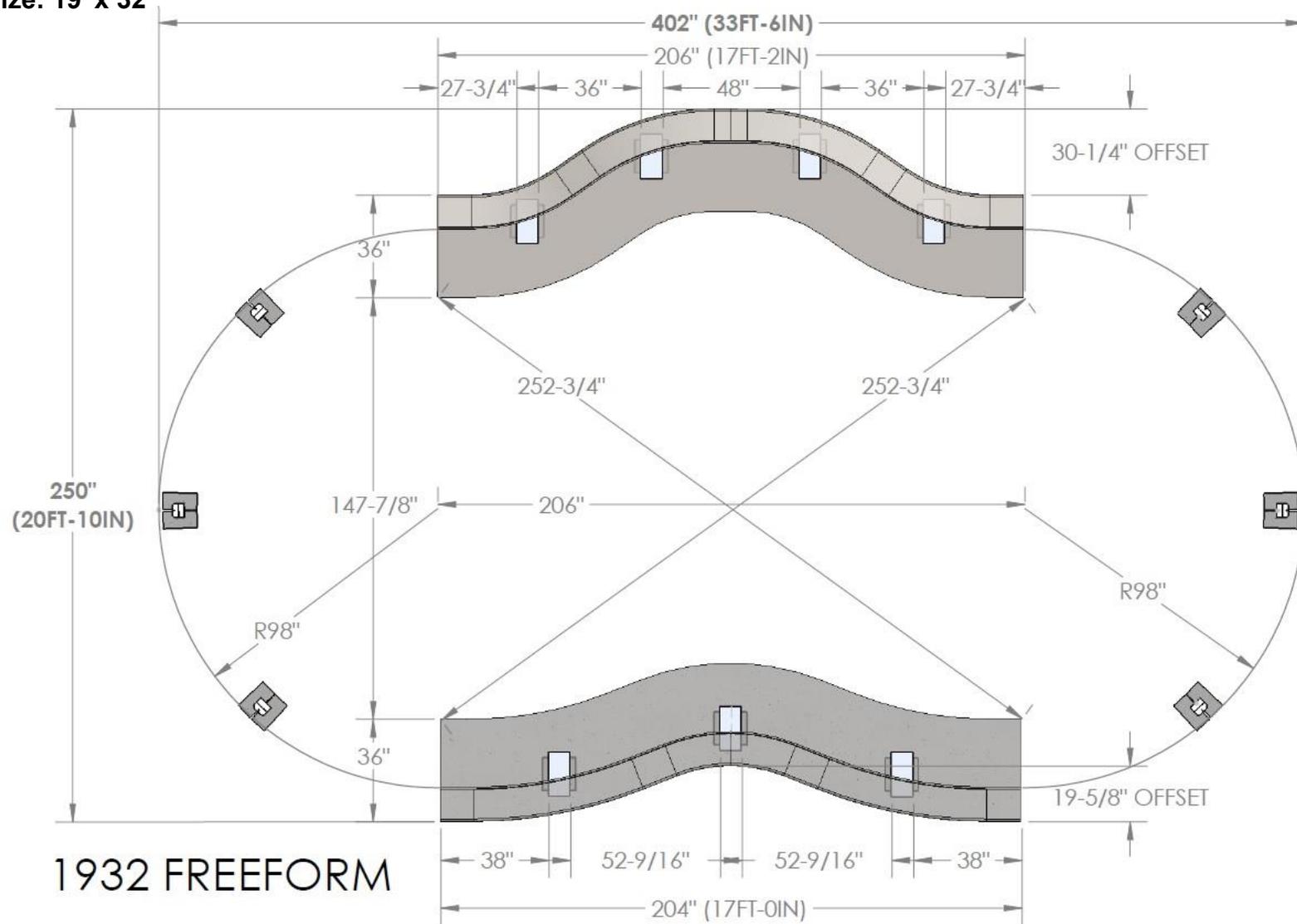


Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 3 – Create Trench & Patio Blocks

Pool Size: 19' x 32'



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 4 – Curved Side Panel Installation

- 4.1 Decide where the skimmer panel and plumbing will be located and place the skimmer panel accordingly. Center a bottom plate on each end of the panel.

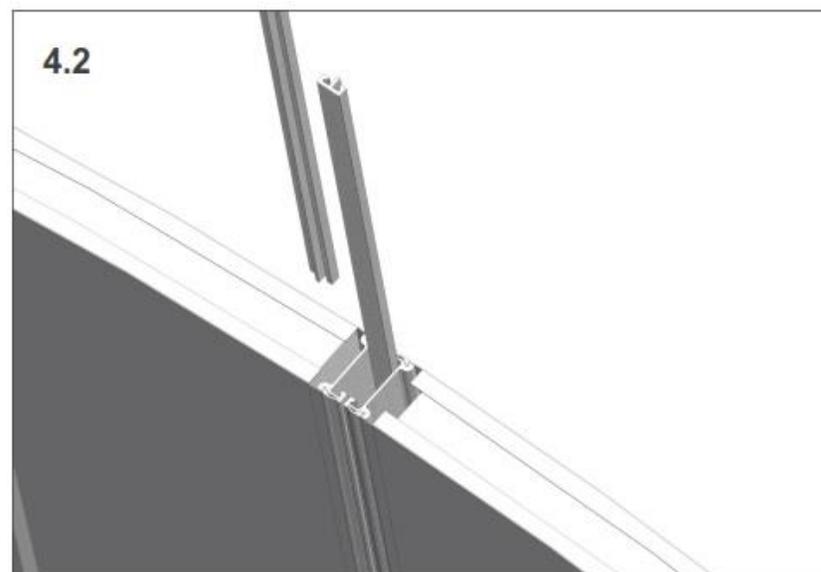
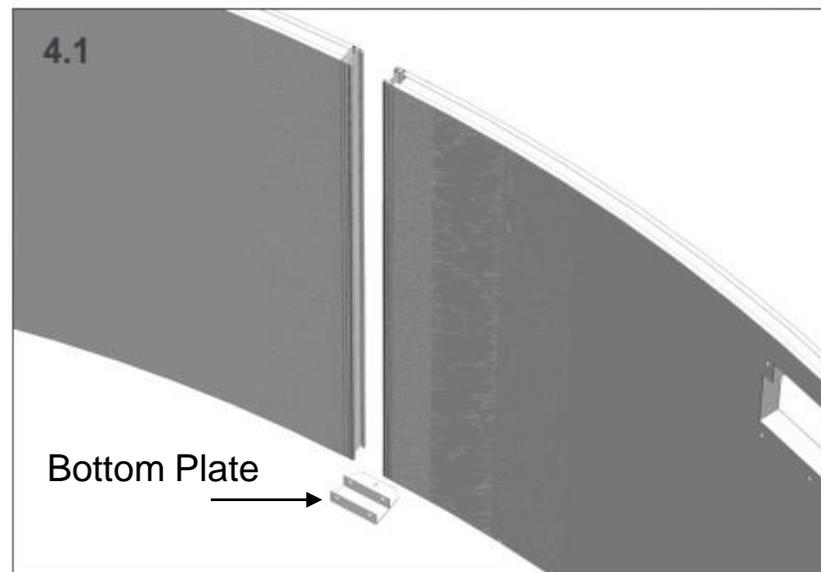
Place the next panel symmetrically centered into the bottom plate, leaving a 1/8" gap between both panels for the spline to be inserted.

- 4.2 Slide two 52" splines (#77002) into compression seams to lock both panels together.

If inserting the splines is difficult:

- apply cooking oil to ease installation. **DO NOT USE PETROLEUM LUBRICANTS like WD-40**
- Ensure there is a uniform 1/8" gap between both panels.
- Ensure parts are free of any sand or debris.

Repeat this step for all remaining curved side panels.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

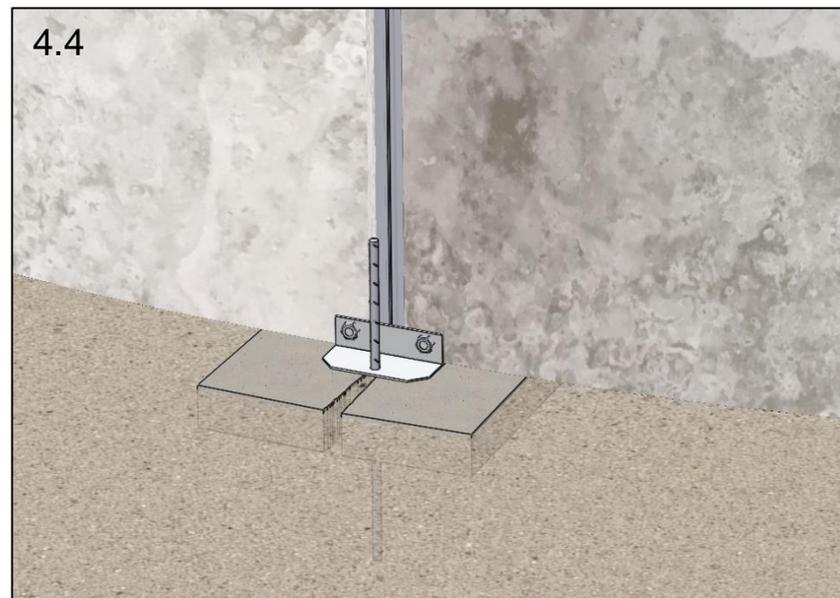
Step 4 – Curved Side Panel Installation

- 4.3 Ensure panels are centered and fully inserted into the bottom plates.

At this time, on the curved side ONLY, drill 7/16" holes through the pool panels at the bottom plate hole locations using the bottom plate holes as a drill guide. Secure panels with 2-1/2" bolts (#99-0137) and nuts (#99-0134).

- 4.4 **INGROUND ONLY:** If the pool installation is greater than 24" below grade, you must use the included rebar with a concrete collar around the perimeter of the pool. Insert the rebar halfway into the ground through the bottom plate holes before pouring the concrete collar.

If the pool is less than 24" below grade, you may skip this step.

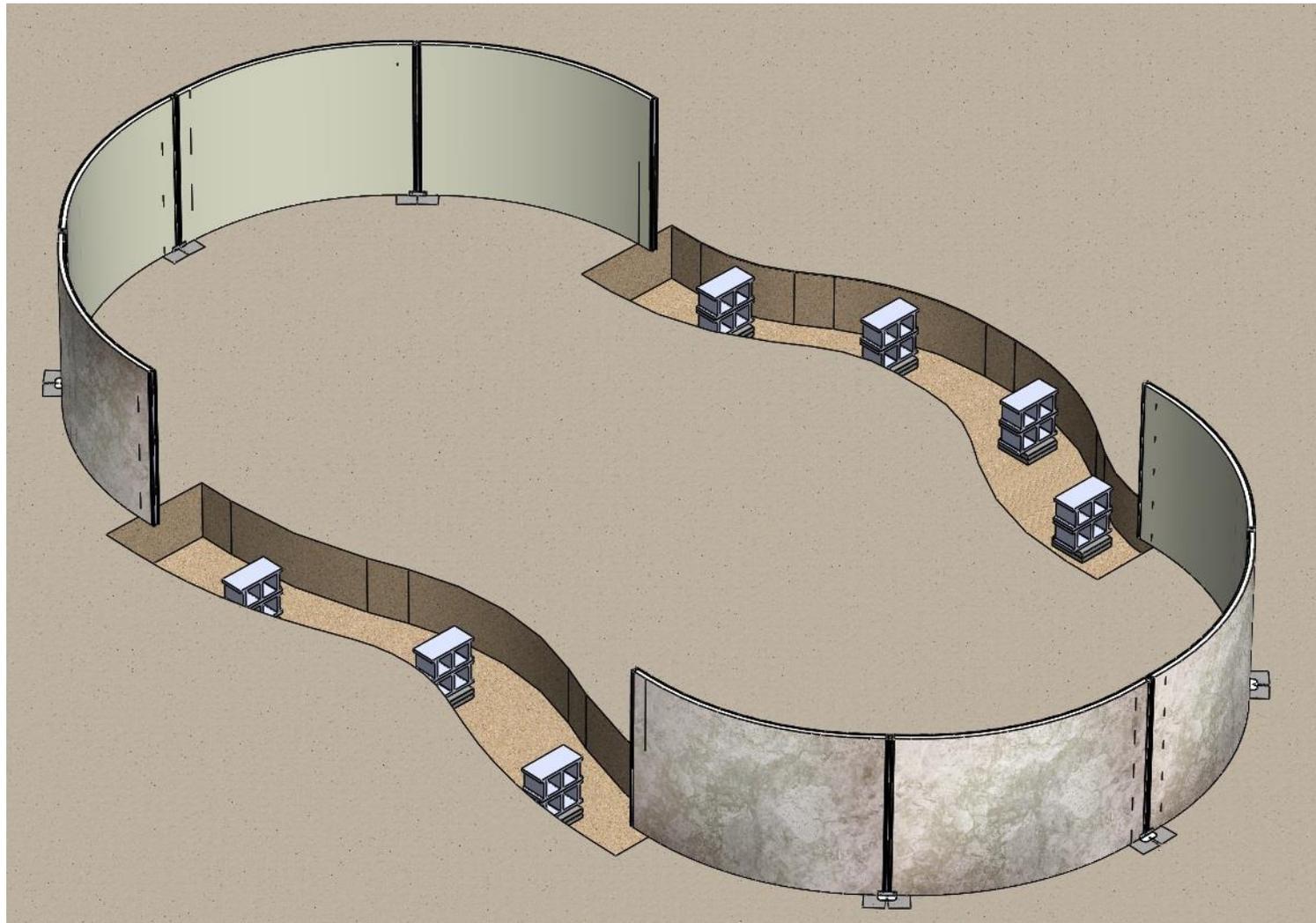


Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 4 – Curved Side Panel Installation

At this point in the installation process, the assembly should look similar to the image below.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

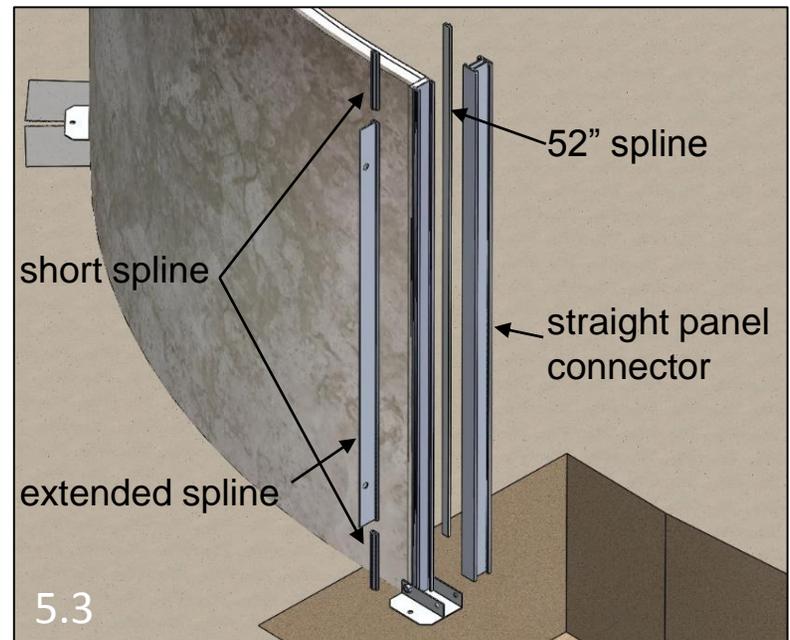
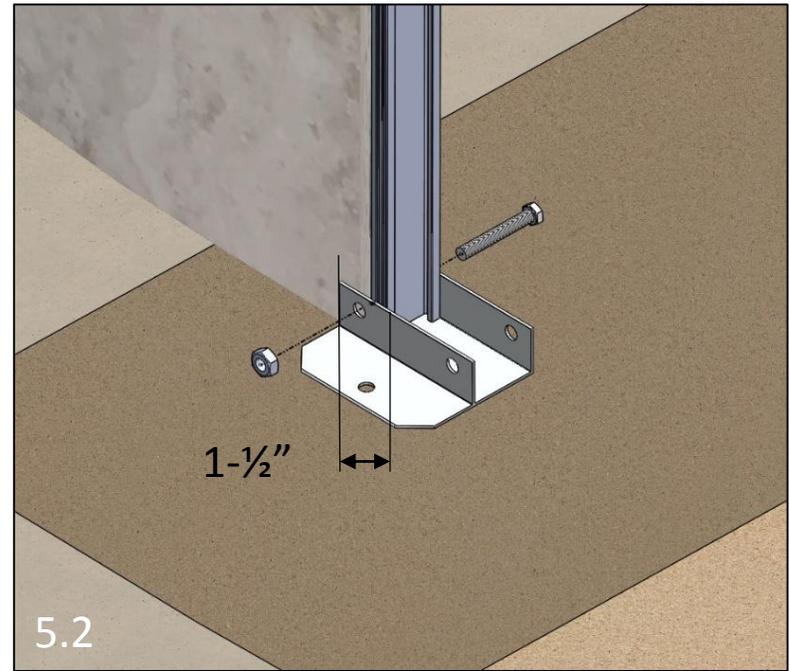
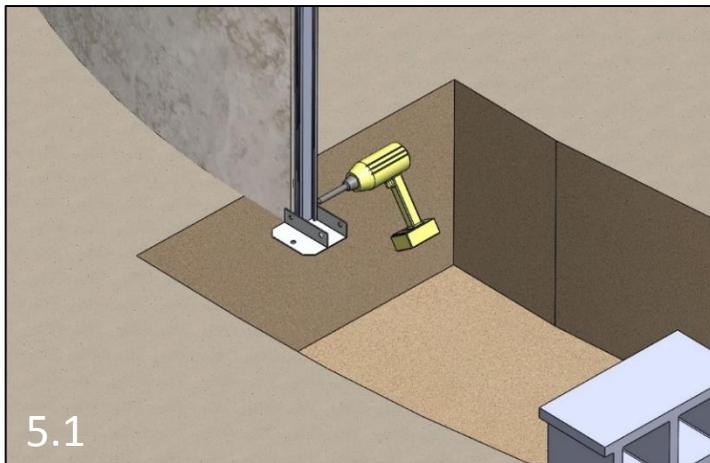
Step 5 – Freeform Side Panel Installation

5.1 Place a bottom plate on the curved side panel which will transition to the freeform side of the pool. Ensure bottom plate is fully seated on panel and inserted 1-½" onto panel.

5.2 Drill a 7/16" hole through the panel using the bottom plate hole as a drill guide. Secure bottom plate with one 2-½" bolt (#99-0137) and nut (#99-0134).

5.3 Attach the straight panel connector (#77026) onto the curved section of the pool as illustrated in Figure 5.3.

Two short splines (#77014), one extended spline (#77013) and one 52" spline (#77002) are used to attach the straight panel connector.

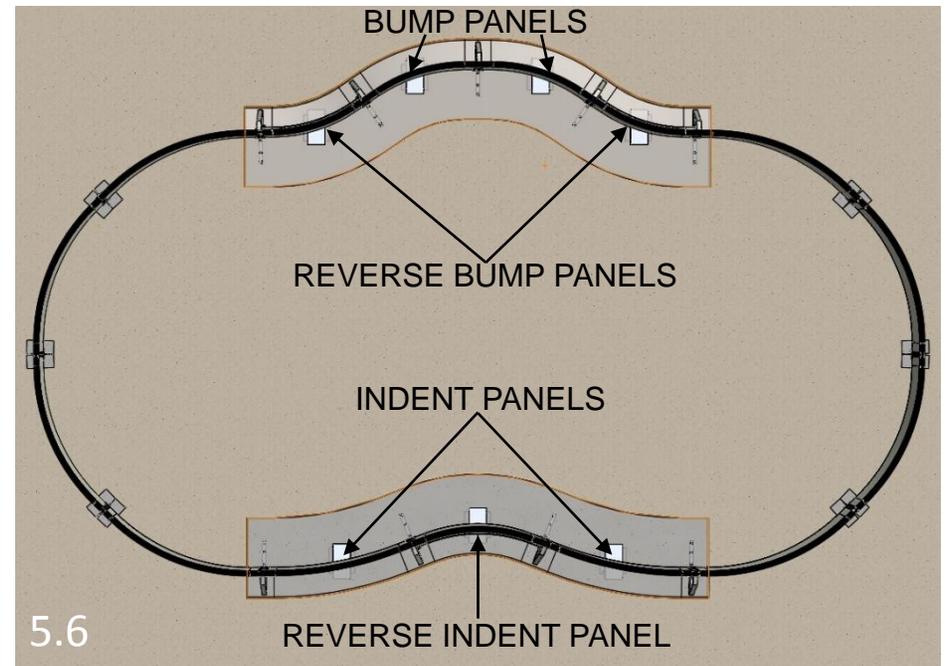
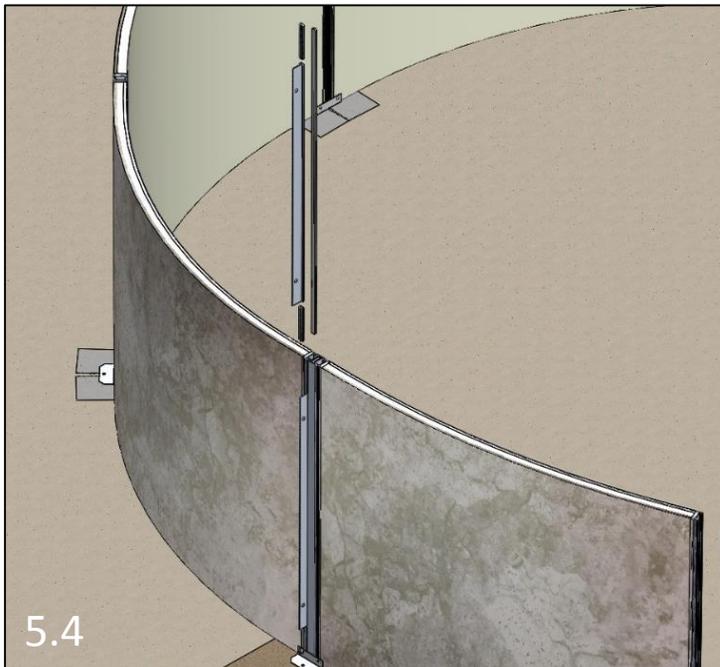
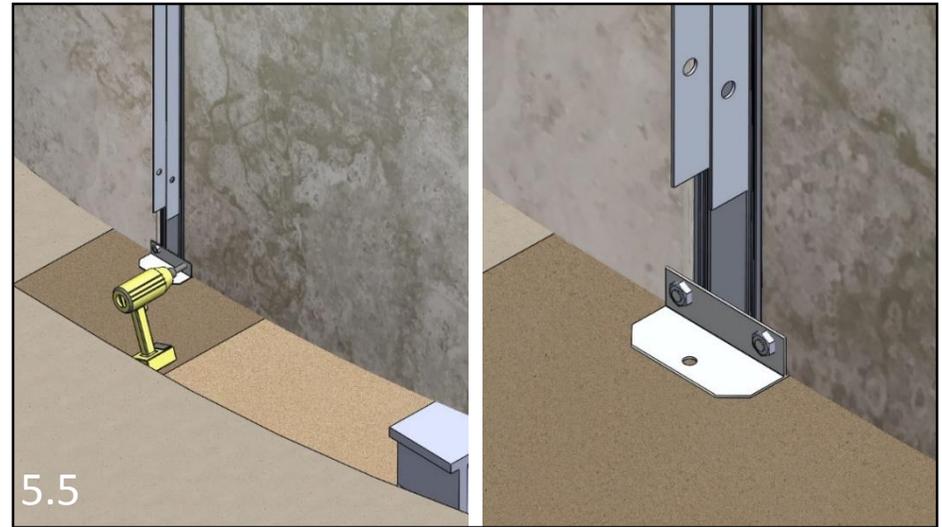


Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 5 – Freeform Side Panel Installation

- 5.4 Add the first freeform section panel using two short splines (#77014) and one extended spline (#77013).
- 5.5 Drill a 7/16" hole through the panel using the bottom plate hole as a drill guide. Secure bottom plate with one 2-1/2" bolt (#99-0137) and nut (#99-0134).
- 5.6 The Freeform pool is composed of a freeform bump section and a freeform indent section. Use Figure 5.6 to reference where each panel should be placed within the pool.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 5 – Freeform Side Panel Installation

- 5.7 Place the A-frame cover foam Insert (#77069) inside the top section of the A-frame cover (#77036).

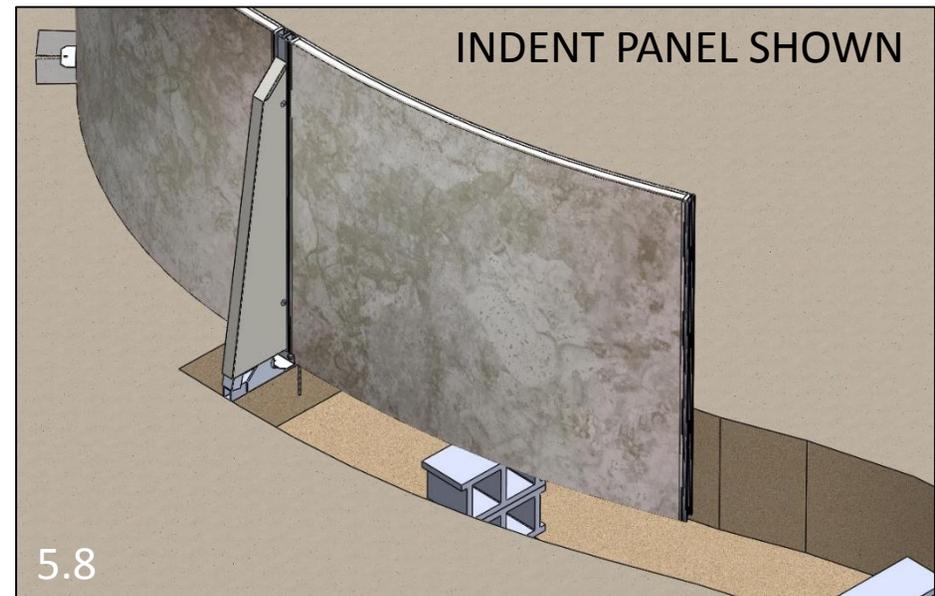
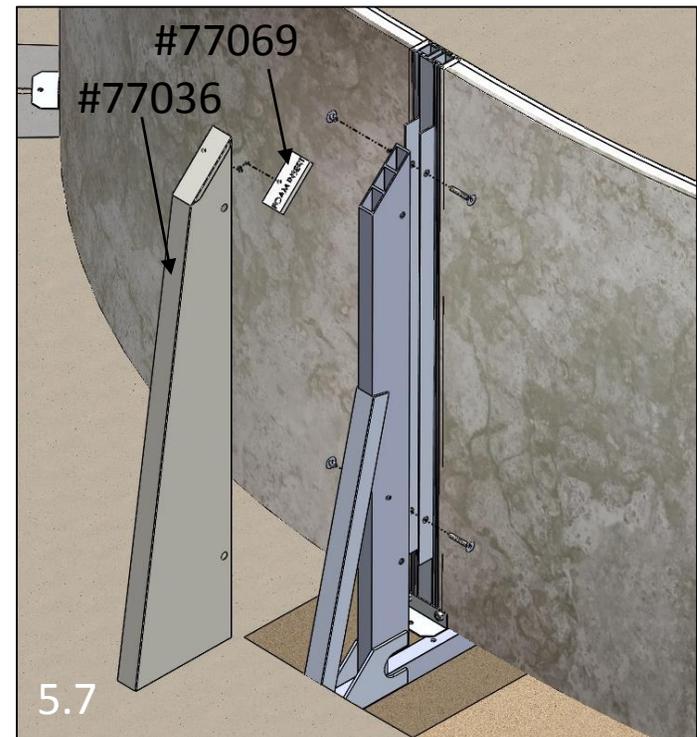
Install the A-frame upright (#77033) along with the A-frame cover assembly onto the pool wall. Secure to pool wall with two 2" countersunk SS bolts (#99-0130) and two flat head rivet nuts (#99-0132).

NOTE: Reverse bend panels will be attached with the longer 2-1/4" countersunk SS bolts (#99-0131)

At this time the A-frame will be "floating" until the concrete is poured in the trench. Ensure A-frame assembly is perfectly upright to avoid issues later.

- 5.8 Repeat step 5 for all remaining freeform panels.

NOTE – Before final panels are attached, bring sand into the interior of the site for the sand base and cove.
Please refer to page 9 for the required quantity of sand.



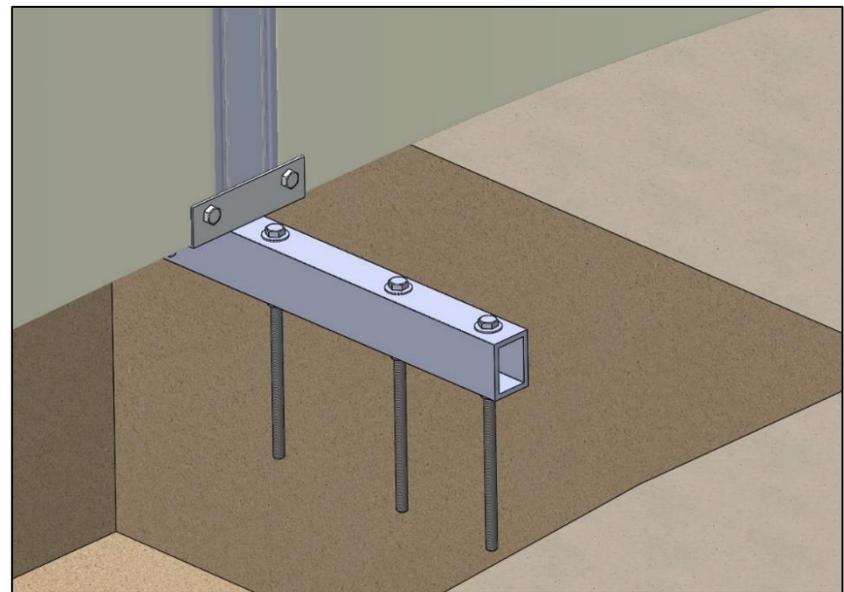
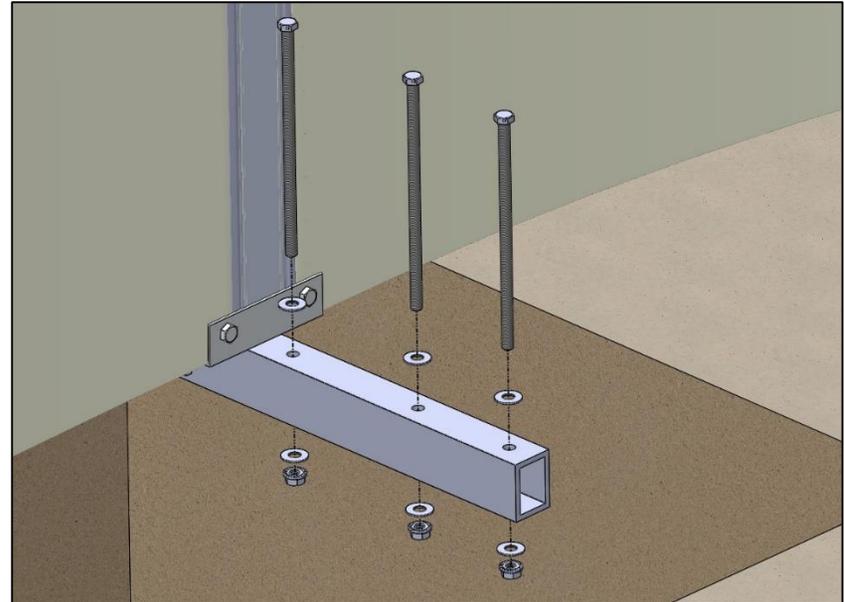
Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 6 – Freeform Side - Bracing

- 6.1 Install hex head 8" long bolts (#99-0141) and stainless steel nuts (#99-0142) along with aluminum washers (#99-0133) as illustrated onto every A-frame upright.

These bolts will be used to anchor and reinforce the A-frame assembly into the concrete footing.



Section 1

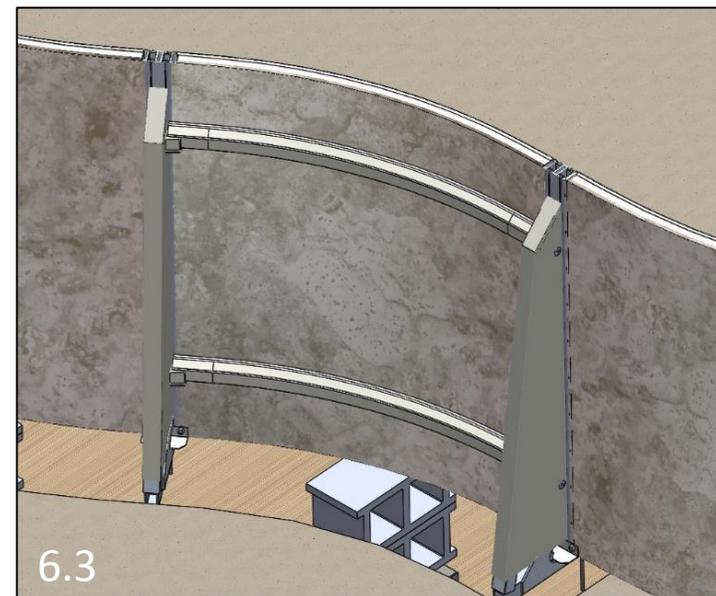
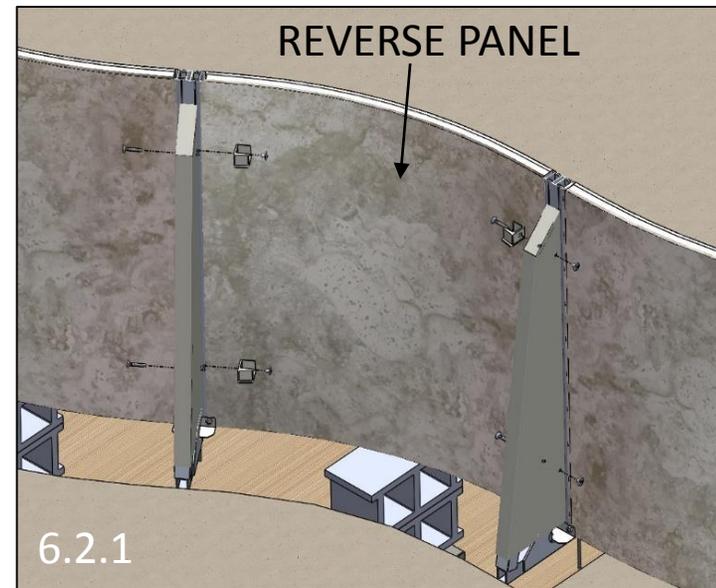
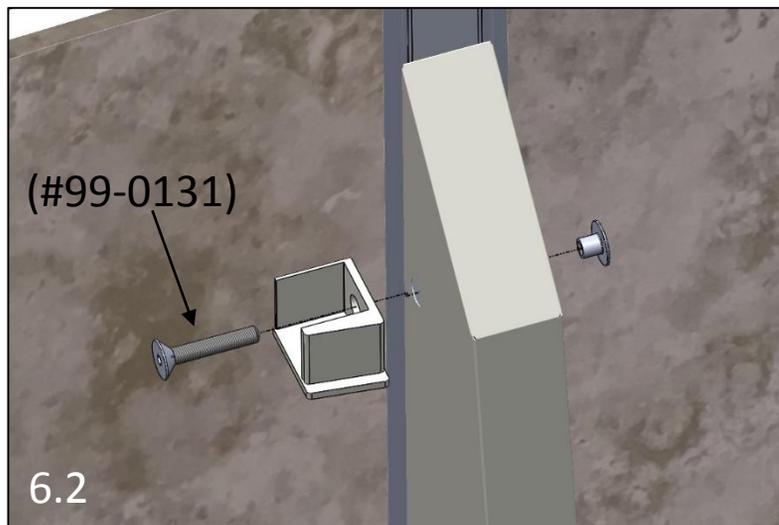
OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 6 – Freeform Side - Bracing

6.2 All reverse bend panels require bracing. There will be six brace assemblies per freeform pool. Attach the left and right mounting brackets (#77153 & #77155) with the hardware installed previously to attach the A-frame upright. Install one mounting bracket at a time to keep A-frame upright assembly attached.

NOTE: Ensure the bolts at these locations are the longer 2¼" countersunk SS bolts (#99-0131).

6.3 Place the upper and lower freeform braces into the mounting brackets. Once the pool is filled with water, they will be located firmly in place.



Section 1

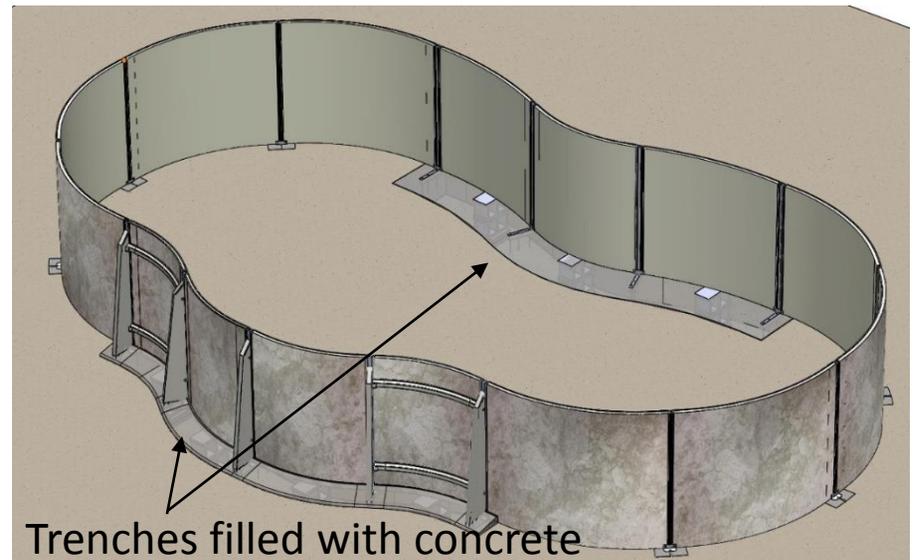
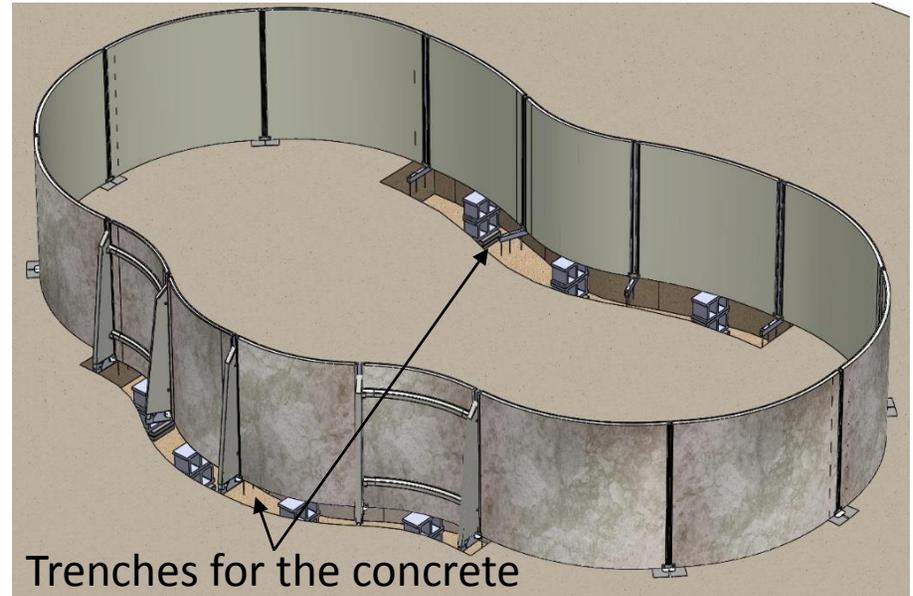
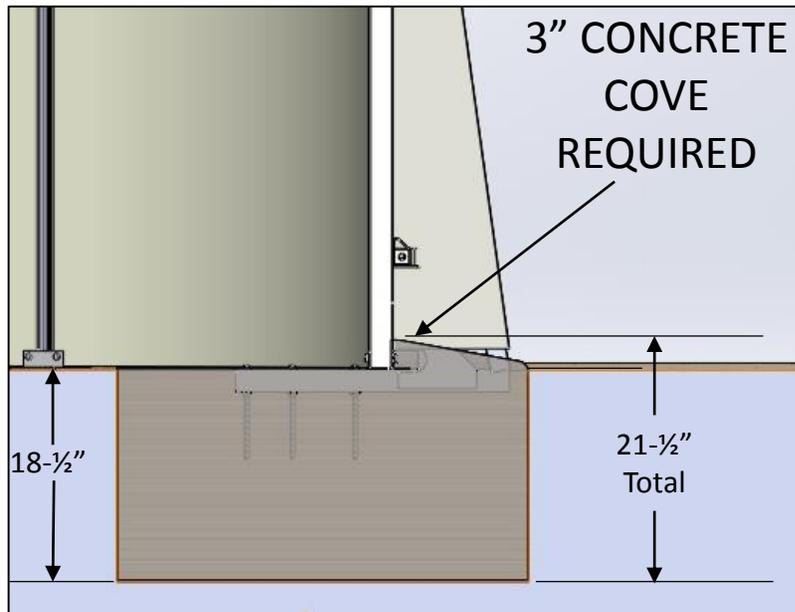
OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 7 - Install Concrete for the Freeform Base

- 7.1 **Confirm that the pool layout matches the footprint dimensions before pouring the concrete footings.**

Ensure the trench is at least 18-½" deep and 36" wide. The trench must also be the length listed in the footprints on pages 13-16.

- 7.2 Pour the concrete trench. A calcium chloride free mixture is recommended. The concrete must be level with the A-frame bottom channel on the interior of the pool. **A 3" concrete cove is required on the exterior of the pool.**



IMPORTANT! IT IS EXTREMELY IMPORTANT TO THE STRUCTURAL STABILITY OF THE POOL THAT THE CONCRETE DIMENSIONS ARE FOLLOWED EXACTLY. FAILURE TO DO SO MAY VOID THE WARRANTY.

Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 8 – Create Pool Cove and Base

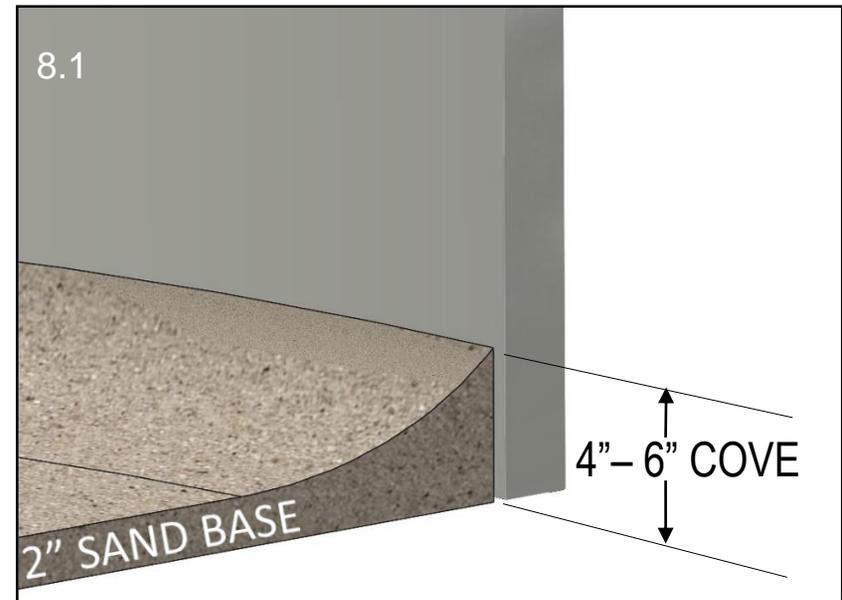
8.1 Using neutral alkalinity sifted earth, or fine sand without pebbles, create pool cove 4"-6" high along entire inside perimeter of pool. **THIS IS NOT AN OPTIONAL STEP** See Figure 8.1. The cove will prevent the liner from distending beneath the pool wall under the weight of the water.

Since chemicals in the ground can cause discoloration or corrosion, we suggest laying polyethylene plastic sheeting under the cove around the perimeter of the wall, ensuring that no earth comes in contact with the metal. Since the presence of such chemicals is beyond the control of the manufacturer, this damage is not covered by the warranty.

DO NOT USE ANY SUBSTANCE WITH HIGH ALKALINE OR ACID CONTENT, ESPECIALLY PEAT MOSS, AS IT WILL CORRODE METAL PARTS.

Use remaining sand to create 2" deep sand base over the entire pool area to protect the liner.

Rake and tamp whole area until it is level and smooth. Any remaining bumps or ridges will be evident under the liner.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 9 – Skimmer Installation

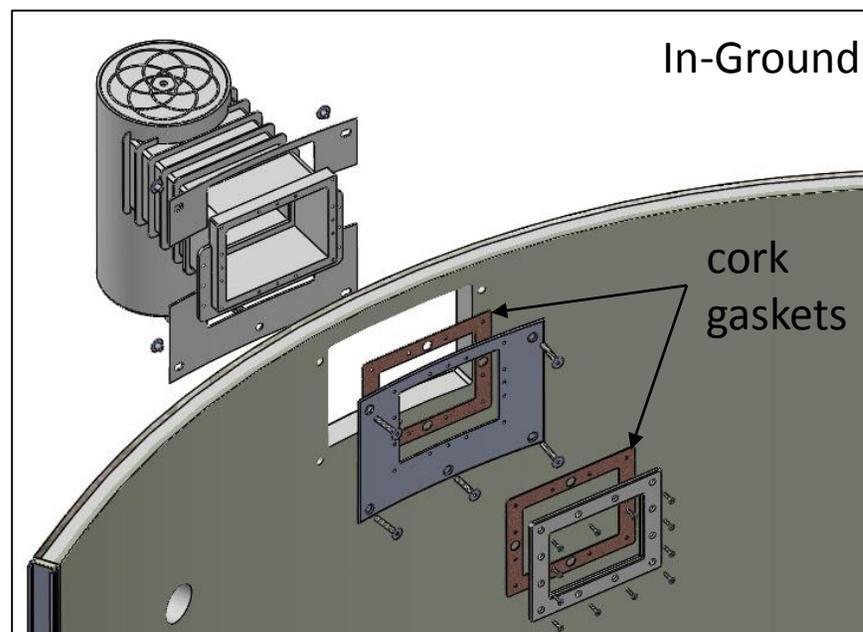
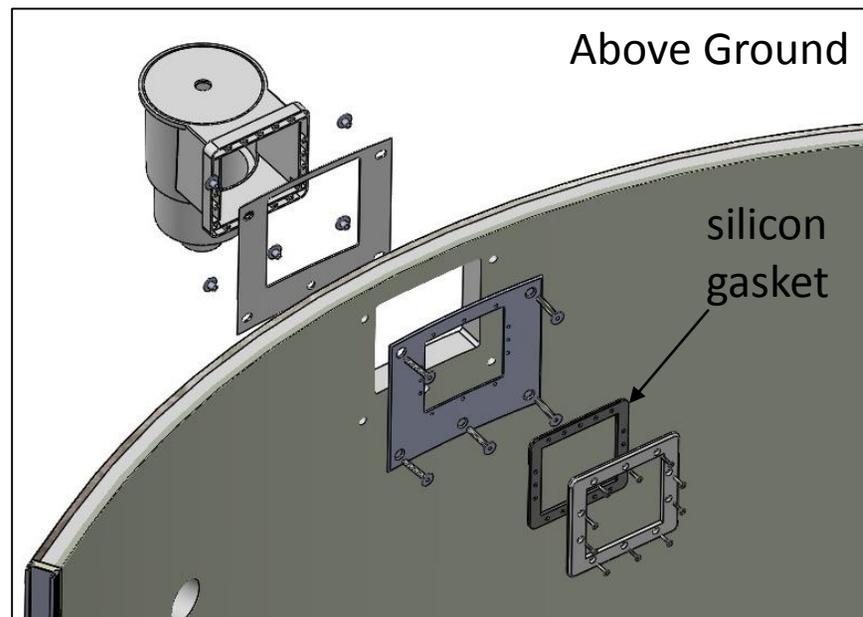
- 9.1 Use the specific gray and white skimmer mounting plates for for the above ground skimmer or in-ground skimmer.
- 9.2 Place gray skimmer mounting plate assembly on the inside of the pool, and white skimmer mounting plate on the outside of the panel, sandwiching the skimmer inside the wall panel cutout. Ensure gaskets are located as illustrated.

Loosely secure assembly with five 2- $\frac{1}{4}$ " countersunk bolts (#99-0131) and flat-head rivet nuts (#99-0132).

Ensure plates are centered and level, then tighten hardware, taking care not to overtighten.

- 9.3 With hardware provided in the skimmer kit, secure skimmer to the gray skimmer plate with 4 screws. Do not fully tighten as these screws will be removed later.

NOTE: Skimmer face plate (in skimmer assembly) and remaining screws will be attached after pool liner is installed, locking the skimmer firmly in place. Refer to skimmer kit installation instructions for more information.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

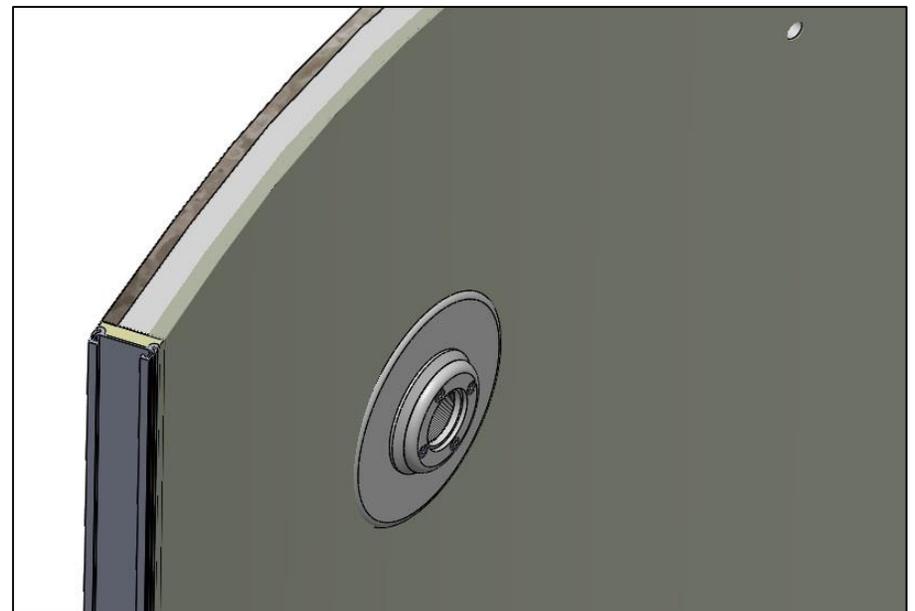
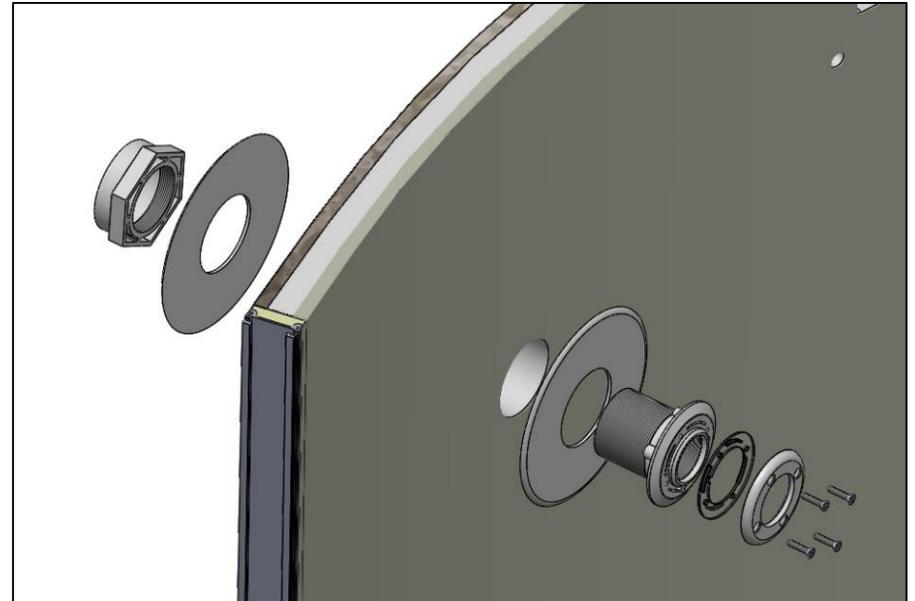
Step 10 – Return Fitting Installation

- 10.1 Place white return plate (#77064) over round opening on skimmer panel and insert extended return fitting (#77092) through assembly from interior of the pool.

Place second white return plate (#77064) over extended return fitting on the outside of the pool.

Install extended return fitting nut to secure to panel. Do not overtighten.

NOTE: Return fitting face plate and four screws will be removed once pool liner is ready to be installed.



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 11 - Installing Top Coping

Above Ground Coping

11.1 Place 2" PVC top coping onto each pool panel, leaving a ½" gap between each length. Coping should be offset from wall panel joints by 2" as shown in Figure 11.1.

11.2 Each length of top coping will be attached to the pool with screws from the **exterior side of the pool only**. Drill evenly spaced 1/8" pilot holes through the top coping and exterior pool wall, ensuring the top coping is fully seated.

Attach the top coping to the pool panels with colored head cap screws #8 x ½" (#99-0138). **DO NOT OVERTIGHTEN**. Spacing should be every 12-18".



Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 11 - Installing Top Coping (continued)

INGROUND Coping

11.3 PAVER COPING: Place coping adaptor clips (#77176) around the perimeter of the pool with raised edge facing outward. Space clips 12" on center. **Attach to the exterior pool wall only** with one #10 x 3/4" Tek screw (#99-0090).

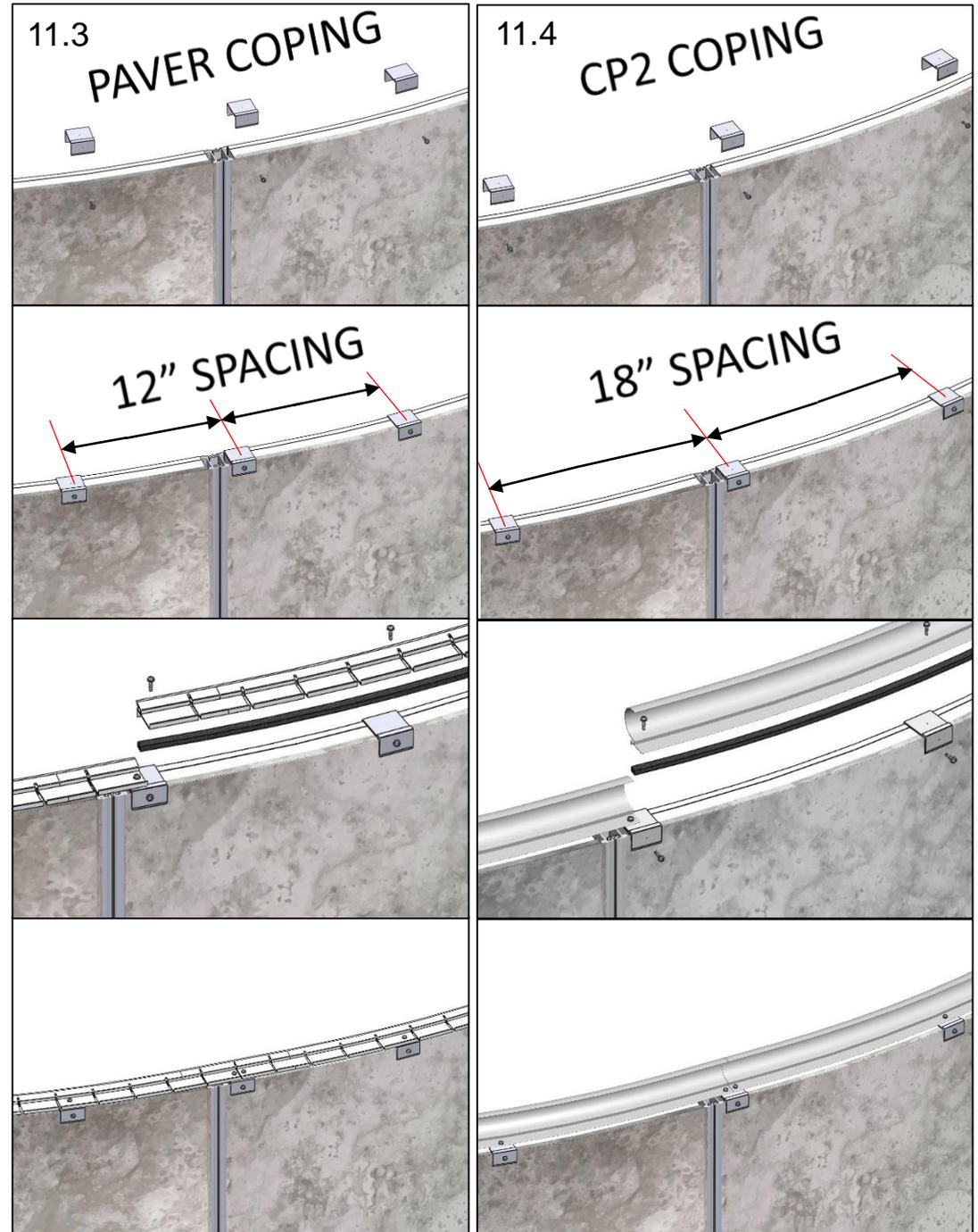
Under each length of paver coping (NOT INCLUDED), place the included foam sealer strip (#77177) under the inside edge as illustrated. This will prevent backfill or debris from falling behind the pool liner.

Use one #10 x 3/4" Tek screw (#99-0090) to attach the paver coping to each coping adaptor clip.

11.4 CP2 COPING OR DECK COPING: Place coping adaptor clips (#77176) around the perimeter of the pool with raised edge facing outward. Space clips 18" on center. Attach to the exterior pool wall only with one #10 x 3/4" Tek screw (#99-0090).

Under each length of coping (NOT INCLUDED), place the included foam sealer strip (#77177) under the inside edge as illustrated. This will prevent backfill or debris from falling behind the pool liner.

Use one #10 x 3/4" Tek screw (#99-0090) to attach the paver coping to each coping adaptor clip.



Section 1

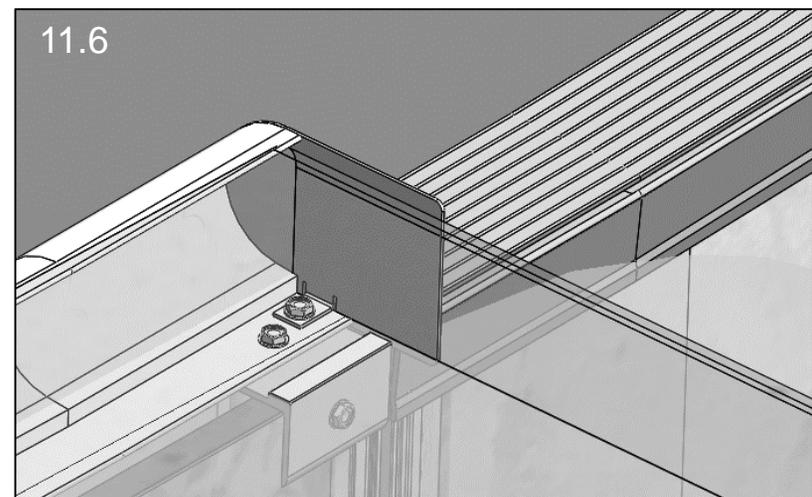
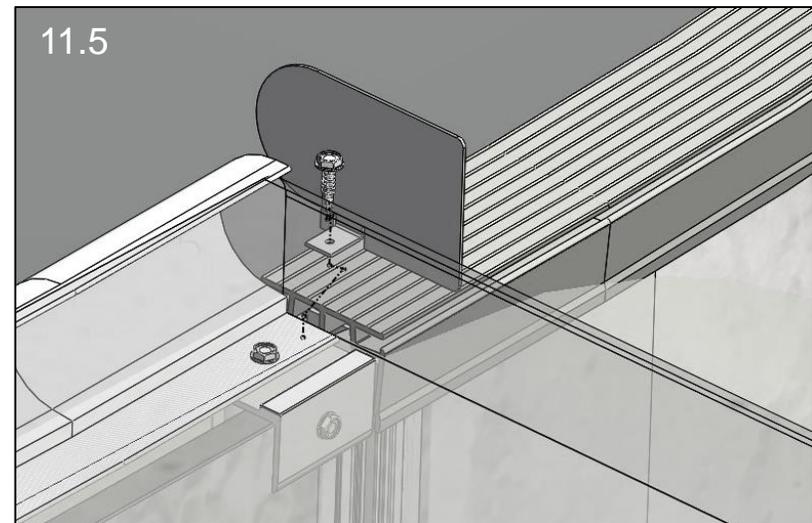
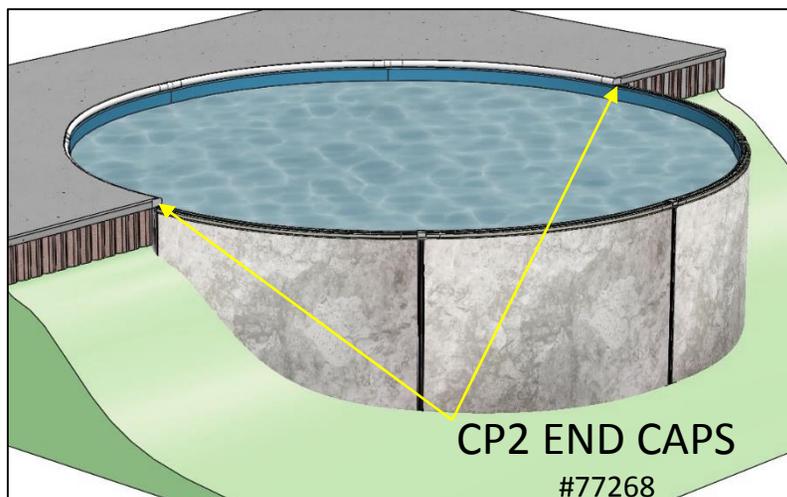
OPTIMUM FREEFORM / IN-GROUND POOL

Step 11 - Installing Top Coping (continued)

11.5 For pools that are installed into a hillside and will utilize both 2" PVC top coping and CP2 coping as illustrated below, there is a transition kit available (#77268). This kit includes two stainless steel plates to cap off the ends of the CP2 coping to give a finished edge.

Bend the lower tab on the end plate as seen in Figure 11.5.

Attach the end plate with #10 x 3/4" Tek screw (#99-0090) through the CP2 coping and into the coping adaptor clip (#77176). Repeat on the opposite end.



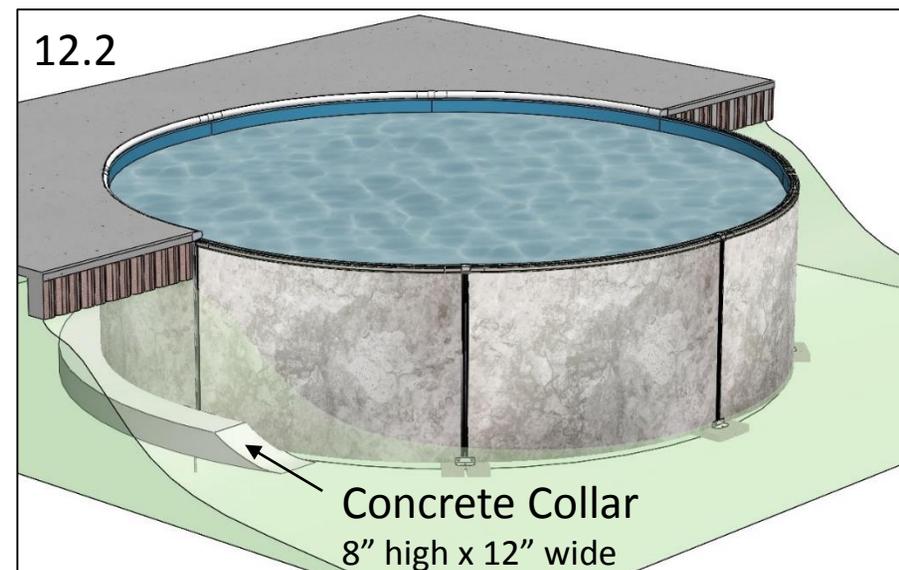
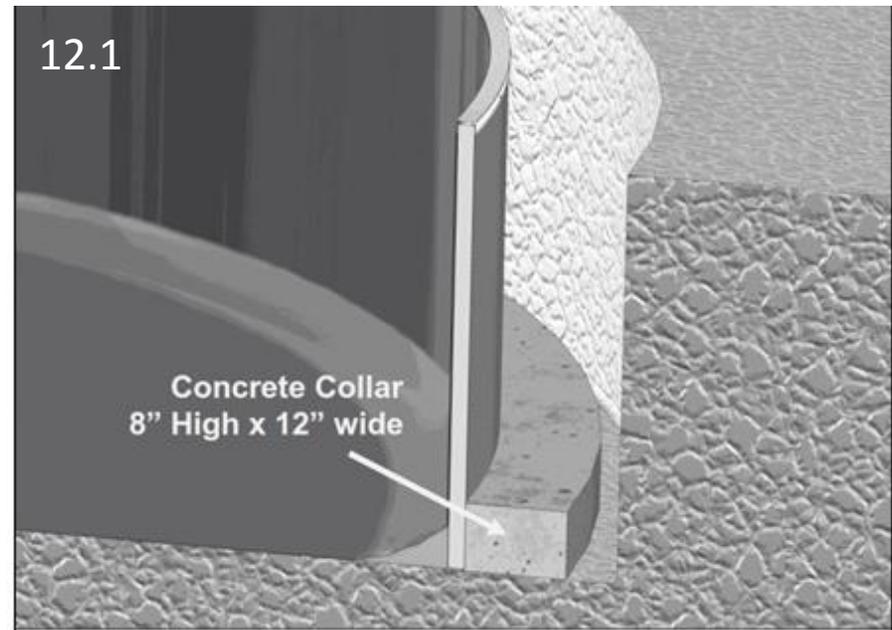
Section 1

OPTIMUM FREEFORM ABOVE / IN-GROUND POOL

Step 12 - Install Concrete Collar

12.1 **IN-GROUND ONLY:** All pools that are buried more than 24" below grade require a concrete collar, 12" wide by 8" high, around the entire perimeter of the pool. If extra supports are required for patio or other pool features, consider installing them before pouring the concrete.

If the pool is installed into a hill, as illustrated in Figure 12.2, the pool still requires a concrete collar 12" wide by 8" high at any location where the pool is buried more than 24" below grade. Taper the ends of the concrete collar once the depth below grade becomes less than 24".



Section 1

OPTIMUM FREEFORM ABOVE / INGROUND POOL

Step 13 – Install liner

13.1 Ensure sand in pool is level with no impressions.

Remove liner (NOT INCLUDED) from carton and unfold liner outside of the pool.

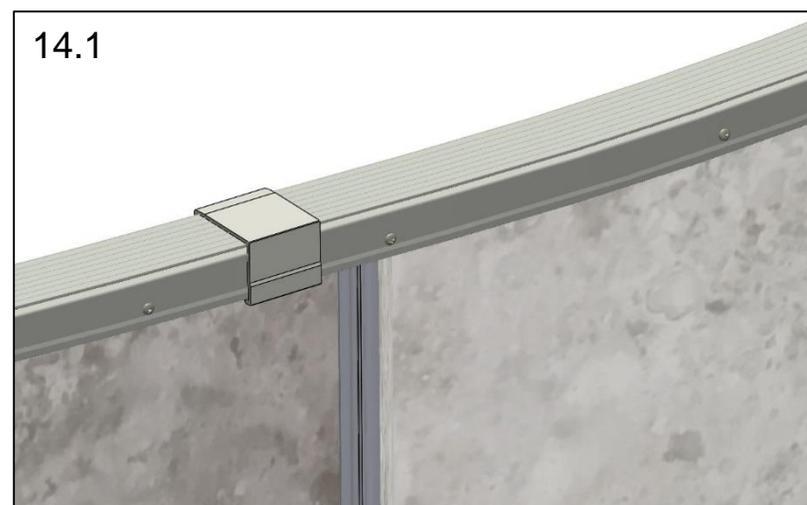
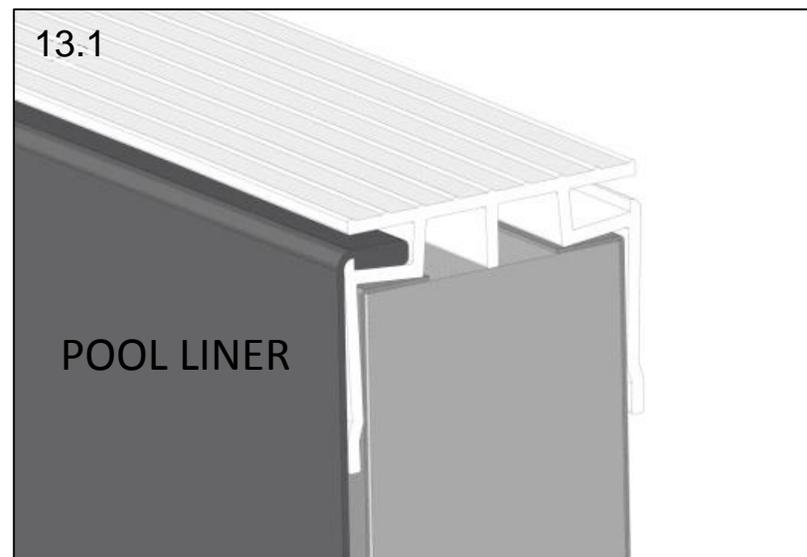
Loosely refold liner and gently place it in the pool, taking care to not disturb the smoothed sand base of the pool.

While standing outside of the pool, snap liner bead into coping receiver track around entire pool. Remove as many wrinkles from the liner as possible as you go by gently tugging on the liner or using a soft broom. A shop vacuum can be used to remove wrinkles by attaching the vacuum hose to the skimmer outlet and sealing with duct tape. Remove vacuum once pool has 6" of water.

Step 14 – Install Coping Clips

14.1 Install coping clips (#77310) onto top coping by inserting interior lip first, then snapping into place.

CP2 coping clips (NOT INCLUDED) – install coping clips by first catching top edge then pressing down firmly to lock in place.



Section 1

OPTIMUM FREEFORM ABOVE / INGROUND POOL

Step 15 – Add Water

15.1 Start filling the pool with water after the concrete has cured.

Once the water level reaches 2-3" from the return fitting hole, install the faceplates on the return fitting and skimmer as shown in Figures 16.1 and 16.2.

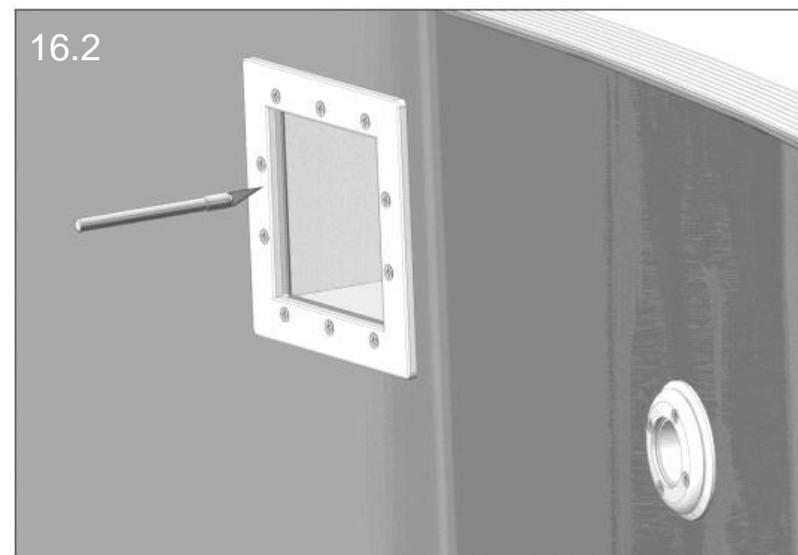
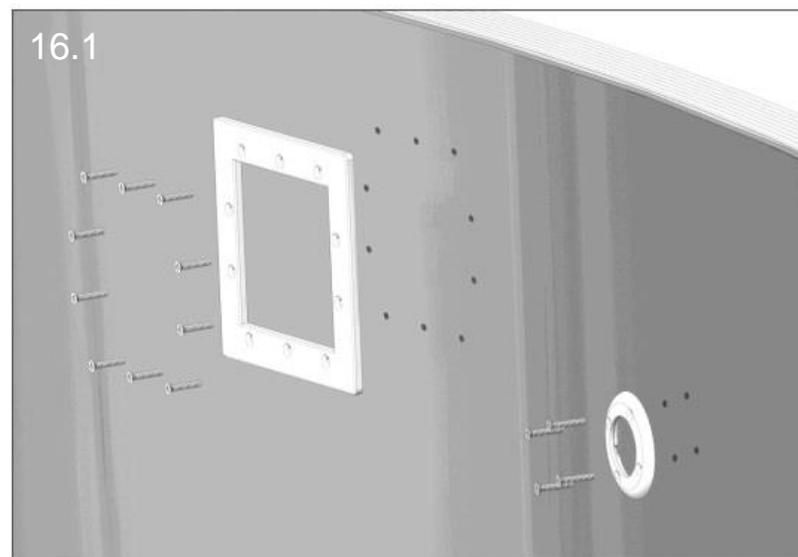
When faceplates are installed, complete filling the pool until water level is at the middle of the skimmer opening.

Step 16 – Install Face Plates

16.1 Locate screw holes for each opening in pool wall.

Carefully pierce liner within the frame of the skimmer and return faceplates with a nail or awl. Attach skimmer and return faceplates using screws provided in the skimmer kit and tighten.

16.2 Using a sharp blade, carefully trim liner inside the openings for skimmer and return openings. Install eyeball (not included) into return fitting.



Section 1

OPTIMUM FREEFORM ABOVE / INGROUND POOL

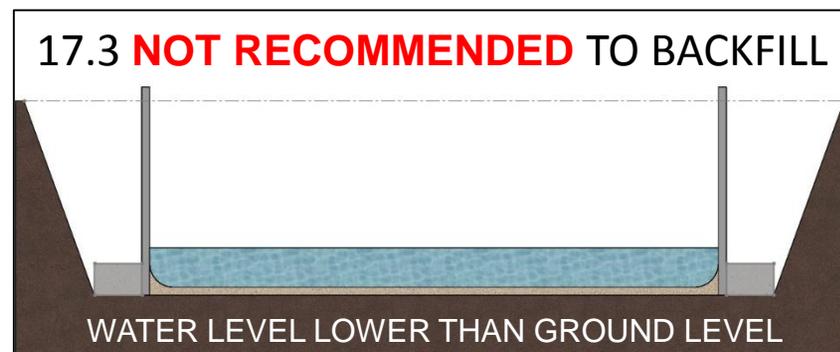
Step 17 - Backfill

17.1 Ensure all electrical bonding required in your area is completed before backfilling the pool. This is a good time to add any concrete foundation forms or perforated drain pipes, if they will be used.

IMPORTANT: Before any backfilling is started, the pool water level must exceed the height of the surrounding backfill required, as in examples 17.1 and 17.2. Failure to do so will put excessive inward pressure on the pool panels which may cause irreversible damage, and may void the warranty.

Crushed stone or gravel aggregate, 3/8" to 3/4" in diameter is the recommended backfill material. Backfill may be placed directly against the pool wall. Do not use expansive soils such as clay since this type of soil will place additional stress on the pool and not allow for proper drainage away from the surrounding area.

Only compact the backfill material by hand. Do not use heavy machinery, especially around the skimmer and plumbing fittings.



IN-GROUND WITH STEP

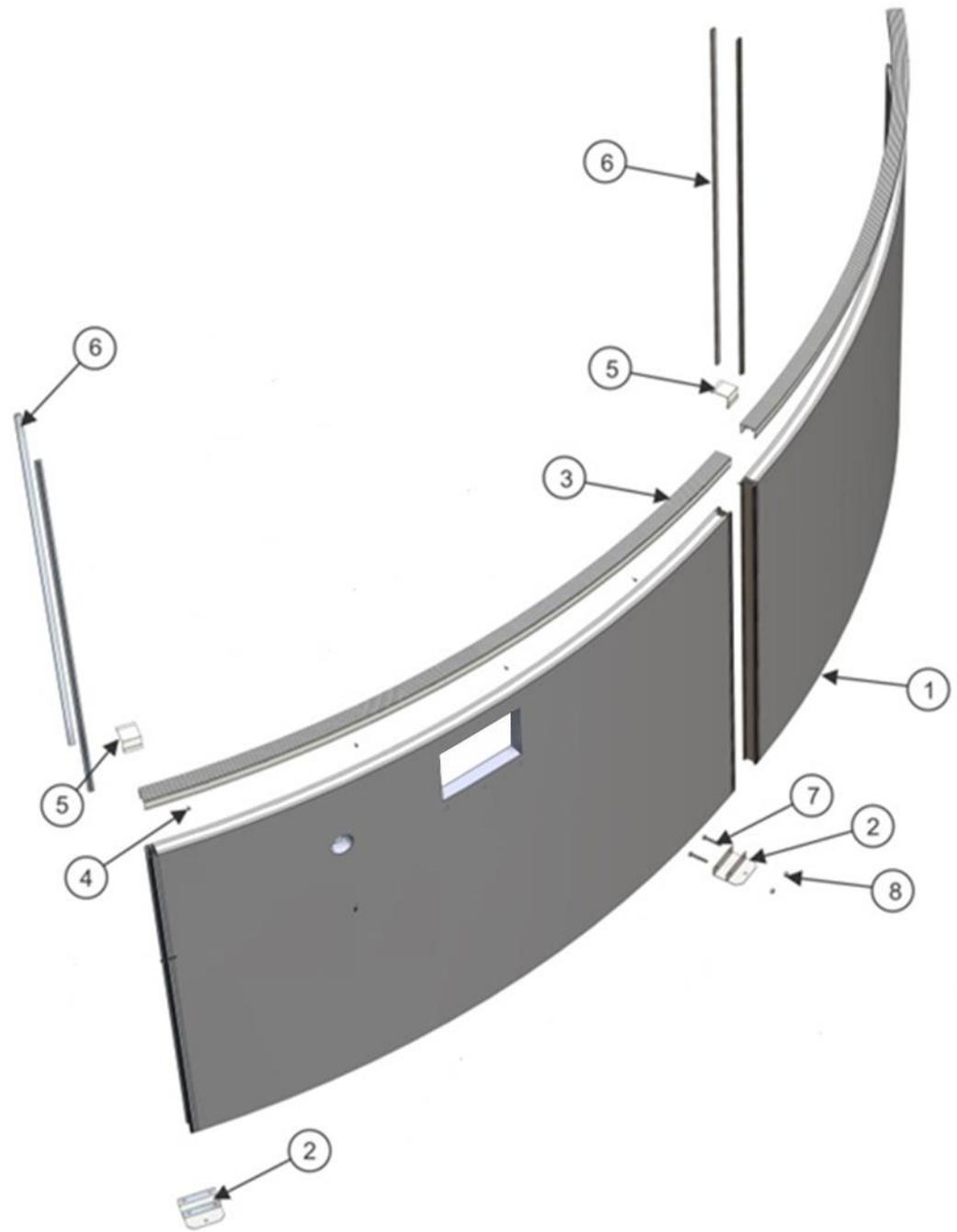
Section 2

TABLE OF CONTENTS – Pool Construction

Pool Components Check List

Pool

1	Panels	See page 39
2	Bottom plates	#77004
3	PVC coping 2" clay	See page 39
4	Cap screws - #8 x 1/2"	#99-0138
5	Coping clip standard clay	#77310
6	Splines - 52"	#77002
7	Bolts, hex head alum. - 2 1/2"	#99-0137
8	Nuts, alum. - 3/8"	#99-0134



Section 2

TABLE OF CONTENTS – Pool Construction

Pool Components Check List: In-Ground Skimmer Panel

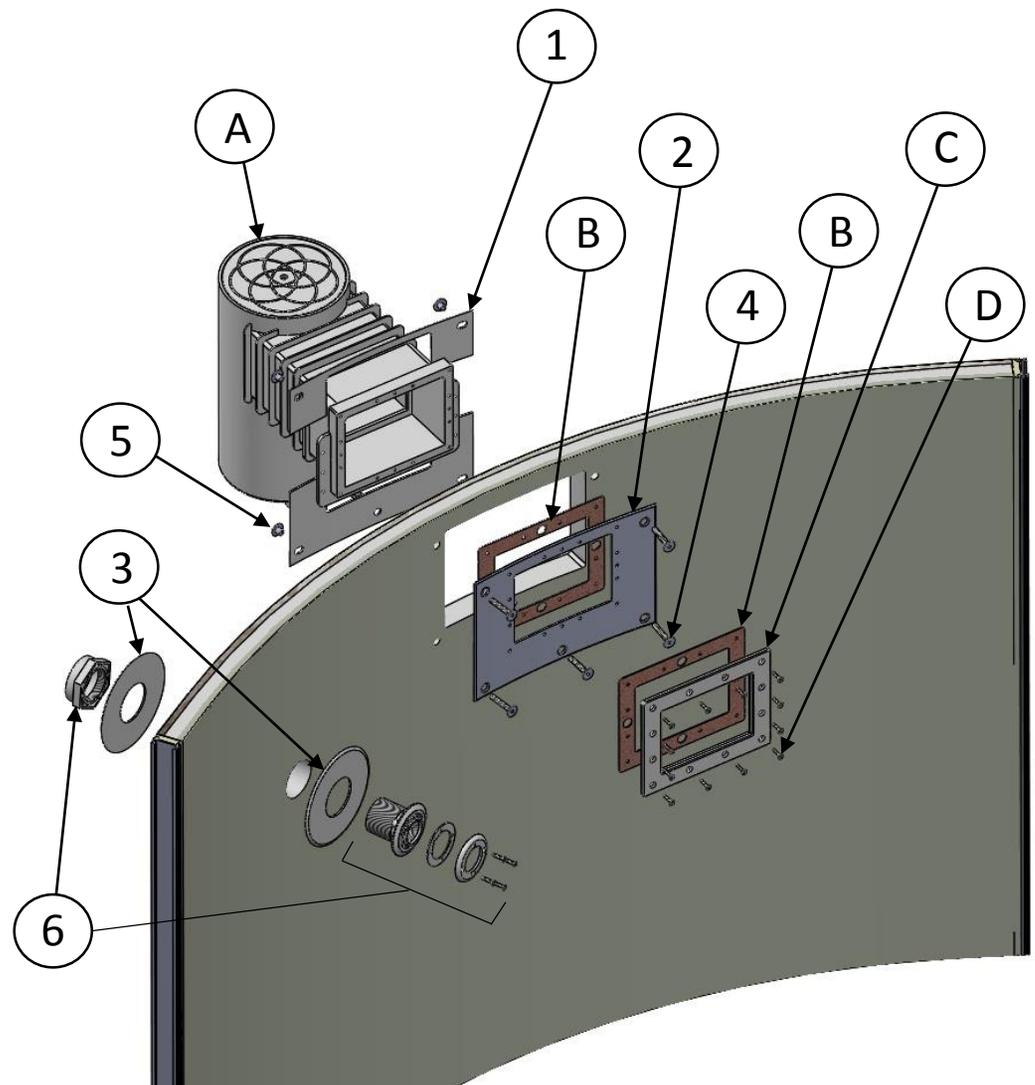
Pool

1. Skimmer Plate SP1084, White #77518
2. Skimmer Plate SP1084, Gray #77519
3. White Return Plate #77064
4. Bolts, Countersunk SS- 2 ¼" #99-0131
5. Nuts, Flat Head Rivet SS #99-0132
6. Extended Return Fitting Set #77092

Skimmer Kit – (NOT INCLUDED) –

- For Illustration Purposes Only -

- A. Skimmer
- B. Synthetic Gasket
- C. Skimmer Face Plate
- D. Screws, Flat Head



Section 2

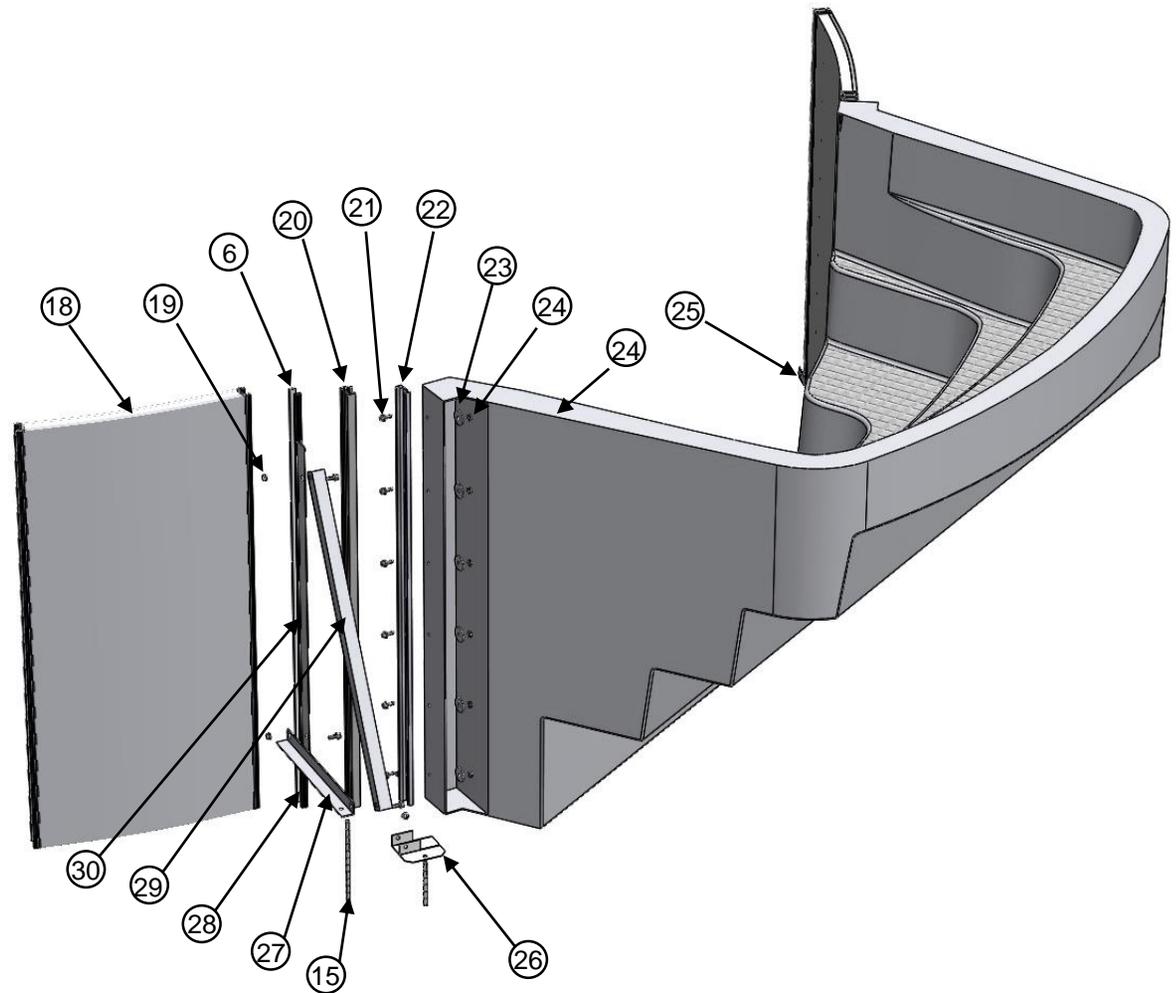
TABLE OF CONTENTS – Pool Construction

Step Components Check List

Step Assembly

18. Step filler panel	See Page 39
19. Nuts, hex flange 3/8" SS	#10660
6. Splines, 52"	#77002
20. Step rod extrusion 52"	#77173
21. Bolts, hex flange 3/8" x 1" SS	#99-0104
22. Step socket extrusion 52"	#77143
23. Step fender washers 3/8" x 1-3/4"	#77175
24. Radius step (NOT INCLUDED)	-
25. Step bottom plate, right	#77142
26. Step bottom plate, left	#77141
15. Rebar 3/8" x 15"	#77001
27. Step diagonal brace 18"	#77146
28. Short splines 5-3/4"	#77014
29. Step horizontal brace 37-13/16"	#77148
30. Extended spline 40-1/2"	#77013

**IMPORTANT:
FREEFORM POOLS MUST USE
THE 91-3/4" WIDE RADIUS STEP.**



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Parts Per Pool Size

1. PANELS	Part No	1423	1528	1730	1932
OPTIMUM 12FT PANEL, STANDARD 72-¾"	77319	3	3		
OPTIMUM 12FT PANEL, INGROUND SKIMMER 72-¾"	77320	1	1		
OPTIMUM 12FT PANEL, STEP FILLER 24-3/16"	77323	2	2		
OPTIMUM 14FT PANEL, STANDARD 84-¾"	77334			3	
OPTIMUM 14FT PANEL, INGROUND SKIMMER 84-¾"	77335			1	
OPTIMUM 14FT PANEL, STEP FILLER 37-15/16"	77338			2	
OPTIMUM 16FT PANEL, STANDARD 73-7/16"	77055				5
OPTIMUM 16FT PANEL, INGROUND SKIMMER 73-7/16"	77071				1
OPTIMUM 16FT PANEL, STEP FILLER 26-¾"	77133				2
OPTIMUM FREEFORM PANEL - SM BUMP 57"	77378	1			
OPTIMUM FREEFORM PANEL - SM REVERSE BUMP 35-¾"	77379	2			
OPTIMUM FREEFORM PANEL - SM INDENT 38-5/8"	77380	2			
OPTIMUM FREEFORM PANEL - SM REVERSE INDENT 46-9/16"	77381	1			
OPTIMUM FREEFORM PANEL - LG REVERSE BUMP 46-9/16"	77381		2	2	2
OPTIMUM FREEFORM PANEL - LG BUMP 50"	77386		2	2	2
OPTIMUM FREEFORM PANEL - LG INDENT 64-½"	77387		2	2	2
OPTIMUM FREEFORM PANEL - LG REVERSE INDENT 56-5/16"	77388		1	1	1
TOTAL PANEL COUNT	-	12	13	13	15

2. PVC TOP COPING	Part No	1423	1528	1730	1932
PVC COPING STANDARD CLAY 12FT 78-3/16"	77309	6	6		
PVC COPING STANDARD CLAY 14FT 90-¾"	77325			6	
PVC COPING STANDARD CLAY 16FT 77-1/8"	77006				8
PVC COPING STANDARD CLAY SMALL BUMP 61-¾"	77340	1			
PVC COPING STANDARD CLAY SMALL REVERSE BUMP 38-5/8"	77341	2			
PVC COPING STANDARD CLAY SMALL INDENT 41-½"	77342	1			
PVC COPING STANDARD CLAY SMALL REVERSE INDENT	77343	2	2	2	2
PVC COPING STANDARD CLAY LARGE REVERSE BUMP 50"					
PVC COPING STANDARD CLAY LARGE BUMP 53-7/16"	77347		2	2	2
PVC COPING STANDARD CLAY LARGE INDENT 67-¾"	77348		1	1	1
PVC COPING STANDARD CLAY LARGE REVERSE INDENT 60-7/8"	77349		2	2	2

COMPONENTS		Part No	1423	1528	1730	1932
3	BOTTOM PLATE	77004	12	13	13	15
4	CAP SCREWS - #8 X ½"	99-0138	60	75	75	75
5	COPING CLIP STANDARD CLAY	77310	12	13	13	15
6	SPLINE - 52"	77002	24	26	26	30
7	BOLT, HEX HEAD ALUM. - 2-½"	99-0137	24	26	26	30
8	NUT, ALUM. - 3/8"	99-0134	24	26	26	30
9	SLIMMER PLATE SP 1091 WHITE (OUTSIDE POOL)	77516	1	1	1	1
10	SKIMMER PLATE SP 1084 WHITE (OUTSIDE POOL)	77518				
11	SKIMMER PLATE SP 1091 GRAY (INSIDE POOL)	77517	1	1	1	1
12	SKIMMER PLATE SP 1084 GRAY (INSIDE POOL)	77519				
13	RETURN PLATE WHITE (INSIDE/OUTSIDE)	77064	2	2	2	2
14	BOLT, COUNTERSUNK SS - 2"	99-0130	4	6	6	6
15	BOLT, COUNTERSUNK SS - 2-¼"	99-0131	17	17	17	17
16	NUT, FLAT HEAD RIVET SS - 3/8"	99-0132	21	23	23	23
17	REBAR - 3/8 X 15"	77001	4	4	4	6
18	EXTENDED RETURN FITTING	77092	1	1	1	1
19	STRAIGHT PANEL CONNECTOR	77026	8	9	9	9
20	SPLINE, SHORT 5-¾"	77014	32	36	36	36
21	SPINE, EXTENDED 52"	77013	16	18	18	18
22	A-FRAME UPRIGHT	77033	8	9	9	9
23	A-FRAME COVER	77036	8	9	9	9
24	A-FRAME COVER FOAM INSERT	77069	8	9	9	9
25	SCREW, FLAT HEAD 2" LONG	99-0130	16	18	18	18
26	BOLT, HEX HEAD 8" LONG	99-0141	24	27	27	27
27	NUT, 3/8" SS	99-0142	24	27	27	27
28	WASHER - 7/8" ALUMINUM	99-0133	48	54	54	54
29	FREEFORM SIDE BRACE SM - 35"	77395	4			
30	FREEFORM SIDE BRACE SM/LG - 46-¾"	77396	2	4	4	4
31	FREEFORM SIDE BRACE LG - 57-¾"	77397		2	2	2
32	SIDE BRACE MOUNTING BRACKET - LEFT	77153	6	6	6	6
33	SIDE BRACE MOUNTING BRACKET - RIGHT	77155	6	6	6	6
STEP COMPONENTS		Part No	1423	1528	1730	1932
34	NUT, HEX FLANGE 3/8" SS	10660	18	18	18	18
35	STEP ROD EXTENSION 52"	77173	2	2	2	2
36	BOLT, HEX FLANGE 3/8" X 1" SS	99-0104	18	18	18	18
37	STEP SOCKET EXTRUSION 52"	77143	2	2	2	2
38	STEP ATTACHEMENT FENDER WASHER 3/8" X 1-¾"	77175	12	12	12	12
39	STEP ANCHOR PLATE MODIFIED RIGHT	77142	1	1	1	1
40	STEP ANCHOR PLATE MODIFIED LEFT	77141	1	1	1	1
41	STEP DIAGONAL BRACE ANGLE 18" PIECE	77146	2	2	2	2
42	STEP HORIZONTAL BRACE ANGLE 37-13/16" PIECE	77148	2	2	2	2

Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Tools You Will Need:

Tape measure - 100'	Pliers - channel lock
Marking spray paint or powder	9/16" open end wrench
String - 25' length	Screwdrivers, flat & Phillips
Stake or peg – 12"	Metal file
Transit, laser level or 3' level	Utility knife
Rubber mallet	PVC pipe cutter
Hacksaw	Pool trowel
Spade	Cloth rag
Square shovel	Cooking spray
Pick	Shop vacuum
Rake	Soft bristle broom
Tamper square 10" or 12"	Extension cord
2x4, straight - 12'	Hose with spray nozzle
Square	Wheelbarrow
Power drill	
7/16" and 1/8" drill bits	
¼" hex nut driver bit	
Socket set	
Duct tape	

Also Needed But Not Included:

Patio blocks - (2" x 12" x 12")

Masonry Blocks - (8" x 8" x 16")

Backfill (crushed stone or gravel 3/8" – 3/4" diameter)

Perforated drain pipe (for drainage if the site floods easily)

Masonry Sand

Concrete

Pool Size	Masonry Sand Cubic Yards	Patio Blocks	Masonry Blocks	Concrete Footing Cubic Yards	Concrete Collar - STEP SUPPORT - Cubic Yards
1423	1.7	17	12	4-½	3
1528	2.1	19	14	6-½	3-¼
1730	2.6	19	14	6-½	3-½
1932	3.1	21	14	6-½	3-¾

*Note – pools with steps, add concrete footing and concrete collar for total quantity needed.

Section 2

OPTIMUM FREEFORM INGROUND WITH STEP

Step 1 – Select a Pool Location

DO NOT locate the pool:

- over underground lines (electrical, sewage, plumbing, gas).
- over septic tanks.
- under overhead electrical lines.
- near hazardous structures.
- out of compliance with local code requirements.

DO NOT locate the pool on a site:

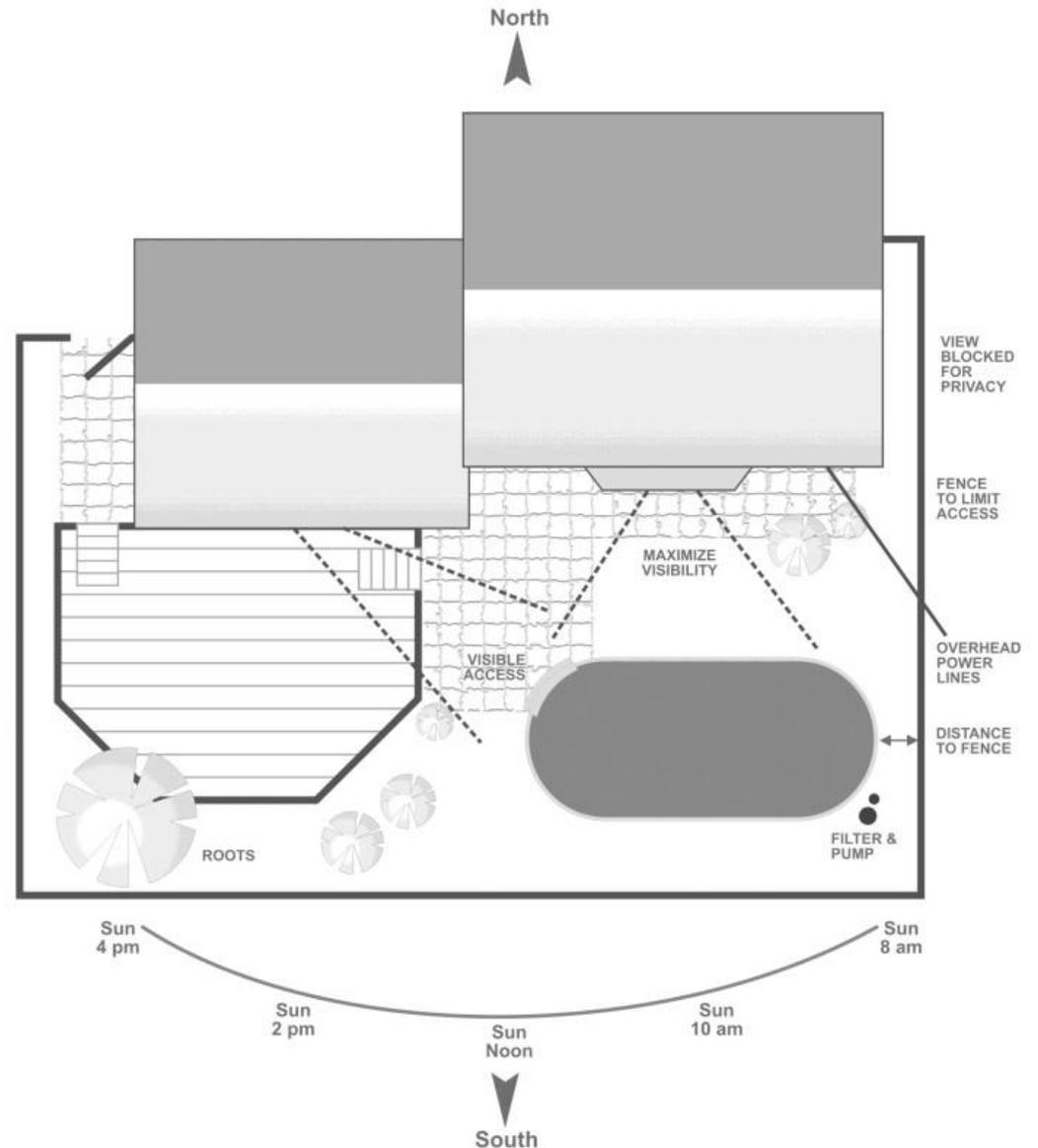
- that is hilly - avoid areas with sudden slopes within 6' of pool
- that has poor drainage or tends to flood.
- in areas with sharp objects.
- on ground that has been treated with weed killer, pesticides or other chemicals.
- that has nut grass, Bermuda grass or bamboo grass growing nearby, as they can grow through your liner and puncture it.

DO NOT assemble you pool:

- on asphalt, tar or oil-based surfaces.
- with components such as filters, pumps, and heaters placed where they can be used to access the pool by young children.

DO ensure:

- the area selected has a level and firm base.
- surface is flat 2' beyond pool diameter.
- access is available to electrical and water supplies.
- the pool is installed far from structures which could encourage dangerous activities, like jumping from a roof or playset.
- you are aware of your local codes and restrictions.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 2 – Create a Foundation

- 2.2 Define the initial geometry by marking the pool floor. The specific dimensions for each pool size is shown on the following footprints located on pages 44 through 47. Establish the centers of the two semi-circles as illustrated by driving a stake into the ground at both center points.

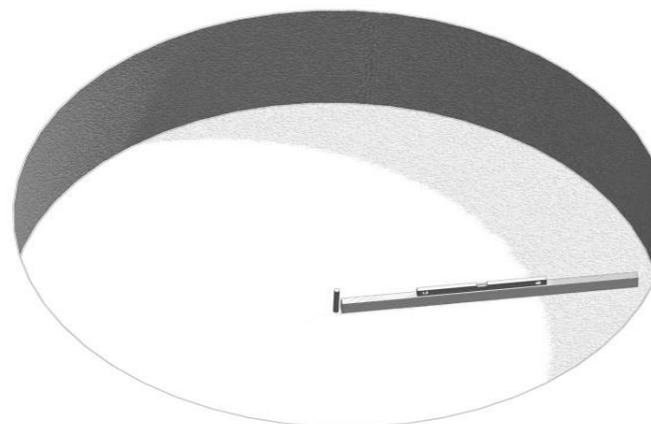
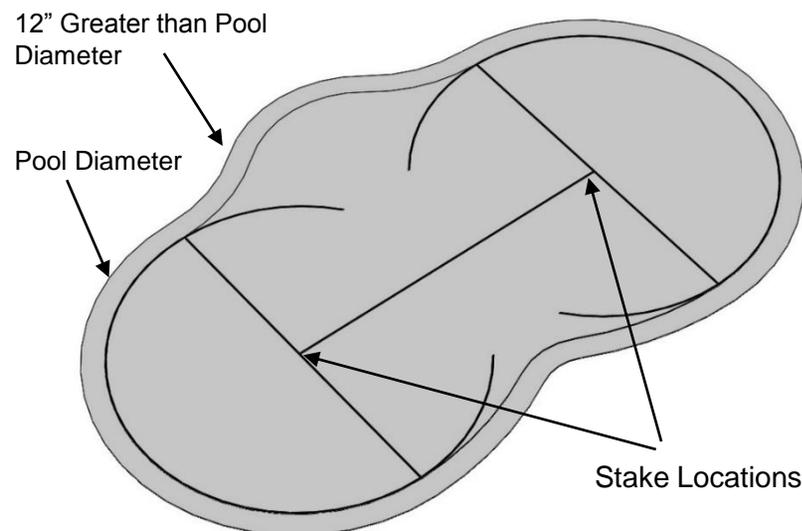
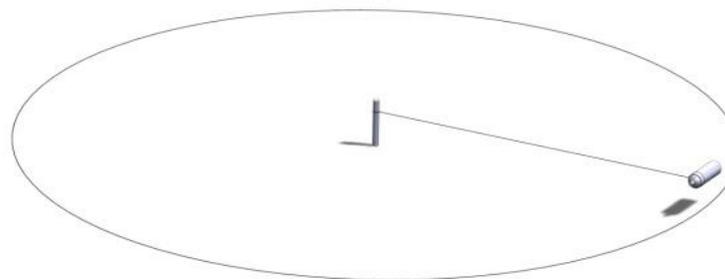
Attach one end of a string to one of the center stakes, measure the string out to equal the pool radius, plus an additional 12 inches for clearance. Holding the string taut, walk the semi-circle of the planned outer perimeter while marking the ground with spray paint, a lawn edger or white powder. Repeat with the opposing stake.

Mark the freeform sections of the pool next to join the two previously created semi-circles. Again use 12" of additional clearance.

Remove all sod, weeds and other growth from within the marked pool location. Dig to the depth the pool will be installed for below-grade installations. Find the lowest spot within the pool area and level the surrounding ground to this point. Remove protruding roots, stones and other sharp objects that could damage the pool. Tamp down with a square tamper. DO NOT add dirt to raise the low areas as the weight of the filled pool will cause settling.

- 2.2 Confirm the site is level and flat using a long straight board or 2x4 and a carpenter's level or transit. Continue to remove high areas of ground where necessary.

2.1



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 3 – Create Trench and Place Support Blocks

- 3.1 Create two trenches for the freeform section wall foundations.
- Trenches MUST be a minimum of 18- $\frac{1}{2}$ " deep
 - Trenches MUST be 36" wide (24" inward & 12" outward from wall center)
 - Trenches MUST be the length listed on the specific footprint.

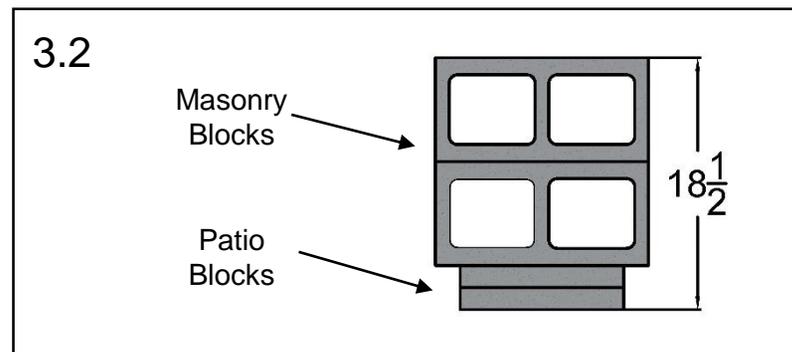
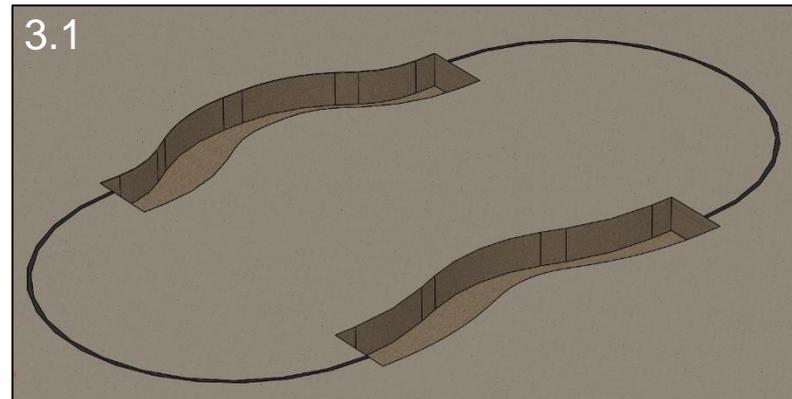
See following pages 44 through 47 for specific trench dimensions and location.

IMPORTANT! IT IS EXTREMELY IMPORTANT TO THE STRUCTURAL STABILITY OF THE POOL THAT THE CONCRETE DIMENSIONS ARE FOLLOWED EXACTLY. FAILURE TO DO SO MAY VOID THE WARRANTY.

- 3.2 Place concrete block support structures as illustrated in Figure 3.2 at the locations specified on the following footprints on pages 44-47.

Each assembly is constructed from two patio blocks (1- $\frac{5}{8}$ " actual) and two masonry blocks (7- $\frac{5}{8}$ " actual), giving a total stacked height of 18- $\frac{1}{2}$ " - this is equal to the depth of the trench dug earlier.

- 3.3 Place patio blocks at each wall joint for the curved ends of the pool. All patio blocks must be flush with the ground, solid and level with each other in all directions. Patio blocks for pools installed deeper than 24" below grade should be split to allow installation of rebar.

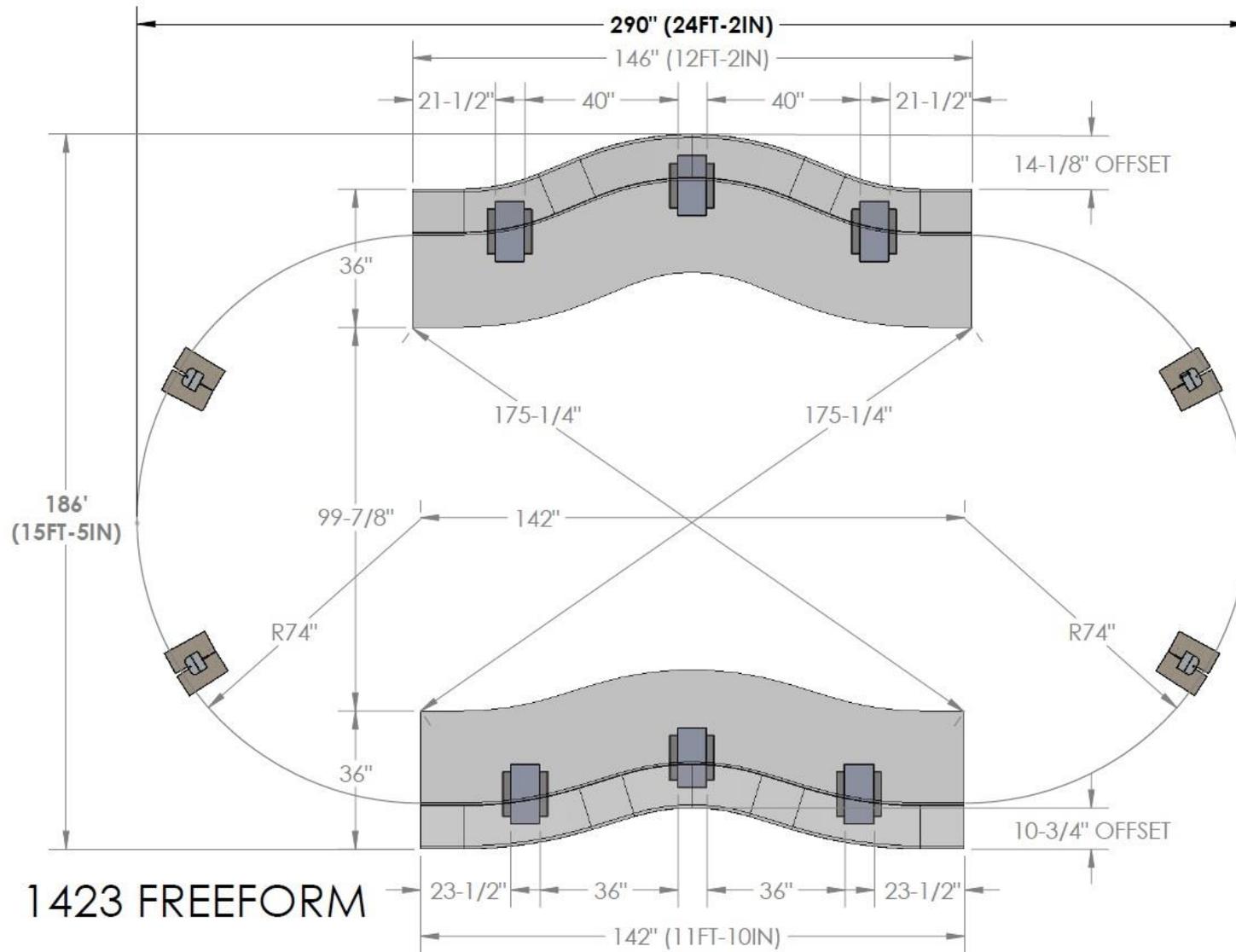


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 3 – Create Trench and Place Support Blocks

Pool Size: 14' x 23'

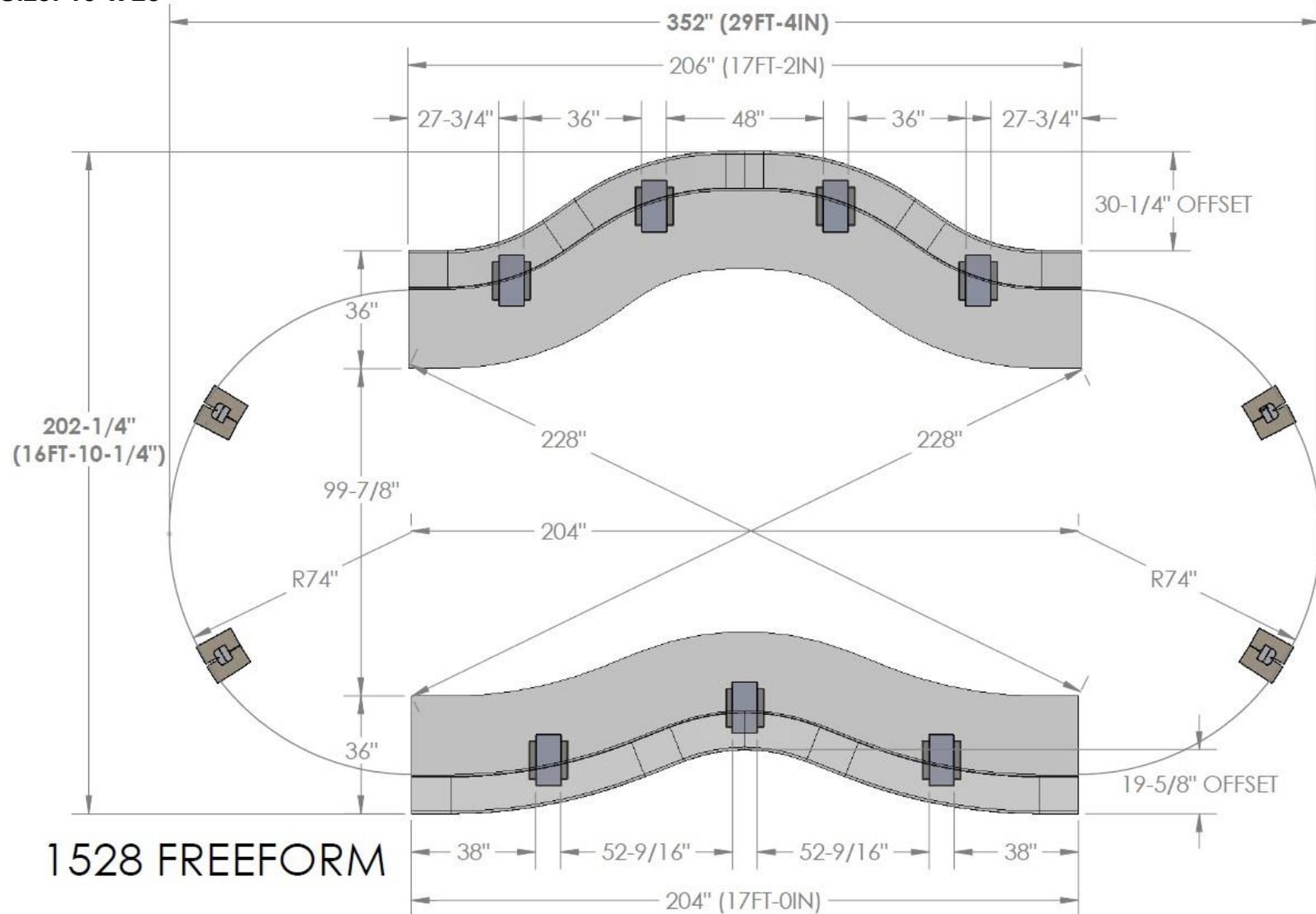


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 3 – Create Trench and Place Support Blocks

Pool Size: 15' x 28'

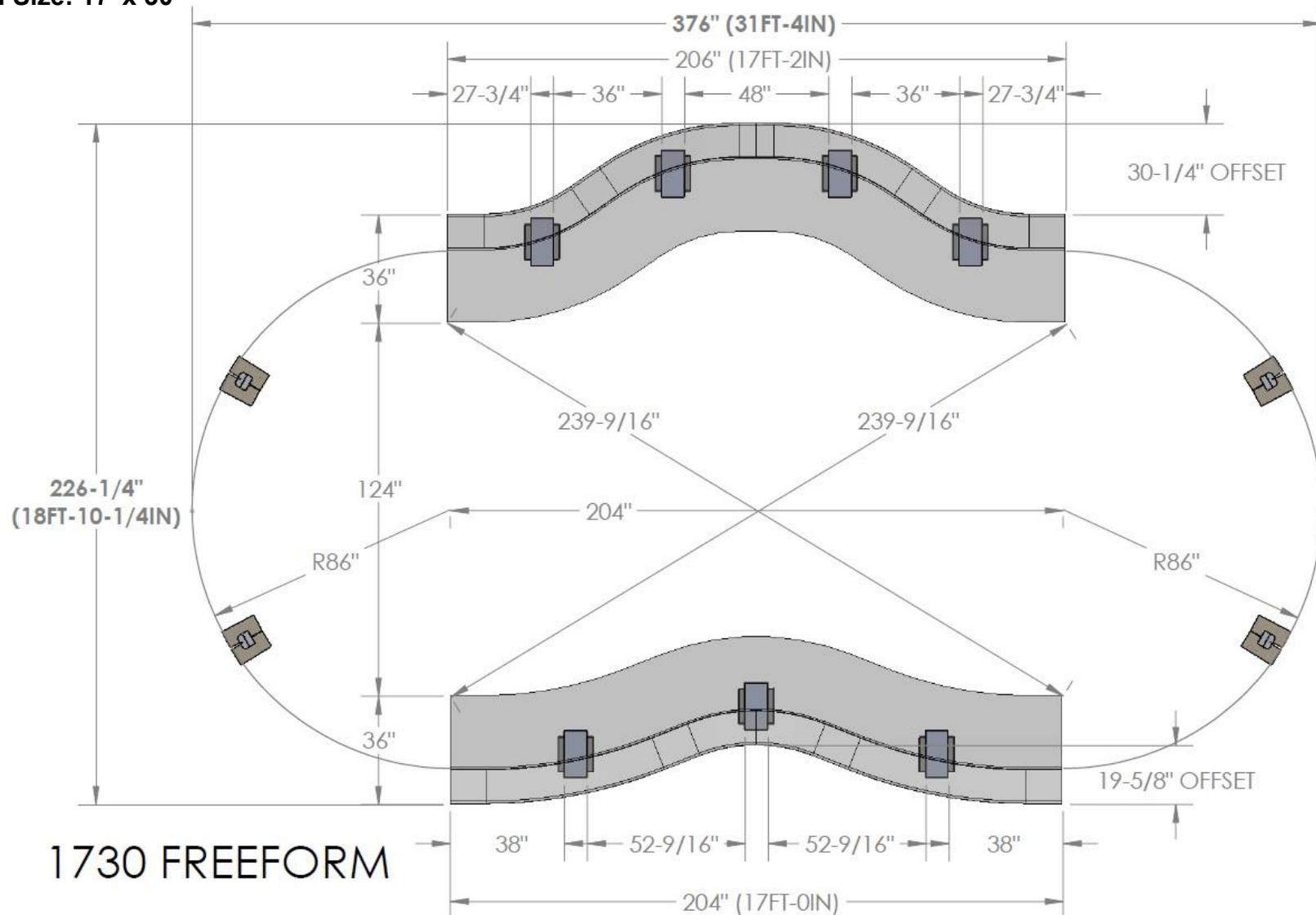


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 3 – Create Trench and Place Support Blocks

Pool Size: 17' x 30'

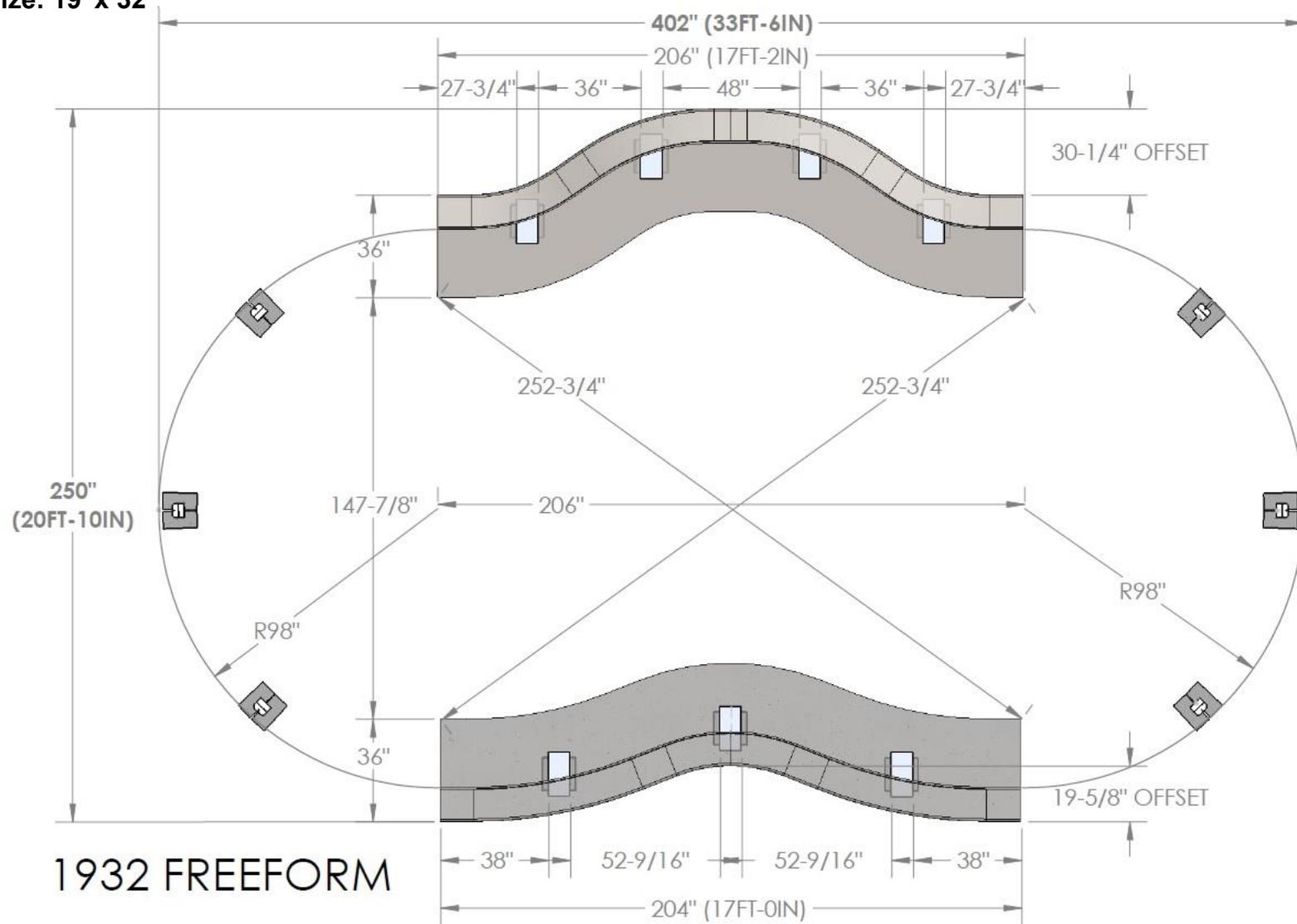


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 3 – Create Trench and Place Support Blocks

Pool Size: 19' x 32'



Section 2

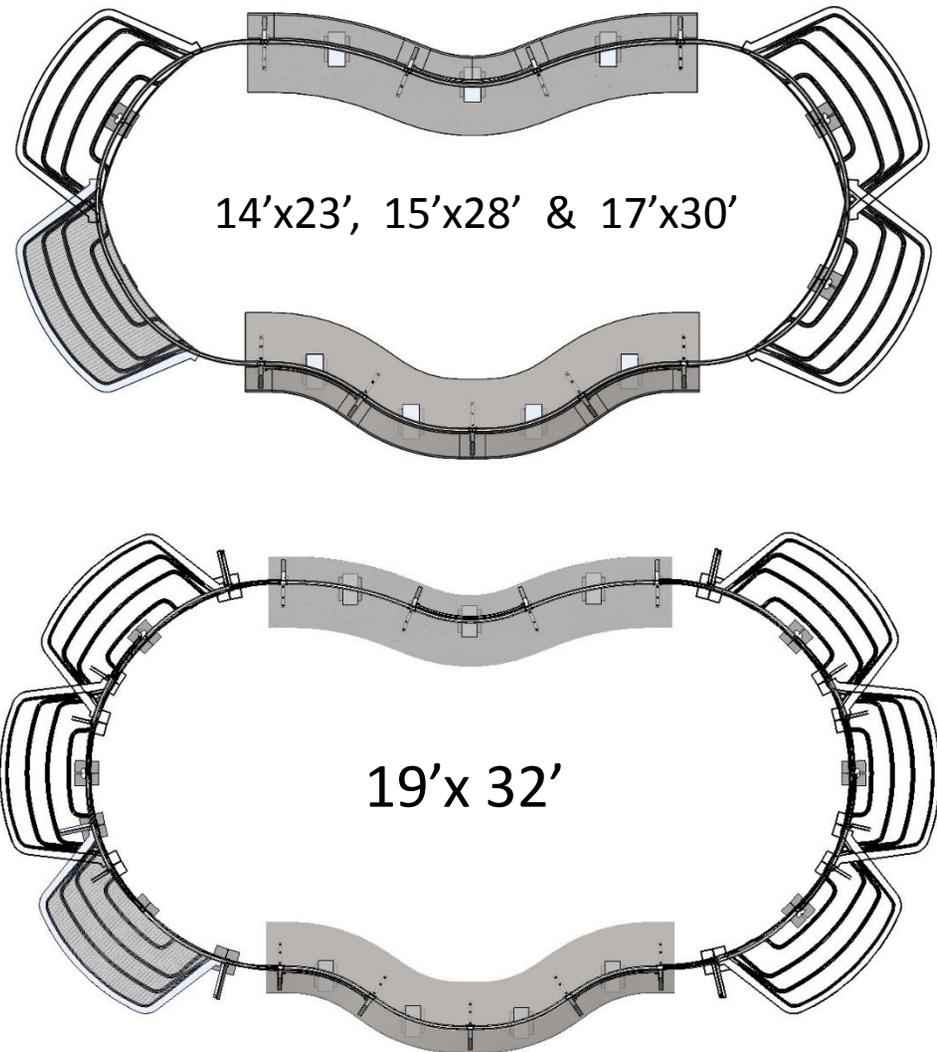
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly - Location of Step

- 4.1 At this time, determine where the step will be placed within the pool and place the step within this general vicinity.

The 14'x23', 15'x28' and 17'x30' freeform pools have four possible locations for the step.

The 19'x32' freeform pool has six different possible locations for the step.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly

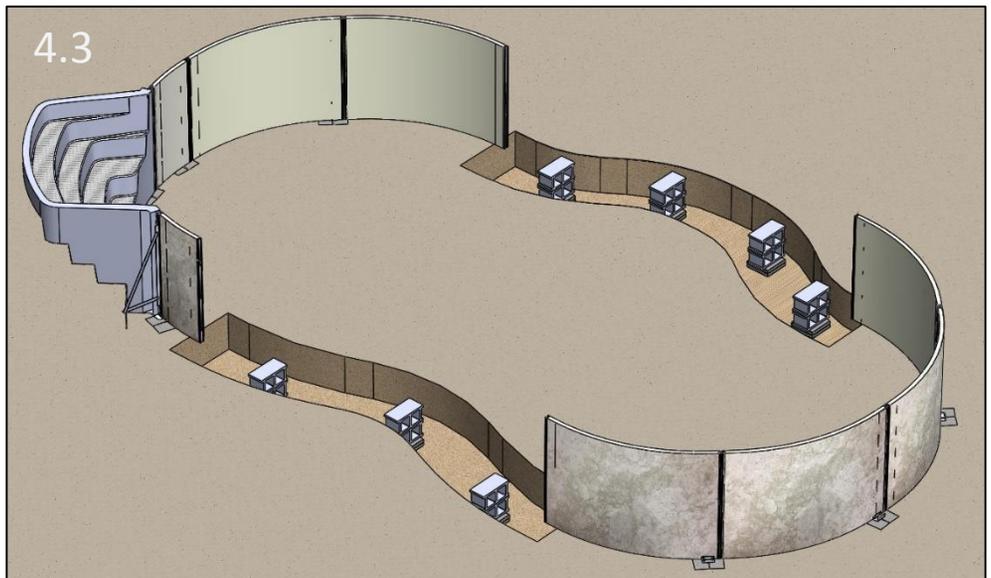
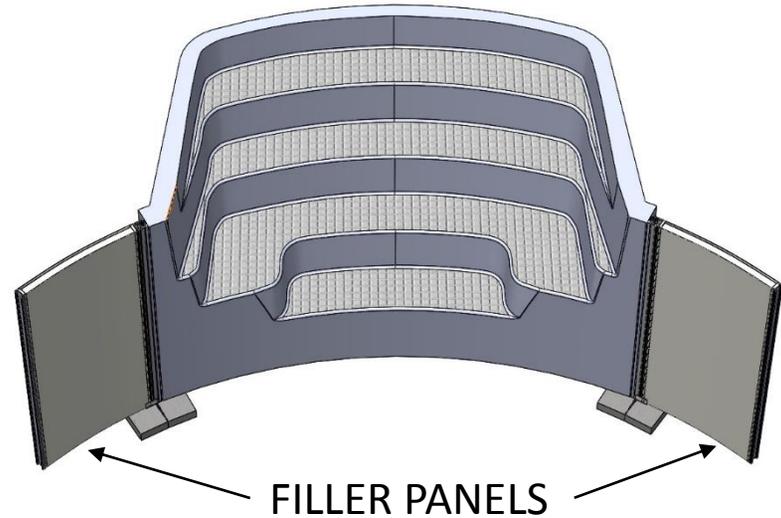
4.2 The Optimum Pool with step excludes two standard sized panels. This void in the pool is where the step and two filler panels will be located. The filler panels must be located on each side of the step.

4.3 The pool will be assembled as illustrated in the following steps.

Note - The skimmer panel should also be located at the desired location during the following steps.

4.2

RADIUS STEP



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly

- 4.4 Decide where the skimmer panel and plumbing will be located and place the skimmer panel accordingly. Center a bottom plate on each end of the panel.

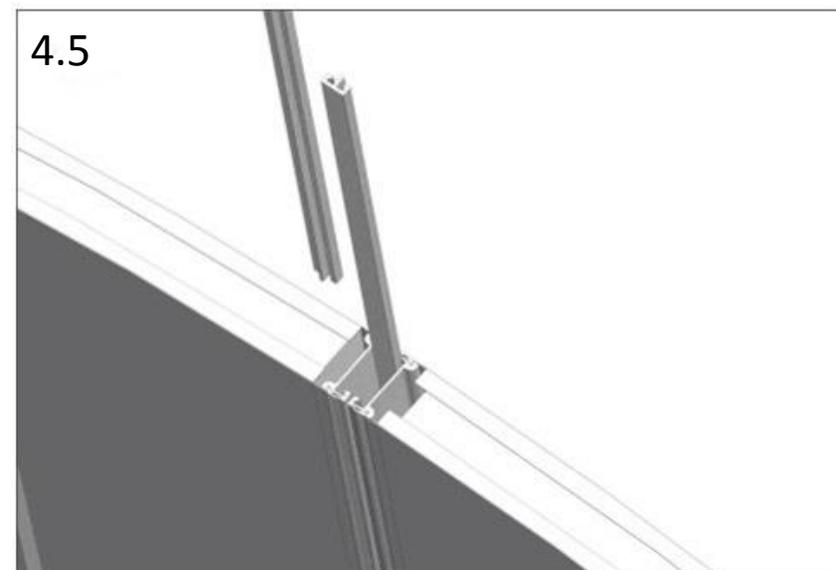
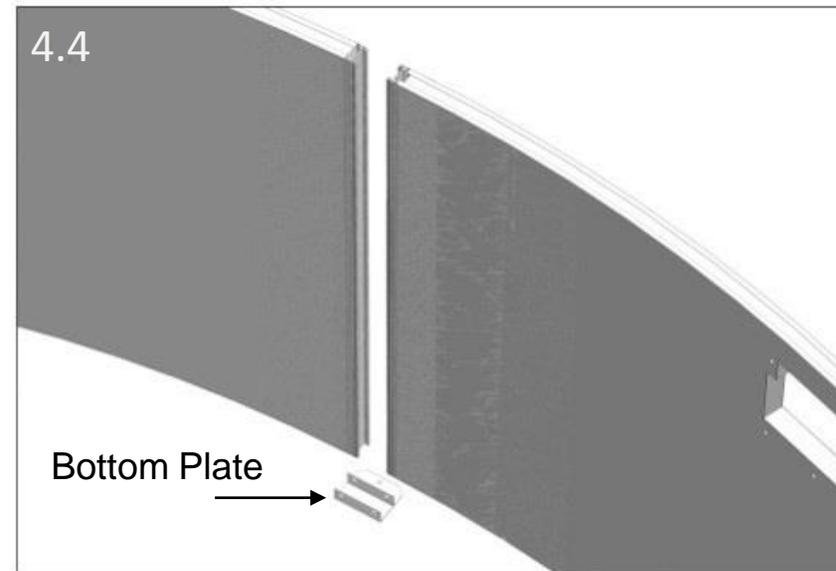
Place the next panel symmetrically centered into the bottom plate, leaving a 1/8" gap between both panels for the spline to be inserted.

- 4.5 Slide two 52" splines (#77002) into compression seams to lock both panels together.

If inserting the splines is difficult:

- apply cooking oil to ease installation. **DO NOT USE PETROLEUM LUBRICANTS like WD-40**
- Ensure there is a uniform 1/8" gap between both panels.
- Check parts are free of any sand or debris.

Repeat this step for all remaining curved side panels.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly

- 4.6 Assemble shorter filler panels on each side of the void where the step will be placed using two 52" splines (#77002) and a bottom plate (#77004). Refer to the previous steps 4.3 and 4.4.

Note: Filler panels must be located on each side of the step.

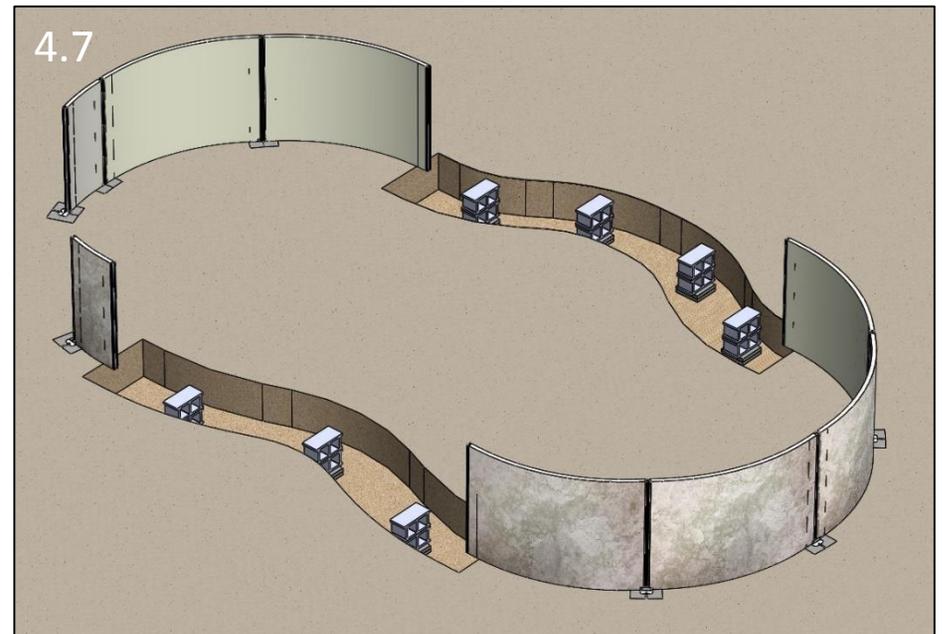
- 4.7 At this time the pool assembly should look similar to Figure 4.6 with the step void located at the desired location.

Possible step locations are outlined on page 48.

4.6



4.7



Section 2

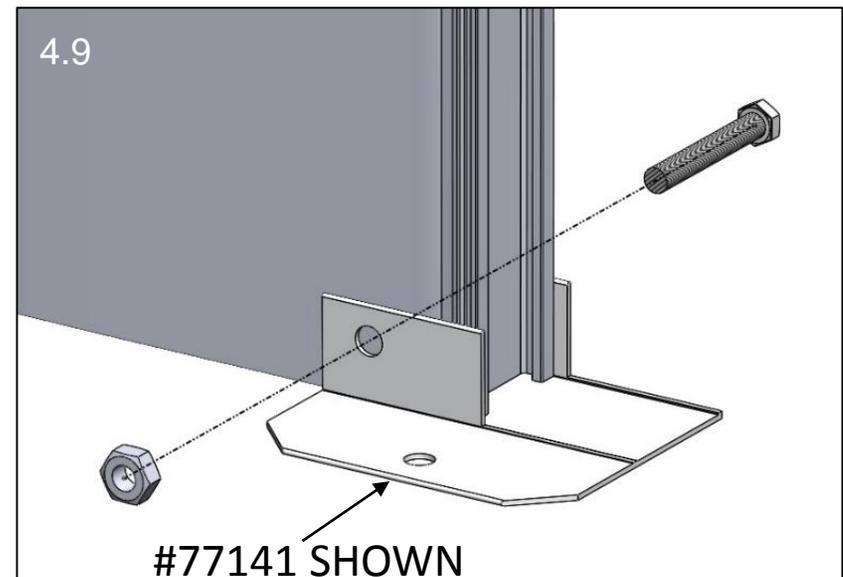
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly

4.8 Two bottom plates included with the pool have only one mounting hole as pictured in Figure 4.9. These bottom plates (#77141 & #77142) are to be used on the filler panels at the step void. There is a specific left and right anchor plate for these two locations (Figure 5.1).

4.9 Drill one 7/16" hole through each filler panel at the bottom plate hole location and secure with one 2-1/2" bolt (#99-0137) and nut (#99-0134).

**Note – Before step is attached, bring in sand for the floor and cove of the pool.
(See page 40 for proper quantities.)**



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 4 – Curved Side Panel Assembly

- 4.10 Ensure panels are centered and fully inserted into the bottom plates.

At this time, on the curve side ONLY, drill 7/16" holes through the pool panels at the bottom plate hole locations using the bottom plate holes as a drill guide. Secure panels with 2-1/2" bolts (#99-0137) and nuts (#99-0134).

- 4.11 Use the included rebar with a concrete collar around the perimeter of the pool. Insert the rebar halfway into the ground through the anchor plate holes before pouring the concrete collar.



Section 2

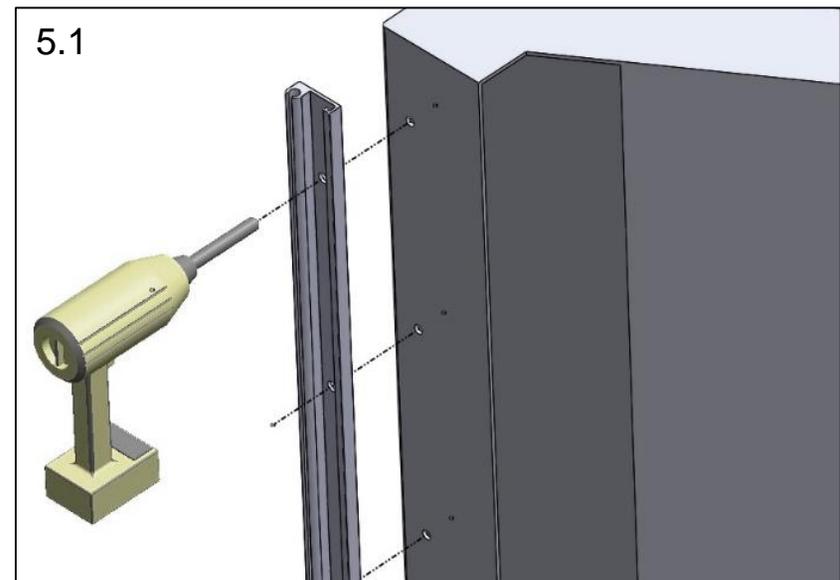
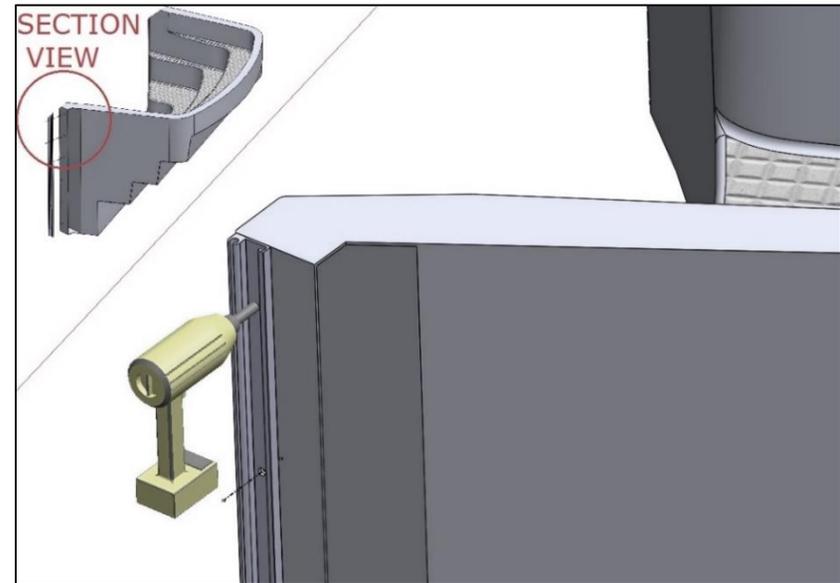
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 5 – Step Installation on Curved Side

- 5.1 Use the step socket spline (#77143) as a drill template on the side flange of the step. ensure the socket side of the extrusion is towards the interior of the pool as illustrated and drill six 13/32" holes.

Repeat for opposite side.

NOTE – The front face of the step and step socket spline must be parallel to each other before drilling. This will ensure the step is correctly positioned once installed into the pool.

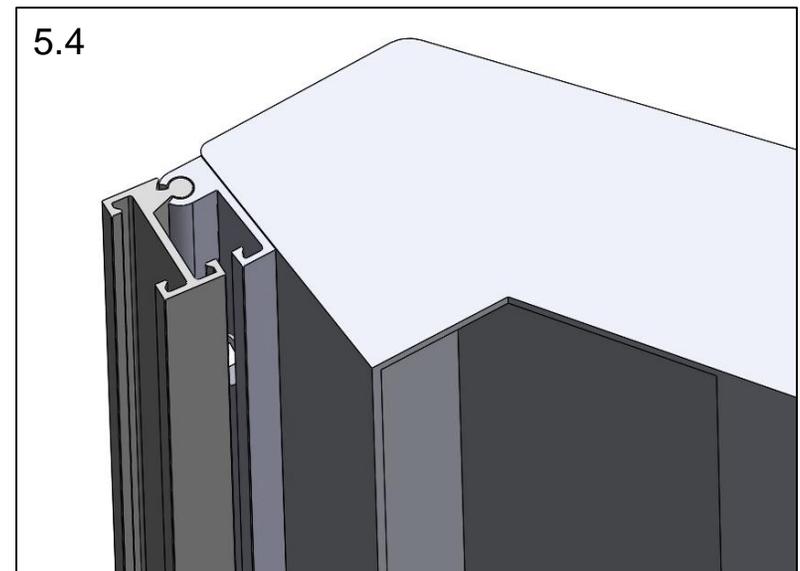
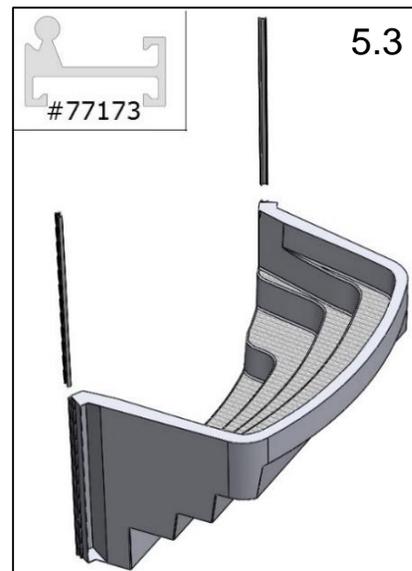
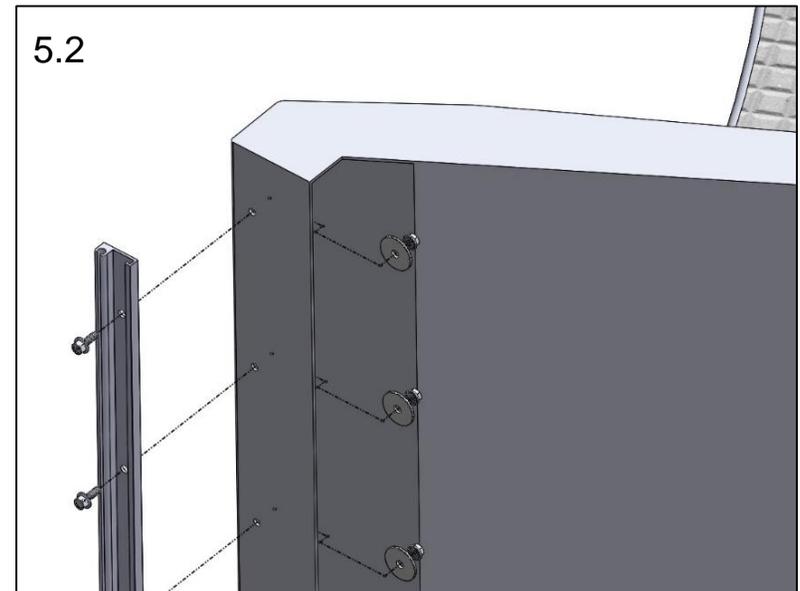


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 5 – Step Installation on Curved Side

- 5.2 Attach step socket spline (#77143) to each side of the step with the included 3/8" x 1" bolts, nuts and 1-3/4" fender washers as illustrated. (Hardware bag #77144)
- 5.3 Slide step rod spline (#77173) into the step socket spline on both sides of the step.
- 5.4 **NOTE - This part must articulate freely within the step socket spline. A spline will not be inserted into this compression joint.**



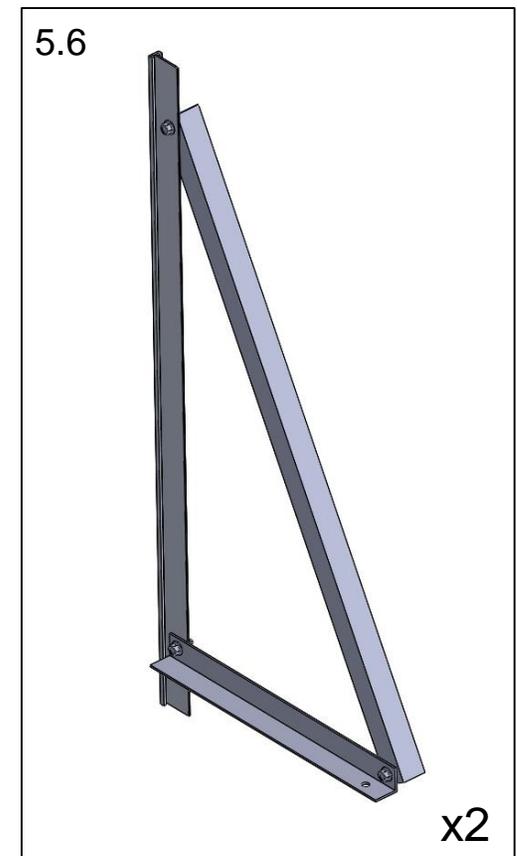
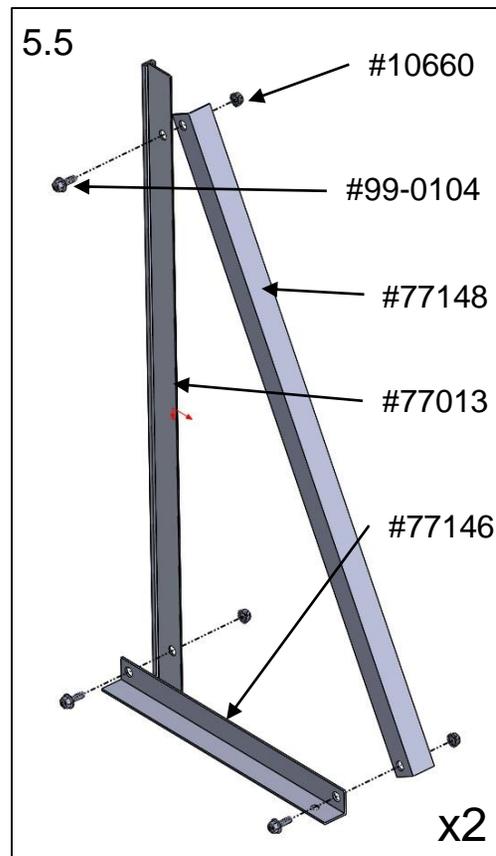
Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 5 – Step Installation on Curved Side

- 5.5 Assemble step A-frame support with the included 3/8" x 1" bolts (#99-0136) and nuts (#99-0134).
There will be two of these assemblies, one for each side of the step.

- 5.6 Assembled step A-frame support.



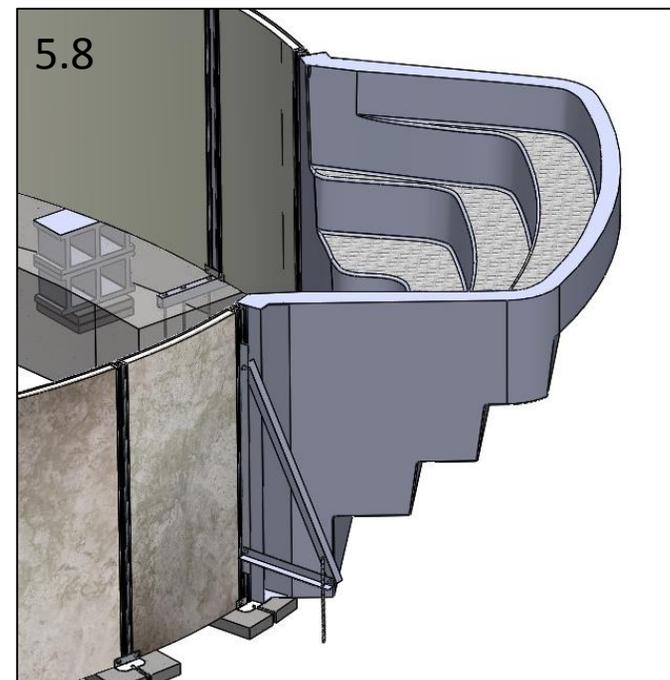
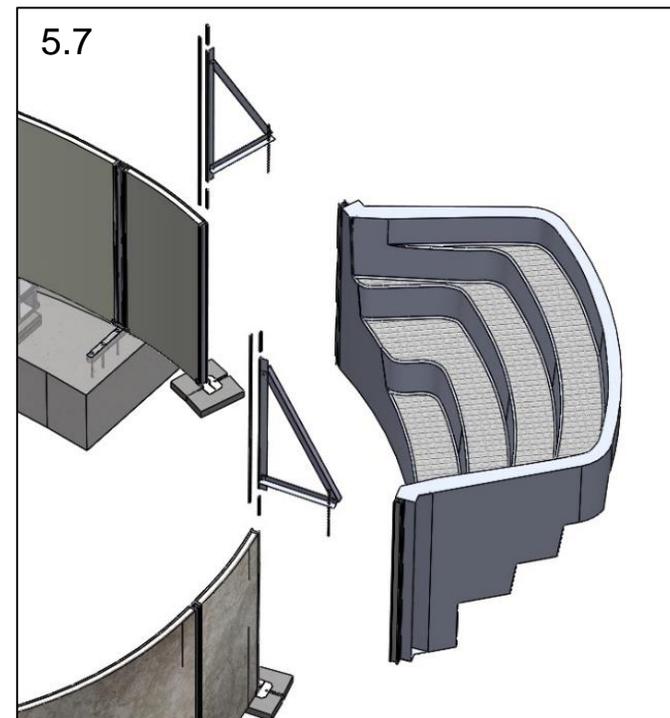
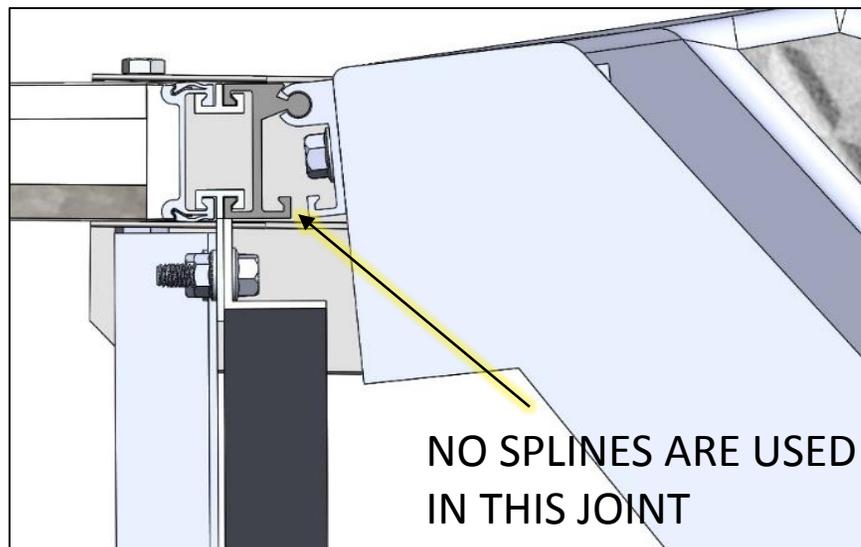
Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 5 – Step Installation on Curved Side

- 5.7 Position step within the void of the pool wall making sure the step rod splines are parallel to the ends of each filler panel. Slide a 52" spline (#77002) into the interior compression seams to lock the step to the filler panels.
- 5.8 Slide one 5- $\frac{3}{4}$ " short spline (#77014) into the exterior compression seams between the filler panel and step rod spline. Follow this part with the A-frame step support previously assembled in step 5.6 and one additional 5- $\frac{3}{4}$ " short spline (#77014). Once complete, there should be three components stacked within the same joint.

Repeat for the opposing side.



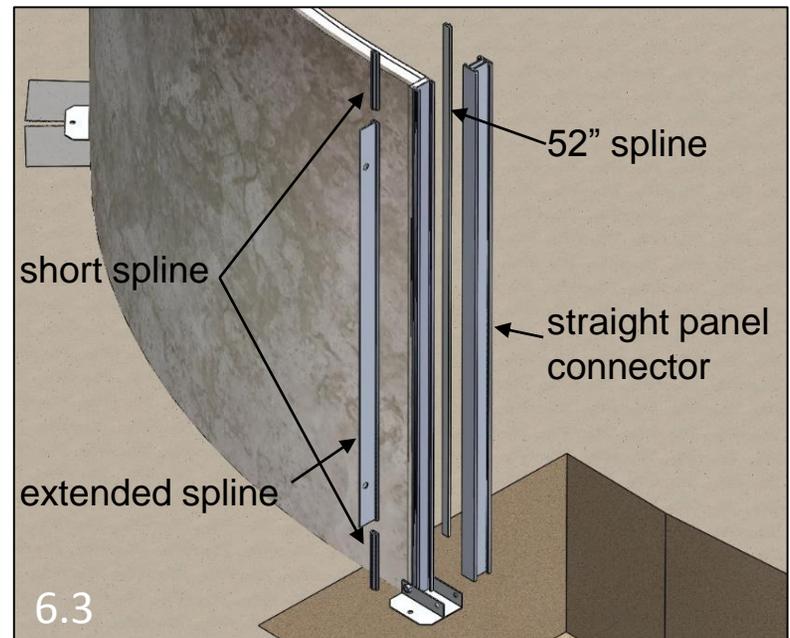
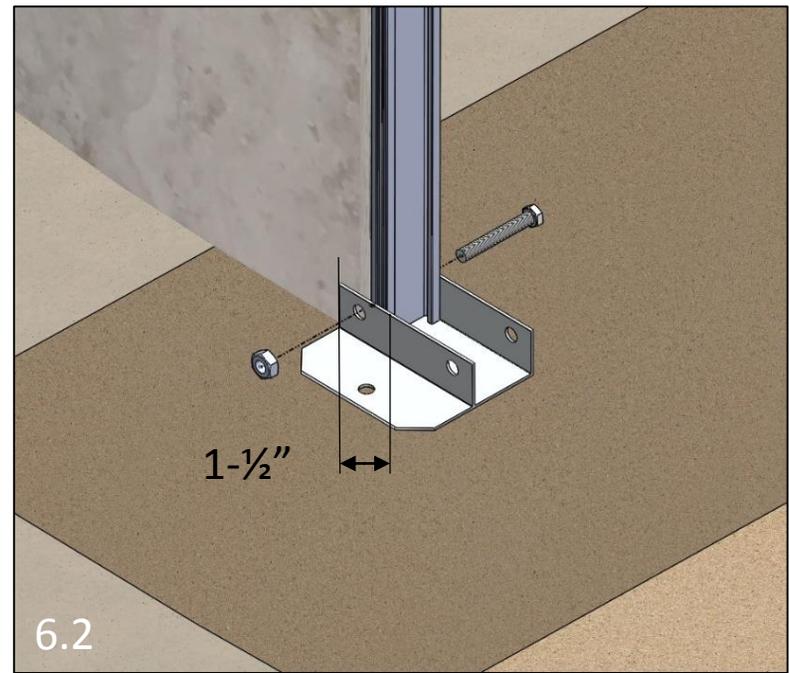
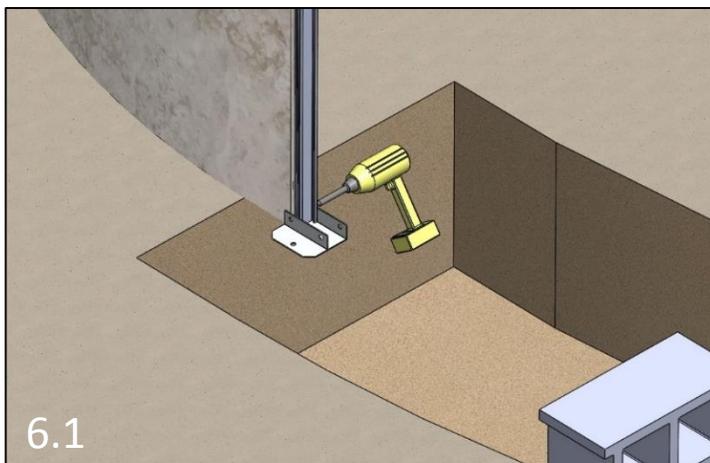
Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 6 – Freeform Side Panel Installation

- 6.1 Place a bottom plate on the curved side panel which will transition to the freeform side of the pool. Ensure bottom plate is fully seated on panel and inserted 1-½" onto panel.
- 6.2 Drill a 7/16" hole through the panel using the bottom plate hole as a drill guide. Secure bottom plate with one 2-½" bolt (#99-0137) and nut (#99-0134).
- 6.3 Attach the straight panel connector (#77026) onto the curved section of the pool as illustrated in Figure 6.3.

Two short splines (#77014), one extended spline (#77013) and one 52" spline (#77002) are used to attach straight panel connector.

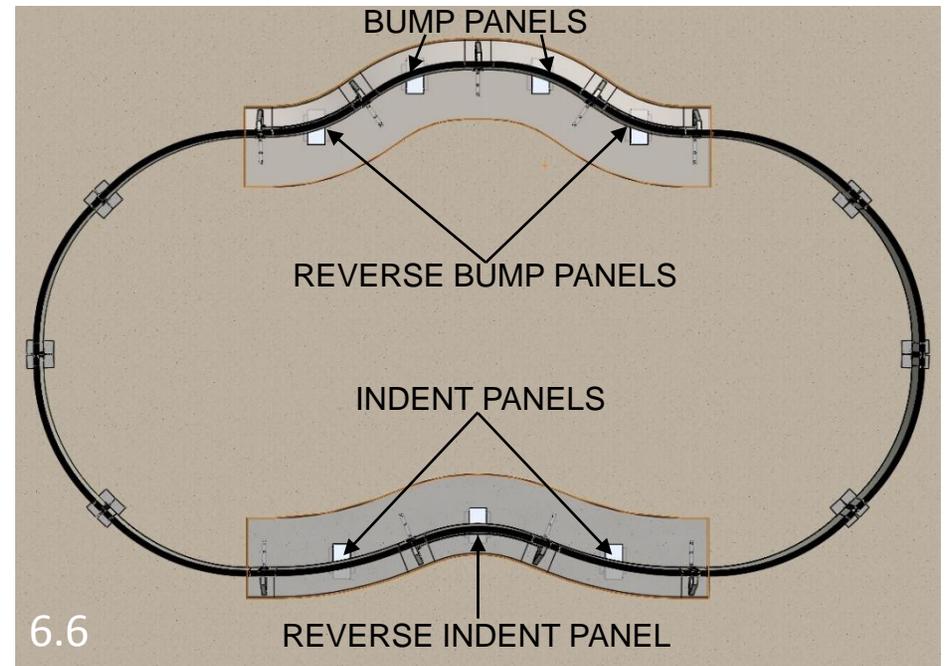
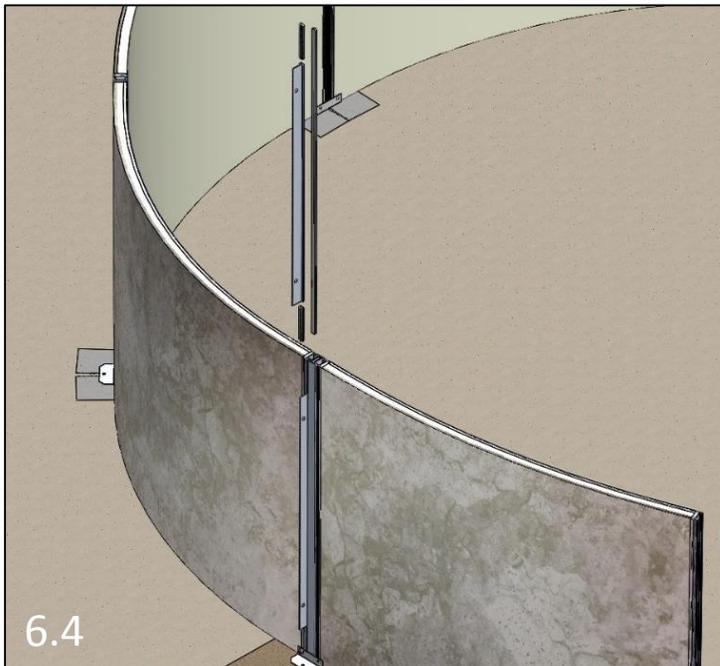
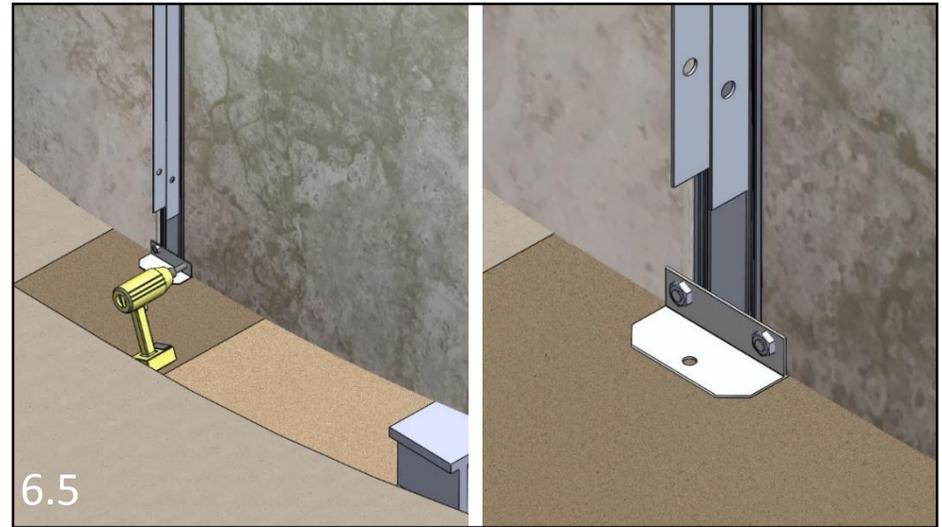


Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 6 – Freeform Side Panel Installation

- 6.4 Add the first freeform section panel using two short splines (#77014) and one extended spline (#77013).
- 6.5 Drill a 7/16" hole through the panel using the bottom plate hole as a drill guide. Secure bottom plate with one 2-1/2" bolt (#99-0137) and nut (#99-0134).
- 6.6 The freeform pool is composed of a freeform bump section and a freeform indent section. Use Figure 6.6 to reference where each panel should be placed within the pool.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 6 – Freeform Side Panel Installation

- 6.7 Place the A-frame cover foam Insert (#77069) inside the top section of the A-frame cover (#77036).

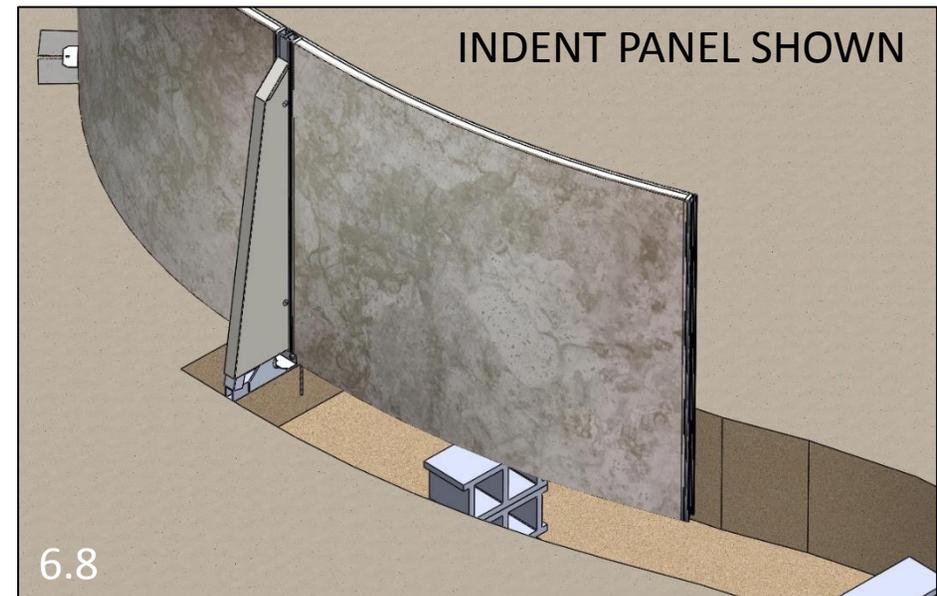
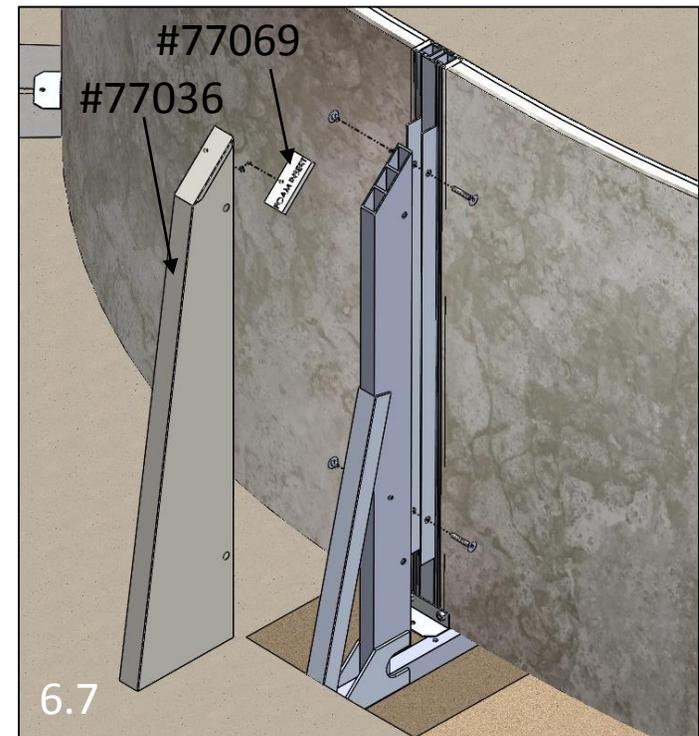
Install the A-frame upright (#77033) along with the A-frame cover assembly onto the pool wall. Secure to pool wall with two 2" countersunk SS bolts (#99-0130) and two flat head rivet nuts (#99-0132).

NOTE: Reverse bend panels will be attached with the longer 2-1/4" countersunk SS bolts (#99-0131)

At this time the A-frame will be "floating" until the concrete is poured in the trench. ensure A-frame assembly is perfectly upright to avoid issues later.

- 6.8 Repeat step 6 for all remaining freeform panels.

NOTE – Before final panels are attached, bring sand into the interior of the site for the sand base and cove.
Please refer to page 40 for the amount of sand required.



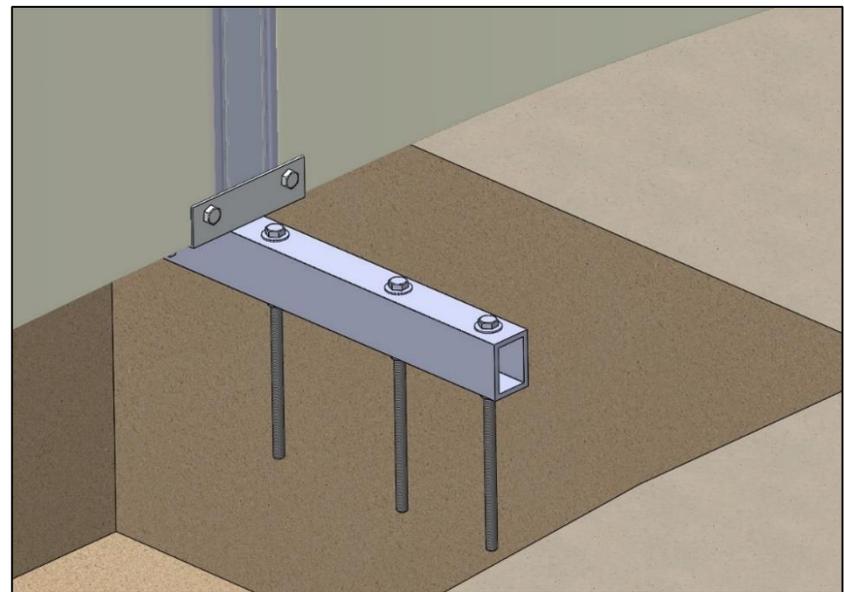
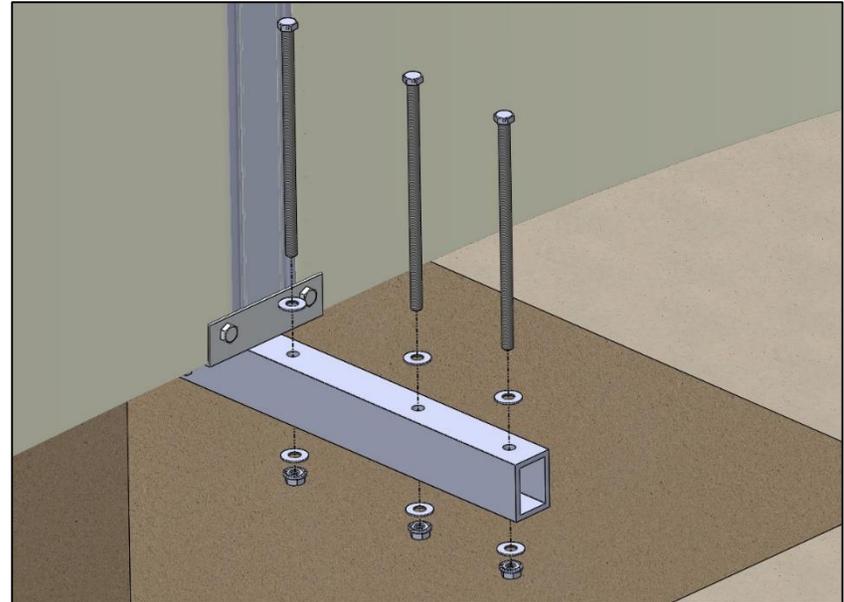
Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 7 – Freeform Side - Bracing

- 7.1 Install hex head 8" long bolts (#99-0141) and stainless steel nuts (#99-0142) along with aluminum washers (#99-0133) as illustrated onto every A-frame upright.

These bolts will be used to anchor and reinforce the A-frame assembly into the concrete footing.



Section 2

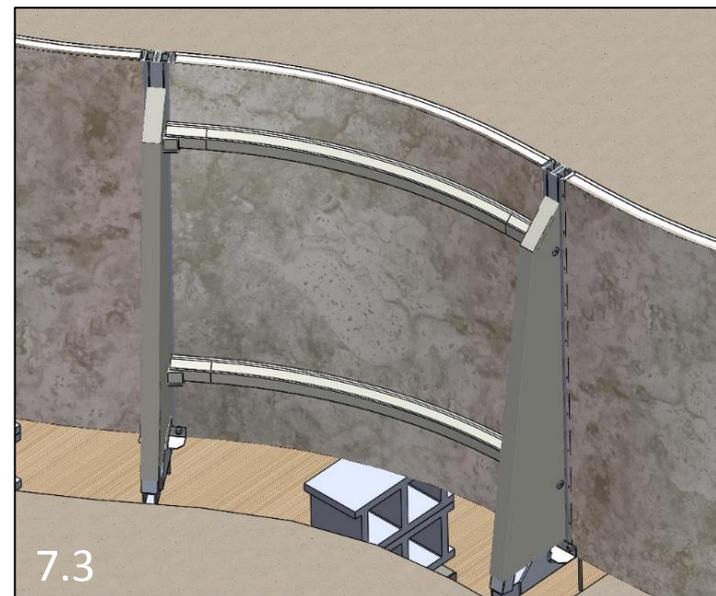
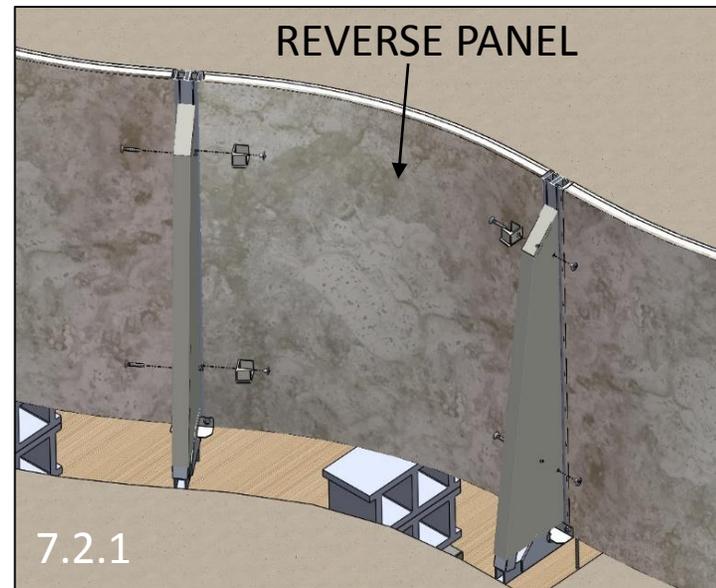
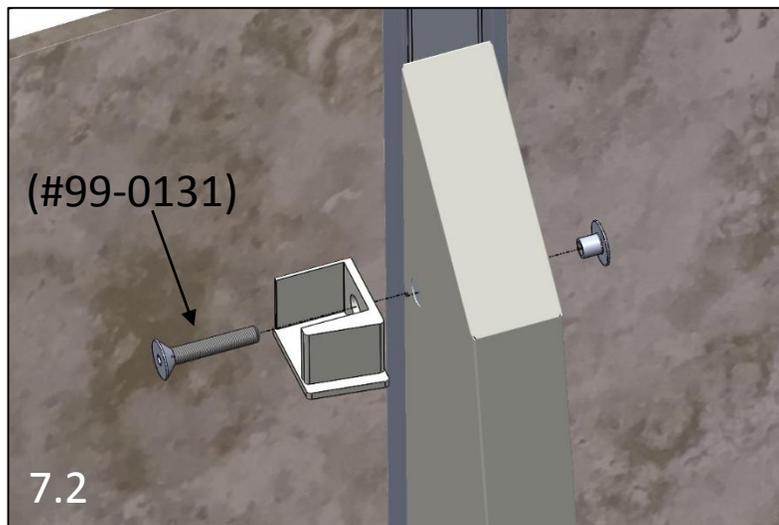
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 7 – Freeform Side - Bracing

7.2 All reverse bend panels require bracing. There will be six brace assemblies per freeform pool. Attach the left and right mounting brackets (#77153 & #77155) with the hardware installed previously to attach the A-frame upright. Install one mounting bracket at a time to keep A-frame upright assembly attached.

NOTE: Ensure the bolts at these locations are the longer 2-1/4" countersunk SS bolts (#99-0131).

7.3 Place the upper and lower freeform braces into the mounting brackets. Once the pool is filled with water they will be located firmly in place.



Section 2

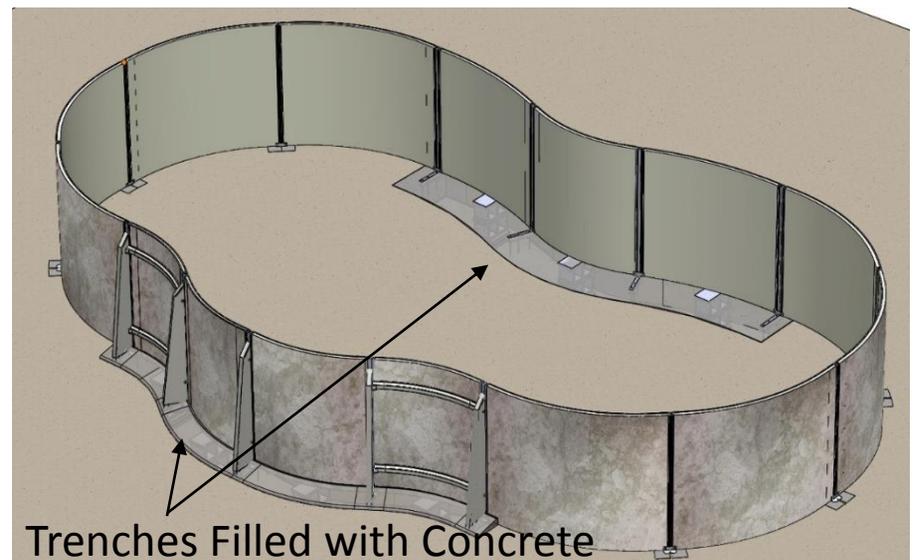
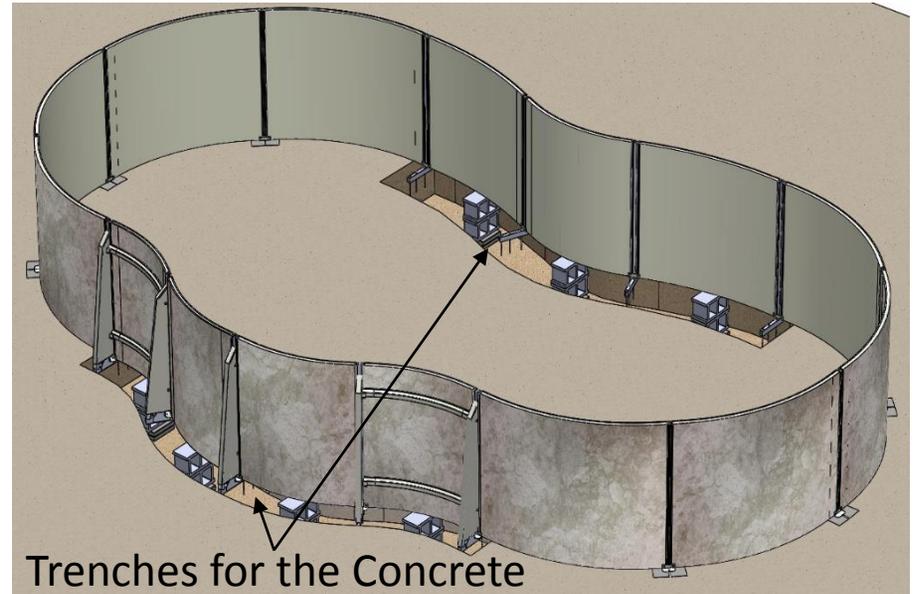
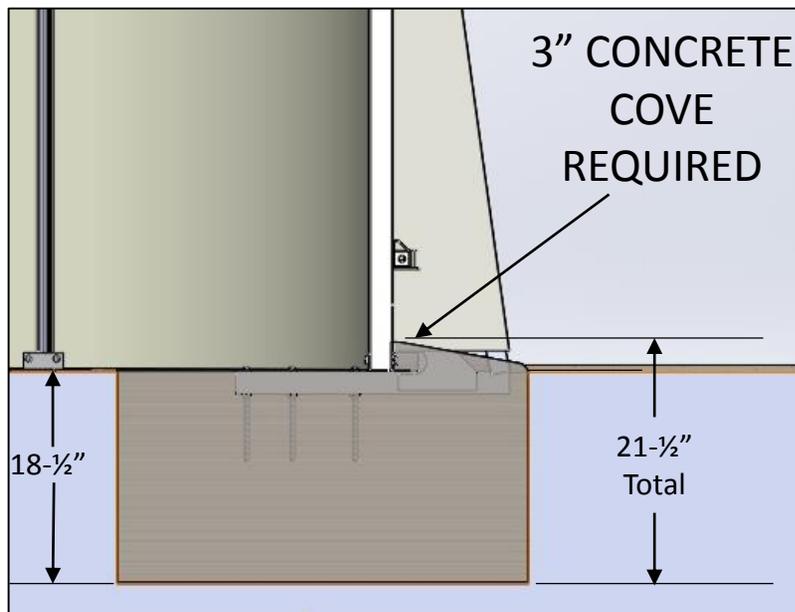
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 8 - Install Concrete for the Freeform Base

- 8.1 ***Ensure the pool layout matches the footprint dimensions before pouring the concrete footings***

Ensure the trench is at least 18-½" deep and 36" wide. The trench must also be the length listed in the footprints on pages 44-47.

- 8.2 Pour the concrete trench. A calcium chloride free mixture is recommended. The concrete must be level with the A-frame bottom channel on the interior of the pool. **A 3" concrete cove is required on the exterior of the pool.**



IMPORTANT! IT IS EXTREMELY IMPORTANT TO THE STRUCTURAL STABILITY OF THE POOL THAT THE CONCRETE DIMENSIONS ARE FOLLOWED EXACTLY. FAILURE TO DO SO MAY VOID THE WARRANTY.

Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

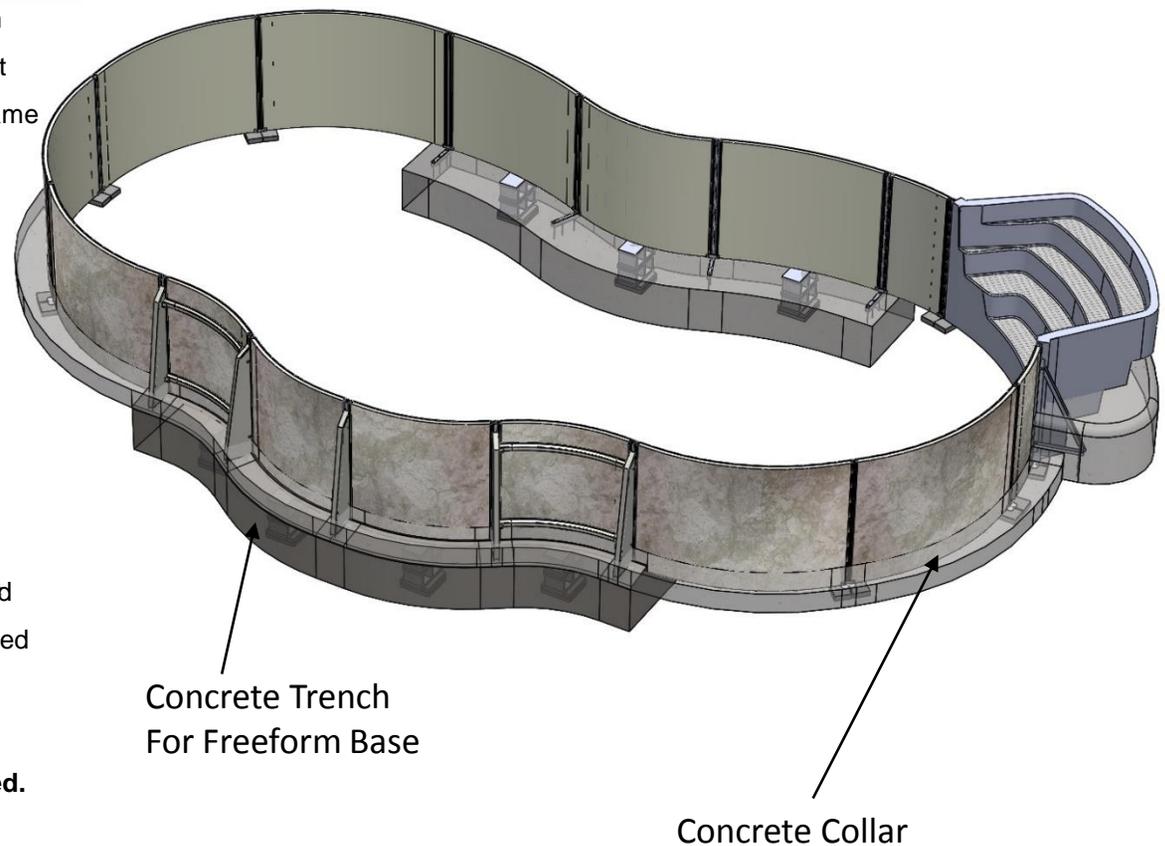
Step 9 – Concrete Collar

- 9.1 Ensure the supplied 3/8" x 15" rebar (#77001) is inserted halfway into the ground through every bottom plate hole around the perimeter of the pool. Also insert two lengths of rebar through the hole on the step A-frame support assembly from step 5.5. If extra supports are required for patio or other pool features, consider installing them before pouring the concrete.

Note – Ensure the pool is level and square before pouring concrete!

- 9.2 A concrete collar is required on all INGROUND pools. Pour a 8" high by 12" wide concrete collar around the perimeter of the pool. Pour concrete foundation around the backside of the step. See page 40 for recommended quantities.

Note: Do not fill with water until concrete has cured.



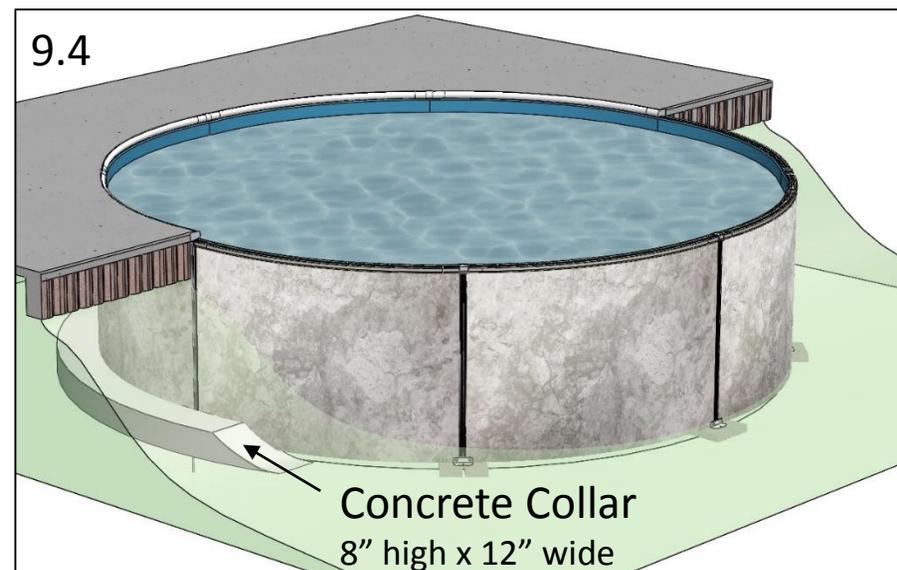
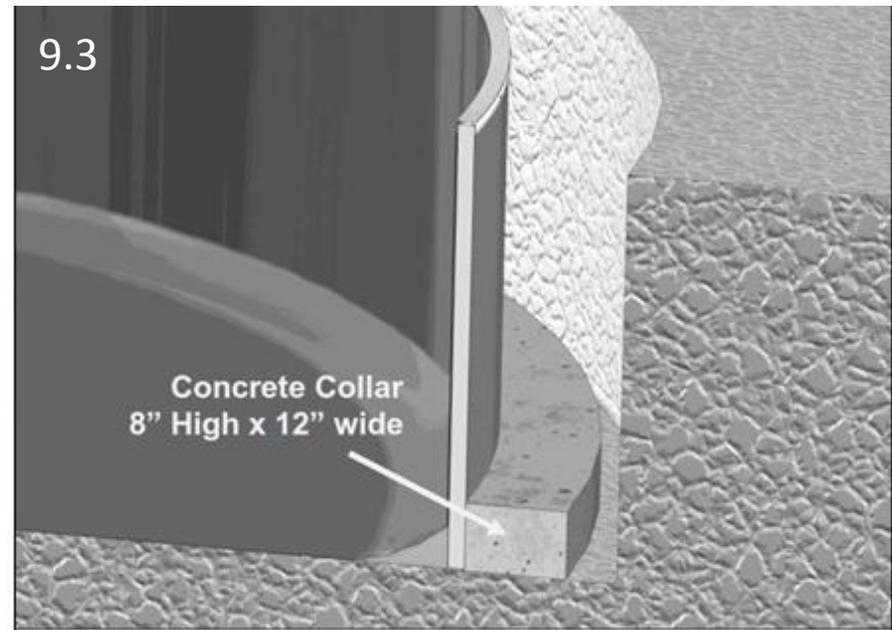
Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 9 - Concrete Collar

9.3 All pools that are buried more than 24" below grade require a concrete collar, 12" wide by 8" high, around the entire perimeter of the pool. If extra supports are required for patio or other pool features, consider installing them before pouring the concrete.

If the pool is installed into a hill, as illustrated in Figure 9.4, the pool still requires a concrete collar 12" wide by 8" high at any location where the pool is buried more than 24" below grade. Taper the ends of the concrete collar once the depth below grade becomes less than 24".



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 10 – Create Pool Cove and Base

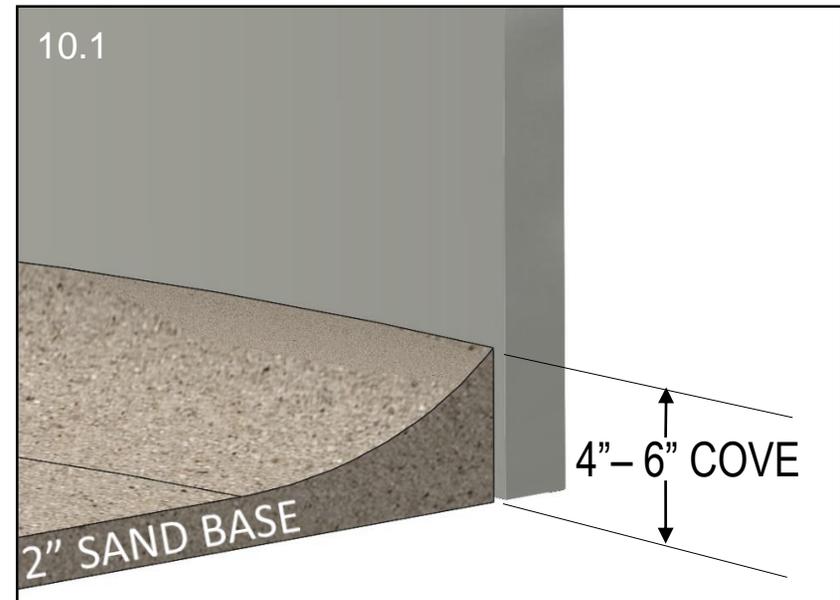
10.1 Using neutral alkalinity sifted earth, or fine sand without pebbles, create pool cove 4"-6" high along entire inside perimeter of pool – **THIS IS NOT AN OPTIONAL STEP** See Figure 10.1. The cove will prevent the liner from distending beneath the pool wall under the weight of the water.

Since chemicals that may be in the ground can cause discoloration or corrosion, we suggest laying polyethylene plastic sheeting under the cove around the perimeter of the wall, ensuring that no earth comes in contact with the metal. Since the presence of such chemicals is beyond the control of the manufacturer, this damage is not covered by the warranty.

DO NOT USE ANY SUBSTANCE WITH HIGH ALKALINE OR ACID CONTENT, ESPECIALLY PEAT MOSS, AS IT WILL CORRODE METAL PARTS.

Use remaining sand to create 2" deep sand base over the entire pool area to protect the liner.

Rake and tamp whole area until it is level and smooth as any bumps or ridges left will be evident under the liner.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 11 – Skimmer Installation

11.1 Use the specific gray and white skimmer mounting plates for for the above ground skimmer or in-ground skimmer.

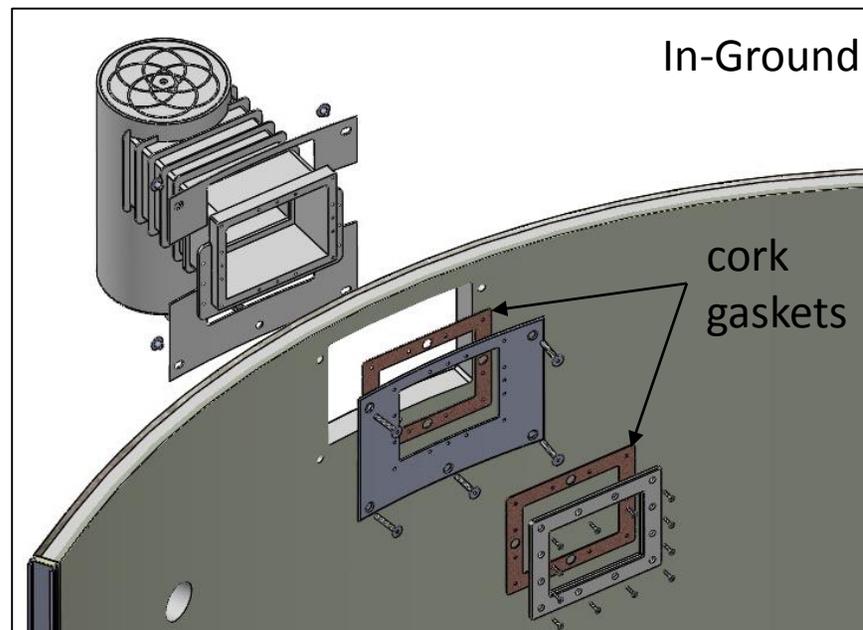
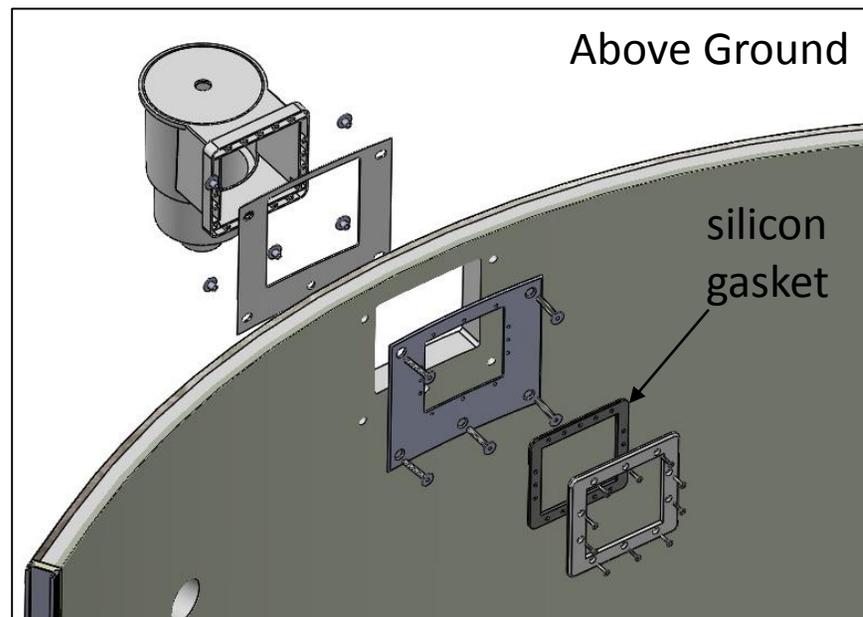
11.2 Place gray skimmer mounting plate assembly on the inside Of the pool, and white skimmer mounting plate on the outside of the panel, sandwiching the skimmer inside the wall panel cutout. Ensure gaskets are located as illustrated.

Loosely secure assembly with five 2- $\frac{1}{4}$ " countersunk bolts (#99-0131) and flat-head rivet nuts (#99-0132).

Ensure plates are centered and level, then tighten hardware, taking care not to overtighten.

11.3 With hardware provided in the skimmer kit, secure skimmer to the gray skimmer plate with 4 screws. Do not fully tighten as these screws will be removed later.

NOTE: Skimmer face plate (in skimmer assembly) and remaining screws will be attached after pool liner is installed, locking the skimmer firmly in place. Refer to skimmer kit installation instructions for more information.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

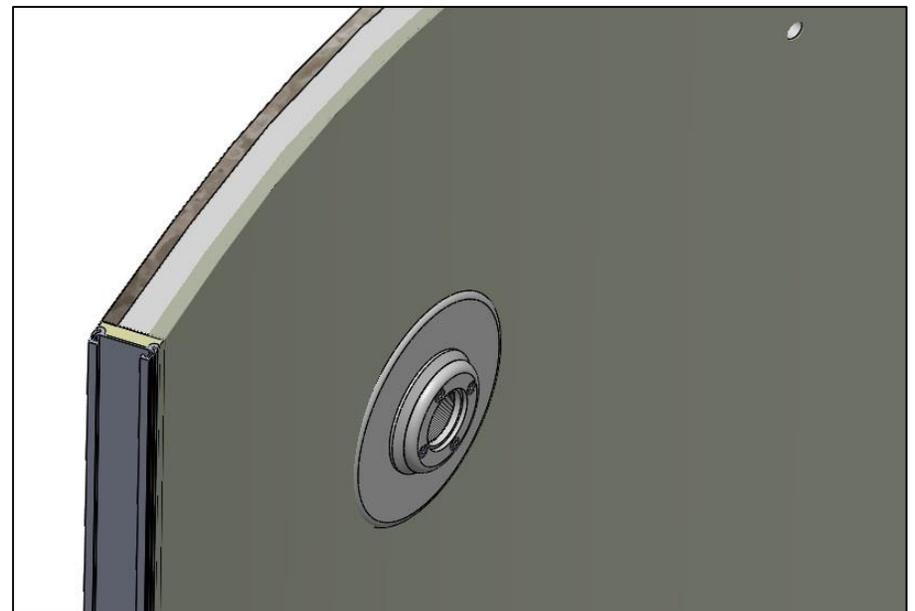
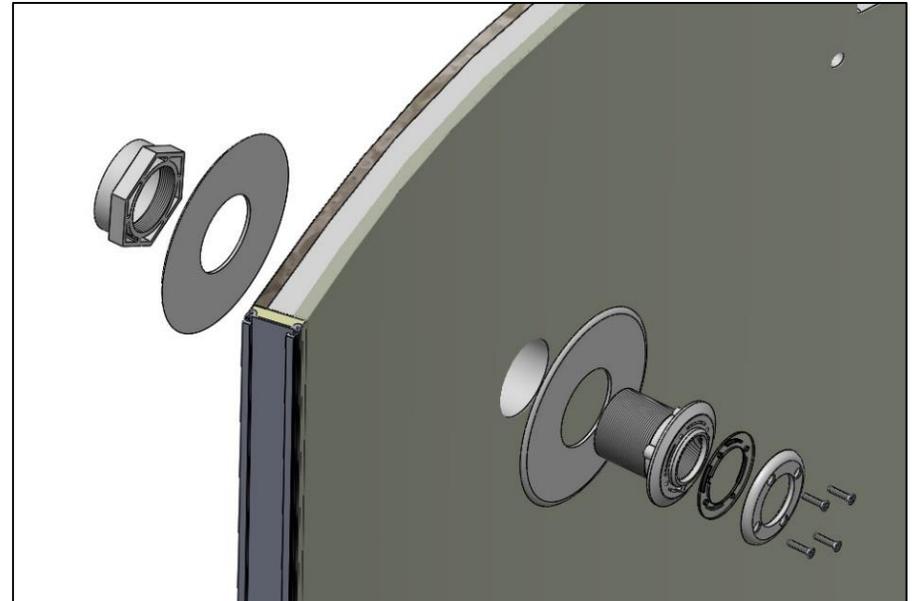
Step 12 – Return Fitting Installation

- 12.1 Place white return plate (#77064) over round opening on skimmer panel and insert extended return fitting (#77092) through assembly from interior of the pool.

Place second white return plate (#77064) over extended return fitting on the outside of the pool.

Install extended return fitting nut to secure to panel. Do not overtighten.

NOTE: Return fitting face plate and four screws will be removed once pool liner is ready to be installed.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 13 - Installing Top Coping

Above Ground Coping

13.1 Place 2" PVC top coping onto each pool panel leaving a $\frac{1}{2}$ " gap between each length. Coping should be offset from wall panel joints by 2" as shown in Figure 13.1.

13.2 Each length of top coping will be attached to the pool with screws from the **exterior side of the pool only**. Drill evenly spaced $\frac{1}{8}$ " pilot holes through the top coping and exterior pool wall ensuring the top coping is fully seated.

Attach the top coping to the pool panels with colored head cap screws #8 x $\frac{1}{2}$ " (#99-0138). **DO NOT OVERTIGHTEN**. Spacing should be every 12-18".



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 13 - Installing Top Coping (Continued)

INGROUND Coping

13.3 PAVER COPING: Place coping adaptor clips (#77176) around the perimeter of the pool with raised edge facing outward. Space clips 12" on center. **Attach to the exterior pool wall only** with one #10 x 3/4" Tek screw (#99-0090).

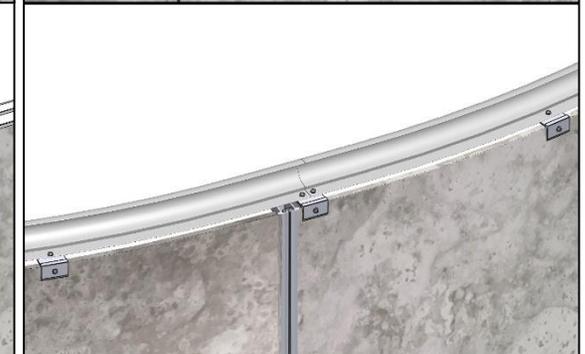
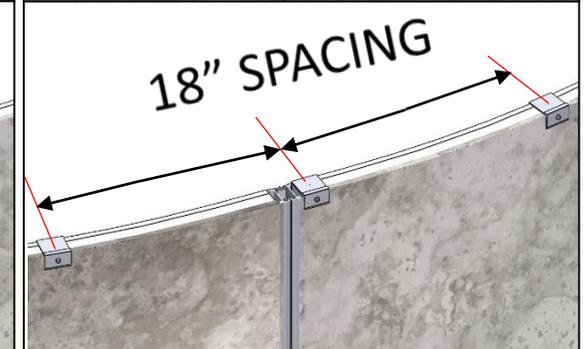
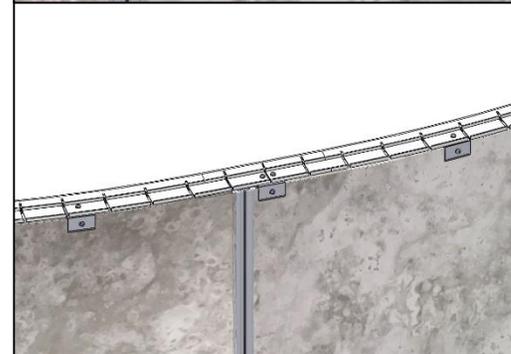
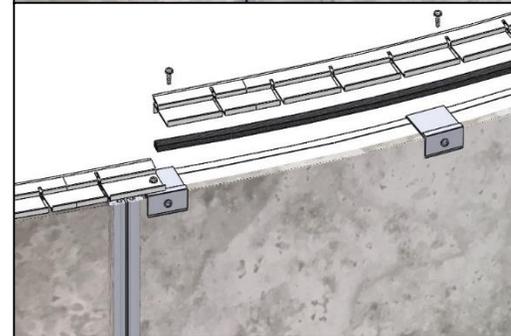
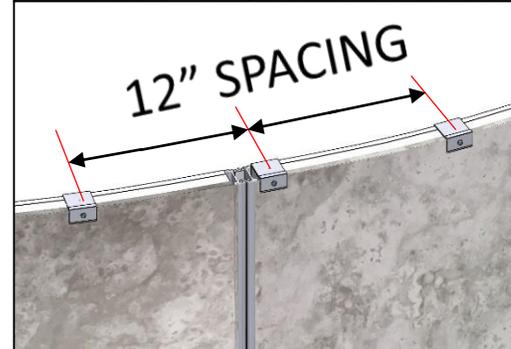
Under each length of paver coping (NOT INCLUDED), place the included foam sealer strip (#77177) under the inside edge as illustrated. This will prevent backfill or debris from falling behind the pool liner.

Use one #10 x 3/4" Tek screw (#99-0090) to attach the paver coping to each coping adaptor clip.

13.4 CP2 COPING OR DECK COPING: Place coping adaptor clips (#77176) around the perimeter of the pool with raised edge facing outward. Space clips 18" on center. Attach to the exterior pool wall only with one #10 x 3/4" Tek screw (#99-0090).

Under each length of coping (NOT INCLUDED), place the included foam sealer strip (#77177) under the inside edge as illustrated. This will prevent backfill or debris from falling behind the pool liner.

Use one #10 x 3/4" Tek screw (#99-0090) to attach the paver coping to each coping adaptor clip.



Section 2

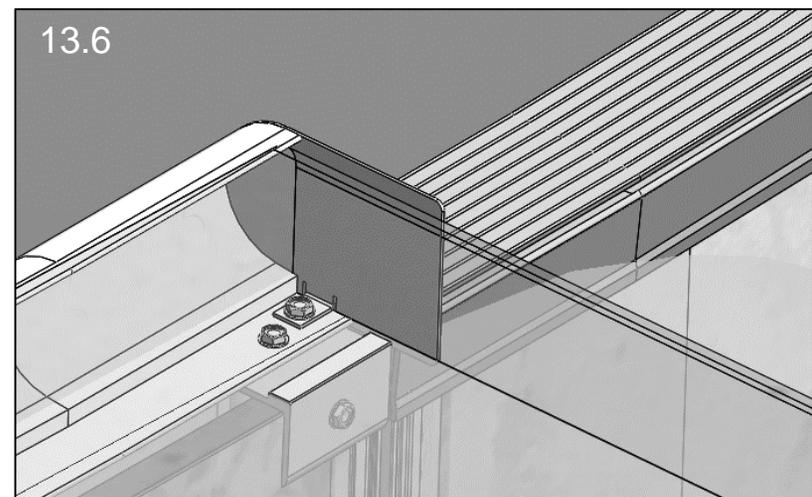
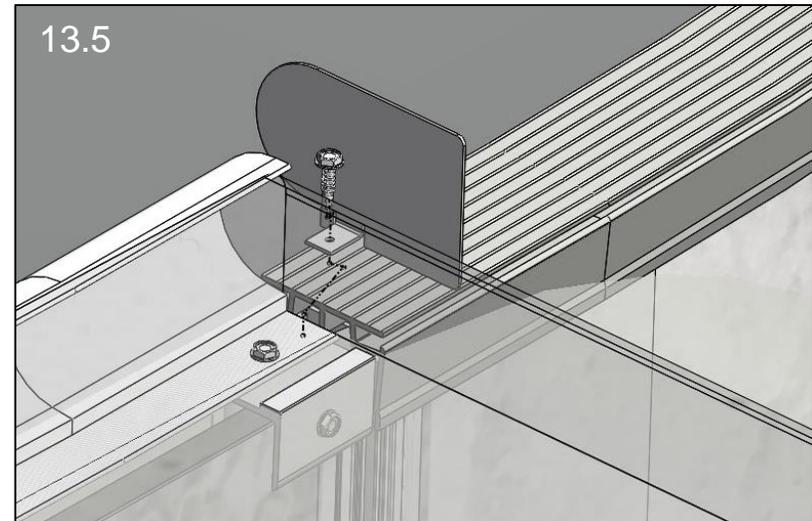
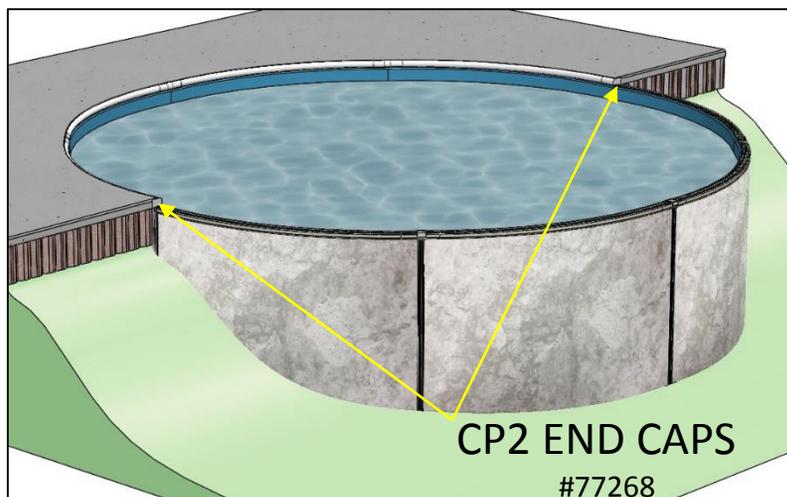
OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 13 - Installing Top Coping (continued)

13.5 For pools that are installed into a hillside and will utilize both 2" PVC top coping and CP2 coping as illustrated below, there is a transition kit available (#77268). This kit includes two stainless steel plates to cap off the ends of the CP2 coping and give a finished edge.

Bend the lower tab on the end plate as seen in Figure 13.5.

Attach the end plate with #10 x 3/4" Tek screw (#99-0090) through the CP2 coping and into the coping adaptor clip (#77176). Repeat on the opposite end.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 14 – Install liner

14.1 Ensure sand in pool is level with no impressions.

Remove liner (NOT INCLUDED) from carton then unfold liner outside of the pool.

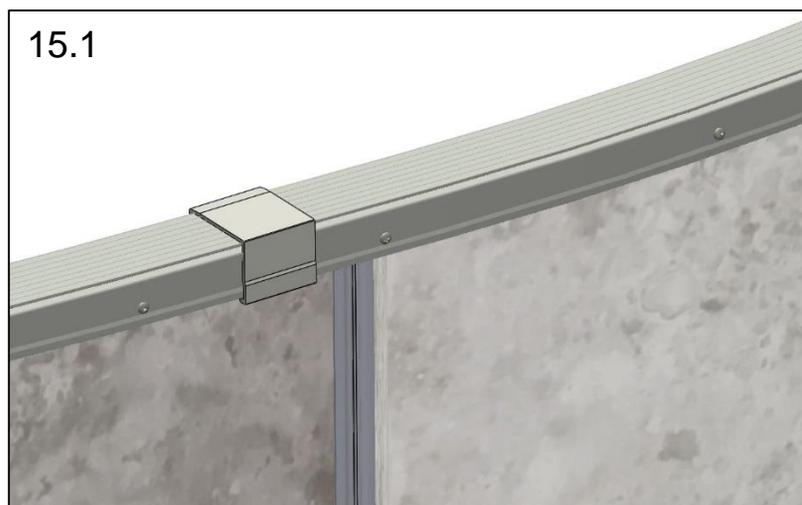
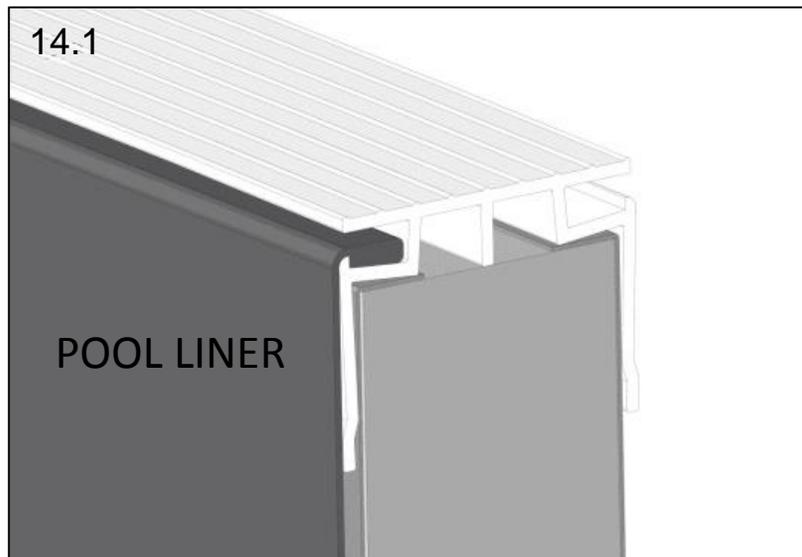
Loosely refold liner and gently place it in the pool, taking care to not disturb the smoothed sand base of the pool.

While standing outside of the pool, snap liner bead into coping receiver track around entire pool. Remove as many wrinkles from the liner as possible as you go by gently tugging on the liner or using a soft broom. A shop vacuum can be used to remove wrinkles by attaching the vacuum hose to the skimmer outlet and sealing with duct tape. Remove vacuum after pool has 6" of water.

Step 15 – Install Coping Clips

15.1 Install coping clips (#77310) onto top coping by inserting interior lip first, then snapping into place.

CP2 coping clips (NOT INCLUDED) – install coping clips by first catching top edge then pressing down firmly to lock in place.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

Step 16 – Add Water

16.1 Start filling the pool with water after the concrete has cured.

Once the water level reaches 2-3" from the return fitting hole, install the faceplates on the return fitting and skimmer as shown in Figures 16.1 and 16.2.

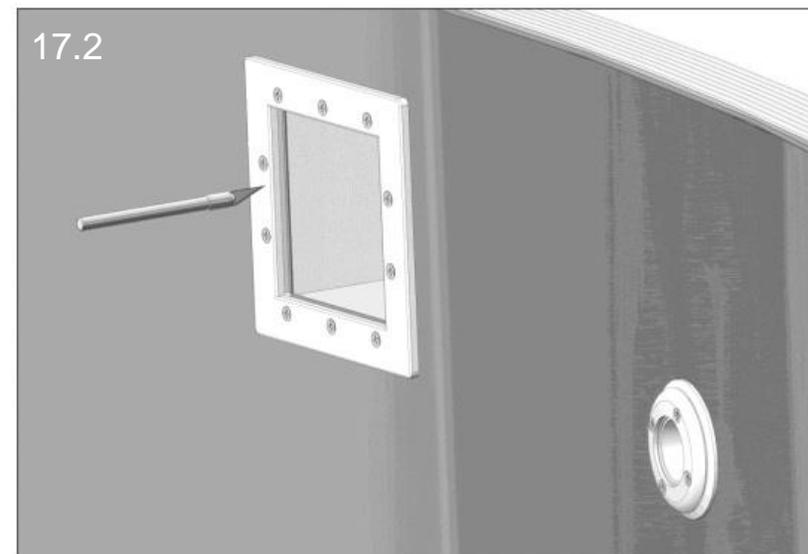
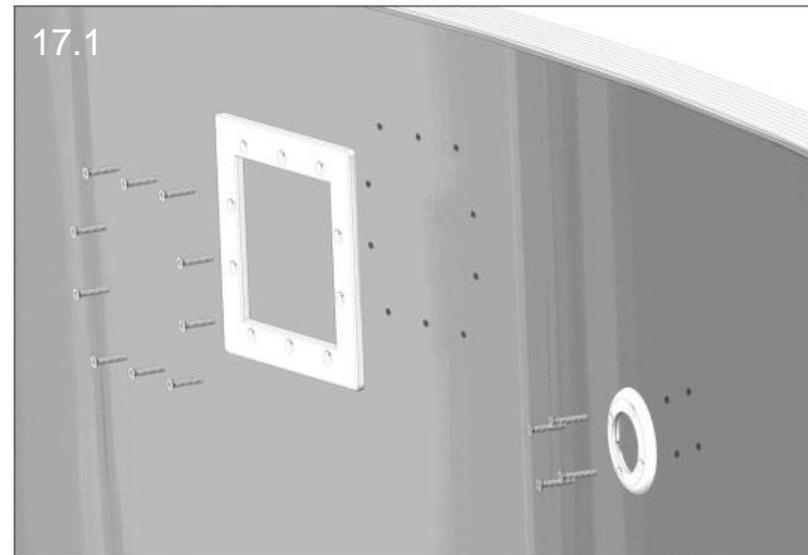
When faceplates are installed, complete filling the pool until water level is at the middle of the skimmer opening.

Step 17 – Install Face Plates

17.1 Locate screw holes for each opening in pool wall.

Carefully pierce liner within the frame of the skimmer and return faceplates with a nail or awl. Attach skimmer and return faceplates using screws provided in the skimmer kit and tighten.

17.2 Using a sharp blade, carefully trim liner inside the openings for skimmer and return openings. Install eyeball (not included) into return fitting.



Section 2

OPTIMUM FREEFORM IN-GROUND WITH STEP

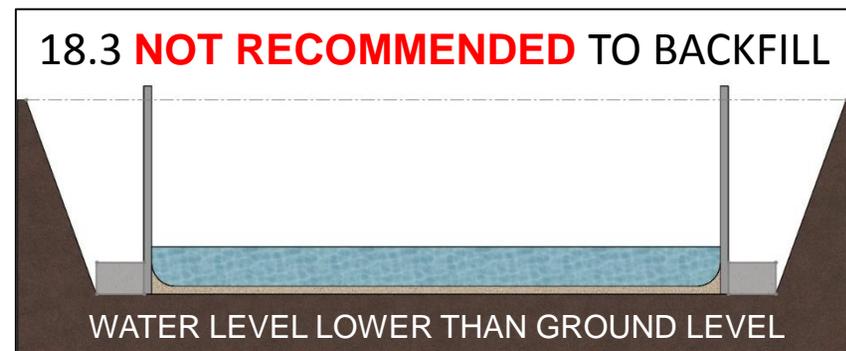
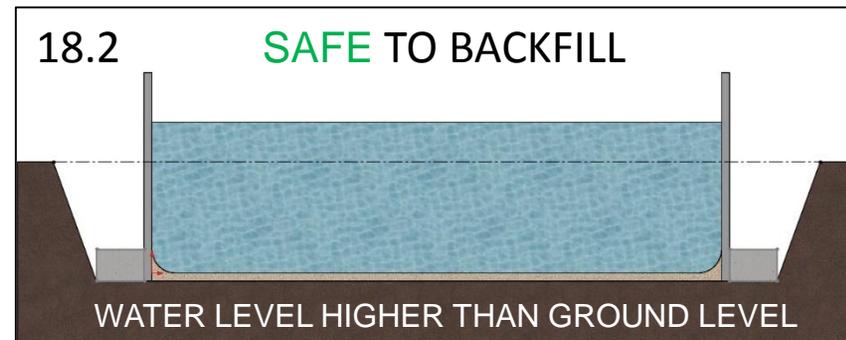
Step 18 - Backfill

- 18.1 Ensure all electrical bonding required in your area is completed before backfilling the pool. This is a good time to add any concrete foundation forms or perforated drain pipes, if they will be used.

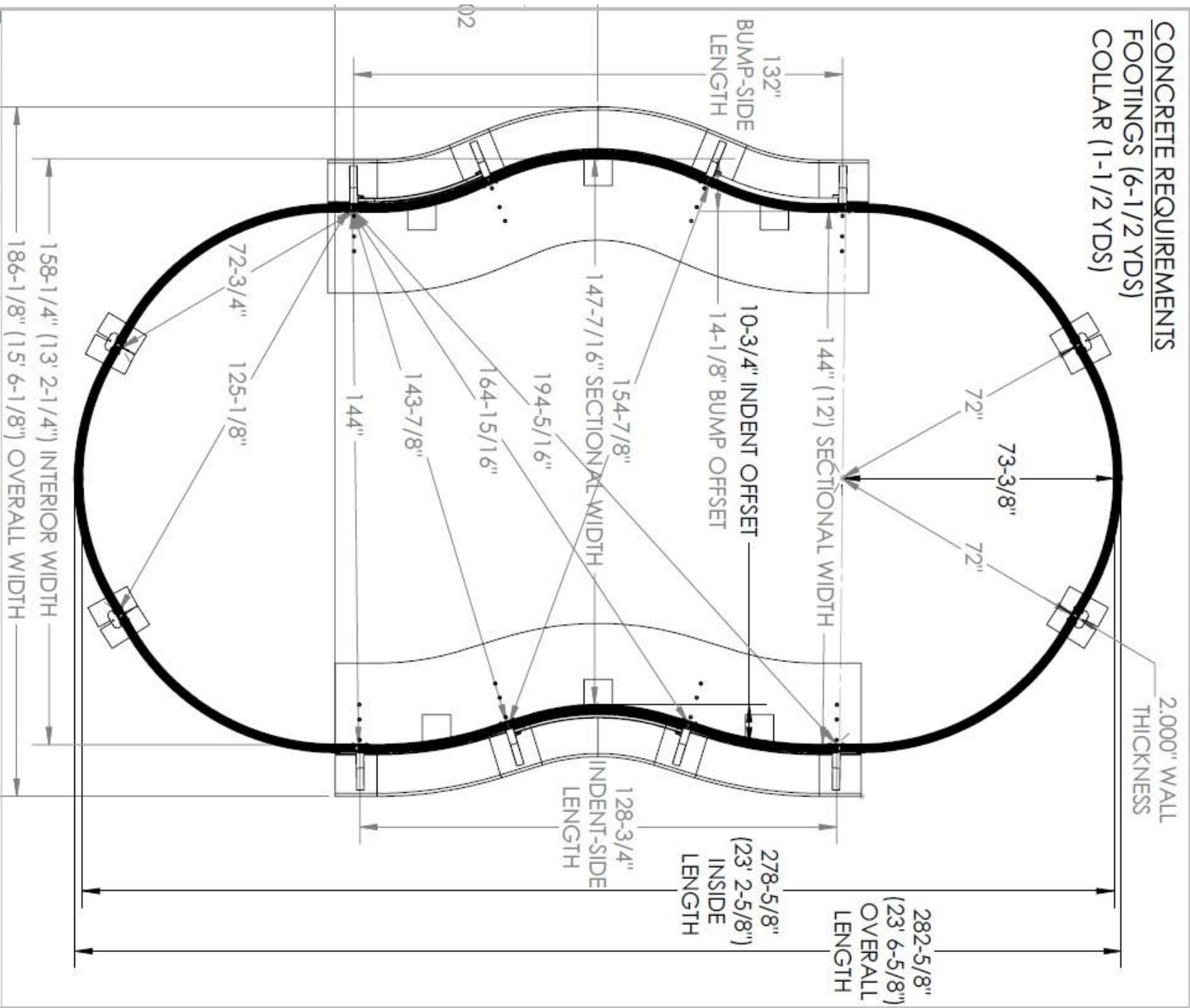
IMPORTANT: Before any backfilling is started, the pool water level must exceed the height of the surrounding backfill required, as in examples 17.1 and 17.2. Failure to do so will put excessive inward pressure on the pool panels which may cause irreversible damage, and may void the warranty.

Crushed stone or gravel aggregate, 3/8" to 3/4" in diameter is the recommended backfill material. Backfill may be placed directly against the pool wall. Do not use expansive soils such as clay since this type of soil will place additional stress on the pool and not allow for proper drainage away from the surrounding area.

Only compact the backfill material by hand. Do not use heavy machinery, especially around the skimmer and plumbing fittings.



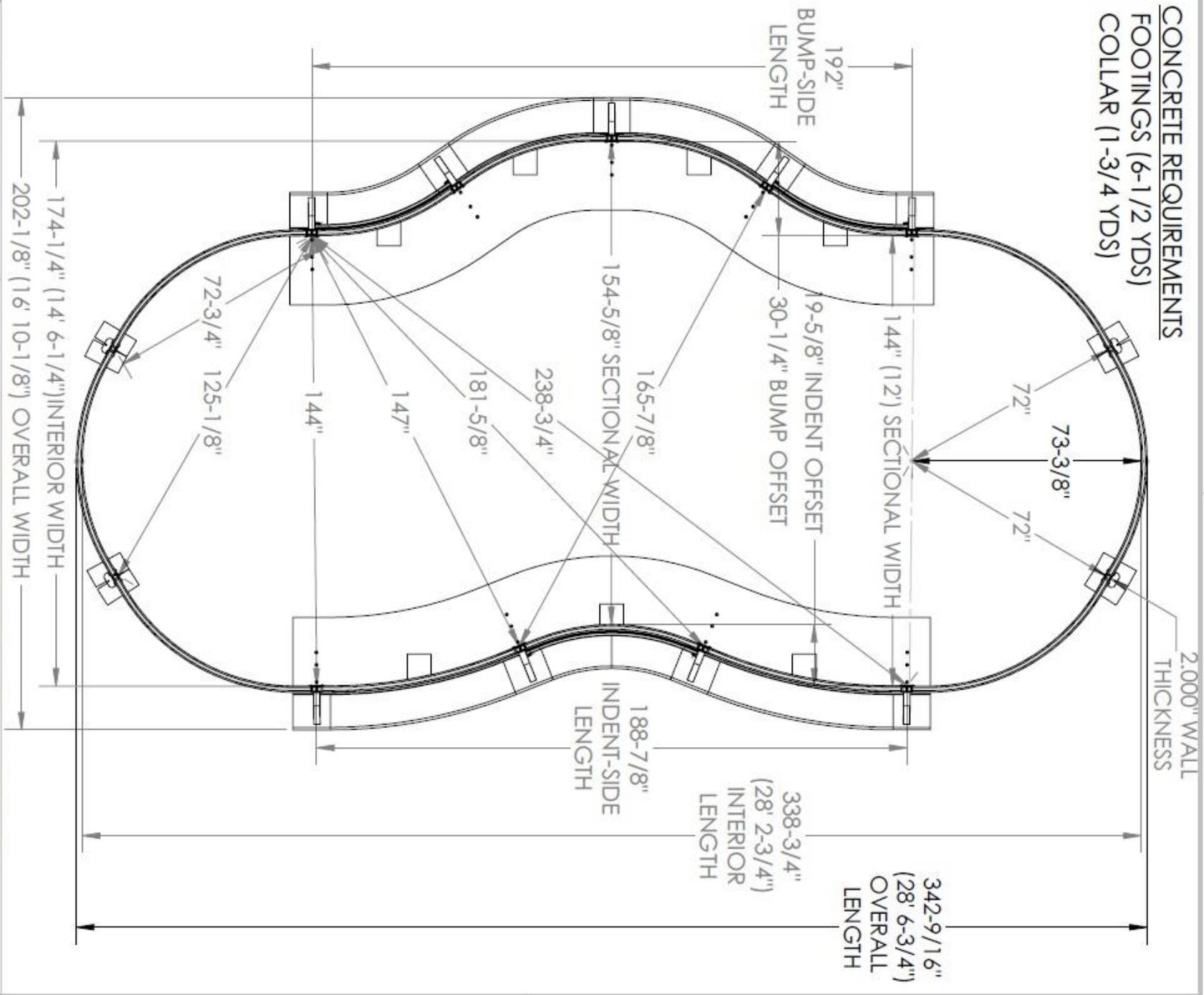
CONCRETE REQUIREMENTS
FOOTINGS (6-1/2 YDS)
COLLAR (1-1/2 YDS)



WILBAR INTERNATIONAL
14X23 FREEFORM POOL

PERIMETER: 60'-8 1/2"	AREA: 249 SQ. FT.	GALONAGE: 7,151 GAL.	SAND REQ.: 1.7 YDS	MODEL NO.: POP152-1423F
SCALE: 1:36	FOAM WALL POOL		DATE: 02/28/18	DRAWN BY: P. INNMAN
				DRAWING NO.: 10463

CONCRETE REQUIREMENTS
FOOTINGS (6-1/2 YDS)
COLLAR (1-3/4 YDS)

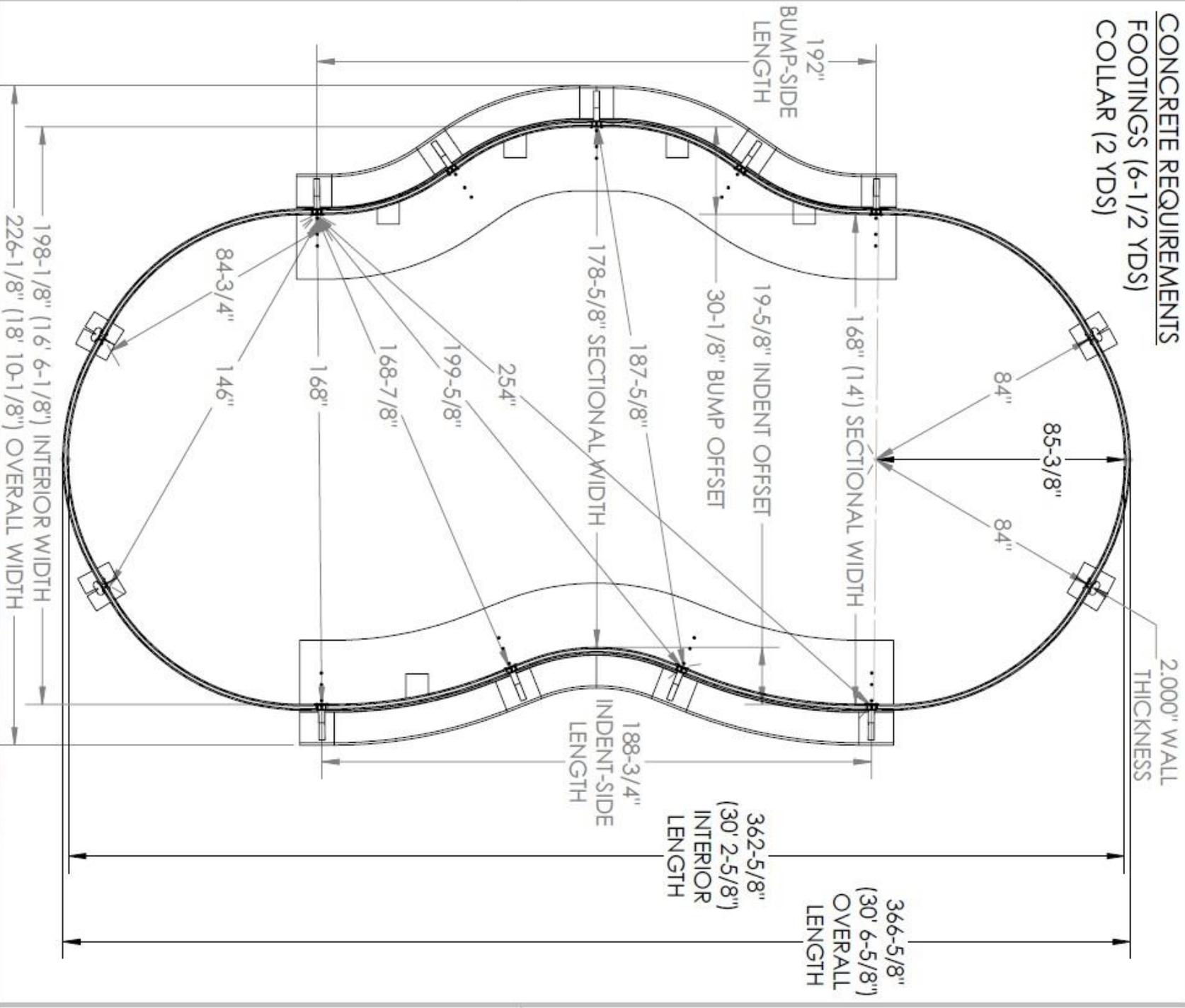


WILBAR
 INTERNATIONAL

15X28 FREEFORM POOL

PERIMETER: 71'-9 9/16"	AREA: 317 SQ. FT.	GALLONAGE: 9,102 GAL.	SAND REQ.: 2.1 YDS	MODEL NO.: POPT52-1528F
SCALE: 1:43	FOAM WALL POOL	DATE: 02/28/18	DRAWN BY: P. INNMAN	DRAWING NO.: 10464

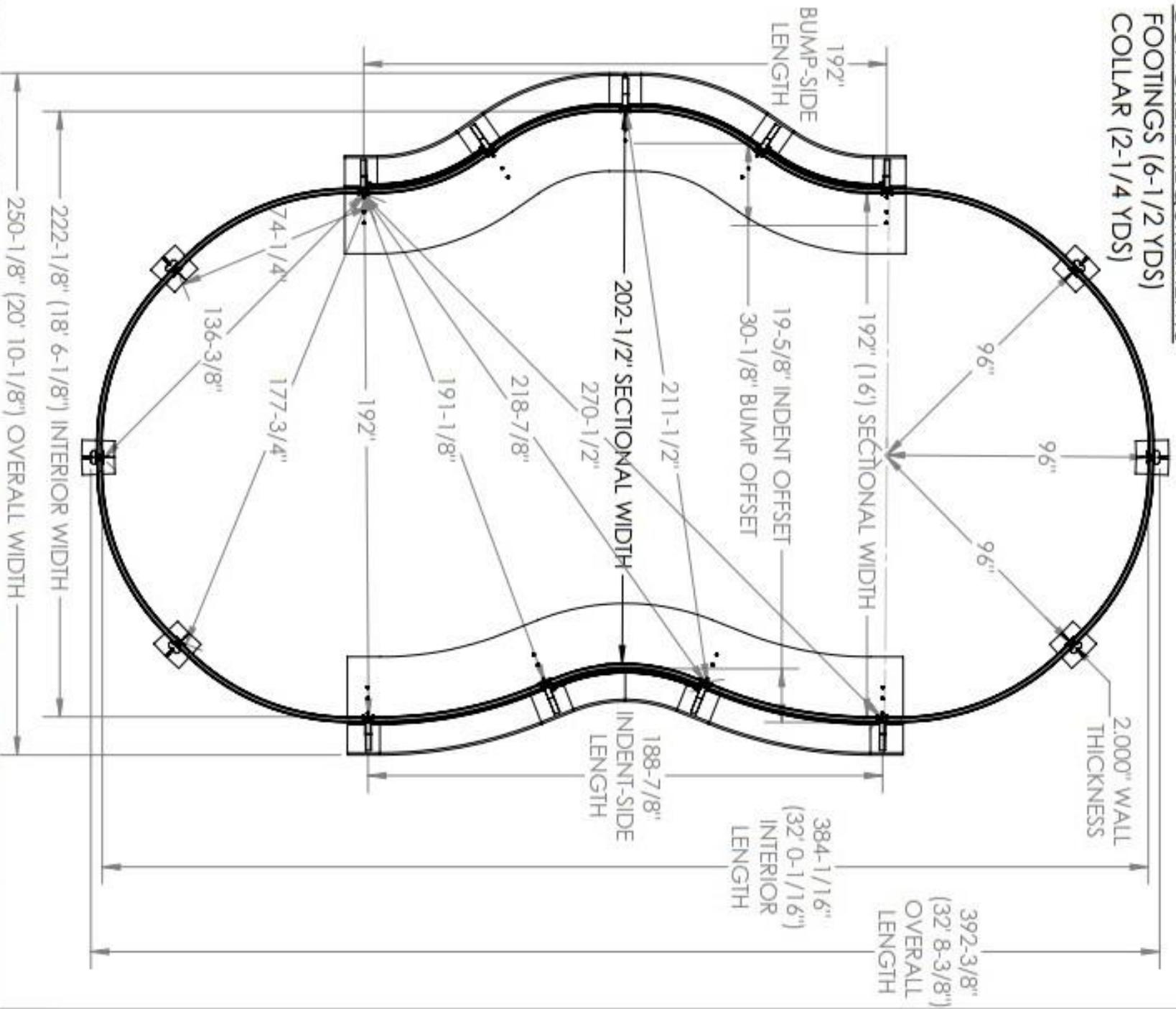
CONCRETE REQUIREMENTS
FOOTINGS (6-1/2 YDS)
COLLAR (2 YDS)



WILBAR
INTERNATIONAL
17X30 FREEFORM POOL

PERIMETER: 78'-0 7/8"	AREA: 391 SQ. FT.	GALLONAGE 11,205 GAL.	SAND REQ: 2.6 YDS	MODEL NO. POPT52-1730F
SCALE: 1:46	FOAM WALL POOL	DATE 02/28/18	DRAWN BY: P. JINMAN	DRAWING NO. 10465

CONCRETE REQUIREMENTS
FOOTINGS (6-1/2 YDS)
COLLAR (2-1/4 YDS)



W I L B A R
INTERNATIONAL
19X32 FREEFORM POOL

PERIMETER: 84'-2 7/8"	AREA: 469 SQ. FT.	GALLONAGE 13,455 GAL.	SAND REQ. 3.1 YDS	MODEL NO. POPT52-1932F
SCALE 1:50	FOAM WALL POOL	DATE 02/28/18	DRAWN BY: P. JINMAN	DRAWING NO. 10466