

# PRO-Fit<sup>TM</sup> System **BIOFALLS<sup>®</sup>** **Filter**

## Installation Instructions & Owner's Manual

### Step-by-Step Installation

#### Instructions for the:

- **Classic BIOFALLS<sup>®</sup> Filter**

*Congratulations on the purchase of the AquascapePro<sup>TM</sup> Classic BIOFALLS<sup>®</sup> Filter.*

Thank you for choosing an Aquascape PRO-Fit<sup>TM</sup> System. Because we understand that your needs are different based on your preference, application or design, we want to give you the flexibility of using the different product lines that we offer within the same project without losing the ease of purchasing a kit.

Since the PRO-Fit<sup>TM</sup> System is designed to be used with different product lines, each PRO-Fit<sup>TM</sup> System will come with 2 sets of instructions: one for the skimmer (or MicroSnorkel<sup>TM</sup> and MicroCentipede<sup>TM</sup>) and one for the BIOFALLS<sup>®</sup> (or Endless Cascades<sup>TM</sup>). During the construction of the pond, you may have to refer to one or the other for the necessary steps.



## STEP 1

### Hook up and level BIOFALLS® Filter

- Install the bulkhead fitting in the hole provided in the back of the BIOFALLS® filter. The rubber washer should be located on the inside of the BIOFALLS® filter. Tighten the nut on the outside until the rubber washer begins to bulge. This should only be approximately one turn past hand tight. Be careful not to over tighten the nut, which could possibly crack the bulkhead. Please note that the bulkhead fitting is reverse threaded. So, in other words, turn the nut counterclockwise to tighten! (See figs. 1 & 2)
- Now it's time to position the BIOFALLS® filter in the desired location. The BIOFALLS® filter should be set at or slightly below the grade of the yard. Simply remove a section of sod or a few inches of soil in order to create a firm foundation for the BIOFALLS® filter to sit.

**Design tip** - Keep the waterfall to the scale of the yard! The goal should be to create the perception that Mother Nature herself has installed the waterfall. Avoid creating a "volcanic look" by trying to raise the BIOFALLS® filter in a flat backyard.

- Be sure to compact the area beneath the BIOFALLS® filter box using a hand tamper or some other heavy flat object that can be pounded onto the soil. This will help prevent any future settling.
- Use a 2' bubble level in order to make sure your BIOFALLS® filter is properly set into position. Your BIOFALLS® filter should be level from side-to-side and tilt forward @1/4 of a bubble on a 2' level. This will make sure the water comes over the front of the BIOFALLS® filter and covers the entire spillway. (See fig. 3)

### Attaching Flexible PVC Pipe

- The filter is now ready for the flexible PVC to be glued into place using PVC cement specified for use with flexible piping.
  - Prime the inside of the PVC fitting and the outside of the pipe where the flexible PVC cement will be applied.
  - After priming, apply the cement to the fitting and the PVC pipe and fit the two pieces together.
  - Hold the pipe into the fitting (See Fig. 4) for at least 60 seconds to allow the glue to slightly set.
  - Wait 10 - 15 minutes to let the glue completely set before you begin to bury the filter.
  - Before you start to backfill around the filter, install the support racks. Otherwise, you may not be able to get it in place.
- We also recommend having someone stand inside the filter to keep it in place and level while it's being backfilled.
  - The excavated soil from the pond can be backfilled around the sides and back of the BIOFALLS® filter, creating a berm. Tamp the soil while backfilling in order to reduce settling. Any additional soil can be spread around the far side of the pond in order to create a planting bed for perennials and annuals.
  - Double check to make sure the BIOFALLS® filter is still level after installing the plumbing.



Fig. 1 Attach bulkhead fitting.

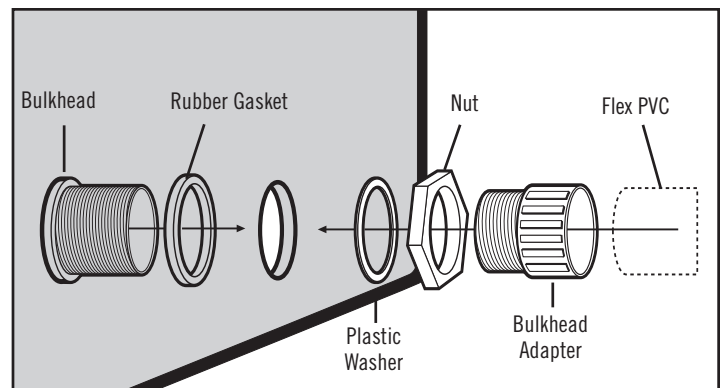


Fig. 2 Bulkhead assembly.

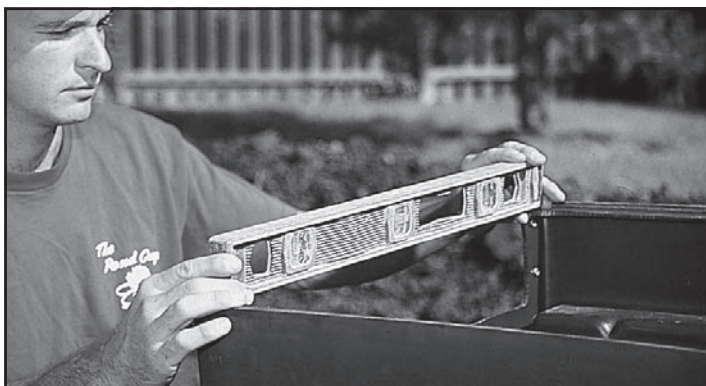


Fig. 3 Level the BIOFALLS® filter side to side as well as front to back.



Fig. 4 Finished bulkhead assembly.

## STEP 2

### Build the Waterfalls and Stream

Before building the waterfall, you will need to do a little preparation work. Please read the section about Stream Construction on page 4 if you plan to create a stream. We also recommend that contractors refer to *The Pond Builders Bible* and the *Waterfalls & Stream Construction* video prior to designing and installing.

#### Installing the BIOFALLS® filter Waterfall Lip:

- Prior to installing the waterfall lip make sure the face of the BIOFALLS® filter and liner is clean and free of dust and debris. Use a damp towel to clean both surfaces. (See fig. 5)
- Hold the liner up against the face of the BIOFALLS® filter, covering the U-shape spillway opening. Be sure to leave slack at the base of the filter to avoid stretching the liner when rocks are stacked to build the waterfalls.
- Temporarily install the waterfall lip and liner to the BIOFALLS® filter loosely with the two top corner screws. Using an awl or nail, poke the first hole through the waterfall lip and liner penetrating into the corresponding threaded insert on the BIOFALLS® filter. (See fig. 6) Remove the awl or nail while holding the waterfall lip and liner in place, and begin threading one of the screws into

the filter. (See fig. 7) Repeat this process for the screw on the opposite side.

- Now remove the waterfall lip, trying to keep the screws still penetrating through the liner. These screws will serve as your guide when reinstalling the waterfall lip.
- Apply a thick bead of fish-safe silicone sealant around the BIOFALLS® filter opening. The bead should follow the path of the threaded inserts (connect the dots). (See fig. 8)
- Reattach the BIOFALLS® filter waterfall lip using the pre installed screws as your guide.
- With all temporary screws secured back into position, you may now punch the remaining screw holes with the awl or nail and thread in the remaining screws.
- After all the screws have been installed, cut the remaining liner out of the BIOFALLS® filter opening. (See fig. 9)
- Let dry for at least 1-hour before introducing water!



Fig. 5 Use a damp towel to clean surfaces.

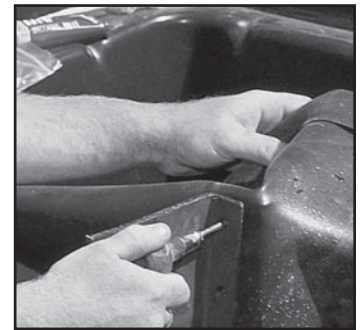


Fig. 6 Using an awl, poke a hole through the liner at the screw holes.



Fig. 7 Tighten the screws just enough to thread into the inserts.



Fig. 8 Remove waterfall lip and apply a thick bead of fish-safe silicone sealant around the MicroFalls® filter opening.

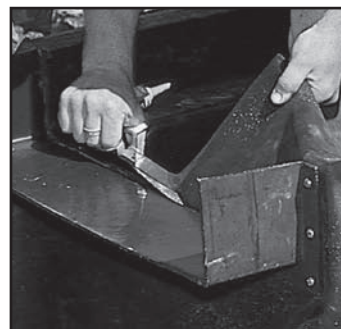


Fig. 9 Using the snout as a guide, cut the remaining liner out of the BIOFALLS® filter snout opening.

#### Creating the Waterfall

- Place two larger boulders on either side of the waterfall you are creating in order to “frame” the waterfalls. The water will be running between the two larger boulders you’ve set in place. (See fig. 10)

- You can now begin to stack the rocks between the two larger boulders. These are the rocks that the water will be running over, so take your time and be creative. Start with the larger rocks on the bottom and work your way up to

the smaller ones on top.

- Small stones and gravel can be used to fill the gaps between the larger waterfall stones.
- The BIOFALLS® filter is designed with a plastic lip for the water

to cascade off. You can use the BIOFALLS® filter plastic waterfall stone or even piece(s) of thin (no more than 3/4" thick) natural slate (See figs. 11 & 12). This stone can be attached to the BIOFALLS® filter using black waterfall

## Creating the Waterfall cont ...

foam. The black waterfall foam will come in handy when filling other gaps between the stones that water is flowing over. The

foam keeps the water flowing over the top of the waterfall stones. Without the black waterfall foam, you may lose some of

the impact of your waterfall as water travels beneath the rocks.

hide it in the landscape. (See fig. 13)

- Place smaller rocks on the rock ledge inside the BIOFALLS® filter to help

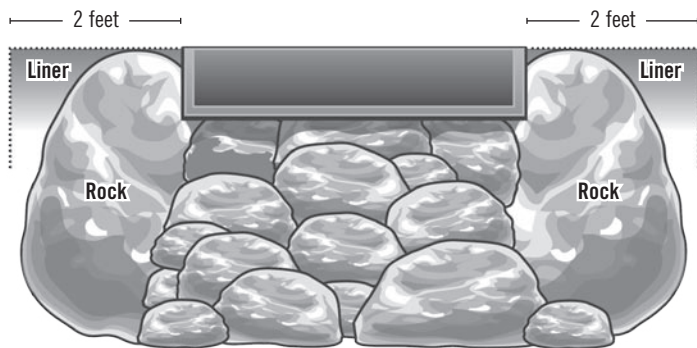


Fig. 10 Place two larger boulders on either side of the waterfalls you are creating in order to “frame” the waterfalls.

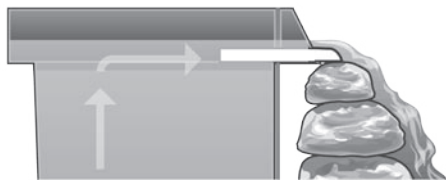


Fig. 11 If using a natural rock for your waterfall weir, make sure that it is fairly thin (no more than 3/4").



Fig. 12 If a thick rock along with a larger flow pump is used, the water flow may be so great that it will flow over the sides of the BIOFALLS® filter.

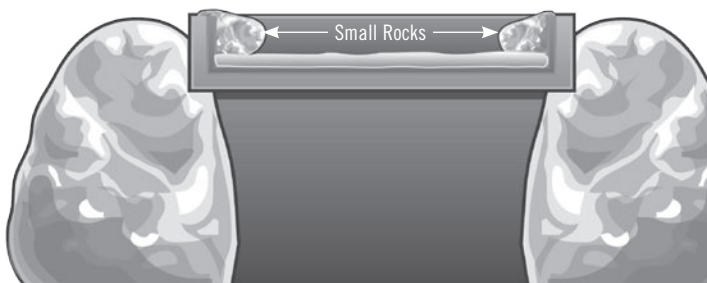


Fig. 13 Place smaller rocks on the rock ledge in the BIOFALLS® filter.

## Waterfall Lights (optional)

- After the boulders are in position, set your waterfall accent lights. The lights can be placed beneath the waterfall shining upwards.
- See lighting system instructions for placement, positioning and installation of waterfall lights.



## Building the Stream

- Placing the BIOFALLS® filter away from the edge of the pond is always a good idea. This allows the creation of a meandering stream to add a touch of nature to your water garden.
- We typically place the BIOFALLS® filter 6 - 10 feet from the edge of the pond. Twisting and turning the stream makes it look more natural, and will require a minimum 10' x 15' piece of liner. (See fig. 14)

few waterfalls in it. To hold the water back when the pump is shut off, you need to build a check dam at each waterfall. (See fig. 15)

- To make the stream look much more natural, you should place some larger boulders into it. To make this work properly, excavate the area where the rock will be placed a few inches deeper. This will allow the rock to sit into the bottom of the stream, not just on the streambed.

## Excavation of the Stream

- Lay out the stream from the BIOFALLS® filter to the pond. The typical width of a stream should be between 2 - 4 feet wide (*Note: the wider the stream, the less movement of water you will have*). Vary the width of the stream throughout to mimic what would occur in nature. (See fig. 16)
- Excavate the stream to a depth of 6 inches to 1 foot. Vary the depth in the corners and in smaller pools along the run of the stream to allow water to pool in those areas.
- If your stream is being built on a slope, you will need to create a

- Once you have the stream excavated, you can place the liner into it.

## Installation of Liner and Rocks

- Connect the liner to the BIOFALLS® filter as described above.
- Where the liner overlaps the pond, you will not need to seam the liners together as long as you have a 6-inch waterfall or higher. Simply overlap the stream liner over the top of the pond liner.
- Place rocks of varying sizes around the perimeter of the stream. During excavation of the stream, you dug a few areas where larger rocks will go. Put

## Building the Stream cont ...

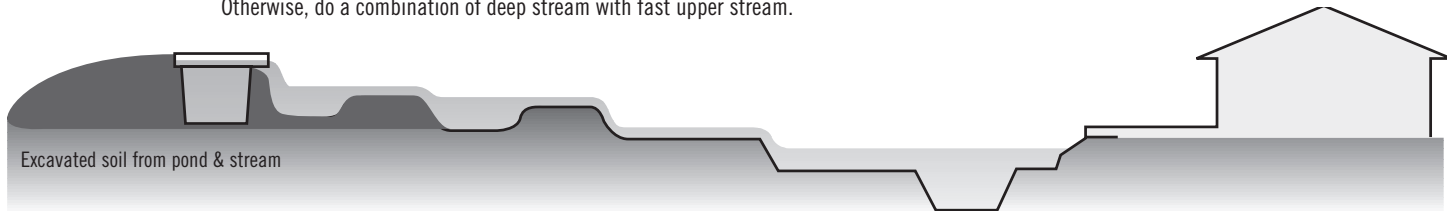
some of the Black Waterfall Foam into these divots and place the rocks on top. The foam will allow the water to be diverted around and over the rocks instead of underneath them.

### Deep Streams

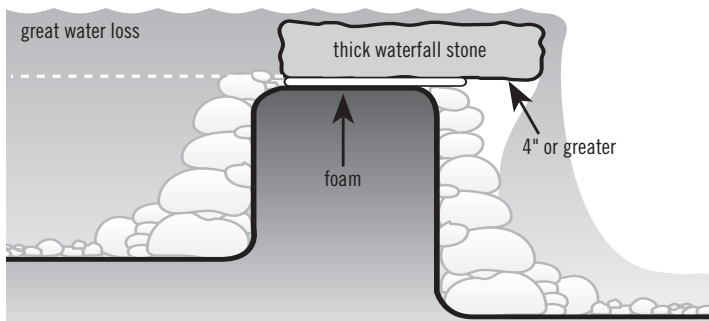
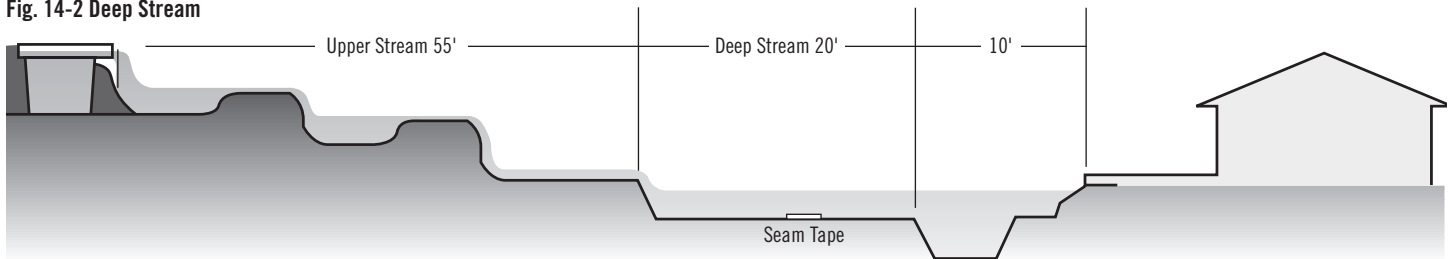
- A deep stream is simply an extension of the pond itself. By adding a deep stream to a pond, you allow the fish from the pond to swim to other areas that would

otherwise not be possible. One important construction technique you will need to master, is a double-seam.

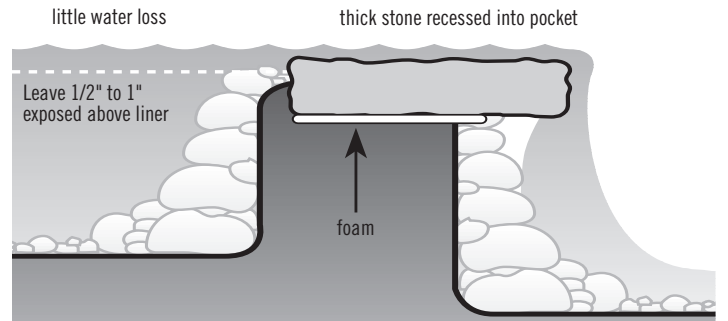
**Fig. 14-1 Flat Backyard:** This is easy to work with; you may need to bring in fill material if you want a fast-moving stream. Otherwise, do a combination of deep stream with fast upper stream.



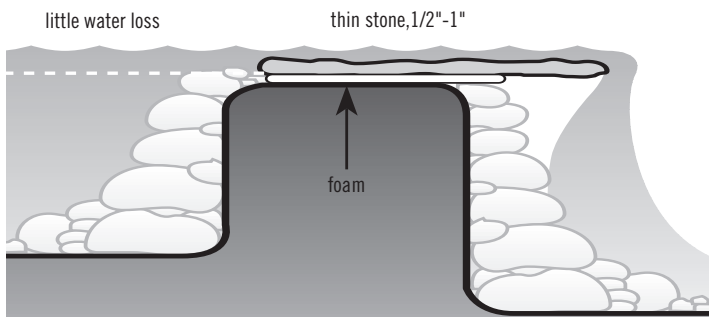
**Fig. 14-2 Deep Stream**



**Fig. 15-1** An often overlooked part of stream construction is the thickness of your waterfall stone. Water will eventually seep through the foam joints if the pumps are off for prolonged periods of time. The water will slowly seep around the thick stone, resulting in water loss equal to the thickness of the stone.

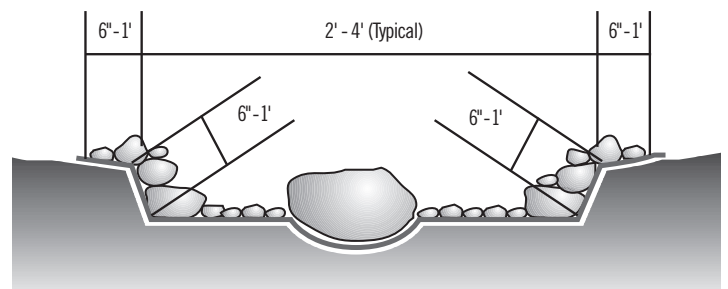


**Fig. 15-2** If your only option is a thick waterfall stone, use the above method.



**Fig. 15-3** By using a thin stone, the situation can be easily remedied.

### Stream Bed Cross Section



**Fig. 16**

## STEP 3

### Bring in the Topsoil

- Add topsoil to the berm and surrounding area in order to provide a good substrate for future landscape plantings.
- The entire area may be mulched and any plant material installed if necessary.



## STEP 4

### Build the Retaining Wall

- Finish off the berm where the BIOFALLS® filter is buried by building a small retaining wall out of boulders. This step may or may not be needed, depending on the size of the berm and the transition into the existing landscape.



## STEP 5

### Plug in and Tweak the Waterfall

- As soon as the Pond/Pondless® Waterfall feature is filled and all of the black waterfall foam is dry (if used on project), you may plug the pump in and test the waterfall.
- You can “tweak” the waterfall by placing smaller stones and gravel on the waterfall cascades. This will change the appearance and

sound of the water. Have fun playing with the water coming over the falls until you achieve the desired effect.

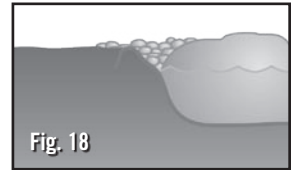


## STEP 6

### Trim the Liner

With everything running, go around the perimeter of the pond with a pair of scissors and trim off any excess liner (See fig. 17), always leaving several inches above the water level as a precaution. The remaining liner edges can be covered with gravel. (See fig. 18)

**Note:** Do not trim the liner until the waterfall is running and the pond is filled to the desired level. Prematurely trimming the liner may cause leaks!



## STEP 7

### Mulch the Berm

- The entire area surrounding the pond can now be mulched and any surrounding plants added.



## STEP 8

### Clean Up

- You're at the final stages of the project! All that is needed now is to clean up the mess you've made around the yard.



## STEP 9

### Owner's Manual and Bacteria

- Refer to the owners manual for care and maintenance of your new water feature.
- The pond kits include water treatments designed to reduce maintenance and keep the water crystal clear. Contact your installer or supplier for more in-

formation on the complete water treatment line available from Aquascape.



## STEP 10

### ENJOY!

No further explanation needed for this step!



## More great products by Aquascape:

### EcoSystems® EcoBlast™

EcoBlast™ is the latest in our water treatment arsenal. EcoBlast™ is the first line of defense to quickly and safely break down algae from waterfalls, streams, rocks, plant pots and anywhere algae build-up has occurred. Start using EcoBlast™ to spot treat the trouble areas on the pond and follow up with S.A.B.™ Extreme on a monthly basis to help keep it clear!

#### Fast Acting!

EcoBlast™ is not temperature sensitive and can be used during colder temperatures. 100% safe for fish.

*EcoBlast™ applications are based on sq.ft. of affected areas:*

8.8 oz. treats up to 200 square feet.  
38.4 Oz. treats up to 780 square feet.  
7 lb. treats up to 2,275 square feet.



### EcoSystems® S.A.B. Extreme

Includes  
**Activated Barley®**

S.A.B.™ Extreme is designed to restore balance to the pond ecosystem by breaking down organic material that creates problems for pond hobbyists in and around waterfalls, rocks, stream beds, plant pots, pumps and filtration systems.

S.A.B.™ Extreme is actually 3 products in 1! We have taken the natural ingredients that make up S.A.B.™ and combined them with the degrading powers of Activated Barley™ and the natural biological filtering powers of AquaClearer™ Extreme Dry Bacteria

- Helps break down organic materials that create debris problems around waterfalls, rocks, plant pots, pumps and filtration systems
- Fortified with AquaClearer™ Extreme Dry Bacteria & Enzymes
- Works great in combination with EcoBlast™

8.8 oz. treats up to 2,700 gallons  
38.4 oz. treats up to 12,000 gallons  
7 lb. treats up to 33,800 gallons



### EcoSystems® EcoFloc™

EcoFloc™ clears pond water by combining suspended particulate via a process commonly known as flocculation. Combined particulates are easily removed. It is a 100% safe and natural product, will not harm fish, plants, or wildlife.

8 oz. liquid treats up to 4,000 gallons  
23 oz. liquid treats up to 11,500 gallons



### EcoSystems® EcoBarley™

EcoBarley™ is an easy to use quick acting pellet. It can be used inside most filters and skimmer systems, as well as set off to the side of the pond. Includes mesh bag for easy application. Tap into the natural degrading power of barley to help create a clear, unfoiled pond.

2 lb. box treats up to 3,000 gallons  
5 lb. tub treats up to 7,500 gallons



### EcoSystems® EcoCarbon™

EcoCarbon™ safely clears tea-colored pond water. EcoCarbon™ is highly effective at removing dissolved organics from the pond water, such as stains and discoloration caused by leaves and organic debris. EcoCarbon™ is also an effective method to remove trace amounts of chlorine and chloramines.

4 lb. treats up to 800 gallons  
9 lb. treats up to 1,800 gallons  
18 lbs. treats up to 3,600 gallons

**Removes  
Odor!**



For more information on care and maintenance, please refer to the Owner's Manual included with this filter or Aquascape's *Pond Building for Hobbyists* book.  
Also visit [www.aquascapeinc.com](http://www.aquascapeinc.com)