

# Pond Free

Design & Construction Guide



## **EASY STEPS**

To Create a Superior Easy  
to Maintain Water Feature

**S A V I O**  
EXCELLENCE

# WELCOME

## Pond Free® Systems

SAVIO Pond Free® designs and equipment work in harmony to create low-maintenance, high impact water features that stay healthy & clean with minimal effort. The equipment and the water feature are designed with a philosophy that emphasizes low maintenance combined with natural beauty. In no time you will have a backyard or front yard oasis to enjoy for years to come.

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SAVIO  
ENGINEERING

## **Introduction**

### **Dear Friend,**

Disappearing waterfalls and endless streams™ are the exciting new wave in the water feature business.

Picture this: A dazzling, full size waterfall splashes playfully down a series of natural rockwork cascades. The streambed banks playfully here, ducking behind plantings there, before finally disappearing mysteriously into a dry bed of stones at the bottom of its run. But wait - there's no pond and no pool of water at the bottom? What's going on here?

Pond Free® waterfalls defy category, neither fountain nor pond, but a little of each. They offer the drama and majesty of a full size water garden with the simplicity of a recycling fountain. Since there's no standing surface water and no pond to maintain, there's no real maintenance to speak of. They can be turned off with the flip of a switch, and restarted just as easily. Pond Free® waterfalls provide peace of mind for families with young children, businesses with liability concerns, or busy homeowners who just want a carefree water feature.

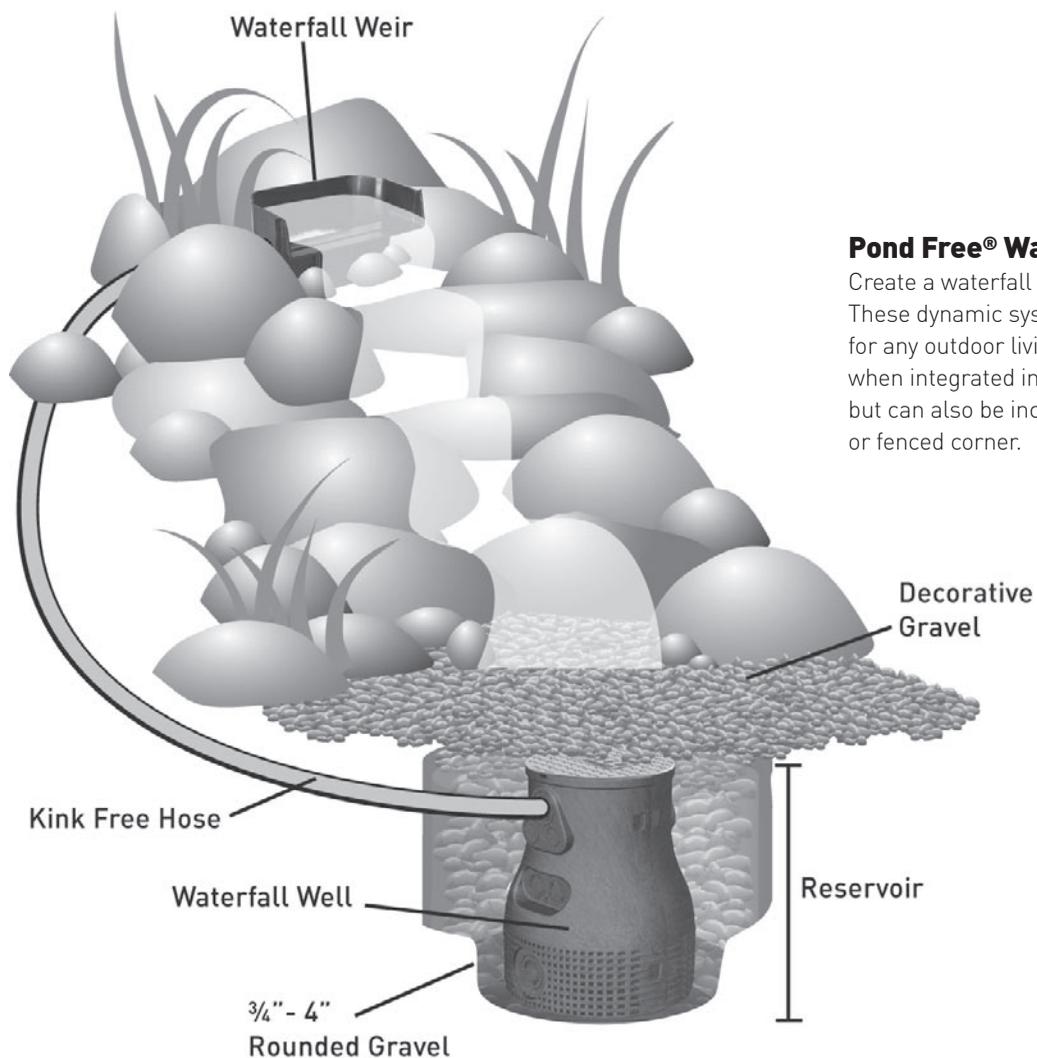
This guide will help you to create a water feature that looks great and will literally transform your yard. The Savio equipment, the construction, even the design of the water feature is formulated to give you the maximum amount of satisfaction with the least amount of work.

Your friends at Savio wish you the best.

REMINDER: Read through the entire design and construction guide before starting.

**S A V I O**  
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## POND FREE® WATERFALL



### Pond Free® Waterfall Systems

Create a waterfall with drops, pools and cascades. These dynamic systems are the perfect focal point for any outdoor living space. Waterfalls look best when integrated into the existing slope of a backyard, but can also be incorporated into a landscaped berm or fenced corner.

There are two parts to a Pond Free® water feature. The first part, the Waterfall or Stream, provides the aesthetic side of the water feature. This visible portion consists of the waterfall weir, liner and stones. The second part, the hidden reservoir contains the waterfall well, liner, pump and tubing - it's also where water is stored when the system is turned off. In order to work correctly, the reservoir is always placed at the lowest point in the system.

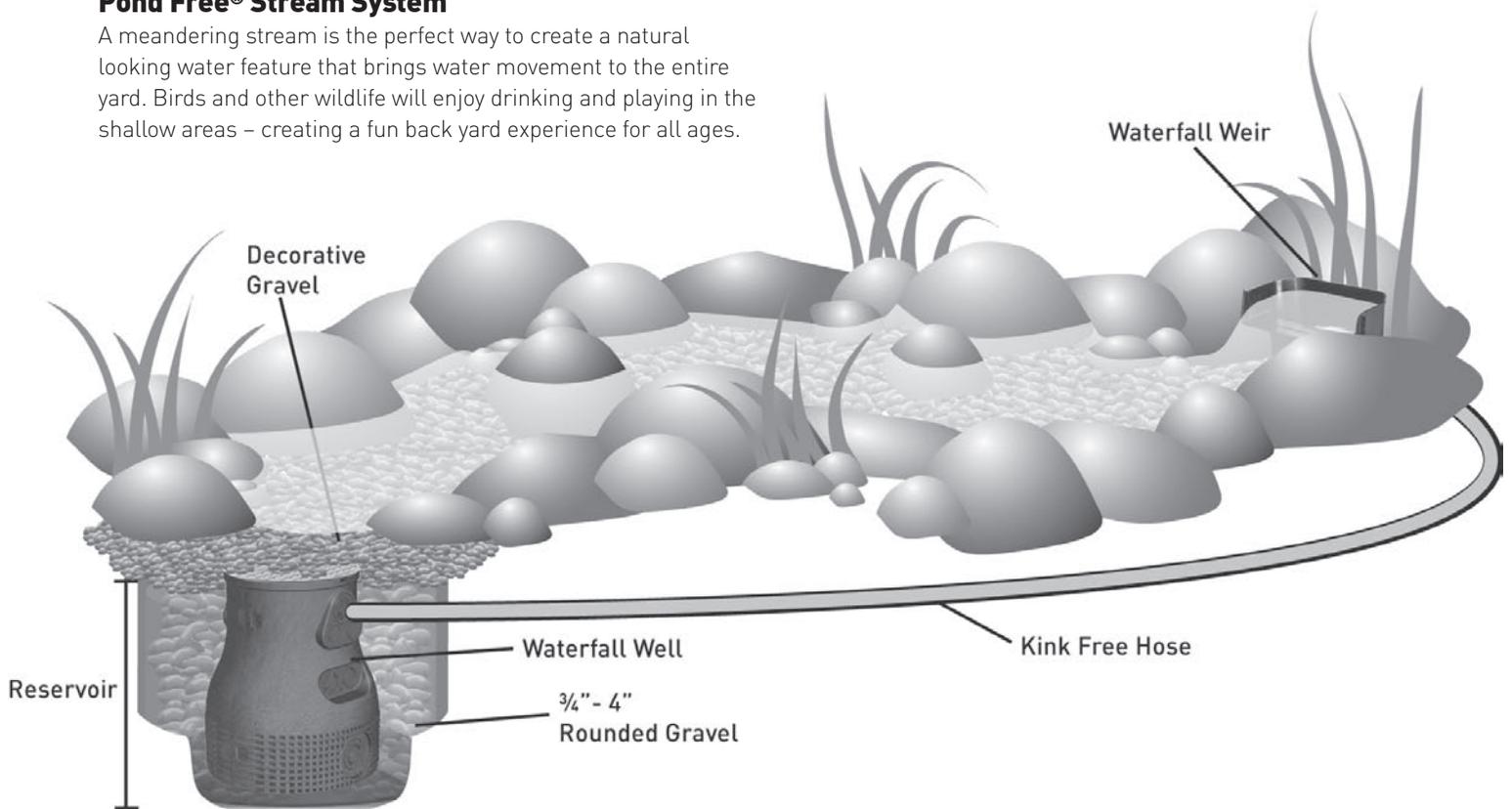
**6' Waterfall or stream:** Reservoir 3' x 3'.  
The top of the waterfall or stream can be up to 6 feet away from the basin

**11' Waterfall or stream:** Reservoir 3' x 4'.  
The top of the waterfall or stream can be up to 11' from the basin

# POND FREE® STREAM

## Pond Free® Stream System

A meandering stream is the perfect way to create a natural looking water feature that brings water movement to the entire yard. Birds and other wildlife will enjoy drinking and playing in the shallow areas – creating a fun back yard experience for all ages.



### Tools Required

- Turf Marking Paint
- Shovel
- 2' Hand level
- Utility knife
- Scissors
- Wheelbarrow
- #2 Phillips Screwdriver
- Flathead Screwdriver
- Tape measure
- Good water source and garden hose
- Hand Tamper

### Materials Needed

- 3/4" Rounded Gravel  
PF46 - 3/4 yard  
PF88 - 1 yard
- Boulders (40-200 lbs)  
PF46 - 2 tons  
PF88 - 3 tons
- (optional) Decorative Gravel  
PF46 - 2 - large sacks (75 - 100 lbs)  
PF88 - 2-3 large sacks (100 - 150 lbs)

### Also Required:

- A suitable GFCI protected power source located nearby.

## STEP 1 – DETERMINE THE LOCATION

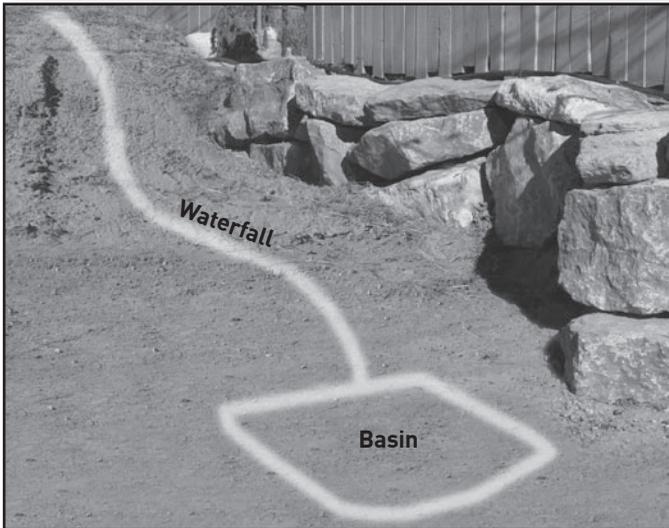


### Choose a Location

Create a natural appearance for your water feature by utilizing the existing grade of the yard. For flat, level areas, build-up the waterfall runway using excess soil from the excavation of the basin. In some cases you may need to import additional soil. You can use concrete blocks to help stabilize the slope.

### TIP:

When choosing a location, select an area which provides the best viewing angle. For example, the “ideal” position may allow you to view the water feature from both an outdoor living/entertaining area and from within your home (ie. kitchen, bedroom, studio).



### Outline Shape

Use a garden hose to temporarily lay out your waterfall or stream and catch basin. Once you have chosen a location, mark the outline with turf marking paint or stakes and remove the hose.

PF46 - up to 6' Waterfall or Stream  
PF88 - up to 11' Waterfall or Stream



### Level the Area

Use this procedure to level the basin area:

- Place 2 x 4 or straight-edge across the basin.
- Set builder's level on top of the board.
- Add or remove dirt to the area until the bubble is centered.

## STEP 2 – EXCAVATE THE BASIN

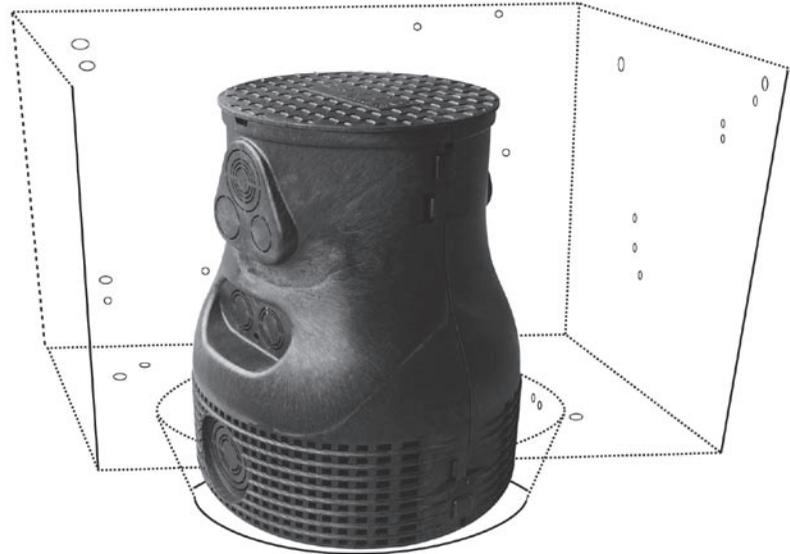
### Create Catchment Basin

- a) Dig a hole that is 20" deep. Use dimensions below for length and width of the basin.

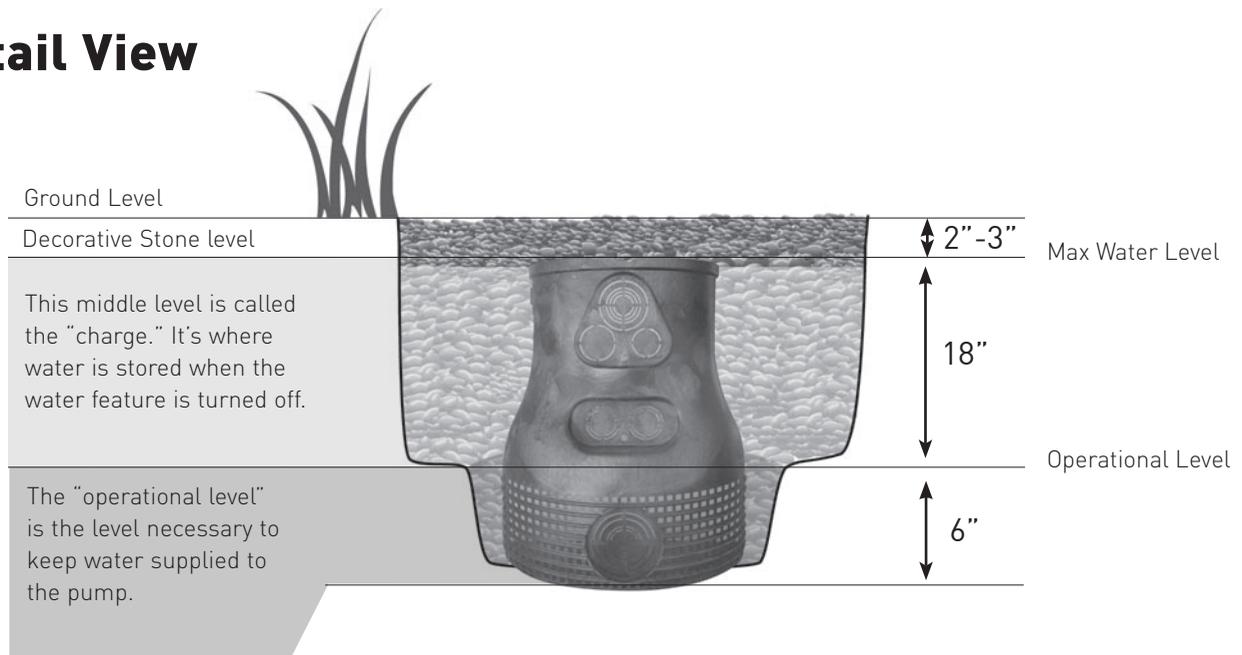
PF46 - 3' x 3' Basin  
PF88 - 3' x 4' Basin

- b) Mark a circle on the bottom of the basin 28" diameter (6 inches larger diameter than base of waterfall well). Dig this area to a depth of 6". Taper the hole to fit the bottom of the waterfall well as shown.

- c) Remove **sharp rocks and roots** that may puncture the liner



### Detail View



### Warning:

Do not use pea gravel in the waterfall basin. Minimum gravel tolerance is 5/8" or 3/4" gravel. Smaller gravel will block the Waterfall Well intake ports.

## STEP 3 – CREATE THE WATER COURSE



### Create Waterway

For Pond Free Waterfall:  
Use excess soil from the excavation of the basin to build up the waterfall course.

For Pond Free Stream:  
Same as the waterfall but a more gentle slope.



### Create Waterfall

Flat, level areas may require building-up the waterfall or stream runway even further. You may need to import additional soil to give your water feature additional height. When working with loose soil, use concrete blocks to stabilize the slope.



### Prevent Settling

Use a hand tamper to compact the soil and prevent settling.

## STEP 4 – LINE THE BASIN & WATERFALL



Clear away **sharp rocks and roots** that may puncture the liner. Remove them from both the basin and the waterfall runway before proceeding.



### Install Underlayment

#### Install Underlayment

Use underlayment to protect and extend the life of the liner.

- 1) Place underlayment over the basin and waterfall runway.
- 2) Start at bottom of the basin and smooth out wrinkles and folds.



### Install EPDM Liner

#### Install Liner

- a) Place liner into the basin and run liner over the entire waterfall course.
- b) Smooth wrinkles and folds. Do not trim liner at this time.

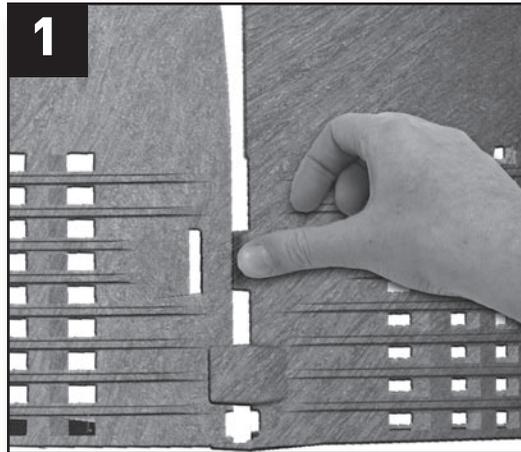
### Caution

Inspect your shoes before entering the basin. Rocks wedged in shoe treads can damage liner.

## STEP 5 – WATERFALL WELL AND PUMP



**Waterfall Well**



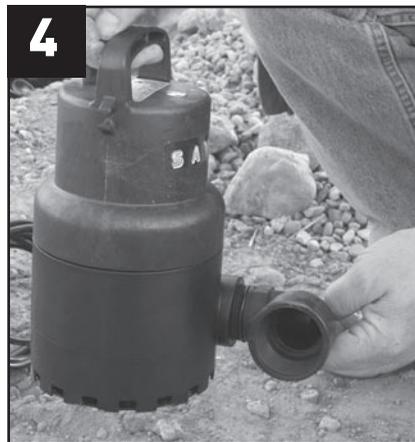
Place the Waterfall Well on a flat surface. The two open sides should face each other with the locking tabs aligned. Press locking tab and insert into slot. Continue to assemble the locking tabs from the bottom of the Waterfall to the top ensuring each tab is locked securely into place.



Use keyhole saw or matte knife to remove 2" knockout on one side of Waterfall Well.



Place Waterfall Well into the basin with the lid on.



Attach elbow adapter to pump outlet. Screw the adapter into the pump in a clockwise direction.



Attach discharge plumbing kit to pump

# INSTALLATION



Lower pump into Waterfall Well.



Slide hose through hole in the side of Waterfall Well.



Attach hose to plumbing kit. Tighten hose clamp



Fill the basin part way with 3/4" round gravel or small cobble by hand. Washing rocks and gravel prior to installation will reduce dust and debris that can cause cloudy water at startup.



Fill basin with remaining gravel. Decorative gravel or smooth beach pebble can be added for the last few inches for a more finished appearance.

## TIP:

### **Bigger Water Features Require Larger Basins**

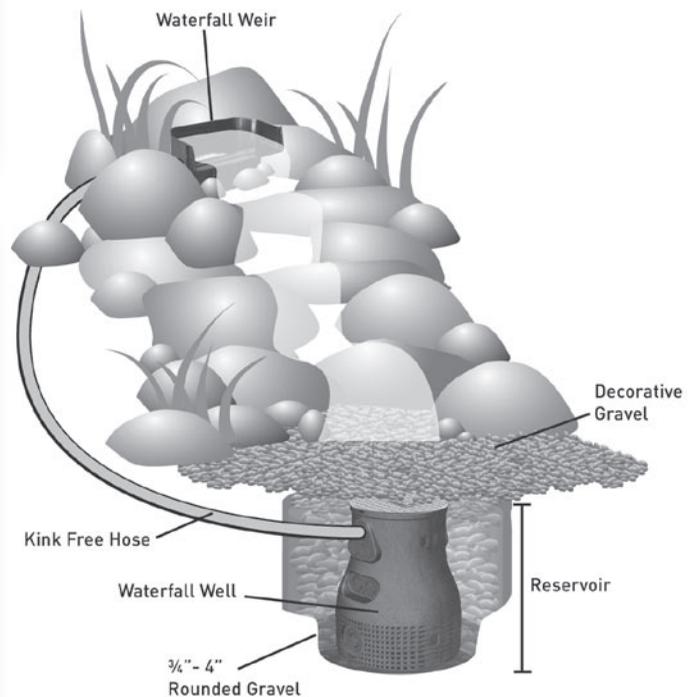
Need more charge for your water feature, but don't have the room to build a wider catchment basin? Waterfall Well Extensions allow you to create a deeper basin and maintain access to your equipment.

## STEP 6a – CONSTRUCT WATERFALL



### Build Waterfall

- A) Build the waterfall starting from the bottom and working upward. Larger boulders may require two people to position.
- B) Use rock work to create interesting drops and cascades. Vary the rock size to provide visual interest. Use small rock and gravel to fill the gaps between larger boulders.

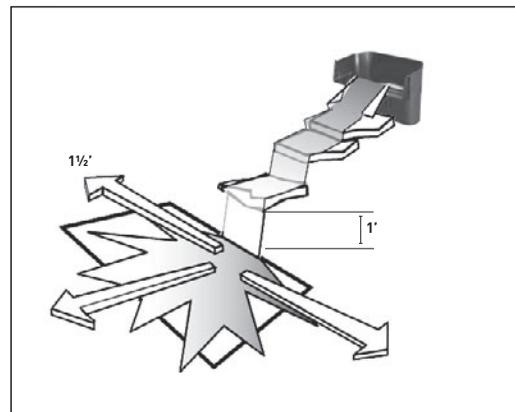


## TIP!

### Contain Splashing

A pond can lose a surprising amount of water due to splashing. To minimize this water loss extend the liner to keep splashing water contained in the system. A rule of thumb for pond builders: For each foot of vertical drop extend the liner 1-1/2' to 3' out from the point of water impact.

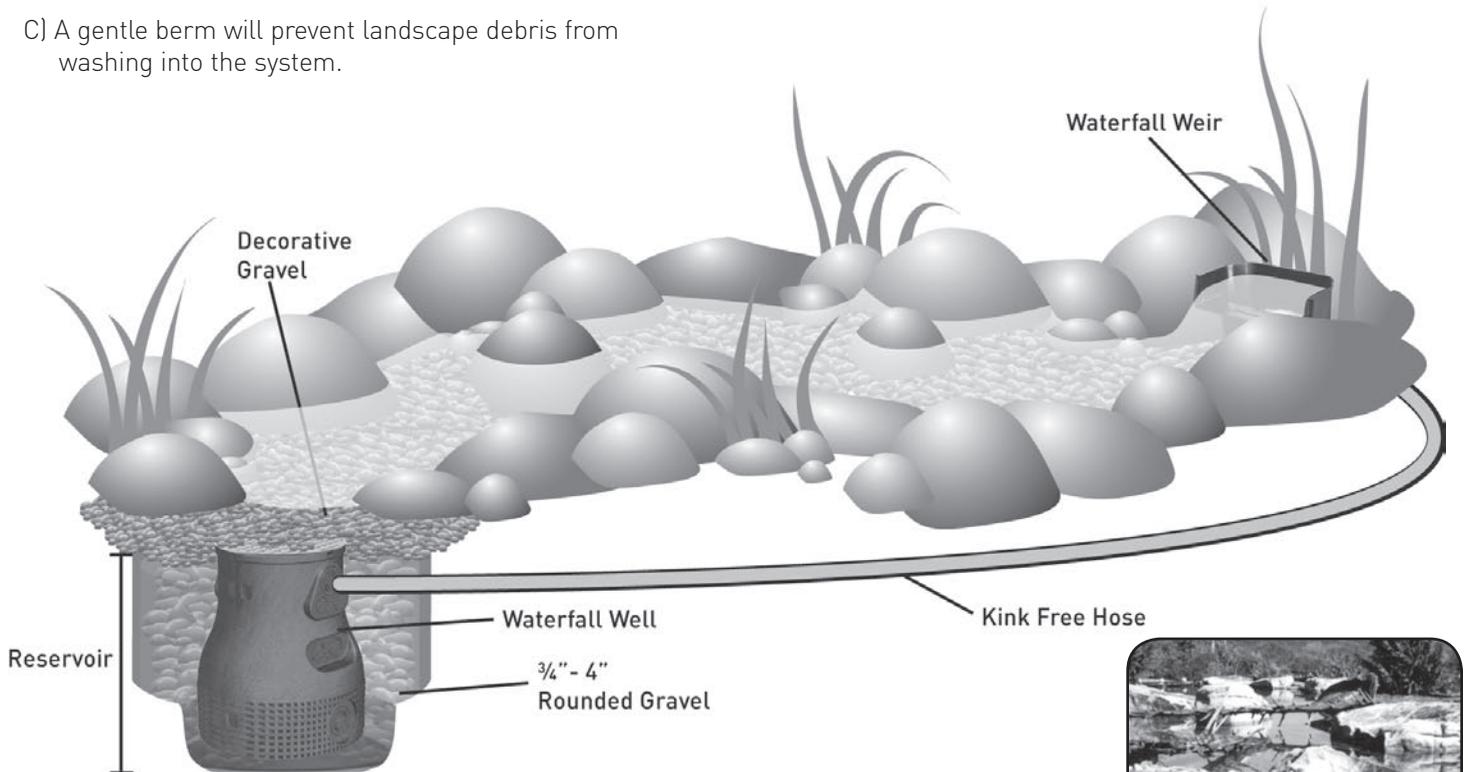
**Extend pond liner 1½' to 3' from the point of impact for each foot of vertical drop.**



## STEP 6b – CONSTRUCT STREAM

### Build a Stream

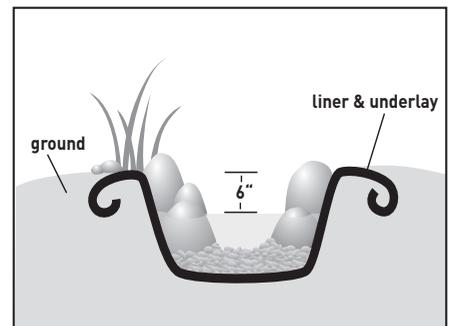
- A) Place rock work both in the stream and along the edges for a more natural appearance.
- B) Varying the width and the depth adds visual interest and provides shallow areas for birds
- C) A gentle berm will prevent landscape debris from washing into the system.



### TIP!

#### Keep the water in your system

When a waterfall or streambed becomes clogged with debris or ice, water may overflow from the liner and drain the entire water feature. To prevent overflow, provide enough depth to the waterfall and stream so water level is at least 6" below the top edge of the liner (the deeper the better).

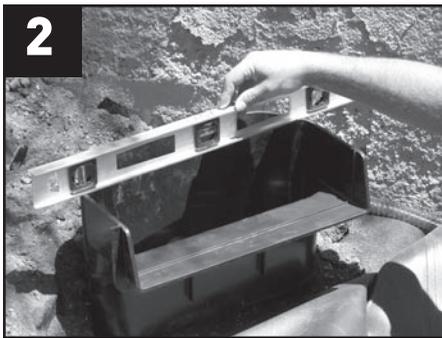


## STEP 7 – INSTALL WATERFALL WEIR

### Waterfall Weir



1  
Connect plumbing and kink free hose to back of Waterfall Weir. Use the included hose clamp and a screwdriver to tighten.



2  
Place the Waterfall Weir at the top of the waterfall and level the unit front to back and side to side.



3  
Place liner over the face of the Waterfall Weir. Leave a moderate amount of slack in the material.



4  
Mark position of the weir opening by rubbing the liner with a hard object such as a screwdriver or a blunt scissor edge.



5  
Cut away the liner to the shape of the opening.

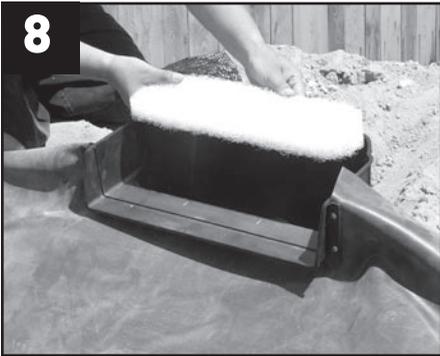


6  
Attach liner bracket and liner to waterfall weir by installing 4 screws into each corner. (Front of seal has recessed screw holes).



7  
Next, install the remaining screws. Tighten all screws evenly **by hand**, until flush with the faceplate.

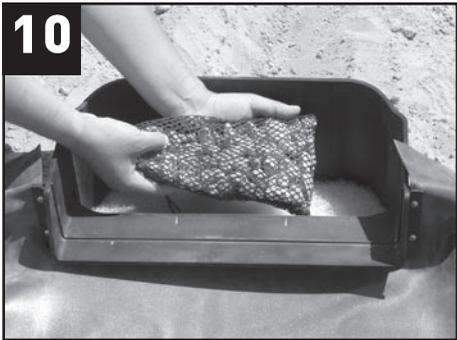
# STEP 7 - INSTALL WATERFALL WEIR



Place filter media pad into the waterfall weir.



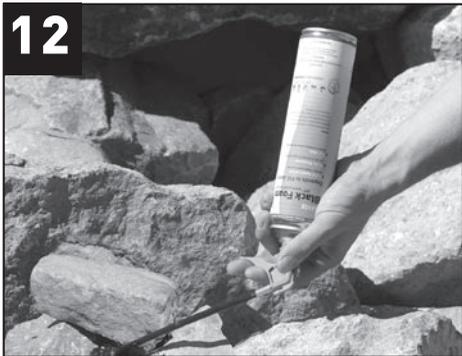
Fill the mesh bag with rocks for ballast. Use large gravel, lava rock or small stones.



Place mesh bag on top of media.



Use rock work and backfill to hide the Waterfall Weir and blend the new water feature into surrounding landscape.



Use Savio Black Foam to fill gaps in waterfall rocks.



## Savio Black Foam

Expanding waterfall foam is perfect for putting the finishing touches on a water feature. Use it to direct water flow over rocks for a fuller waterfall effect and to prevent water from disappearing beneath and between boulders. Additional cans are available singly or by the case.

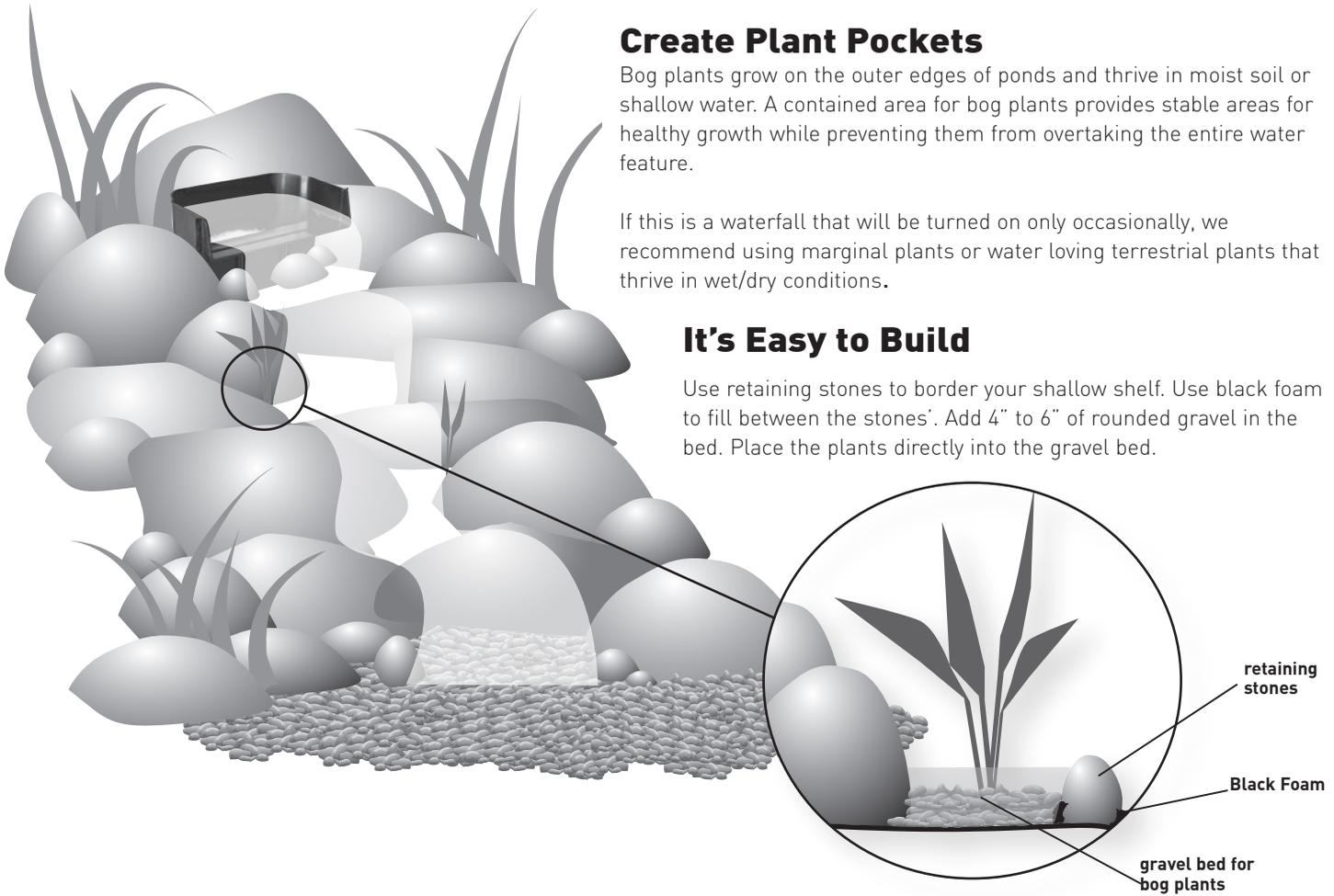
## Create Plant Pockets

Bog plants grow on the outer edges of ponds and thrive in moist soil or shallow water. A contained area for bog plants provides stable areas for healthy growth while preventing them from overtaking the entire water feature.

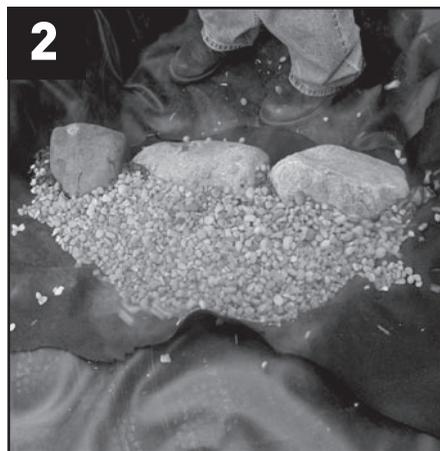
If this is a waterfall that will be turned on only occasionally, we recommend using marginal plants or water loving terrestrial plants that thrive in wet/dry conditions.

## It's Easy to Build

Use retaining stones to border your shallow shelf. Use black foam to fill between the stones. Add 4" to 6" of rounded gravel in the bed. Place the plants directly into the gravel bed.



**1** Use scrap underlay to protect the liner from abrasion and sharp edges. Place rock work to form a border along the edge of the bog shelf. Use a bead of black foam to secure and seal the base of the rock work.



**2** Fill behind rock work with gravel.



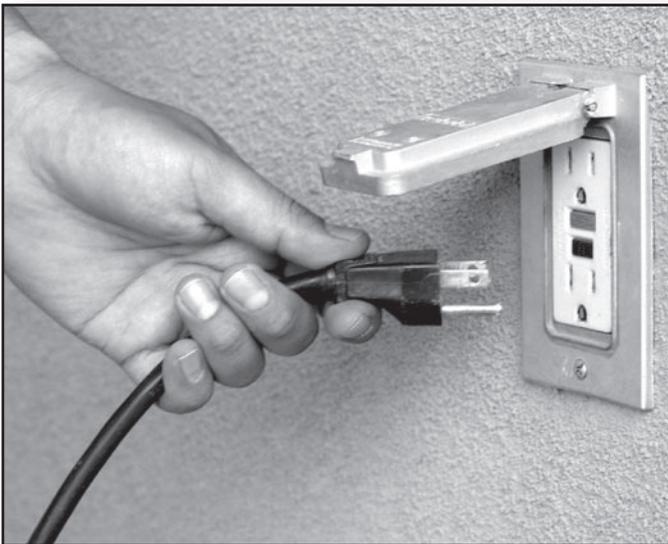
**3** Bogs can be multi level too. Start another course of rock work to build a planting pocket for the next level.

## STEP 8 – FINISHING UP



### Fill the Basin

Allow the black foam 2 hours to fully cure, then fill the gravel basin with water. Stop when you see water just below the top of the stones in the basin.



### Start the System

Plug the pump cord into a protected outlet. The pump will deliver water to the top of the waterfall and your water feature will quickly come to life.



### Inspect for Leaks

With the waterfall or stream up and running check for leaks or areas where water may be splashing out of the system. If necessary, backfill to raise low edges or adjust the liner to contain splashing.

### TIP!

Part of the fun of building a water feature is playing in it. Spend some time tuning your water feature - use smaller rocks to adjust both sound and flow.

## STEP 8 – FINISHING UP



### Bury Hose

Bury Kink Free hose and hide in backfill



### Trim Liner

Trim the liner only after the water feature has been filled with water and allowed to run. This allows you raise a low edge or make other adjustments. When you are satisfied with your water feature's appearance, trim liner with scissors. Roll and hide liner edges in the backfill.



### Plant

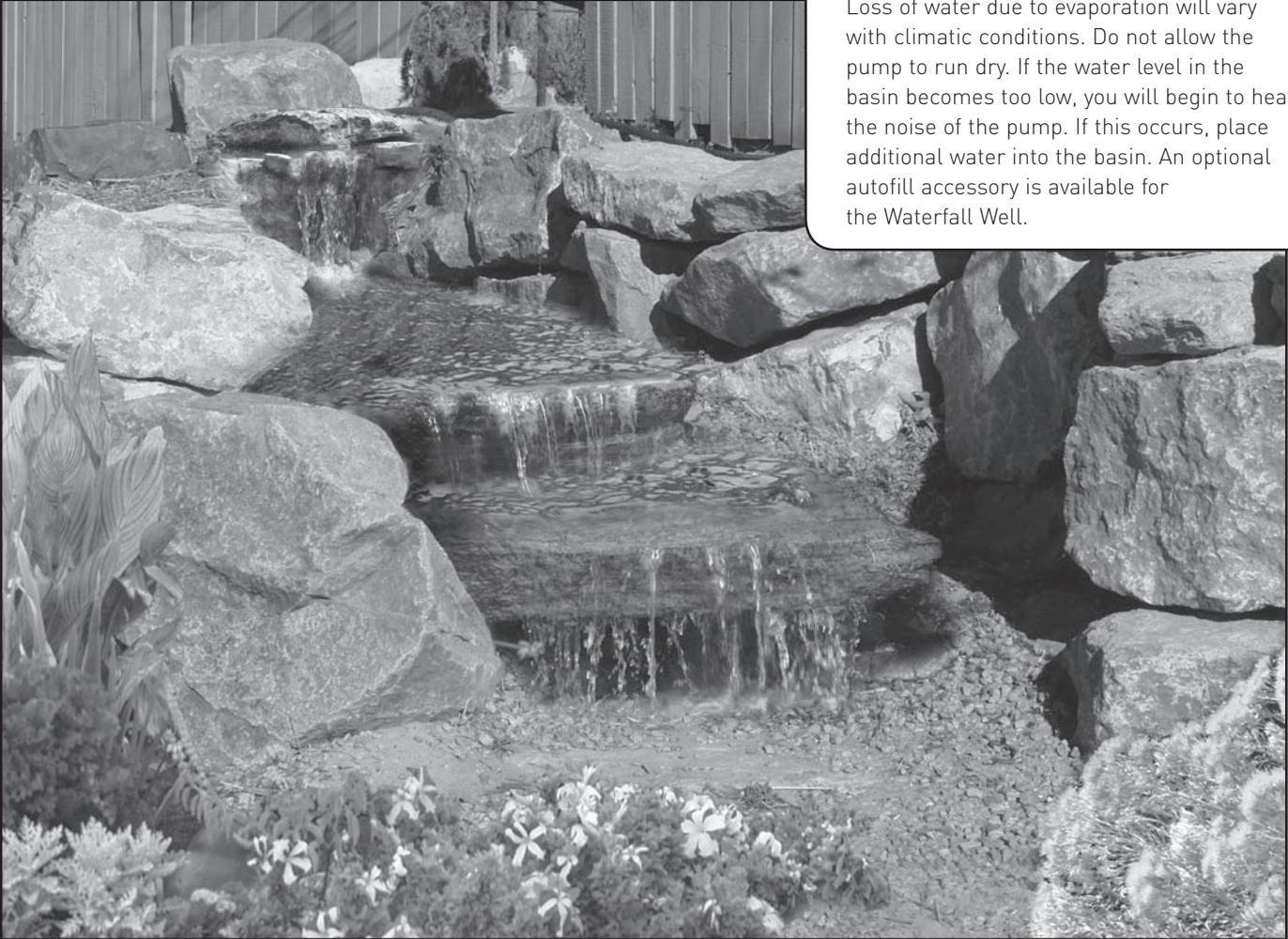
Add topsoil and plants to surrounding area to blend your waterfall or stream into its surroundings naturally.

## THE END RESULT

**At last!** All your hard work has finally paid off and you have a beautiful backyard paradise to enjoy for years to come. You'll enjoy the easy maintenance and superior water quality only a pond built with Savio products can provide.

### TIP!

Loss of water due to evaporation will vary with climatic conditions. Do not allow the pump to run dry. If the water level in the basin becomes too low, you will begin to hear the noise of the pump. If this occurs, place additional water into the basin. An optional autofill accessory is available for the Waterfall Well.



### Send Us Your Pictures



Take a photo and send it to us at: [pondstories@savio.cc](mailto:pondstories@savio.cc). We'd love to share your success on our website.



**Waterfall & Stream Accessory Kit**

These all-in-one kits contain everything you need to extend your waterfall or stream. Two lengths available 8' or 14'. (part # WA510/WA515)



**18" Extension for Waterfall Well™**

Create a deeper Pond Free Basin and still maintain access to your pump equipment.  
(part #K6001)



**Stone Cover for Waterfall Weir™**

Designed to camouflage your water return and provide a more natural appearance. Fiberglass and acrylic bonded construction is UV fade resistant.  
(part #K5003)



**Autofill Valve for Waterfall Well™**

Maintains water level in Pond Free basin. Includes mini float for Waterfall Well, self tapping valve and 25' of tubing.  
(part #K6002)