# NEW COMPONENT SYSTEM STRUCTURAL GROTTOS & CAVES

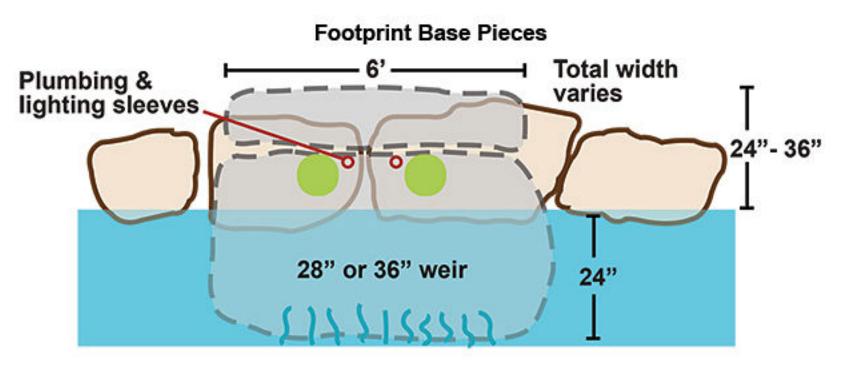
The Component System is a design/build product, not a kit with set pieces.

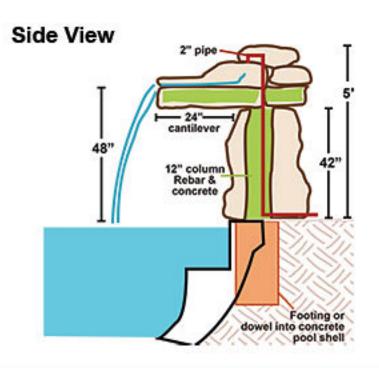
## SIMPLE GROTTO

Columns work as vertical supports and can be placed as needed to create a swim-in grotto left, or a cantilever over a pool seat, right. Rebar columns come with the kit; usually the columns are cast before the grotto lids but with adequate bracing it can be done at one time. One to two yards of concrete iare needed to fill columns and grotto lids.







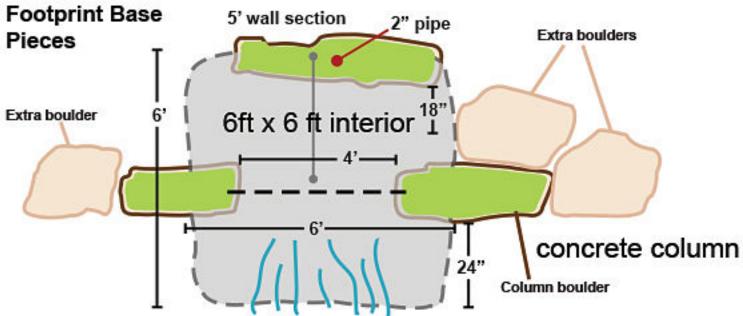


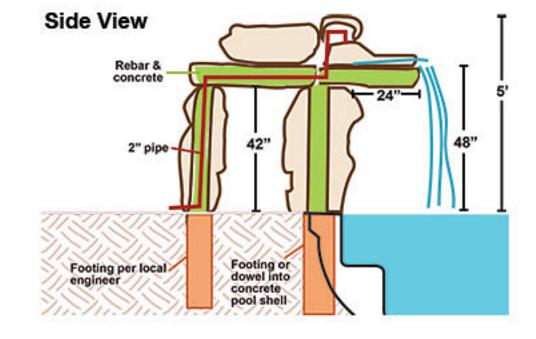
#### MINI-CAVE

Columns and wall sections can be placed as needed to create a wet or dry feature with 42" clearance. These installations require 3 yards of concrete backfill and must be built on a concrete foundation. Front columns can anchor into the bond beam for concrete pools.





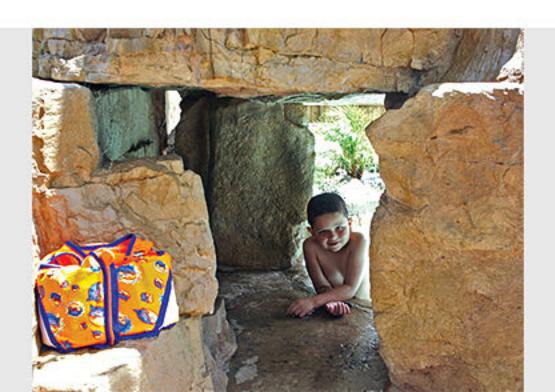




front column rocks and back wall are filled with concrete on site, steel frames in kit

The Component System allows for expansion to a much wider cave, up to 12 ft, as long as the span stays 6 ft. A WALK-IN CAVE with a 7 ft ceiling can use some of these components but is a custom project.

RicoRock can help with computer design and prototype a custom design prior to shipment. On-site tech support is also available at extra cost.





Dealers are responsible for all permits, engineering, bonding, and structural issues. A thick concrete slab may be adquate as a foundation: 2,000 lbs of cast rock and 4,000 lbs of concrete backfill distributed over 60 s.f. is about 100 lbs/s.f.

# Structurally the Component System is like a freeway overpass with concrete columns and a slab above.

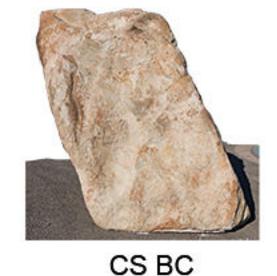


#### COLUMNS/WALLS: ALL 42" HIGH



CS 36"







CS FAT



CS 5FT WALL(1 of 2)

**GROTTO LIDS** 



Grotto Lid, bottom 72" x 36" x 7"H

Double Grotto Lids for a Mini-Cave



Grotto Lid, Top. Weir: 28" or 42"

### CONSTRUCTION SEQUENCE: requires rebar dowels & concrete backfill



 Columns are clam shell pieces wired to a rebar column, part of kit.



Fill with 3000 psi concrete mix.Foam can be used as filler.



Place weir in fresh concrete or mortar the next day.



 5 Ft Wall sections are wired to rebar frame as back of cave.
Plumbing return goes here also.



Place Grotto Lids, cut as needed. Splice steel. Brace.



Set weir level left to right; draindown feature included.



Columns should be strapped and braced before filling with concrete;



Top requires 1 yard of concrete. Note T brace under front grotto.



Extend plumbing into basin; set additional small boulders as needed.