



Last summer, Evan O’Neil, Monte Large, and Jeff Kaplan had an idea. They wanted to build a public swimming pool in Houston. But not just any pool.

They envisioned a huge, honking natural pool, the size of a football field or maybe even larger. Houston could use another pool. For a city with one of the longest, hottest summers in the country, Houston has only 37 public pools for its 2,233,310 residents (that’s more than 60,000 people per pool). One more big pool could possibly make a difference.

Their idea grew to be more than just a place to get wet; the pool and its surrounding environment became a gathering place for all Houstonians, an oasis amid the concrete and swamp, a magnet for visitors, a destination with a capital D, a place even cooler, in every sense of the word, than Barton Springs.

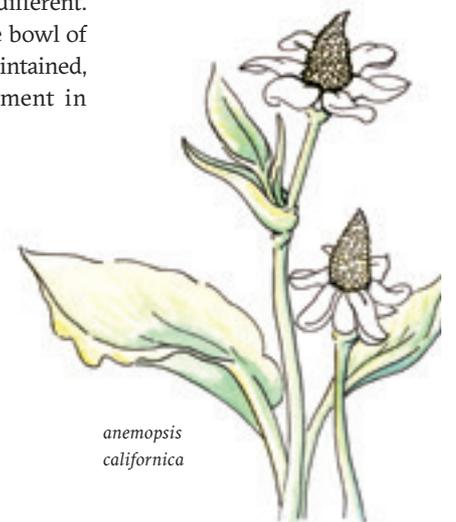
They took their vision one step further. Wouldn’t it be amazing, they thought, if the pool were fed from water naturally filtered and cleaned from the bayou?

Yes, the bayou. That sludgy stream of water running through the fourth largest city in the country. A waterway once commonly used as a place to dump trash, dead bodies, industrial pollution, toxic runoff—the stuff of nightmares and horror movies. Using cleaned bayou water, however, is not as crazy as it sounds. If natural filtration could clean it, and the water is circulated back into the bayous, the potential positive impact on the surrounding riparian areas, plant, and animal species could be enormous.

Natural Swimming Pools

Natural swimming pools, or pools in which the cleaning and purifying of the water happens through plants and other biological filters rather than chemicals, were first conceived and built in Germany in the 1980s. Initially for private use, the pools grew in popularity, and the first public natural swimming pools were built in Germany and Austria in the 1990s. Today, there are more than 20,000 natural swimming pools across Europe and over 100 public natural swimming pools in Germany. At a pool’s completion in Europe, it is not uncommon for the pool builders and owners to have a ceremonial drink of water taken directly from the pool.

While the costs are the same or often less over the life of the pool as the costs to build and maintain a chemically filtered pool, the environmental impact is decidedly different. Instead of creating, maintaining and cleaning a huge bowl of chlorine soup, whose water is toxic to plants, a well-maintained, clean, natural pool improves the natural environment in which it sits.



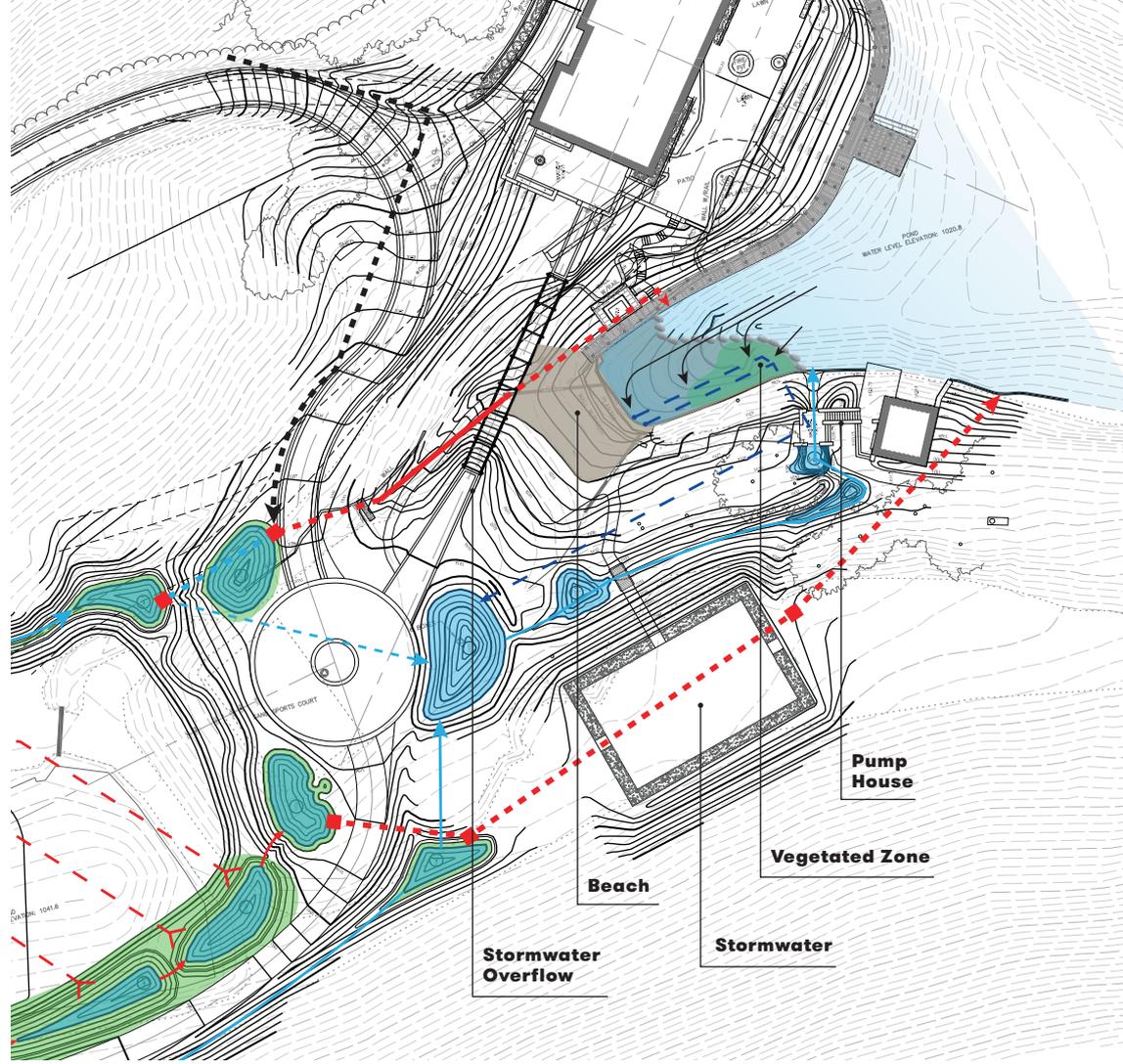
anemopsis californica

The Nation's First Natural Pool

Webber Park in north Minneapolis will be host to the first public natural pool in the United States. Comprising more than 20,000 square feet of swimming area (about a third the size of a football field), the pool has two swimming areas: a 4,000 square-foot upper area with a zero-depth entrance and a maximum depth of 39 inches, and a much larger lower pool with an average depth of six feet. The lower pool will have five lap lanes, a diving area approximately 13 feet deep as well as a second zero-depth entry. Even with all these amenities, the pool will look more like a lake than anything resembling a rectangular, aqua-colored concrete city pool.

The 16,000 square feet planted regeneration zone, used to filter the water, will have more than 7,000 plants from over 36 different plant species. The water will travel via pipes underground to the regeneration zone on a constant basis before being pumped back to the pool.

In addition, a pool house will be built as an entry point in the summer as well as a warming house in the winter, when the pool will be available for ice skating. Costing \$6.1 million to create, Minneapolis' natural pool will open in summer 2016 and will be free to the public.



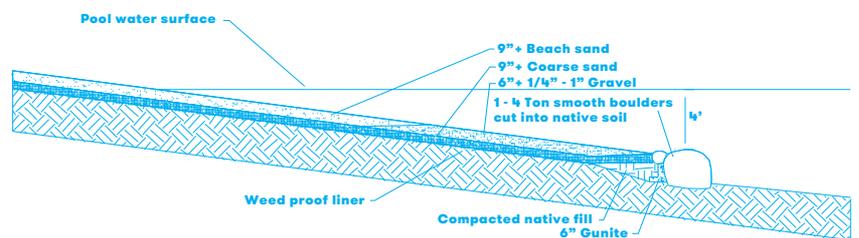
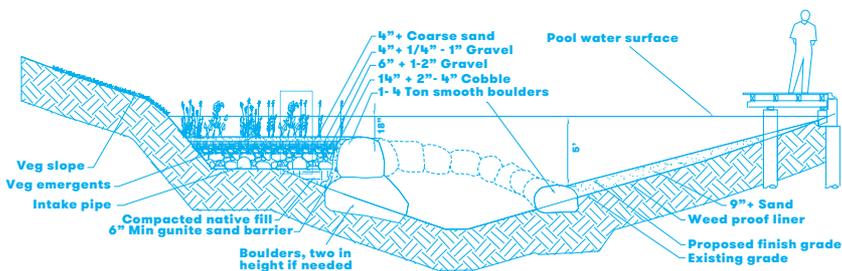
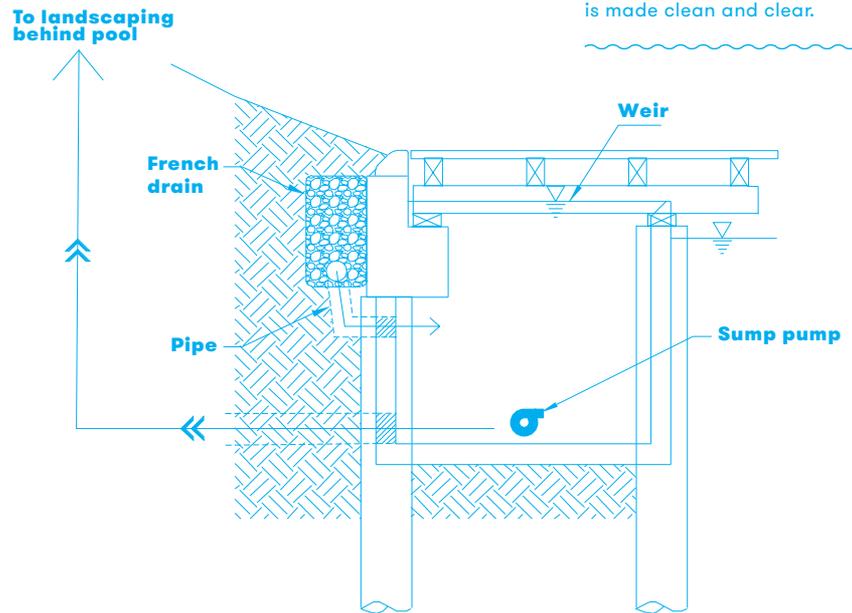
The Feasibility Study

In Houston, O'Neil, Large, and Kaplan have partnered with Sherwood Design Engineers, an innovative firm committed to environmentally responsible infrastructure and sustainable engineering, to perform a feasibility study. The engineers at Sherwood have been involved as partners with a number of private natural pools; the feasibility study is the first step of many toward the potential completion of the pool.

As Sherwood Managing Principal Tom Bacus explains, the filtration of natural pools maintain water clarity and take out algae, phosphorus from fertilizer, bacteria such as e. coli, and coliform by turning them into nutrients for the plants in the regeneration zone. This microbiological process happens as the water passes through the root zone of the plants, which are planted into coarse, gravelly media with lots of surface area, where healthy microbes in the gravel interact with the engineered soil and water. A gravity-fed system runs the water through the root zone and is drained.

Right now, Sherwood is advising O'Neil, Large, and Kaplan on site requirements and selection as well as looking at the question of permitting. Currently, the city of Houston requires residual chlorine in a public pool. Minneapolis was able

CASE STUDY 1 Lake Water Filtered for Natural Swimming Hole. A pump pulls water through filtering plants to a pool bounded by boulders and a private beach. Brackish water is made clean and clear.



to change similar legislation in order to provide for natural pool filtration. Sherwood plans to look at historic data on the bayous, seasonality, tide, rain and other factors to determine the quality of water coming in, how to treat it, and how to check it. The group is also considering the use of natural swimming pool applications for city water in a closed loop system, as well as a hybrid natural/chemical system, and a crystal lagoon, which uses a suction filtration system. Sherwood expects the feasibility study will be complete in October.

Site Selection

Recently, the group met with Anne Olson of the Buffalo Bayou Partnership to discuss sites of approximately nine to ten acres. On the east side, North York Street across from Tony Marron Park, near the current Dragon Boat House (501 North York), is an ideal location not only because of its proximity to the bayou, but its potential proximity to public transportation and the Buffalo Bayou Hike and Bike Trail. It also has a great view of downtown. Another site, in a surprising twist, is the old wastewater treatment plant at the northeast corner of Lockwood and Buffalo Bayou. The group also hopes to meet with Cathexis Redevelopment Group, the new owner of the former KBR site at 4100 Clinton Street in the Fifth Ward.

On the west side, Spotts Park and the site of the former Masterson YWCA (demolished in 2012) at Memorial Drive and Waugh have been brought up as a possibility, although it would be preferable to add green space rather than remove part of an existing park. Woodland Park at Little White Oak Bayou, near White Oak Drive and Houston Avenue has also been mentioned as an option; the area was once the site of a popular bayou swimming hole generations ago.

Community Involvement

O'Neil, Large, and Kaplan have solicited community involvement and feedback during the past year, and received tremendous support. The swimming pool was brought up at a community meeting held on January 27, 2015 by the Houston-Galveston Area Council and Asakura Robinson. The two organizations presented their Livable Centers Study for the Fifth Ward/Buffalo Bayou/East End at Makerspace, a community center offering classes, artist studios, and co-working space. Community members in attendance were enthusiastic about the natural pool concept, and the next community meeting in late April continued the conversation about community improvements to the Fifth and Second Wards.

On August 8th and 9th of this year, O'Neil, Large, and Kaplan formed an advisory panel to discuss the plan and

invited several members of the community to talk about how to structure the organization, site locations, planning, operations, and fundraising, which has largely been a successful Kickstarter campaign this past fall. Panel members included Carra Moroni (City of Houston), Eric Leshinsky (Asakura Robinson), Ian Rosenberg (Buffalo Bayou Partnership), Jimmy Galvez (Sherwood), Patty Knudsen-Joiner (Knudson), Tom Bacus (Sherwood), and Zane Segal (Zane Segal Projects). The panel interviewed community members including Guy Hagstette, consultant to the Buffalo Bayou Partnership; Anibeth Turcios, Assistant Director, Northside Management District; Michael Skelly, President, Clean Line Energy; and several others. Their feedback is shaping the plan for Buffalo Beach as it moves forward.

Other next steps include the search for an operational partner/director for the swimming hole as well as partnerships with on-site concessionaires to provide a healthy snack stand, a restaurant, and an event space.

Can the pool be built? Certainly. Will it be able to clean bayou water? Could it mitigate drought and flooding? The feasibility study will have the answers. Even without bayou water, Houston would certainly benefit from having cooler places to be during our long—very, very long—hot summers. ~

CASE STUDY 2 Closed-Loop Natural Swimming Pool. Webber Park in north Minneapolis will be host to the first public natural pool in the United States.

