

# SYNTHETIC NATURE



29°45'04.0"N+95°17'47.7"W

BUFFALO BEND NATURE PARK

## *What Four Parks Along Buffalo Bayou Can Teach Us About Our Relationship to Landscape*

“THE CITY IS NEITHER WHOLLY NATURAL NOR WHOLLY CONTRIVED.”

—Anne Whiston Spren, *The Granite Garden*

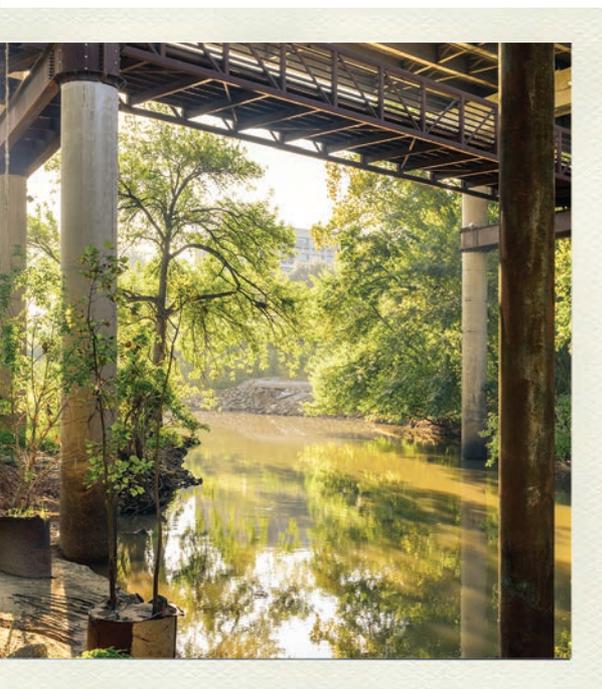
by Allyn West



1

A rabbit races into the cover of tall grasses. Dragonflies dart past. I’m walking a footpath that loops around two small wetlands ponds. A thickness of trees and brush blocks my view of Buffalo Bayou. Cattails bob in the breeze, and a nutria paddles through the water.

**What could be more natural?**



29°45'40.5"N+95°22'35.3"W

BUFFALO BAYOU



29°45'52.7"N+95°26'53.7"W

MEMORIAL PARK



29°45'44.7"N+95°27'09.7"W

HOUSTON ARBORETUM

PHOTOS BY PETER MOLICK

This used to be a dump. For years, these 10 acres on S/Sgt. Macario Garcia Drive near the Ship Channel's Turning Basin were where heavy chunks of rip rap, broken culverts, tires, and other remnants of the industrial East End ended up. The site was purchased in 2004 by a group of organizations led by Buffalo Bayou Partnership as part of the long-term plan for land acquisition and trail and park development east of Downtown.

When landscape architect Kevin Shanley, then of SWA Group, studied the site, he found it "highly disturbed." The soil, in particular, had become an unnatural mix of sand and clay. "Ironically," he says, "these postindustrial soils turned out to be ideal for a wetlands." But first the ponds had to be dredged. Then some 10,000 plants were introduced. Then the trails and other amenities constructed: a shade pavilion and overlook and a truncated arc of hike and bike trail, which will eventually connect west and east to the Buffalo Bayou system terminus at Hidalgo Park. Much of what Shanley calls "the old industrial detritus" was retained: the rip rap went into retaining walls and causeways between the ponds; the culverts were kept in place as sculptural elements and wildlife habitat. "We wanted to reuse what was there as a recall to history," says Shanley.

The site opened to the public in February 2016 as BUFFALO BEND NATURE PARK. When you visit, you can watch a solar-powered pump, housed in another repurposed culvert, draw water up from the bayou and trickle it out over a flume to begin its process of phytoremediation.

What kind of "nature" is this, though?

From the trail, I see a cell phone tower on the other side of the mound and a welder in the garage of Baumann Marine across the street.

If you step around the barricade at the end of the hike and bike trail, you can make your way down to the water. The S/Sgt. Macario Garcia overpass shades the banks, which here, right about where Buffalo Bayou turns by name into the Ship Channel, have been reinforced with bulkheads. It's serene, even as you hear the hurry of cars above and the smash of steel across the water. These wetlands, pastoral as they are, natural as they seem, simply never existed.

## 2

Maybe, then, this is an ideal place from which to start to think about what is "natural" about urban landscapes.

Especially since BUFFALO BAYOU is, of course, no longer "natural." Only about a mile of it has never been altered—a mile, as it happens, that has been targeted for alteration by the hotly debated Harris County Flood Control District (HCFCD) Memorial Park Demonstration Project, which intends to employ more "natural" techniques to dredge, stabilize, and assist the bayou in conveying stormwater. Whether every last mile of it has been channelized or not, there's the indirect impact on Buffalo Bayou, and the regional watershed, by development and climate change to consider.

Besides, it's no secret that Houston's viability as a city and economic prosperity have proceeded in step with continual alterations and manipulations of its bayous. Marguerite Johnston's *Houston: The Unknown City* notes that discussion of widening Buffalo Bayou dates all the way back

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to 1867. In 1911, Tom Ball convinced Congress to spend \$1.25 million to exaggerate it into a 25-foot-deep channel that could accommodate larger ships. In 1919, it was deepened 5 more feet and 5 more again in 1934.

That same year a historic flood inundated Downtown, killing six people and hastening the establishment of the HCFCD; the construction of the Barker and Addicks Reservoirs soon followed in the '40s. In the '50s, the bayou was extensively channelized by the Army Corps of Engineers. In the '70s, it required the activism of Terry Hershey and other local conservationists to prevent it from being banked in concrete. Today, levels in the bayou are still controlled by the Corps of Engineers, which regulates and releases water from behind the levees at those reservoirs during floods.

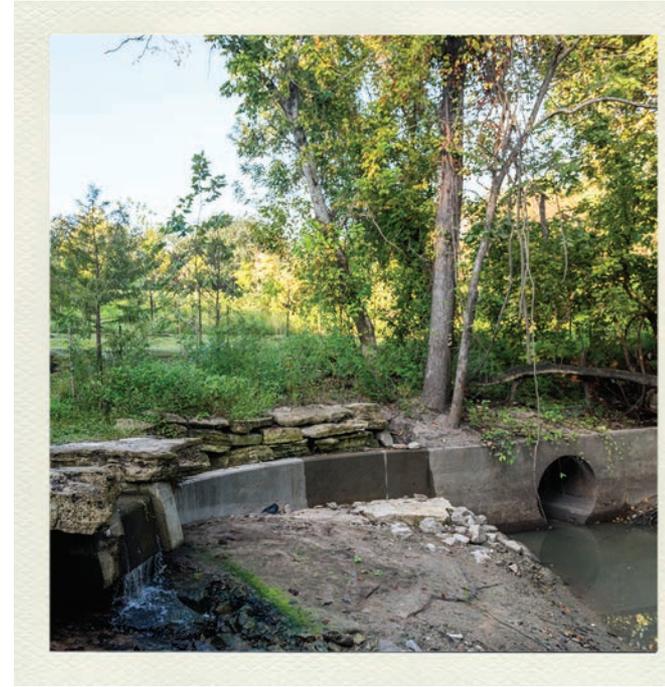
Though the bayou appears “natural,” to borrow a distinction from Julie Czerniak, it performs primarily as infrastructure. Its nature, in other words, has been thoroughly acculturated. And this composition, as it were, troubles the longstanding opposition between nature and culture found in American thinking about landscapes. Nature is paradise. Culture is pestilence. Culture corrupts. Nature corrects. “Nature,” writes James Corner, “is mostly represented by a softly undulating pastoral scene, generally considered virtuous, benevolent, and soothing, a moral as well as practical antidote to the corrosive environment and social qualities of the modern city.”

Michael Pollan diagnoses this thinking as “schizophrenic,” arguing that America invented both the “front lawn and the wilderness preserve.” Well, which is it? Do we mow, trim, edge, weed, and water our nature each and every week? Or do we leave it be? Americans, Pollan writes,

“cannot decide whether to dominate nature in the name of civilization, or to worship it, untouched, as a means of escape from civilization.”

Consider one of America’s most famous landscapes: Central Park. Frederick Law Olmsted wanted the park to be a respite, a reprieve from the city. Though he stressed that a park should, in terms of urban planning, “complement the town,” as he said in an 1870 speech, he maintained that a park should also provide “the greatest possible contrast with the restraining and confining conditions of the town.” When you leave the one behind, you enter the other (with good reason, considering the common conditions of cities in the nineteenth century). With a park, Olmsted says, “we want a ground to which people may easily go after their day’s work is done, and where they may stroll for an hour, seeing, hearing, and feeling nothing of the bustle and jar of the streets, where they shall, in effect, find the city put far away from them.”

“A society that produces ... Central Park,” Pollan argues, “is one that assumes nature and culture are fundamentally and irreconcilably opposed.” What about a society that produces the Buffalo Bayou we have in the volatile climate of Houston? When you consider the major new works of landscape architecture here along the bayou—Buffalo Bayou Park, Memorial Park, and the Houston Arboretum and Nature Center—you start to see that it’s not so simple as one or the other. “Though much landscape architecture remains aesthetically tied to the ... naturalistic,” Richard Weller said at the 2014 Nature and Cities conference in Austin, “landscape architecture is ... no longer representing the nature that culture has lost, but rather the nature it now must construct.”





FROM LEFT: Buffalo Bayou Park, ruellia or Mexican petunia, cyclist beneath I-45, and ruellia detail

### 3

Scott McCready of SWA Group knew BUFFALO BAYOU PARK would flood. Early on in the firm’s redevelopment of the park, which straddles the 2.3 miles of the bayou between Sabine Street and Shepherd Drive, McCready and his team planted what he calls a “test garden.” Twenty to 30 native species were tried on the banks near Sabine Street to see whether they could withstand what the firm’s Michael Robinson calls “the kill zone,” when a flood deluges the plants first with silt-filled water, so they can’t get light, and then with a layer of mud—up to 8 feet of it, at times—so they can’t get air.

“Not a single one did the job,” Robinson says. “It’s not a problem you can solve with a native species.”

They decided to use ruellia, or Mexican petunia, a long-stemmed plant with purple blossoms that just so happens to appear on lists of species invasive in Texas—even though much of SWA Group’s work along the bayou was removing invasive vegetation. “A lot was good habitat vegetation,” says McCready. “But one of our loftier goals was increasing biodiversity.” Stabilizing the banks and preventing further erosion during the inevitable floods was another. “Native plants are great,” writes Peter del Tredici, “but without ongoing care and maintenance, they will die just like all the other plants we try to cultivate. ... The critical question facing landscape architects ... is not what plants grew there in the past but which will grow there in the future.”

And ruellia grows. It survives the kill zone. It appears perfectly “natural,” of course, but it’s not.

Neither, for that matter, are the 10 miles of hike and bike trails and footpaths added to the park, the pedestrian bridges, the pavilions, the benches, the lampposts, the trash cans. For the redevelopment, SWA

Group was tasked with constructing a hybrid landscape that would continue to function well as infrastructure for water and begin to work better for people. So, they consulted with geofluvial morphologists to restore some of the bayou’s sinuosity where certain oxbows had eroded. They planted 14,000 new trees. They replaced sections of mowed turf with meadows of wildflowers and native grasses, which encouraged the return of bees and butterflies. But they also constructed a new playground, a dog park, a restaurant.

McCready conceived of the entire stretch of the park as a sequence of “rooms” marked by “landscape events.” He says: “We wanted to use the tools of nature to make cultural places.” Along Allen Parkway, he planted a higher quantity of redbuds “to force the issue.” The trees have dark, moody leaves and flower pink in the spring. As you approach this “room” on the trails, you’ll be surprised with the color as though a bunch of enormous balloons. “Nature,” McCready says, “wouldn’t quite do it that way.”

### 4

No, it wouldn’t. Nature wouldn’t constrain itself to a sliver of existence between Allen Parkway and Memorial Drive. And it wouldn’t alter itself to accommodate railroad tracks, utility corridors, service and access roads, and freeways, which is what Thomas Woltz of Nelson Byrd Woltz Landscape Architects (NBWLA) found inside the 1,500 acres of MEMORIAL PARK when he and his team began their research toward a new master plan.

Despite the massive loss of the tree canopy in 2011 during one of the most severe droughts in Texas history, the park still appears “an

incredible thicket,” as Woltz says. This has led to the assumption that it was the last of the original Texas forest. In fact, consulting with conservation biologists and undertaking archaeological studies with Rice University soil scientists, NBWLA found that this landscape had always been “highly managed,” Woltz says. Layers of ash discovered in test sites suggested that native people had tended it through controlled burns. When Europeans arrived in the 1800s, industry followed. According to NBWLA’s master plan, “a large brick kiln complex, charcoal manufacturing, and a plant nursery and orchard” were located here near Buffalo Bayou. A sawmill, woolen mill, and cotton mill were located just to the north. After the U.S. entered World War I, the site was extensively graded and trees cleared to house “tens of thousands of soldiers” as it became Camp Logan. “Tented encampments” and “hastily erected timber structures,” including a hospital where soldiers convalesced after the war, stood until 1919.

“When you start to see it [this] way,” Woltz says, “the idea of Memorial Park as a wilderness park starts to fall apart.”

NBWLA’s master plan reimagines the park as one carefully designed as a garden—at a scale twice as large as Central Park. “It’s not pretending [this] is an untouched wilderness,” Woltz explains. “Memorial Park can still read as a wilder park. But we want an intentional, cohesive park that has a clear taxonomy of moves and gestures.”

Approved by City Council in 2015, the master plan aims to reset the resiliency of the park first by clarifying its native ecologies. It doesn’t call for a rote replanting of the thousands of trees that died, but for a slow restoring of the savannah. The new Memorial Park will appear to be as much prairie as forest, as the landscape wants it.

But the plan also calls for the construction of a sports complex, with new fields, tennis courts, a natatorium, and two bicycle tracks. It imagines the addition of elevated boardwalks that will take park users down toward observation decks above the banks of Buffalo Bayou. It wants to move the Memorial Park Loop to the edge of the site and increase parking capacity by 30 percent. It will add more than 20 miles of 12-foot wide concrete thoroughways that will connect to sidewalks outside the park, crushed stone paths, and natural surface trails. Five new ponds and several other low-impact bioswales will be dredged to manage stormwater and provide irrigation. A massive



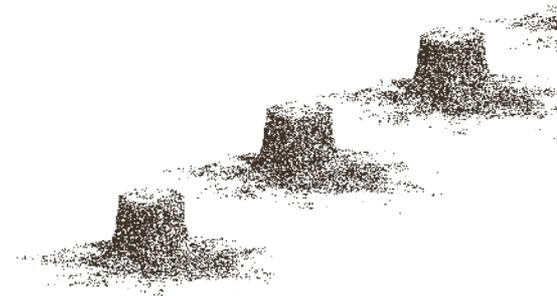
land bridge, designed to reconnect the park, will span over Memorial Drive.

The most poetic of the plan’s “moves and gestures” are the Memorial Groves. Ninety acres of new loblolly pines will be planted atop the former location of Camp Logan to evoke the formations of marching regiments. Because 25 was the average age of a soldier to die in World War I, Woltz imagines an Armistice Day ceremony 25 years hence, when Houston gathers to fell a single “regiment.” The fallen trees would be milled and donated, and then the grove would be replanted.

“Public landscapes are the witness to our cultural history,” Woltz says. “[Memorial Groves] is a living memorial. It’s a symbol of hope. It’s productive. It’s useful. It’s reminding us of the sacrifice. To have that put in front of us is uncomfortable. It causes a visceral response.” He’s quick to articulate these complexities, the way the “natural” landscape of the park will be designed to convey that most constructed of things—a good story.

TOP: Camp Logan LEFT: Rendering of Memorial Grove

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5



Still, Steven Spears wants Houstonians to experience “nature,” too, at Memorial Park. Partner at Design Workshop, Spears developed a master plan with Reed Hilderbrand and other consultants for the 155 acres of the ARBORETUM AND NATURE CENTER [HANC] inside the park. “Here, you are immersed in nature,” he says. “A key goal is to get [park users] to touch, feel, taste, smell, and hear nature, to the fullest extent possible.”

If NWBLA’s plan represents a clarification of a park—a cultural place—that Woltz says suffered from “plop and drop,” Design Workshop’s is a “restoration,” says Spears, of a native landscape.

The plan also calls for the construction of an interactive playground, a redesigned trail system, a new educational facility, to be designed by Lake|Flato, a reconfigured service entrance, and an expanded parking lot. Primarily, Spears explains, “We’re trying to bring back what the environmental systems and the ecology of the site are telling us to do.”

HANC alone lost more than 5,000 trees during the drought; Hurricane Ike caused the loss of 1,000 more. The new master plan proceeds from what Spears calls “an almost forensic level” of research conducted since then on the soils, drainage patterns, and topography. “It’s very clear what the soils are trying to say,” he explains. “A lot of the trees [that died] were planted where they didn’t have much business living.”

This vulnerability was aggravated by what Spears calls a “pimple-dimple phenomenon” in the topography. Though the site appears flat, it is marked by what Spears calls “microdepressions” and “microhills,” ranging from just 6 inches to 18 inches, that determine where water collects. Many of the trees that died were growing in those depressions. Their roots hadn’t had to reach as deep, and they weren’t resilient.

Trees marked for preservation at the Arboretum



“Because of artificial changes, when [Loop 610] was built, when Woodway was built, and when [the railroad] came through,” Spears says, “the drainage patterns were altered. The site here is so flat even altering it a couple of inches is big.”

“We cannot live in it without changing nature irrevocably,” writes Pollan. “Having done so, we’re obliged to tend to the consequences of the changes we’ve wrought, which is to say, to weed.” So, Emily Manderson, Conservation Director at HANC, has started weeding.

“From an ecological perspective,” Manderson says, “[the Arboretum’s] an unhealthy woodland. It has not been able to regenerate.” The native woodland would have been able to regenerate on its own through fires—which is no longer a possibility, since a City of Houston ordinance forbids controlled burns. So, guided by the master plan, Manderson and her team are at work clearing brush by hand and removing trees that don’t belong, employing herbicides, loppers and chain saws, and a massive lawnmower-like machine called a hydro ax that rips through the understory, where “opportunistic” invasive species have moved in and choked out the trees that do.

“Trees will come, trees will go,” Spears says. “But when the next hurricane comes, and when the next drought comes—and they will come—we’re set up for resiliency. Nature’s trying to reset itself and adapt to the new conditions it’s trying to live in. All we’re trying to do is help guide it along.”

## 6

This intervention, manipulation, control—whatever we call it—doesn’t make sense when you try to maintain that opposition between nature and culture, a “simplistic binary,” for Woltz. These parks aren’t escapes from the city; they’re escapes within the city.

“The city is always constructed,” explains Sarah Whiting, Dean of the Rice School of Architecture. “Nature is controlled, even when it’s left in a ‘wild state.’ The way it’s left wild is controlled. And that’s not a bad thing. Making strategic decisions about how land is used is how we advance the world and make it a better place for everyone.”

Spears likes to think of this process as “synthetic.”

“As designers,” says Whiting, “we play a role in engaging all sorts of things, always. Seeing our endeavors as synthetic means they’re not one thing. We can’t pretend they’re one thing.”



Pavilion (SWA Group, 2015) at Buffalo Bend Nature Park

*These parks allow visitors to experience plants and soils, sounds and smells, views and breezes—and they shape that experience through design. Each park is a synthesis of the given and the made, soils and soil studies, trees and tree trimmers, ecology and story, what the landscapes have to be to last and what we want them to be as places. Nature, of course, is inescapable. It has taken culture—our levees and our umbrellas, our hipped roofs and our HVAC—to make it livable. ●*



Buffalo Bayou