

Turning Water Into Land

How New Orleans Created the Lakefront Neighborhoods, 1926-1934

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Published in the *New Orleans Times-Picayune*, April 13, 2018



Detail of 1925 Map of the City of New Orleans and Vicinity showing upcoming Lakefront project, courtesy Library of Congress.

Lake Pontchartrain's southern shore originally formed a smooth bight, from the Labranche wetlands to Pointe Aux Herbes, and brackish tides once lapped along what is now Leon C. Simon Drive and Robert E. Lee Boulevard.

Today, two manmade land masses, the Lakefront and its eponymous airport, protrude into the lake, and together they constitute the largest land-building effort in New Orleans history. The creation of new land, however, was a secondary motivation for the undertaking; the primary impetus of the "Lakefront Project," executed between 1926 and 1934, was flood protection, and to understand why, we have to go back to the 1800s.

At that time, New Orleanians had a rather provisional relationship with Lake Pontchartrain. A few folks lived there, at Milneburg, Spanish Fort or West End, but their residency was largely seasonal, and usually in vernacular "camps" built high up on stilts. Many more New Orleanians went there for recreation, bathing or enjoying amusements, but they, too, would limit their stay to a day or so, and return home by rail at sunset.

Others worked along the lakeshore, guiding barges up the New Basin Canal or loading cargo at Port Pontchartrain, else hunting and fishing, but mainly to serve the urban market five miles away. The lakeshore itself, despite its beauty and resources, was simply too low and flood-prone to sustain urbanization.

Case in point: In June 1871, the Mississippi River levee breached at the plantations at Bonnet Carré, sending excess water into Lake Pontchartrain, much like the spillway functions today. Unusual easterly winds, however, prevented the excess water from flowing out to the Gulf of Mexico, which caused lake levels to swell, thus swamping the lakeshore and flooding New Orleans from the rear.

In addition to being barely above the level of the sea and lake, the lakeshore's soils were too hydric and peaty for urbanization. With a goal of draining them, the state in 1871 authorized the Mexican Gulf Ship Canal Company to build an integrated system of canals and pumps. The failure of this early swamp drainage attempt, together with the Bonnet Carré flood that year, made it clear that, first and foremost, a levee needed to be built along the lakeshore.

City surveyor W. H. Bell had a better idea. Why settle for a meager levee when you can build a solid seawall and create high, dry scenic real estate at the same time? Bell's 1873 *Plan of Property Improvements for the Lake Shore Front of the City of New Orleans* entailed an embankment erected a thousand feet offshore, with recreational land and harbors built behind it, and pumps and locks (gates) on the canals running through it. Why the gates? To prevent storm surges from penetrating up the canals.

Bell's vision was ahead of its time, but his idea of integrating flood protection with land creation lingered, especially after a full-scale municipal drainage effort commenced in 1895. By the early 1900s, new subdivisions began to appear in now-drained Lakeview and Gentilly, for which the Orleans Parish Levee Board had built an earthen levee about 300 feet inland from the marshy lakeshore. But replete as they were with organic matter, the soils shrunk, and the levee subsided.

Then came the Great Storm of 1915, which pushed in a surge and inundated low spots with up to 8 feet of water. It became clear to authorities that for the highly successful drainage project to pave the way for lakeside urbanization, it would have to be matched by an equally audacious lakefront flood-control project.

In 1921, changes were made to the state constitution to empower the levee board to build exactly that. Three years later, Col. Marcel Garsaud, an expert in shoreline reinforcement and waterfront land reclamation, became the board's chief engineer, and in 1925, he and the board unveiled a radical redesign of New Orleans' entire lakefront interface—even more ambitious than W. H. Bell's 1873 vision. The "Lakefront Improvement Project" called for a massive levee fronted by open public space and a stepped concrete seawall, wending five miles east to west. Most remarkably, the levee would be positioned offshore by 3,000 to 4,000 feet, into which artificial fill would be pumped to create new land. The levee would protect the city behind it, and the elevated swath of "reclaimed" terrain in between would not only provide additional flood

protection, but present a unique opportunity for any number of land uses, from public recreational space to private residential subdivisions.

Construction commenced in 1926, when workers installed a temporary wooden bulkhead offshore to create a cofferdam. Sediments were then dredged from the lake bottom and pumped in as a slurry into the bemired enclosure behind it, gradually filling it. Next, the bulkhead was strengthened and raised by 4 feet, and the filling repeated. Gradually, water became mud, mud became land, and the land rose higher. The entire process took more than three years; the result was 2,000 acres elevated by 4 to 6 feet above lake (sea) level, and about 10 feet above the subsiding lowlands of Lakeview and Gentilly, with the levee itself substantially higher. In 1930, the stepped concrete seawall, designed after similar structures on the Florida coast, was completed.

To offset the Lakefront Improvement Project's original \$27 million project price tag, the levee board proposed to sell off some new land to private developers—a power for which the agency required a revision to the state constitution in 1928 to obtain.

So promethean was the project that a municipal airport was added to the scheme “almost as an afterthought,” wrote geographer Peirce F. Lewis. It was an ideal site for an airport, requiring no real estate purchase, imposing no interference with existing urban infrastructure, providing obstruction-free approaches and departures, and allowing for expansion farther into the lake.



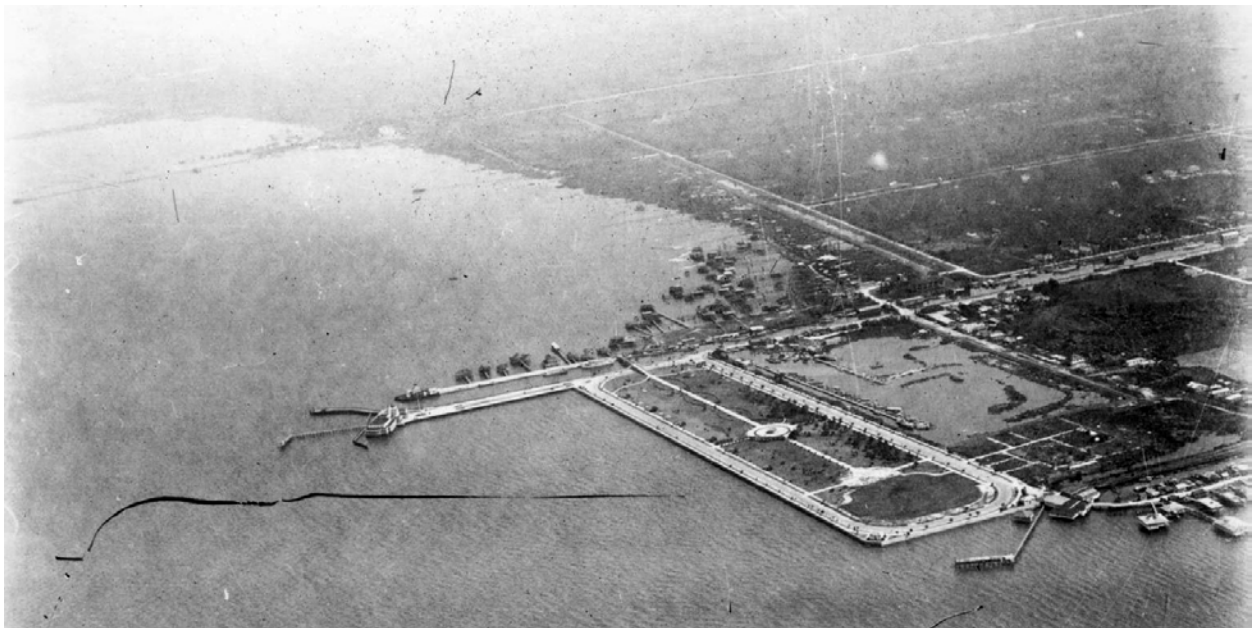
Lakefront neighborhoods looking west, c.1950. From author's collection.

Construction of Shushan Airport, named for project champion and levee board president Abe Shushan, used a vertical seawall, unlike the stepped bulkhead around the lakefront. Completed in 1933, the airport added a distinctive peninsula to the city's morphology.

With great Art-Deco styling in its terminal, Shusan (now Lakefront) Airport opened as one of the finest airfields in the nation. Along with the nearby Naval Air Station, it played an important role in training American pilots for the air war against Germany and Japan.

With the larger Lakefront project finished by 1934, the question of land use came to deliberation. One proposal allocated most space for recreational parkland; another envisioned an integration of parks and residential subdivisions amid a network of lagoons and canals. A compromise prevailed, calling for public-access recreational uses between Lakeshore Drive and the water, and residential subdivisions and public facilities (sans the lagoons) on the city side. About half the acreage was sold to private developers to help pay the levee board's bonds, and new neighborhoods including Lake Vista, Lakeshore, Lake Terrace, and Lake Oaks were laid out in the late 1930s and developed mostly after World War II.

Most New Orleanians were thrilled with their new amenity, whose open skies and salty seascapes gave the expanding metropolis access to a new Gulf Coast-like environment. But it came at the expense of historical lakeside communities. Among them was Port Pontchartrain and old Milneburg, the tiny enclave formed after the 1831 completion of the Pontchartrain Railroad along Elysian Fields Avenue. Generations of New Orleanians would ride "Smokey Mary" from the French Market area to bathe at Milneburg, while the train also carried raw materials from "across the lake" into downtown.



West End at right, and Spanish Fort and Milneburg in the distance, seen in 1922, four years before the Lakefront Project. Courtesy Louisiana State Museum.

Milneburg was all but eradicated by the Lakefront Project, although its 1855 lighthouse was retained—and landlocked. Pontchartrain Beach and its affiliated amusement park would later open here, continuing the recreational legacy of Milneburg, even as the picturesque panoply of 19th-century raised camps all but disappeared.

A similar fate befell Spanish Fort, the corresponding community at the mouth of Bayou St. John and the Old Basin Canal, and West End at circa-1838 New Basin Canal. Redeveloped in the 1870s as a resort destination, West End had become “the Coney Island of New Orleans,” boasting restaurants, amusements, a yacht club and bathing facilities. The Lakefront Project turned West End’s eastern flank into land, and the resort could not compete with the new Pontchartrain Beach. West End was refurbished in 1938 to the pleasant harbor we have today, but clearly its heyday was over.

By most accounts, the benefits of the Lakefront Improvement Project far exceeded its costs, and it has delivered on the promises of beautiful residential and recreational land, space for today’s University of New Orleans, and for flood protection—with one fatal oversight. Remember those gates (locks) that W. H. Bell had originally designed for the canals in his 1873 lakefront vision?

Gates were never built on the three outfall canals originally excavated in the 1870s, even after the Lakefront Improvement Project built elevated land on either side of their mouths. During Hurricane Katrina in 2005, surging waters entered the channels and ruptured floodwalls on the 17th Street and London Avenue Outfall Canals. The resulting deluge drowned vast expanses throughout Lakeview, Gentilly and beyond, much of which had subsided below sea level due to swamp drainage. The only area by the lake left unflooded was the artificial land of the Lakefront.

Consider the irony: a space that had once been water became, for a few weeks in 2005, a manmade island, while a vast expanse of natural land, sunken unnaturally, filled with water.



Satellite image from Sept 2, 2005, showing how the Lakefront became an island. Courtesy FEMA-SPOT.

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