OLD CHICAGO WATER TOWER DISTRICT

Bounded by Chicago Avenue, Seneca and Pearson streets, and Michigan Avenue. The district is comprised of the Old Chicago Water Tower, Chicago Avenue Pumping Station, Fire Station of Engine Company No. 98, Seneca and Water Tower parks.

The district was designated a Chicago Landmark by the City Council on October 6, 1971; the district was expanded by the City Council on June 10, 1981.

Standing on both north corners of the prominent intersection of Michigan and Chicago avenues are two important and historic links with the past, the Old Chicago Water Tower and the Chicago Avenue Pumping Station. The Old Water Tower, on the northwest corner, has long been recognized as Chicago's most familiar and beloved landmark. The more architecturally interesting of the two structures, it is no longer functional and has not been since early in this century. The Pumping Station, the still functioning unit of the old waterworks, stands on the northeast corner. When the waterworks were constructed at this site in the late 1860s, there was no busy Michigan Avenue separating the adjoining picturesque buildings.

Their great historical significance is well known to all Chicagoans as they were the only public buildings in the burned area to survive the Chicago Fire of 1871. In fact, the Water Tower was one of perhaps only a handful of buildings of any kind to escape, scarred but virtually intact. The Pumping Station building was gutted, but the walls stood, and it was quickly repaired. Dominating the vista up North Michigan Avenue, the Water Tower is looked upon as a memorial to the fire and a conscious commemoration of the indomitable and indefatigable spirit that infused Chicagoans as the prairie town rebuilt itself with astonishing speed into a Midwest metropolis.
Contributing to the character of the district is another old building, the Fire Station of Engine Company No. 98, which stands immediately east of the Pumping Station. Constructed in 1903, the little one-engine firehouse was designed in the general architectural style of the waterworks. The three buildings are pleasingly sited within the landscaped open space of Water Tower and Seneca parks.

History of Chicago’s Waterworks

Prior to the 1840s, Chicagoans drew their water directly from the lake or river, got it from a well dug in 1834 in the vicinity of Rush and Kinzie streets, or patronized one of the water-cart merchants who sold water from a barrel mounted on two wheels and drawn by a horse. In 1836, a private enterprise, the Chicago Hydraulic Company, was incorporated to build and operate a waterworks. However, due to the financial crash of 1839, the new system was not activated until 1842.

By 1851, private resources were no longer capable of supplying Chicago with sufficient potable water and hence Chicago’s first municipally owned waterworks began serving the city’s 35,000 people in February of 1854. Water was pumped from 600 feet offshore into three reservoirs, one for each section of the city, and from them through an ever-growing system of pipes into the houses of people who paid for the service. The pumping station, located on the same site as the present one, housed a steam-powered, single-action pump nicknamed “Old Sally” which was capable of producing eight million gallons of water a day. In 1857, a second pump was installed with a capacity of twelve million per day. The 1850s also saw the initiation of another aspect of Chicago’s pure water program. Beginning in 1856 and continuing for several decades thereafter, the city underwent a radical transformation as buildings were jacked up, the level of the streets was raised, and new underground sewers were installed.

By the early 1860s, however, with the burgeoning population of the city, the double problem of water supply and sewerage grew increasingly complex. Sewage dumped into the river was carried into the lake, contaminating the water supply and resulting in a high incidence of typhoid fever and dysentery. It became obvious that the water intake from the lake would have to be placed at a greater distance from the shore. Additionally, the daily supply of water was already proving inadequate. The solution, proposed by engineering expert Ellis Sylvester Chesbrough, has come to be recognized as one of the great engineering feats of the nineteenth century. Chesbrough, born in 1813 in impoverished circumstances, received only a fragmentary formal education. His real training came from the Corps of Army Engineers while he was employed as a construction worker on the Baltimore and Ohio Railroad. Before being appointed Chicago’s chief engineer in 1855 by the newly created Chicago Board of Sewage Commissioners, Chesbrough had held that same post in the city of Boston. There he had supervised the hydraulic engineering and location construction of the buildings and systems of the Cochituate aqueduct.

For Chicago, Chesbrough proposed a new system that included the unprecedented construction of a subterranean tunnel sixty feet below the lake surface and stretching two miles out from shore where he thought the water was certain to be pure. The tunnel, lined with two courses of brick, was large enough for two mules to work abreast in it. The tunnel, starting in the pumping station, would extend out to a “crib,” or water intake unit. In the face of ridicule and criticism and plagued by restrictions imposed by the Civil War, Chesbrough nevertheless prevailed with his visionary scheme. Work commenced on March 17, 1864, and was completed three years later. This significant public works project was deemed worthy of comment by Edwards’ Chicago City Guide for 1869-70 which reported that:

Until Monday, March 25th, 1867, the good people of Chicago suffered great affliction in the character of the water which they used. It was a dirty fluid taken from the edge of the lake and often abounding with scaly inhabitants of the great deep whose presence in the houses and on the tables, recalled the Egyptian plague of the fishes. But engineering skill has overcome that difficulty, and now gives us the finest water in the world, deep from the bottom of the lake.

Simultaneously, construction of the present Chicago Avenue Pumping Station had been proceeding piecemeal on the site of the old one in such a way as not to interrupt the water supply. A third pump, capable of pumping eighteen million gallons of water per day, was installed on the recommendation of DeWitt Cregier, chief engineer of the city.
At this time, pumping engines sent water into mains in a series of surges, or pulsations, so that at one moment there would be no pressure and at the next, pressure so great that it would cause flooding or damage to the pipes. To equalize the pressure, a vertical pipe, 138 feet high by 3 feet in diameter, called a standpipe, was inserted in the horizontal pipe leading from the pump so that excessive pressure could be relieved by the water's rising in the standpipe. It was to house this huge standpipe that the water tower was built adjacent to the pumping station.

Chicago's revolutionary new method for a pure water supply brought international renown both to its inventor and to Chicago. From then on, the water system continued to grow and the purity of the water was further assured when, in the 1890s, the Chicago Sanitary District dug the Chicago Sanitary and Ship Canal and reversed the flow of the Chicago River. The city's water supply system, today, although vastly enlarged and improved, is still fundamentally the same as the prototype developed by Chesbrough, and it is visited and studied by engineers and students from around the world.

An architect of considerable stature, William W. Boyington, had been commissioned to design a functional yet distinctive structure to house the utilitarian equipment necessary to supply the city with ample pure water. The high caliber of his design would reflect the importance of this public improvement.

William W. Boyington was one of the most esteemed and prolific architects in the Midwest during the second half of the nineteenth century. In his obituary for Boyington in the November, 1898, issue of Inland Architect, P.B. Wight reported:

The statement he is said to have once made, that if all the buildings he had planned were placed in a row, they would reach from Chicago to Highland Park, a distance of about 25 miles, was probably no exaggeration.

Born in Southwick, Massachusetts on July 22, 1818, of pioneer stock, Boyington was trained as an engineer and architect in New York State. For a time he practiced there and was elected a member of the state legislature, serving as chairman of its Committee on Public Buildings. He settled permanently in Chicago in 1853.

As a professional, he was responsible for many types of buildings such as schools, churches, hotels, office buildings, and railroad stations. Among his notable Chicago structures were various buildings for the first University of Chicago, located at 34th Street and Cottage Grove Avenue (1859, 1863, 1865; all demolished); the first Sherman House at Clark and Randolph streets (1859, demolished in 1910);

Architect William W. Boyington was one of Chicago's premier architects during the middle years of the nineteenth century. (Courtesy of the Chicago Historical Society)
Rosehill Cemetery Entrance (designated a Chicago Landmark on October 16, 1980); and the Chicago Board of Trade Building at LaSalle and Jackson (1885, demolished in 1928 for construction of the present Holabird and Root building). He was considered a foremost practitioner in the field of hotel and church design, and he received commissions for churches in Indiana, Iowa, Ohio, and Michigan and for hotels as far away as Colorado and Canada. Within Illinois he collaborated on the design of the state penitentiary at Joliet and the completion of the State Capitol in Springfield. Always active in professional affairs, he was elected the first president of the Chicago Chapter of the American Institute of Architects, organized in 1870.

Boyington moved to Highland Park, Illinois, where he was elected mayor in 1875. He died there on October 16, 1898, in his eightieth year. Boyington’s designs ranged from castellated Gothic to Romanesque to Italianate to Second Empire. Although his work was not innovative, it exemplified the eclecticism of Victorian architecture at its height.

The style Boyington chose for the Water Tower and Pumping Station is described as “castellated Gothic.” The term “castellated” refers to the use of battlements as a decorative emphasis. In medieval times the battlement was actually a functional element of any fortified building, being the notched parapet behind which the archers and crossbowmen defended themselves. Castellated Gothic used the forms of medieval English architecture for picturesque effect, and it was whimsical and romantic rather than serious. Hence the tower and the pumping station are really fanciful interpretations of a medieval fortress. This architectural revival flourished in the United States from approximately 1860 until 1890.

The aesthetic appeal of this style as applied to the Water Tower has varied considerably over the years. The English author Oscar Wilde, when he encountered the tower on a visit to Chicago in 1882, pronounced it “a castellated monstrosity with pepper boxes stuck all over it.” University of Illinois professor of architecture Frederick Koepker, in his book Illinois Architecture (1968), judged it “as more reminiscent of the eighteenth-century Gothic follies than of the Victorian period.” However, Chicago’s Famous Buildings (1980) called it “an imitation of Gothic architecture so naive it seems original at points.”

The Water Tower is constructed of solid blocks of rough-faced, cream-yellow limestone once extensively quarried near Joliet and widely used in Chicago and throughout Illinois. The exterior is divided into five sections which rise in diminishing size from the lowest, which is 40 feet square, its roof forming a balcony around the second section. Turrets extend up from the four corners of each of the three rectangular lower sections, the walls of which are surmounted by cut-stone battlements. The octagonal shaft that ascends from this triple base measures 154 feet from the ground to its battlemented and turreted top. Two narrow slotted windows pierce each of the shaft’s eight sides at alternating heights, and its top is capped by a cupola of steel with a copper roof that has acquired an attractive green patina over the years. The many-windowed cupola once was a popular observatory.

Each side of the ground level section is marked by a stately central doorway spanned by segmental arches and two large casement windows with heavy ornamental, carved stone lintels. The doors themselves are decorated with Gothic revival detail. Inside, a continuous circular 9-foot-wide vestibule formerly surrounded the base of the thirty-six inch standpipe the tower was built to house. The pipe has long since been removed, but a spiral staircase, though not the original one, still climbs to the top of the tower in 237 steps.

The tower has no basement. Its foundation consists of 168 piles filled with concrete and capped with twelve-inch timbers. Massive stones laid in cement complete the base to six feet below grade. At this point, the bottom section of the standpipe contained six openings to which the water mains were connected.

On the outer and inner walls of the Water Tower, and in one case affixed to a stone slab near its base, are various tablets commemorating persons and events. The cornerstone attests to the fact that it was laid by the Masonic Fraternity. Another tablet mentions the tower’s role “as a principal memorial of 1871’s Great Fire.” One plaque memorializes the services of DeWitt Clinton Cregier, engineer of the Chicago Avenue Pumping Station (1853-79), city engineer (1879-82), commissioner of public works (1882-86), and mayor of Chicago (1889-91). Another honors Ellis S. Chesbrough, chief engineer, Board of Sewage Commissioners (1855-61), city engineer (1861-78), commissioner of public works (1879). Another honors John Ernst Ericson, assistant engineer (1884-89 and 1890-97), city engineer (1897-1919 and 1923-37), consulting engineer (1919-23), and chairman of the Harbor and Subway Commission (1911-14). The officials responsible for building the waterworks are listed on a plaque preserved under glass inside the tower. Two tablets are war memorials. The most recent plaques designate the tower as the first American Water Landmark and as an official Chicago Landmark.

Like the Water Tower, the pumping station is castellated Gothic in style and constructed of rough-faced, cream-yellow limestone from Joliet. It is two stories high and, like the tower, decorated with cut-stone battlements and turrets. A low-pitched hipped roof tops the structure. A tall limestone smokestack, a smaller and less elaborate version of the shaft of the tower, rises from the east side of the building.

Amidst the devastation wrought by the Fire of 1871, the Water Tower stood scarred but virtually intact.
(Courtesy of the Chicago Historical Society)
The Chicago Avenue Pumping Station is castellated Gothic in style.

The pumping station was designed on a massive scale. The engine room measured 142 feet by 60 feet with a 36-foot ceiling, and midway between floor and ceiling had a handsome gallery from which the operation of the engines could be viewed. The central portion of the front section was divided into two stories, the upper floor devoted to drafting rooms and sleeping apartments for the engineers, the lower floor divided by the main entrance and containing a large reception room, engineers' offices, etc. The pumps, delivery mains, and other apparatus were located below the main floor. The two boiler rooms were at the rear of the building, and between them the smokestack rose to a height of 131 feet from the ground.

The 1871 fire gutted the pumping station which had a wooden roof. The machinery was so badly damaged that the city's water supply was virtually cut off for eight days, although a partial supply was furnished by pumping water from the river and making connections with wells. The damage to the engine house was quickly repaired, the machine shop was rebuilt, and the engines were put into operation, one after another, in short order.

The Fire Station of Engine Company No. 98

Contributing to the character of the area is the Fire Station of Engine Company No. 98 which stands immediately east of the pumping station. This little one-engine firehouse was designed to complement the style of the waterworks and is a rare example of the Victorian Gothic style applied to this type of building. It has served as the headquarters of Engine Company No. 98 since the formation of that company on October 31, 1904.


The 1903 Annual Report of the Department of Public Works, in its listing for the new engine house, points out that "the furnishings throughout are first-class in every particular." It further states that the total cost was $19,975. This sum was significantly higher than those paid for the construction of most firehouses at that time. Although it cannot be documented, fire department historians speculate that it was not taxpayers' dollars that were spent on the station but funds donated by prominent Chicago businessman Potter Palmer. Potter Palmer (1826-1902) was successively founder and proprietor of a nationally famous department store (now Marshall Field & Company) and a prestigious hotel (Palmer House), and creator of State Street as a commercial and retail center. In the 1880s, he optimistically constructed his own residence on a site that lay in a patch of frog ponds on Lake Shore Drive. The fire station may have been modeled after this palatial mansion which stood at 1350 Lake Shore Drive until it was demolished in 1950 for the construction of an apartment building. Nicknamed the "castle," it was designed by Henry Ives Cobb and Charles Summer Frost and built between 1882 and 1885.
The facade of the fire station features projecting castellated turrets with mock arrow-slit windows at the top.

(Bob Thall, photographer)

As other wealthy Chicagoans moved into the vicinity, the need for adequate fire protection became apparent. These influential new residents may have been instrumental in seeing that a fire station was located on Chicago Avenue.

The station was designed by City Architect E. F. Hermann and was built by McEwen Manufacturing and Building Company. It has two stories and a cellar and covers an area of thirty by ninety feet. The exterior walls are of rough-faced, blue-grey Bedford limestone with a smooth-faced rubble-stone foundation. The main portal, facing Chicago Avenue, is spanned by a Tudor arch, which is a pointed arch derived from late medieval architecture. The tympanum is stone and is inscribed “Chicago Fire Department” in Gothic script. Flanking the firehouse door are a rectangular window to the east and a doorway with a transom to the west, each framed by a rectilinear hood mould. In medieval architecture, a hood mould projected over an opening to throw off rain water. Above the west doorway is a transom inset with leaded stained glass. The stained glass is patterned in parallel rows of large green circles on a mauve pink field banded by pale yellow glass. This handsome design reappears in almost all the window transoms throughout the station. At the east and west corners of the facade at the second story level are projecting castellated turrets supported by corbels with mock arrow-slit windows at the top.

On the first floor of the interior, the heavy oak-beamed ceiling, set in a tongue and groove pattern, is original, as are the interior walls with their glazed brick facing. Before the Chicago Fire Department became fully mechanized in 1923, the rear portion of the first floor was used to stable the horses. Only two of the four original firemen’s brass poles are still intact. A marble-topped, knee-hole “joker’s” desk was also a part of the original interior furnishings. (In firefighter’s slang, the “joker” is the person who takes the incoming calls of reported fires.) On the second floor, handsome antique-stained oak lockers are still in use, but a fireplace with a marble mantel with a beveled mirror above have been removed.

The fire station is first mentioned in the 27th Annual Report of the Department of Public Works, Division of Architecture, which states:

The following plans were made, for which contracts are to be let during 1903. . . . For a brick fire engine house with stone fronts to be built on Chicago Avenue, east of the Water Works. This building will be, when completed, one of the finest in the City.

This statement may still be true today. Its architectural style is more elaborate than those used for most fire stations of the period, and a great deal of attention was given to its design and detail. It stands today in mint condition. Changes have been made only when necessary to accommodate a mechanized fire-fighting function.

Firefighters who first staffed this engine house protected the palatial residences of prominent Chicago families such as the Farwells, McCormicks, Bordens, and Palmers. Today the firefighters of Engine Company No. 98 are specifically trained and equipped to deal with fires in the hotels and high-rise structures that now predominate in the vicinity of Chicago and Michigan avenues and Lake Shore Drive.

The Fire Station of Engine Co. No. 98 has been serving the Near North Side for over eighty years.

(Bob Thall, photographer)
The change of Pine Street from a sedate neighborhood street into a broad and bustling commercial thoroughfare called Michigan Avenue occurred between 1916 and 1920 with the construction of the Michigan Avenue Bridge across the Chicago River and the widening of the street into a boulevard. As the weekly business periodical The Economist related in 1918:

Plans are now taking shape by which North Michigan Avenue from Randolph Street north to Chicago Avenue will be converted into one of the most attractive and fashionable shopping thoroughfares in the world.

These public improvements resulted from Daniel Burnham and Edward Bennett’s 1909 Plan of Chicago. The North Michigan Avenue we know today was one of the most successfully implemented ideas of this widely influential document of city planning.

The Old Chicago Water Tower and Historic Preservation

Chicagoans would be greatly surprised to hear that the Old Chicago Water Tower has had its share of demolition threats. The first came in 1906 when the installation of modern pumping equipment made the standpipe obsolete. After surviving this movement to tear it down, the tower was again endangered in 1918 when the city wanted to move or demolish it to make way for the broad new Michigan Avenue then under construction. Rallied by the Chicago
Historical Society and other civic groups, public sentiment prevailed and Michigan Avenue was rerouted by a slight bend and narrows at that point. In referring to the threatened destruction in the 1919 annual report of the Chicago Historical Society, the secretary of that body opined, "Must Chicago forever typify the newly rich among the world cities?"

That time, it was Mayor William Hale Thompson who bowed to public outcry and it was he who ten years later may have been responsible for arranging for the tower to be floodlighted at night, in accordance with the suggestion of the Water Bureau’s senior mechanical engineer J. J. McDonough. The next move to do away with the Water Tower came in 1948, when some art lovers wanted to replace it with a community art center. This time it was Mayor Martin H. Kennelley who stood firm.

Fortunately, over the years the Old Chicago Water Tower was not neglected, although it was not until 1912-13 that the damage to the masonry from the 1871 fire was finally repaired. In 1934, the Great Depression made more repairs to the tower possible through the Federal Works Progress Administration, and a $35,000 tuckpointing job was done. In 1962-63, the city spent $150,000 to restore the tower. For this job, a small quarry was found in Joliet, apparently the last source of new yellow limestone from that area. In the renovation, 570 new stones were used and 716 old ones were reset. For future patching, the city salvaged stones from the old St. John’s Roman Catholic Church razed in 1962. That very same year, during a debate in Britain’s House of Commons on the wisdom of preserving some of England’s old buildings, a member who had recently visited Chicago spoke of preservation there of “an absolutely ghastly building, of no possible architectural importance...for purely sentimental reasons.” Another member of Parliament rose to the structure’s defense, however, calling it “a water tower to end all water towers.”

It was this latter view that prevailed in Chicago as Mayor Richard J. Daley opened “Water Tower Week” on March 27, 1967, to commemorate the 100th anniversary of the laying of the cornerstone. On August 12, 1969, the plaque presented by the American Water Works Association, commemorating the tower’s completion on the same date in 1869 and designating it as the first American Water Landmark, was unveiled by Mayor Daley in a ceremony at the site. Finally, the perpetuation and preservation of the Old Chicago Water Tower was ultimately assured when the City Council designated it an official Chicago Landmark on October 6, 1971. It is noteworthy that the Old Chicago Water Tower was probably the first structure to elicit public concern for preservation in Chicago.

The Old Chicago Water Tower District Today

The Old Chicago Water Tower and the adjacent pumping station continue to play a significant role in the life of the city, due to the adaptive reuse program instituted at both structures. In 1979, the city converted the Old Chicago Water Tower to a visitors information center. Special care was taken to ensure that new furnishings appear as free-standing elements within the restored space in order to clearly distinguish them from original construction. A new vaulted plaster ceiling was added to carry the Gothic motif of the architecture into the interior.

Simultaneously, the park surrounding the tower was refurbished with new honey locust trees and low shrubs. A new plaza of limestone slabs was built, with special care being taken to see that the color of the limestone should duplicate that of the tower. Bordering the plaza is a railing with integral lampposts salvaged from the now-demolished Lakeview Pumping Station. The plaza was decorated with two authentic old fire hydrants and an antique animal drinking trough, a type once placed around the city by the Illinois Humane Society but now converted to a drinking fountain for humans. Old-style park benches were introduced to harmonize with the nineteenth-century character of the building. These well-landscaped grounds now provide a welcome respite in the midst of Michigan Avenue’s frenzied urban activity.

In 1982, an unused portion of the Pumping Station was converted into two theaters which present Here’s Chicago, a multi-media audio visual program which serves as an introduction to the city for the tourist and a reacquaintance with the city for the longtime citizen. Additional interest is provided by a display of historical materials which illustrate the growth of the city. Viewers of Here’s Chicago also have the opportunity to see the still-functioning workings of the pumping station.

North Michigan Avenue today is one of Chicago’s most prominent and acclaimed streets, a focal point of attraction for Chicagoans and visitors to Chicago. Surrounded but not overshadowed by the modern skyscrapers which house prestige offices, hotels, and stores, the Old Chicago Water Tower District continues to maintain its reputation as the city’s legendary landmark.
Although now surrounded by much taller buildings, the Old Chicago Water Tower is still a commanding presence on North Michigan Avenue.

(Richard Nickel, photographer)

The Commission on Chicago Historical and Architectural Landmarks was established in 1968 by city ordinance, and was given the responsibility of recommending to the City Council that specific landmarks be preserved and protected by law. The ordinance states that the Commission, whose nine members are appointed by the Mayor, can recommend any area, building, structure, work of art, or other object that has sufficient historical, community, or aesthetic value. Once the City Council acts on the Commission's recommendation and designates a Chicago Landmark, the ordinance provides for the preservation, protection, enhancement, rehabilitation, and perpetuation of that landmark. The Commission assists by carefully reviewing all applications for building permits pertaining to designated Chicago Landmarks. This insures that any proposed alteration does not detract from those qualities that caused the landmark to be designated.

The Commission makes its recommendations to the City Council only after extensive study. As part of this study, the Commission's staff prepares detailed documentation on each potential landmark. This public information brochure is a synopsis of various research materials compiled as part of the designation procedure.