

Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House



DESIGNATION REPORT

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LOCATION

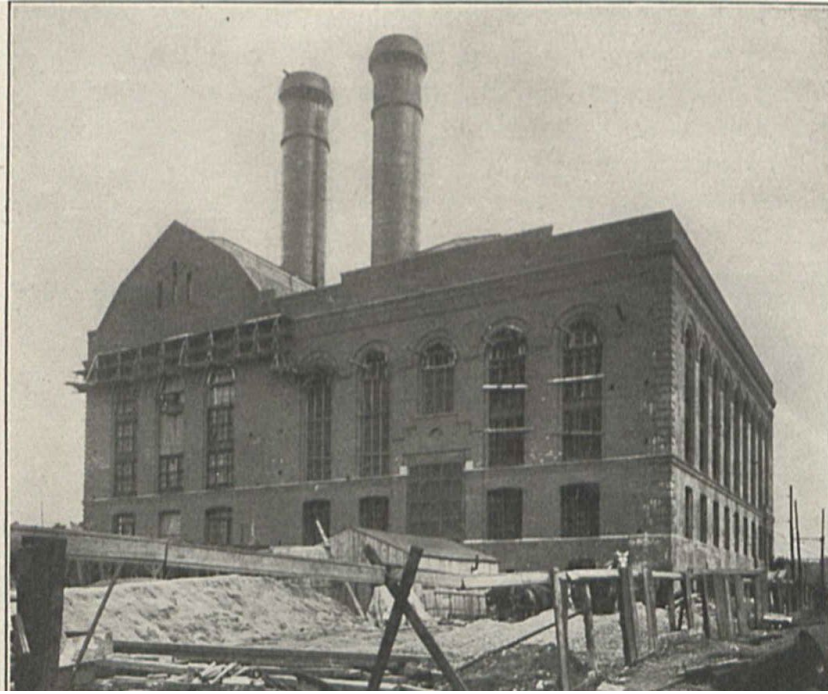
Borough of Brooklyn
153 2nd Street (aka 322 Third Avenue,
340 Third Avenue)

LANDMARK TYPE

Individual

SIGNIFICANCE

The monumental BRT Central Power Station Engine House is a prominent reminder of the era when the Gowanus Canal was a significant inland waterway and the Gowanus neighborhood was a major industrial center.



“New Central Station,” *The Street Railway Journal*, February 14, 1903

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Kate Lemos McHale, Director of Research
Cory Herrala, Director of Preservation

REPORT BY

Matthew A. Postal, Research Department

EDITED BY

Kate Lemos McHale and Margaret Herman

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Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House

153 2nd Street, Brooklyn

Designation List 515 LP-2639

Built: 1901-04

Consulting engineer: Thomas E. Murray

Landmark Site: Borough of Brooklyn Tax Map Block 967, Lot 1 in part, consisting of the land beneath the Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House.

Calendared: June 25, 2019

Public Hearing: September 24, 2019

On September 24, 2019, the Landmarks Preservation Commission held a public hearing on the proposed designation of the Brooklyn Rapid Transit (BRT) Central Power Station Engine House as a New York City Landmark and the proposed designation of the related Landmark Site (Item No. 2). The hearing was duly advertised in accordance with the provisions of the law. Fourteen people testified in support of designation, including a representative of the owner, a representative of Council member Brad Lander, and representatives of the Gowanus Landmarking Coalition, Historic Districts Council, The New York Landmarks Conservancy, The Municipal Art Society of New York, Friends & Residents of Greater Gowanus, and the Park Slope Civic Council. No one spoke in opposition. LPC received 33 emails in support of designation.

Summary

BRT Central Power Station Engine House

The former BRT Central Power Station Engine House is one of the most prominent buildings on the Gowanus Canal. A monumental link to the area's industrial past and a significant structure in the development of mass transit in New York City, this large red brick building was constructed in 1901-04 by the Brooklyn Rapid Transit Company, which gained a near-monopoly over Brooklyn's railroad and streetcar lines after being established in 1896.

The BRT Central Power Station was part of an ambitious electrical power generating network that produced direct and alternating current that was transmitted to streetcars and elevated railways. At the time of completion, it consisted of two connected structures: a north section, now demolished, which served as the Boiler House, and the surviving south section, the Engine House, which contained the engine and dynamo room. *The Brooklyn Daily Eagle* called the facility "one of the largest as well as finest power plants owned by any street railway company in the country." The facility became a substation of the Williamsburg Power House in 1939, delivering direct current to the Fourth Avenue subway until 1972.

Thomas E. Murray was the power station's engineer. He planned facilities throughout the United States, including, in New York City, the mammoth Waterside and Sherman Creek stations (both demolished), as well as the Hell Gate station in Queens and Gold Street station in Brooklyn. At the time of his death, it was believed that Murray, through his dozens of power stations, was responsible for creating more electrical generating

capacity than any engineer in history.

The three original brick facades are bold yet restrained, gaining much of their impact from the structure's immense size, simple massing, and multi-story window openings. Embellished with simple Classical and Romanesque Revival-style ornament, significant features include: quoining, round-arch moldings, an arched corbel table, bluestone string courses, and on the west facade, facing the Gowanus Canal, a stepped entry portal.

Despite decades of neglect and the removal of the roof, the former BRT Engine House remains largely intact and prominent in the Gowanus neighborhood. In 2012, the abandoned structure was acquired by the Powerhouse Environmental Arts Foundation, which is currently rehabilitating the structure and building an annex.

Building Description

BRT Central Power Station Engine House

Description

The BRT Engine House is located in the Gowanus section of Brooklyn. The site is on the east side of the Gowanus Canal, near the intersection of Third Avenue and 2nd Street. Clad with red brick, the three original facades incorporate Classical and Romanesque Revival-style details including brick quoins and corbels, and round-arch and segmental-arch window openings. Each facade is divided into a tripartite arrangement, including a base consisting of a raised basement and first story with segmental-arch windows, a mid-section with monumental round-arch windows, and an upper portion with brick moldings (west facade), a crenellated frieze (south and east facades), and brick parapets (all facades). The north wall, which was exposed in the 1950s by the demolition of the adjacent Boiler House, is brick with visible steel columns. The condition of each facade at the time of designation is described below; for more background on the structure's style and design, see "Designing the Central Power Station" in the History and Significance section.

West (Gowanus Canal) Facade

The west facade facing the Gowanus Canal is five bays wide, with a prominent rectangular opening in the center bay of the first floor. This opening is flanked by simple brick pilasters and has a prominent steel lintel, surmounted by a raised stepped surround with an edged blind oculus at center, and bluestone trim. To either side of the entrance are large openings, three with shallow segmental arches. The mid-section has five round-arch openings, linked by

a continuous brick molding that springs from an impost, and a bluestone sill course. These openings align with the openings at the first story. Most incorporate the original metal spandrels and fan-like window frames within the arches. Horizontal brick moldings divide the mid-section from the parapet, which is taller above the three center arches. The gabled steel-frame monitor on the roof is slightly visible above the parapet. The façade's south (right) edge has continuous brick quoining.

South Facade

The nine-bay-wide south facade is visible from 3rd Street, across a parking lot. The raised base has a sub-story with narrow segmental-arch window openings and an entrance bay at the east end. On the first story is a row of recessed window openings with segmental arches and a bluestone sill courses. The metal enframements in the upper part of each opening may be original. The entrance bay at the east end of the south facade projects slightly. It is framed by a surround with a segmental arch and brick moldings. The double-height mid-section has monumental round-arch openings, linked by a continuous molding that springs from an impost. Most openings incorporate the original metal spandrels and all have their original fan-like window frames. The east and west edges of the south facade have continuous quoining; on the east edge the quoins wrap around the corner, which steps back slightly to a windowless wall that meets the corner of the east facade. In the recessed corner, on the wall facing east, is a single window opening on the first story. At the basement level, on the wall facing south, is a single opening with a metal door. The upper part of the south facade has a shallow crenellated frieze, crowned by a brick parapet.

East Facade

The five-bay-wide east facade is similar to the west

facade but the brick walls at the south and north ends are less wide. The base has five openings with segmental arches at the first story, above a bluestone sill. The raised basement is brick, with narrow segmental-arch openings in the north bay. The mid-section has five round-arch openings, linked by a continuous molding that springs from an impost. Some openings incorporate original spandrels and fan-like metal windows. The upper part of the facade has a shallow crenellated frieze, crowned by a brick parapet that may have lost the original face brick.

rehabilitate the BRT Engine House and construct an annex on the north side.

North Facade

The north facade was mostly exposed by demolition of the Boiler House. It has infill brick and steelwork that is probably not original and dates from the early 1950s. On the east end, the facade steps back to a windowless wall. The wall facing east incorporates quoining and part of a stepped turret. The wall facing north has a shallow crenellated frieze.

Alterations

The north (left) edge of the **west facade** has an uneven, jagged edge. Windows have been removed and non-historic concrete block, plywood panels, and metal panels have been installed in many openings.

The first-floor entrance of the **south facade**, at the east end, has been infilled with concrete block. A roll-down metal gate has been installed in the corresponding opening at the basement level. Openings at the base of the **west facade** have also been infilled with masonry and metal gates.

The roof materials and glazing in the roof monitor have been removed, as well as much of the roofing. There is graffiti on many parts of the exteriors, particularly in the lower and upper sections of the three original façades, including the south and west parapets.

Prior to calendaring, permits were issued by the New York City Department of Buildings to

History and Significance

BRT Central Power Station Engine House

Gowanus: Development and History¹

The BRT Engine House is located in the Gowanus neighborhood of Brooklyn, which extends roughly from Baltic Street to the Gowanus Expressway and from Bond Street eastward to Fourth Avenue. Before the arrival of European colonists, this area was occupied by the Canarsee, one of several Algonquin-speaking groups comprising the Lenape people, whose territory extended from the Upper Hudson Valley to Delaware Bay. The Canarsee developed an extensive network of trails, including one from the present Atlantic Terminal area to Gowanus Bay, which opens into New York Harbor.

“Gowanus” is a Munsee (tribe) word of uncertain meaning. The area’s central geographic feature was Gowanus Creek, a tidal estuary originating near the present-day intersection of Third Avenue and Baltic Street and meandering southward through marshlands towards Gowanus Bay. At the time of the American Revolution, Gowanus was largely agricultural, with labor often performed by enslaved people of African descent. Along the shore of Gowanus Bay, colonists erected several tide mills, which released water impounded during high tide to grind grains into flour and meal.

The area played a key role in the Battle of Long Island (also known as the Battle of Brooklyn), the first major conflict of the Revolutionary War and the largest waged in North America up to that time. In August 1776, thousands of British troops landed in Brooklyn at Gravesend Bay with the goal of capturing New York City and crushing the nascent rebellion. One of the few routes leading to New York

City was the Gowanus Road, located near present-day Fifth Avenue. At the Vechte-Cortelyou House (demolished) on the Gowanus Road near Third Street, a contingent of Maryland troops battled British forces, allowing General George Washington and his army to escape and survive.

Gowanus remained rural until the mid-19th century. To real estate speculators and developers, the acres of marshlands were worse than useless: unable to be built upon, they were also thought to generate unhealthy air that impeded development throughout the surrounding area. Draining the marshes, the *Brooklyn Daily Eagle* argued, would remove the “miasma which hangs about Prospect Hill and other portions of the city, making them liable to intermittent fevers and other diseases; and thus shutting them out from improvement.”²

At the request of Brooklyn’s Common Council, in 1847 hydraulic engineer David B. Douglass developed plans for a permanent drainage canal emptying into Gowanus Bay. This self-cleaning canal would either extend through downtown Brooklyn to Wallabout Bay, or connect to a parallel canal that would permit periodic flushing.

Douglass’ proposal was rejected in favor of a much cheaper one from the developer of Atlantic Basin, Daniel Richards. Approved as the Gowanus Canal in 1849, Richards’ waterway roughly followed the path of Gowanus Creek, extending northward from Gowanus Bay to near Sixth Street, where it turned eastward before again turning northward at 2nd Street. Unlike Douglass, Richards saw no need for a flushing mechanism, expecting tidal action to keep the canal clean. His waterway would be an industrial as well as drainage canal, navigable by barges and other small vessels and containing several large commercial basins. “The introduction of this class of shipping into this section of our city would cause to spring to life much new enterprise, and introduce a lively business along the line of the

canal,” predicted Richards, who envisioned the canal’s banks lined with “cheap warehouses, sheds and yards, for deposit and storage of heavy coarse goods, as also lumber, coal, brick, stone and wood yards, as well as manufactories.”³

Despite the adoption of Richards’ plan, no formal mechanism was created for implementation and construction. It was left up to local landowners, who proceeded haphazardly through the 1850s. Central to the canal’s completion would be railroad magnate, financier, and speculator Edwin C. Litchfield, who in the 1850s acquired various farms between 1st and 9th Streets, stretching from the canal to what is now Prospect Park.

Litchfield directed much of the filling, grading, and paving work along the east side of the canal. He was also instrumental in creating a state commission to make improvements to 3rd Street, which ran directly through the heart of his property. Although work stagnated during the Civil War, it accelerated in 1866 with the founding of Litchfield’s Brooklyn Improvement Company to develop private docking facilities. Soon afterward, the state chartered the Gowanus Canal Improvement Commission, which would dredge the canal, install permanent canal walls, and carry the project to completion over the next four years. During this time, Litchfield’s company began building private basins along the east side of the canal, including a lateral canal at 1st Street, where the BRT Engine House was built, and those remaining today at 4th, 6th, and 7th Streets.

As improvements to the canal neared completion in the late 1860s, area streets continued to be paved and opened and Richards’ long-delayed vision of an urban waterway lined with industry began to be realized. By 1869, about a dozen firms had established themselves along the canal; most dealt in bulk goods, as would be typical of the Gowanus area throughout its history. Several lumber yards, a stone yard, a sawmill, and factories making

doors, blinds, and drainpipe were already operating on the canal, which would play a key role in Brooklyn’s late-19th- and early-20th-century building boom as a major entry and distribution point for building supplies. By the early 1870s, the canal had also become the center of Brooklyn’s coal trade. More than 40 industrial firms were active in the area by the 1880s. Manufactured goods, including tinware, furniture, chemicals, paint, paper, and textiles, as well as food and tobacco items, were produced in brick structures that were located near the canal.

The 1920s was the canal’s most active decade. At this time, *The New York Times* called it “one of the dirtiest, one of the shortest, and one of the most important waterways in the world,” noting that it handled more freight annually than the entire State Barge [Erie] Canal.⁴ Use, however, steeply declined in the 1930s due to a decline in local building activity, the shift from coal to oil, and the replacement of local waterborne freight with trucking.

Following World War II, there was a decline in industrial activity along the canal, many businesses closed, leaving vacant lots and buildings. While heavy industry has largely left the Gowanus, parts of the area have attracted light-industrial and commercial activity, and it has become a hub for creative industries and non-profit organizations, many of which are located in former industrial buildings.

In 2010, the United States Environmental Protection Agency declared the canal a Superfund site, initiating the start of a multi-year cleanup project that continues today. Reduction in sewage overflows and reactivation of the flushing tunnel in 2014 have improved conditions in and along the canal. Apartment houses have been constructed on former industrial sites and the area is undergoing a rezoning by the Department of City Planning.

The Brooklyn Rapid Transit Company

In 1904, a guide to New York City published by the American Institute of Electrical Engineers observed:

Brooklyn, the largest area of the five boroughs of New York City, has unquestionably one of the most complex transportation systems in the world. Practically all of the street car lines in Brooklyn are operated by the Brooklyn Rapid Transit Company, which carries nearly one million passengers daily.⁵

Streetcars, which were originally pulled by horses, first began to operate in Brooklyn in the 1850s. Cable railways, with up to four cars per train, were introduced in 1880s. On the Brooklyn Bridge, one of the busiest routes in the system, trains used both cable traction and steam power. Surface lines began to use electric power in 1887. These streetcars had motors connected to electric power stations by miles of overhead wires, strung from poles.

The Brooklyn Rapid Transit Company was established in January 1896, when it acquired the Long Island Traction Company, a Virginia corporation that owned stock in Brooklyn companies that operated streetcars (also called trolleys and trams) and elevated transit lines. These railroads ran on public streets, private right of ways, and on elevated track. The purpose of the BRT was to “construct, extend, repair, improve, equip and furnish the motive power” for such systems. It was also “empowered to buy, hold, and dispose of the stocks bonds and other evidences of indebtedness of any corporation.”⁶

Railroad companies gradually began to change from steam to electric power in the late 1880s. This was done to make public transit safer, cleaner, and more reliable. Although individual

companies initially owned and operated their own power stations, experts believed that joint ownership of railroads would reduce operating costs, particularly in terms of generating electric power.⁷

By acquiring the Long Island Traction Company, the BRT took control of the Brooklyn Heights Railroad, Brooklyn City Railroad, and the Brooklyn Queens County & Suburban Railroad.⁸ In 1899, it acquired eight additional companies, including the Brooklyn Union Elevated, Kings County Elevated, and the Nassau Electric Railroad (formerly the Kings County, Fort Hamilton & Brooklyn, and Union Railroad companies).

In the years between 1896 and 1903 the number of passengers riding the BRT soared, increasing by 148 per cent. This period coincides with the electrification of the entire system, which required installing a third rail along one side of the tracks to provide power and equipping the individual cars with motors. For instance, conversion of the Fifth Avenue Elevated Railroad from steam power to electricity was completed in August 1899.⁹

On the Gowanus Canal

The BRT Central Power Station was built on the east side of the Gowanus Canal, between 1st and 2nd Streets. The present configuration of the site dates to the late 1850s, when canal improvements began and Denton’s Mill Pond, between 1st and 4th Streets, was filled. Following the Civil War, the Lateral Canal (also known as the 1st Street Basin) was created. Set perpendicular to the canal, it originally extended more than 500 feet, or nearly as far as Third Avenue.

A predecessor to the BRT, the Atlantic Avenue Railroad (later part of the Nassau Electric Railroad), built a 234- by 68-foot power station near the corner of Third Avenue and 1st Street in 1892. This brick structure was described as a “model street railway plant, built upon the most approved plans that the latest engineering skill can suggest or

devise.”¹⁰ Planned to power streetcars, the company’s president William Richardson commented:

There is hardly a site in the city better adapted for our purpose. We shall put up our power station directly on Gowanus Canal. This will be most convenient in taking coal, as it can be directly transferred from the canalboats into the bunks . . . The lateral canal will be a great convenience. We will get water for our condensers for it . . . A conduit will be laid from the station up Third Avenue to Bergen street and Atlantic Avenue.¹¹

Small power stations, however, were unable to satisfy the BRT’s growing appetite for electricity. Frequently criticized for poor service, matters grew significantly worse after December 4, 1900, when a fire destroyed the BRT power station in Ridgewood, Queens. According to *The Brooklyn Citizen*, the following day the BRT “began negotiating for a new plant” in Gowanus.¹²

A month later, in January 1901, the *Brooklyn Daily Eagle* described the Gowanus project and its location, reporting:

The Brooklyn Rapid Transit Company has in contemplation the erection of a large power house which will materially increase the operating facilities . . . The engineers, of course, have been aware of this for a long time and during the past six months plans for increasing the power have been in various stages of development . . .

a number of sites were considered but the one opposite the ball grounds [Washington Park] will be the location used.¹³

The author also explained the importance of the project and how it would allow the BRT to “operate all of the elevated system by electricity and to do away with steam altogether.”¹⁴

Construction

Work on the foundations began May 21, 1901.¹⁵ By the end of June 1901 contracts for the plant’s construction had been “let,” while others were being prepared for the manufacture of the boilers, engines, and generators.¹⁶

The *Brooklyn Daily Eagle* reported that the new power station would cost \$3 million and that “it required a great deal of work to clear the site.”¹⁷ Once it was cleared, hundreds of timber piles were driven into the ground and covered with a bed of concrete. The six-foot-thick foundations were finished in January 1902. “Extraordinary” delays -- caused by striking house smiths, riggers, steamfitters and boilermakers, as well as shortages of construction materials -- hindered construction.¹⁸ The steel-framed brick structure was erected during 1902 and the first engine began delivering “a small quantity of power” by March 1903.¹⁹ Additional engines were installed in March 1903. Though four engines were in operation by July 1903, there were problems with the boiler and steam fitting work. In June 1904 the BRT’s *Annual Report* described the facility as “practically completed,” with all eight 4,000 horsepower engines in operation.²⁰ At this time, the adjacent Third Avenue Station was placed in “reserve” to “give the company a large auxiliary supply of power which can always be called upon.”²¹

Thomas E. Murray, Engineer

As work neared completion, the BRT began calling the new facility the “Central” station. It was given this name “to distinguish it from the “Southern” and “Eastern” stations on other parts of the system.”²²

The Central Power Station was part of an ambitious power generating network planned by Thomas Edward Murray (1860-1929). A prominent mechanical and electrical engineer, he played a leading role in the development of New York City’s power grid, where he oversaw the design of nine (or more) electrical power generating stations.

Murray grew up in Albany, New York, where he served as chief engineer of the Albany Waterworks. In 1887 he was hired by Anthony N. Brady to manage a power station operated by the Albany Municipal Gas Company. Murray moved to New York City in the 1890s, where he designed electric lighting and power plants for New York Edison, Kings County Electric Light & Power, and the BRT, where Brady served as president and reportedly owned a one-third interest.²³

In *Electric Power Plants: A Description of a Number of a Power Stations*, published in 1910, Murray described the BRT’s Central Power Station as a “radical departure from the earlier system of operating trolley systems by primary generation or direct current with reliance upon boosters for long distances.”²⁴ Rather than using direct current, he adopted a high-tension distribution (alternating current) system with rotary converter substations, which he wrote offered “great flexibility and ample provision for future growth wherever this may become necessary.”²⁵

Murray planned several of New York City’s largest power stations, including Hell Gate (1921), Hudson Avenue (1924), and East 14th Street (1926). Murray was also a fertile inventor. He received 462 United States patents, focusing mostly on electrical generation and consumer safety .

Murray is often credited as the “designer” of the BRT Engine House (and other power plants). However, no architect was identified in newspaper articles or journals, and there is no solid evidence that Murray or his associates were responsible for determining the character of the architectural features.

Charles Edward Roehl (c. 1864-1959) supervised the Central Power Station’s construction. He had a four-decade-long career with the BRT and was described as “superintendent of power stations” and “engineer of electrical equipment.”²⁶ In October 1902, Roehl published a substantial illustrated article about the BRT’s power facilities in *The Street Railway Journal*.²⁷ His assistant was electrical engineer Charles B. Martin.

Designing the Central Power Station

The BRT Engine House is a monumental red brick structure with facades that blend Classical and Romanesque Revival-style features. It is most visible from 3rd Street, and from the west side of the Gowanus Canal, between 1st and 2nd Streets. Each facade is approximately four stories tall. Longer than wide, the south facade is 186 feet and the east and west facades are about 110 feet.

As originally constructed, the Central Power Station was asymmetrical, incorporating an Engine House and Boiler House, sometimes referred to as the steam generating plant. Though both structures had similar round-arch windows and were clad with identical red bricks, the Boiler House was taller, with a peaked gable, a corner turret, and twin 200-foot chimneys. To identify the owner, the east facade of the Boiler House had large metal letters above slender attic windows that spelled “BROOKLYN RAPID TRANSIT COMPANY.” Though the side that faced the canal was more or less identical to the east facade, by 1909 there were projecting wood additions that partly covered the round-arch

windows.

Relatively little was written about the Central Power Station's architectural design. *The Brooklyn Citizen* predicted that, when completed, it would be the "finest and biggest thing of its kind in the world."²⁸ And in a 1901 essay about the BRT's program to increase electrical capacity, Roehl described the forthcoming power station as having:

. . . been designed and is being built on what is accorded to be the very best lines of railway power house construction, and every attempt is being made to produce a model central station . . . It will be of red brick with bluestone trimming, and will follow out in its architectural lines what is now the standard Brooklyn Rapid Transit style of appearance.²⁹

Electricity produced by the Central Power Station was distributed to substations of mostly complementary design. Though much smaller in size, these BRT buildings had simple brick facades with plain cornices and similar fan-like metal windows. An unidentified author wrote in *The Street Railway Journal* in February 1903, that "This station is one of the handsomest examples of central station design in the Metropolitan district."³⁰

New York City's first electric power generating station was built on Pearl Street in Lower Manhattan by the Edison Illuminating Company in 1883. Consisting of two, four-story, three-bay structures, it had a utilitarian appearance that was hardly different from contemporary commercial buildings.

In subsequent years, most power plants were designed in variants of the Romanesque Revival style. Built to generate electricity for individual

customers and to power railways, these increasingly large facilities often had a solid fortress-like appearance, with over-sized architectural details. Buildings like these made a powerful statement: not only did they express the growth and importance of public transit but they assured the public that such facilities were solidly built and posed no danger.

The earliest surviving example in New York City is the Excelsior Steam Power Company Building (1882, 1887-89, a New York City Landmark) at 33-43 Gold Street in Lower Manhattan. Designed (or planned) by engineer William C. Gunnell, this seven-story red brick structure (now apartments) has Romanesque-style features that appear on the subsequent BRT Engine House, including round-arch windows, stone impostes, and an arched corbel table that runs across the top of the facade.

The rise of the City Beautiful Movement in the 1890s sparked a revival of interest in Classical-style architecture, impacting the design of many urban power stations. For instance, in 1899 the Manhattan Railway Company began building a power station on the Upper East Side. Designed by engineer George H. Pegram, this large red brick structure was under construction as the BRT's Central Power Station was being planned and includes a similar combination of Classical and Romanesque-style forms.

All three facades of the BRT Engine House are red brick. The east and west facades have five bays and the longer south facade has nine bays. This type of arcading is associated with both Classical and Romanesque Revival-style buildings. It was used to great effect by George B. Post in the New York Produce Exchange (1881-84, demolished) and in H. H. Richardson's Marshall Field Building (1885-87, demolished) in Chicago, as well as in many late 19th and early 20th century power stations.

Each facade has a tripartite arrangement.

The main (first) story has segmental arch openings, while the second story (and mezzanine levels) has multi-story round arch openings. These evenly-spaced multi-story openings originally had grids of windows separated by metal spandrels. The uppermost windows, some of which remain in place, had a fan-like pattern that was similar to many contemporaneous BRT substations.

The east and west facades are topped by a simple parapet which steps up slightly at center. The south and east facades, which were more visible from adjacent streets, originally had a simple cornice (now removed) of uncertain material positioned directly below the parapet. This cornice also extended around the corner and onto the end of the west facade.

The main entrance faced the canal and retains a stepped pediment that rests on Doric pilasters. Aligned with the center window, this distinctive feature is associated with Dutch and Dutch Colonial sources, appearing in many civic structures built in New York City during the 1890s, including schools, churches, and firehouses. The pediment incorporates a thick metal lintel and a blind oculus.

Understated and somewhat severe, the BRT Engine House displays relatively little ornament and the architectural features project only slightly from the surface. Exceptions include the quoins, which mark corners of the north and south facade, the arched trim above the windows, and the arched corbel table, which are expressed with slightly raised brickwork. The segmental arches and round arches have brick headers, while the multi-story openings are edged with continuous recessed brick bands. This feature creates multiple shadow lines, adding a consistent vertical rhythm to the facades. Contrasting bluestone was also used to enliven elements, in the string courses, stepped pediment, and arched corbel table.

Operating the Central Power Station³¹

Coal was transported on the Gowanus Canal and unloaded from barges that docked along the Lateral Canal. To assure continuous operation of the plant, a coal conveying apparatus was installed in duplicate. In 1903 the adjacent block, between 2nd and 3rd Streets, was acquired as a Reserve Coal Storage Yard. It had an estimated capacity of more than 75,000 tons.

The New York Electrical Handbook praised the power station's design on practical grounds, saying it was "remarkable because of the economical arrangement of machinery as regards space and from the fact that both direct and alternating current is supplied."³²

Divided into two "houses," the Central Power Station's south section contained the Engine House and the demolished north section contained the Boiler House, with 32 boilers arranged in two tiers. Coal was weighed, crushed, and transferred to the boilers by conveyors. The Boiler House had a peaked roof that contained bunkers to store coal, which was delivered to the boilers by gravity. This system had the capacity to move 125 tons of coal each hour. Ashes were removed with an "electric locomotive and hopper cars."³³

The Engine House had a slightly larger footprint than the Boiler House to accommodate the engines, as well as an office area with 180 lockers at the east end. There was a secondary entrance for staff at the east end of the south facade, as well as small stair lobby and elevator. The main interior space was illuminated by multi-story windows on three sides, as well as a glazed roof monitor supported by steel trusses. Extending from east to west, the monitor ran the full length of the building.

The boilers drove eight 4,000 horsepower engines that were connected to six alternating-current generators and two direct current "railway" generators.³⁴ Alternating current was used for long-

distance transmission and allowed for greater centralization of electrical production.

Electricity generated in the BRT Engine House was delivered by underground feeder cables to smaller substations located as far away as Coney Island and Jamaica.³⁵ These cables were buried in terra-cotta ducts. In the substations the alternating current was converted to direct current, which powered elevated trains. The generators that produced direct current, on the other hand, supplied power to nearby surface lines and the elevated railway that operated on Fifth Avenue, two blocks away.³⁶

Later History

The financially-troubled BRT was reorganized as the Brooklyn-Manhattan Transit Corporation (BMT) in 1923. In 1939 – a year before the New York City Board of Transportation took control of the BMT, IND, and IRT – the Central Power Station became substation number 25, which converted alternating current generated by the Williamsburg Power House to direct current.³⁷ This change coincided with the closing of the elevated railway on Fifth Avenue, which was demolished starting in 1941.

When the Boiler House was demolished in the early 1950s, the Engine House became a free-standing structure, with symmetrical east and west facades. At this time, the north side was mostly infilled with brick.³⁸ It continued to provide power to the Fourth Avenue subway until 1972.

In December 1972 the Transit Authority transferred ownership of the site to New York City, which sold the property in 1975. For several decades, the BRT Engine House was used as a “paper recycling center.”³⁹

The abandoned structure was frequently occupied by squatters after 2000. Dubbed the “bat cave,” the exterior became a highly-visible canvas for graffiti artists. The *New York Daily News*

published a 2006 article on the homeless people who lived there, saying it was “named for the bats that once lived in the four-story building.”⁴⁰ At this time, attempts were made to seal the building from trespassers.

In 2012, the building was acquired by BRT Powerhouse LLC, which has begun work rehabilitating the structure for conversion into an arts center and industrial workshop.

Conclusion

The former Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House was built in 1901-04 as part of ambitious electric power generating network planned by engineer Thomas E. Murray. Designed with Classical and Romanesque Revival-style features, this monumental red brick structure was one of the most prominent buildings constructed along the Gowanus Canal in the first half of the 20th century. In recent years, Gowanus has evolved into a center for creative industries and the former BRT Engine House remains one of most identifiable buildings in the area – a striking reminder of the era when the canal was a significant inland waterway and the neighborhood was a major industrial center.

Endnotes

¹ The “Gowanus: Development and History” section was mostly written by Michael Caratzas of the Landmarks Preservation Commission. Portions were adapted from LPC, *Sunset Park South Historic District Designation Report (LP-2622)* (New York: City of New York, 2019), 9-10. Other sources include Richard W. Hunter, *National Register of Historic Places Eligibility Evaluation and Cultural Resources Assessment for the Gowanus Canal* (Northern Ecological Associates, Inc., 2004), 2-1 to 2-57; and Joseph Alexiou, *Gowanus: Brooklyn’s Curious Canal* (New York: New York University Press, 2015).

² Cited by Alexiou, 114.

³ Ibid.

⁴ “Gowanus Tonnage \$100,000,000 a Year,” *The New York Times*, October 29, 1922, 111.

⁵ *The New York Electrical Handbook: Being a Guide for Visitors from Abroad Attending the International Electrical Congress, St. Louis, Mo. September, 1904* (Syracuse: Mason Press, for the American Institute of Electrical Engineers, 1904), 227.

⁶ “Old Company in Disguise: The Reorganization of the Long Island Traction,” *New-York Tribune*, January 19, 1896, 4.

⁷ “A Plan To Combine All Local Railroads,” *Brooklyn Daily Eagle*, February 18, 1897.

⁸ According to the Board of Railroad Commissioners of the State of New York, the Brooklyn Heights Railroad operated 504 miles of street railways. See *Street Railway Journal*, January 13, 1900, 70.

⁹ The Fifth Avenue Elevated Railroad operated from 1888 to 1940. See “All Electric Trains,” *Brooklyn Daily Eagle*, August 21, 1899.

¹⁰ “Electric Power Station of the Atlantic Avenue Railroad Company, Brooklyn, NY,” *Street Railway Journal*, May 1893.

¹¹ “Work Begun,” *Brooklyn Daily Eagle*, February 23, 1892.

¹² “State R. R. Commissioner’s Findings on B.R.T. Service,” *The Brooklyn Citizen*, January 29, 1903, 7, viewed at Newspapers.com, 2019. For more information about substations, see Christopher Payne, *New York’s Forgotten Substations* (New York: Princeton Architectural Press, 2002).

¹³ “Must Have More Power,” *Brooklyn Daily Eagle*, January 3, 1901.

¹⁴ Ibid.

¹⁵ “Improved Power Facilities for the Brooklyn Rapid Transit Company,” *The Street Railway Journal*, February 1903, 61. The author of this article was not identified.

¹⁶ “Report For the Year Ending June 30, 1901,” Brooklyn Rapid Transit Company, published in *The Chronicle*, vol. LXXIII, 854.

¹⁷ “New B.R.T Power House,” *Brooklyn Daily Eagle*, January 20, 1902.

¹⁸ “Unions Threaten Tie-Up of BRT Improvements,” *Brooklyn Times Union*, July 17, 1903.

¹⁹ “B.R.T Co.’s Plant to Be The Greatest in the World,” *Brooklyn Daily Eagle*, March 21, 1903.

²⁰ *Brooklyn Times Union* described the central power station as “practically completed” at the end of August 1904. See “Half a Million for B.R.T Improvements,” August 26, 1904.

²¹ C. E. Roehl, “The Power Stations and Distribution System of the Brooklyn Rapid Transit Company,” *The Street Railway Journal*, October 5, 1901, 480.

²² The Eastern Station was located in Williamsburg. The Southern station was located at Sunset Park. See “Improved Power Facilities,” 12.

²³ “Of Financial Interest,” *Brooklyn Life*, February 16, 1901, 32.

²⁴ Thomas Edward Murray, “Introduction,” *Electric Power Plants: A Description of a Number of Power Plants* (New York: 1910), v.

²⁵ Ibid.

²⁶ *Brooklyn Life*, January 20, 1902, 3.

²⁷ Roehl, “The Power Stations and Distribution System.”

²⁸ “New Power House for the BRT: Something Big Soon To Be Built in South Brooklyn,” *The Brooklyn Citizen*, January 3, 1901. The article also reported that “stocks rallied sharply” in response to the announcement.

²⁹ Roehl, “The Power Stations and Distribution System,” 476-77.

³⁰ “Improved Power Facilities,” 21.

³¹ The most detailed account of the Gowanus plant’s operation is found in “Central Power Station of the Brooklyn Rapid Transit Co.” in *Electric Power Plants*,

110-38.

³² *The New York Electrical Handbook*, 230

³³ “Improved Power Facilities,” 263.

³⁴ *Ibid.*, 261.

³⁵ “A Big Power Station,” *New York Tribune*, 1 November 1903, A11.

³⁶ “Improved Power Facilities,” 262.

³⁷ Rebecca Haggerty, Research Archivist at the New York Transit Museum, supplied this information.

³⁸ “B.R.T Central Powerhouse: Historical Background Report [draft],” Higgins & Quasebarth, January 2005, 3, LPC files.

³⁹ “Central Station” in “The Railway Power Stations of New York City,” *Engineering and Technology History Wiki*, viewed online 2019.

⁴⁰ “Homeless Rule at the Bat Cave,” *New York Daily News*, October 23, 2006, viewed online; also see: “The Bat Cave, a Graffiti Landmarks in Brooklyn, Grows Up,” *New York Times*, March 7, 2017.

Findings and Designation

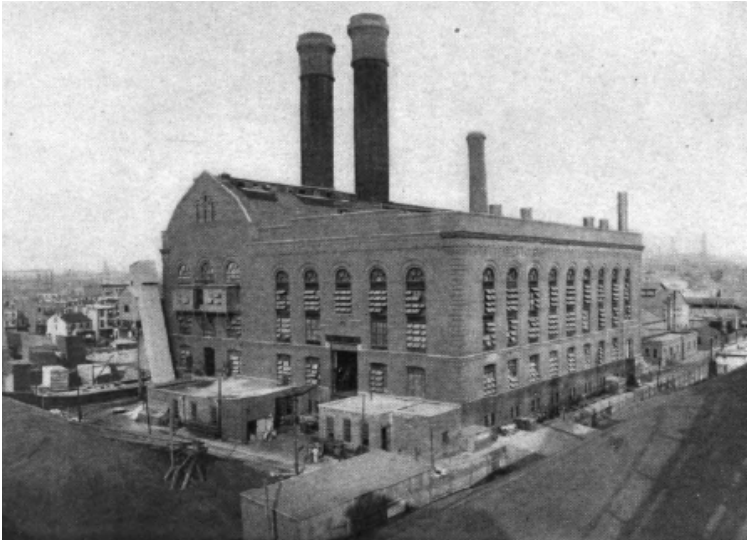
BRT Central Power Station Engine House

On the basis of a careful consideration of the history, the architecture, and the other features of this building and site, the Landmarks Preservation Commission finds that the Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House has a special character and a special historical and aesthetic interest and value as part of the development, heritage, and cultural characteristics of New York City.

Accordingly, pursuant to the provisions of Chapter 74, Section 3020 of the Charter of the City of New York and Chapter 3 of Title 25 of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the Brooklyn Rapid Transit Company (BRT) Central Station Engine House, and designates Borough of Brooklyn Tax Map Block 967, Lot 1 in part, consisting of the land beneath the Brooklyn Rapid Transit Company (BRT) Central Power Station Engine House, as its Landmark Site.



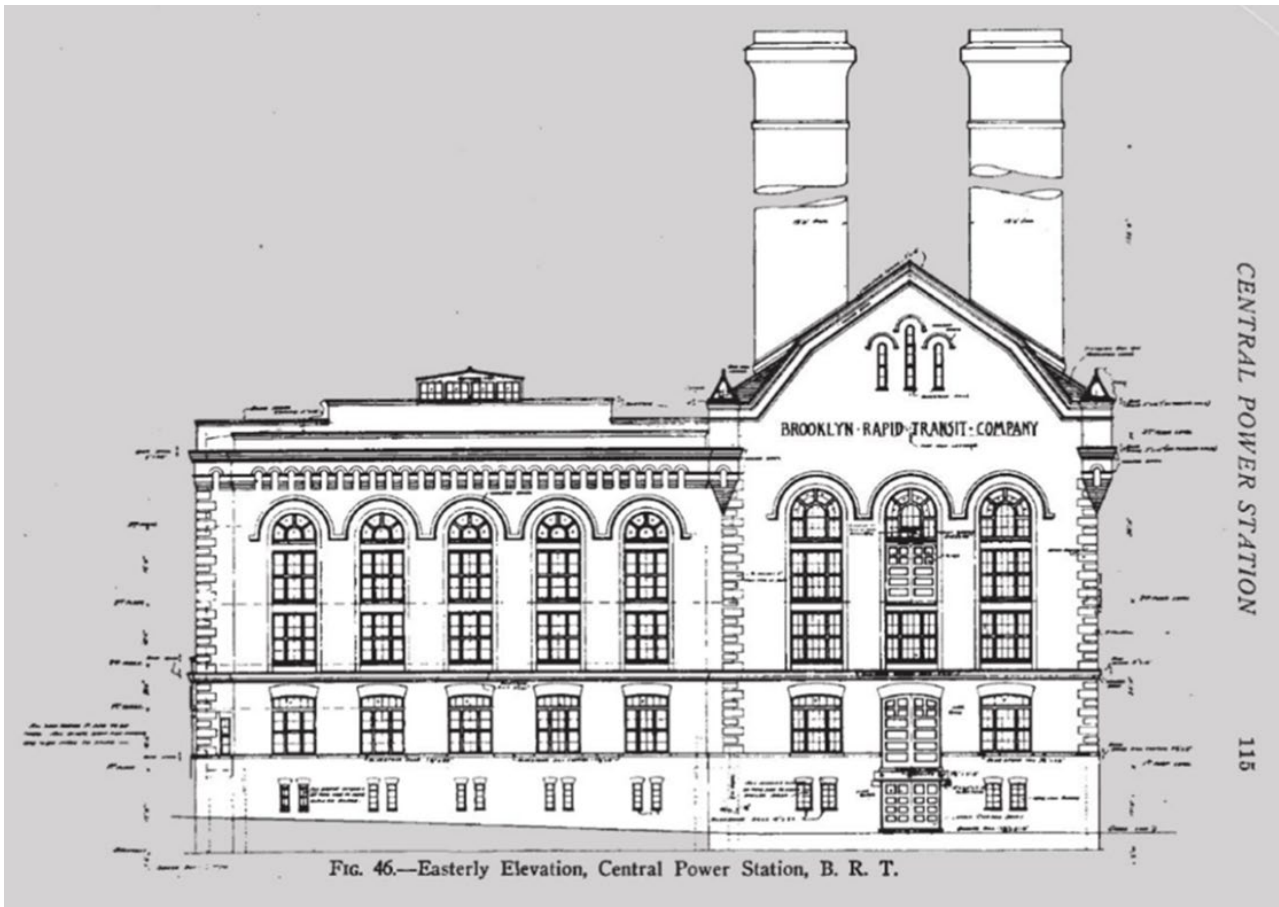
BRT Engine House, south and east facades
Sarah Moses, LPC, 2017



“Central Power Station”
Electric Power Plants, NY 1910



BRT Engine House, west facade
Powerhouse Arts, 2014



BRT "Central Power Station"
Rendering of east facade
Street Railway Journal, October 5, 1901



BRT Engine House
East facade (left), west facade (right)
Powerhouse Arts, c. 2013



BRT Engine House
South and east facades
Powerhouse Arts, November 2013



BRT Engine House
North facade
Powerhouse Arts, 2014



**BRT Engine House
View from Third Avenue**
LPC, October 2019



**BRT Engine House
View from 3rd Street**
LPC, October 2019

