DESIGNATION MODIFIED
SEE ADDENDUM

Landmarks Preservation Commission
June 27, 2006, Designation List 378
LP-2202

New York and Long Island Coignet Stone Company Building, later the Office of the Brooklyn Improvement Company, 360 Third Avenue (aka 370 Third Avenue, 230 Third Street), Brooklyn. Built 1872-73; William Field and Son, architect.

Landmark Site: Borough of Brooklyn Tax Map Block 978, Lot 7.

On June 13, 2006 the Landmarks Preservation Commission held a public hearing on the proposed designation as a Landmark of the former New York and Long Island Coignet Stone Company Building, and the proposed designation of the related landmark site (Item No. 1). The hearing had been duly advertised in accordance with provisions of law. Four witnesses spoke in favor of designation, including representatives of the Historic Districts Council, the Municipal Art Society, and the Society for the Architecture of the City.

Summary

A pioneering example of concrete construction in the United States, the New York and Long Island Coignet Stone Company Building is located at the southwest corner of Third Avenue and Third Street in the Gowanus section of Brooklyn. Designed by William Field and Son in 1872, it was originally part of a five-acre factory complex that extended along the Gowanus Canal and the recently constructed 4th Street Basin, from 3rd to 6th Streets. The building was conceived to showcase Beton Coignet, a type of concrete that was patented in France by Francois Coignet during the 1850s and produced at this location. Using molds, rather than chisels and cutting tools, pieces could be fabricated at a cost far lower than natural stone. Though sections of the façade were refaced in the 1960s, two distinct types of cast stone remain visible: pre-cast details and blocks on the upper stories, and a monolithic poured-in-place foundation. It is also likely that the flooring was made from reinforced concrete, using a system devised by Coignet. Despite many prestigious commissions in the metropolitan area, most notably the arches and clerestory windows of St. Patrick's Cathedral, the floors of the Western Union Telegraph Building, and the Cleft Ridge Span in Prospect Park, the stone works struggled and was soon reorganized as the New York Stone Contracting Company. In 1882 the factory closed and up until 1957 it housed the offices of Edwin Clark Litchfield's Brooklyn Improvement Company, which owned the site and played a central role in borough's residential and industrial development during the second half of the nineteenth century, especially in the vicinity of Park Slope. Almost entirely forgotten during the twentieth century, the NY and LI Coignet Stone Company was one of the first firms in the nation to industrialize the production of concrete and its former office is the earliest known concrete building in New York City.

DESCRIPTION AND ANALYSIS

Concrete

The New York and Long Island Coignet Stone Company was established in 1869. Based in Brooklyn, it was the first company in United States to manufacture a type of concrete, commonly called artificial stone, using techniques pioneered in France by Francois Coignet (1814-88). Variously described as an engineer, a chemical engineer, and builder, he played an important role in the development of modern concrete. Though the primary materials he used – sand, lime, cement, and water – were conventional, he developed a system to produce concrete in blocks and large masses, as well as with iron reinforcement.[1] In 1855 he proclaimed to the committee of the Exposition Universelle in Paris that the "reign of stone in building construction seems to have come to an end. Cement, concrete and iron are destined to replace it."[2] At the fair he exhibited a house in which every element was made from artificial stone, including the walls, floors, and ornament. These techniques gained international attention and in 1861 he founded the Societe Centrale des Betons Agglomere to erect structures using his own patents. Many examples were viewed by Americans who traveled to Paris during the Exposition Universelle of 1867. Concurrent projects included miles of aqueducts and sewers in both France and Russia, a church (1863) at Vesinet, and a 172-foot light house (1869) at the mouth of the Suez Canal at Port Said, Egypt.

Following the Civil War, the population of New York City and Brooklyn surged, creating substantial opportunities for architects, builders, and stone contractors. To meet the growing demand for construction materials, local manufacturers introduced various cast substitutes in the 1850s, including iron, terra cotta, and cast stone. Generally lower in cost than materials found in nature, these imitative products were also fire resistant. While terra cotta generally took the form of ornament and was integrated into masonry facades, cast iron had both structural and decorative applications. Cast-iron components were mass-produced in large foundries, mostly located on the banks of the East River, allowing architects to select elements from catalogues and have them quickly delivered to construction sites. Local manufacturers, such as Daniel Badger's Architectural Iron Works, thrived, transforming the commercial streetscape of lower Manhattan and parts of Brooklyn during the 1870s.

Concrete is produced by combining an aggregate, commonly sand or gravel, with water and a cement binder. It can trace its origins to ancient times and was used by the Romans to build vaults, domes, and other structures. The Pantheon, for instance, built in Rome during 118-28, has the largest un-reinforced concrete dome in the world. In North America, the earliest form was called tabby, combining lime, sand, and oyster shells. It was introduced by Spanish explorers in Florida during the sixteenth century and examples can be found along the southern coast of the Atlantic seaboard.[3] Hydraulic cements, both natural and man-made, were introduced in England and the United States during the early nineteenth century. Supplied as a fine powder, when mixed with water it hardens and sets. This superior binding agent found a great variety of uses, from culverts and aqueducts on the Erie Canal to private residences. Notable early examples include: the Obadiah Parker House (1835, demolished), with walls of monolithic concrete; the G. A. Ward house (1837, demolished) on Staten Island, with pre-cast concrete block walls; and a "poured grout" house (1844-45) built by Joseph Goodrich in Milton, Wisconsin. Three stories tall, what survives of the Goodrich structure has simple, unadorned surfaces.

European builders began to reinforce concrete with iron in the mid-nineteenth century. Coignet experimented with this technique, as did Joseph Lambot, who built a boat, and the Englishman William B. Wilkinson, who received an early patent for concrete floors. In the United States, one of the first reinforced concrete buildings was the William E. Ward House (Robert Mook, 1871-76) in Port Chester, New York. Built during the same years as the NY and LI Stone Company Building, it was also made entirely of concrete, including the walls, floors, stairs, and balconies. Reinforced concrete would eventually win widespread acceptance. While

many early examples are concealed behind veneers of brick or other facing materials, in the twentieth century leading architects began to leave the concrete unadorned, most notably Frank Lloyd Wright, Auguste Perret, Irving Gill, Le Corbusier, Louis Kahn, and Tadao Ando.

New York and Long Island Coignet Stone Company

At the start, the corporation was known as the Coignet Agglomerate Company of the United States. It was one of the first firms in the nation to industrialize the production of concrete. Using molds, rather than chisels and cutting tools, the company fabricated building elements at a cost far lower than natural stone. An attorney in Manhattan, H. Gengembre Hubert, represented Coignet and "a corps of skilled workers were sent from France" to train the staff. The officers included R. O. Glover, John C. Goodridge, Quincy Adams Gillmore, and John C. Goodridge, Jr.[4] The last two men traveled to France in the late 1860s and were intrigued by Coignet's achievements. Goodridge, Jr. (1841-1900), who was born in Rhode Island and moved to Brooklyn in the early 1860s, attended Williams College and trained at Bellevue Medical College and Long Island Medical College as a surgeon.[5] In 1871 he was listed as the company's vice president and superintendent of the works, and by the mid-1870s, president. Most publications issued by the company were written by Goodridge, who received several patents related to the manufacture of concrete. Gillmore (1825-88), a member of the Army Corps of Engineers, was the firm's consulting engineer. A graduate of West Point who lived in Brooklyn Heights and served as a general during the Civil War, he authored numerous papers on fortifications and building materials, including *A Practical Treatise on Coignet-Beton and Other Artificial Stone,* published in 1871. Based on a short paper written for the army, he praised the character of the new material and described the proprietary system by which it was made.[6]

The original factory was located near the Gowanus Canal, in what is now called Carroll Gardens, on sixteen lots at the corner of Smith and Hamilton Streets. All types of artificial stone could be ordered, including large monolithic sections, small blocks, and ornament. Early commissions included four thousand feet of cast stone for a pavilion in Rockaway, as well as an unidentified church on Staten Island and a house faced with "Coignet brown stone," which was claimed to be superior to natural brownstone, Ohio sandstone, and similar materials. In March 1871, it was reported: "considerable demand has sprung up, and the Company, which can now manufacture the front for an ordinary house in a single day, have experienced such increased demands that an extension of the works is contemplated."[7]

Construction of a new and larger facility began in 1872. Located on Third Avenue, between 3rd and 6th Streets, the site had major advantages. Not only was it connected directly to the Gowanus Canal and New York Harbor by the recently-constructed 4th Street basin, but it was also close to several developing residential districts. By June 1872, the large wood shed housing the factory was complete. It was described as:

> . . . of mammoth dimensions, covering a full acre of ground, and being thirty-two feet in height. The building . . . was erected at a cost of $15,000 and contains machinery worth $20,000 and also material, valued at $25,000, for manufacturing purposes. Among the machinery is a massive hydrostatic testing press, by which a crushing pressure of 120,000 pounds can be applied. The new works will be capable of turning out fronts for ten ordinary houses per day, beside a large quantity of fine ornamental work, and will give constant employment an average number of one hundred workmen.[8]

An 1874 illustration, depicting the interior, shows the range of architectural elements manufactured by the firm, including columns, blocks, keystones, window tracery, and urns. This type of artificial stone was described as being inexpensive and having "all the essential merits of brick and stone."[9]

To promote sales, the company participated in Brooklyn's industrial fair of October 1872. Displayed was "every article required in the erection of the outside walls of a building," as well as pieces of statuary. One writer commented: "It is rather a suggestive thought that this marvelous composite which attracts attention as a recent discovery, may possibly be the same as that with which the Egyptian pyramids were constructed."[10]

Coignet stone, for a brief period, enjoyed great popularity. Of various commissions received, the most important were for the arches and clerestory windows in St. Patrick's Cathedral (1850-79, a designated New York City Landmark), designed by James Renwick, and the Cleft Ridge Span (1871-72) in Prospect Park (a designated New York City Landmark). The latter project, a 20-foot-wide pedestrian tunnel set below a carriage road, was notable for having tinted ornamental details.[11] The company also supplied materials for the first stages of construction at the Metropolitan Museum of Art (begun 1870, a designated New York City Landmark) and the American Museum of Natural History (1874-77, a designated New York City Landmark), as well as the large receiving tomb at Evergreen Cemetery (1873) in Queens.

Design and Construction

By June 1873, the NY and LI Coignet Stone Company Building was nearly complete. Isolated at the north end of the works, it faced traffic leaving the central business district, at the southwest corner of Third Avenue and Third Street. Measuring 25 by 40-feet, the rectangular structure had a dual purpose: to serve as offices and to display various ways of using artificial stone. The new building was described in several publications. In December 1872, *Brooklyn Society Magazine* reported:

> The company is erecting on their grounds an elegant three-storied office of this stone, which will be an ornament to the city and will afford an opportunity of witnessing its beauty.[12]

A writer for the *Brooklyn Eagle* called it:

> One of the most elegant business structures in the city . . . The style of the exterior is very peculiar, combining excellent specimens of a variety of architectural orders . . . The whole structure is a beautiful evidence of the work that can be turned out by that Company who are determined to have a standing specimen of how it will endure all extremes of heat and cold, frost, snow and rain . . . The smallest detail in the masonry is well defined and every design stands out in bold, striking relief. The edifice in the most select neighborhood would be a very attractive one, but located where it is, having nothing but wooden sheds and fences to contrast with it, stands out proudly and challenges the attention of all wayfarers.[13]

The American Commercial Times said it was "handsome" and would "give the curious or skeptical upon the subject a very fair idea of the superlative adaptability of the material to such purposes.[14]

The NY and LI Coignet Stone Company Building was designed to showcase Beton Coignet. Today, relatively few structures associated with the early production of building components survive in New York City. A walk-in advertisement for the product manufactured by each firm, examples include the former headquarters of the New York Architectural Terra Cotta Company (Francis H. Kimball, 1892, a designated New York City Landmark) in Long Island City, Queens, and the Hecla Iron Works (attributed to Niels Pouslon, 1896-97. a designated New York City Landmark), with its cast-iron façade and windows, in Williamsburg, Brooklyn.

Two-and-half-stories tall, the Gowanus building has twin decorated street facades, each with its own Ionic portico and stairs. At the very least, two types of concrete were utilized.

Though currently refaced, the first and second story elevations were constructed from concrete block.

> Blocks are made in moulds whose parts are separable . . . The moulds are taken off in sections, and therefore may be of almost any shape, so that the figures and traceries of any desired form may be copied. The blocks are then exposed to the air and weather for several weeks or months.[15]

The basement, which widens slightly to reduce the possibility of the structure sinking into the marshy ground, is monolithic concrete.

> When monolithic walls are made, a form is used, open at the top and bottom, in which the concrete is rammed till it is filled, [then] it is raised as successive layers are added. [16]

It is also likely that the flooring was reinforced concrete. To improve the tensile strength of concrete, Coignet experimented with iron reinforcement, either iron scraps or a metallic framework.[17] In 1853, for instance, he built a flat-roofed house in St. Denis, near Paris, with iron joists. The Brooklyn company supplied concrete floors for a number of projects in the metropolitan area, such as the Western Union Telegraph Company Building (1872-75, demolished), Evening Post Building (1874-75, demolished 1937), Williamsburgh Savings Bank (1870-75, a designated New York City Landmark), and the depot of the Pennsylvania Railroad in Jersey City.[18]

The loss of the siding on the secondary facades, as well as an 1874 rendering, gives a clear sense of the building's original appearance and character. Coignet stone could be treated to resemble various materials. In this instance, granite was chosen, a grayish white shade that is visible on the south wall. Most of the details are Italianate, particularly the Ionic columns, triangulated pediments, rusticated panels, and quoins that flank the windows. These features were chosen from inventory and appear in the illustrations that accompany an article devoted to the stone works, "The Use of Artificial Stone in Modern Architecture," published by the *Manufacturer and Builder* in March 1878. Praise was given to how the individual pieces were manufactured; the author claimed that cast blocks could be adapted to all types of structures and would resist the effect of any weather conditions.[19]

It cannot be determined whether all of the elements depicted in the 1874 image were executed. Both staircases appear to be original, suggesting that the double staircase was not built. Other possible features include a low fence that separates the lot from the sidewalk, incised decorative panels on the first story between the side windows and the Third Avenue entrance, as well as a decorative parapet with incised lettering and urns.

<u>William Field and Son, Architect</u>

William Field and Son was the architect of record. Born in Massachusetts, William Field (1816-91) moved to New York City in 1837. He is first listed in directories in 1844, with an office at 157 Rivington Street on the Lower East Side. During the first half of the 1850s he was associated with John Correja, Jr. Field & Correja were responsible for several designated New York City Landmarks, including 359 Broadway (1852), at Worth Street, Fireman's Hall (1855, part of the SoHo Cast-Iron Historic District) on Mercer Street, and 284 Clinton Avenue (c. 1854, part of the Clinton Hill Historic District). In 1856 he left Correja and formed a partnership with his son, William, Jr., which lasted until after his death in 1892. Of the many and various projects designed by the firm, Field is probably best known for the Home and Tower (1877, 1879) and Riverside (1890) apartments in the Cobble Hill and Brooklyn Heights Historic Districts. These limited-profit buildings are notable for pioneering the development of affordable housing in the United States.

At the time of construction, William Field and Son were based at 12 Wall Street, in Manhattan. The firm had many commercial buildings to its credit and worked in various styles, particularly Gothic Revival and Italianate. The NY and LI Coignet Stone Company building is a somewhat late example of the Italianate style and it is not entirely clear what role Field played in the building's design. Other than a single mention in the *Brooklyn Eagle*, most publications that discuss the building do so without crediting the architect, suggesting that he played a minimal role in shaping the building's aesthetic character. Field, most likely, collaborated closely with Goodridge, choosing the individual details from those produced at the factory, just steps away.[20]

New York Stone Contracting Company

Despite prestigious commissions, the Coignet Agglomerate Company filed for bankruptcy in October 1873 and April 1876 and the various patents were auctioned.[21] Goodridge, however, remained devoted to Coignet's techniques and the company was reorganized by 1877 as the New York Stone Contracting Company. The manufacturing process, according to an unidentified author, had been:

> . . . greatly improved by John C. Goodridge, Jr. . . . to such an extent as to double its strength and greatly improve its finish over the beton Coignet which was formerly manufactured by the company.[22]

At this time, Coignet stone was made available at "greatly reduced prices" and several articles (possibly penned by Goodridge) explained the inadequacies of earlier methods.[23] Though the company may have continued to take orders for plain and ornamental pieces of stonework, it seems likely that the number of contracts had begun to decline. Instead, the concrete produced was mainly used for non-residential purposes, especially the repair of piers and abutments, and the lining of culverts and tunnels.[24] Goodridge had taken out patents that addressed these techniques in the late 1870s and 1880s, including "methods of laying concrete under water."[25] With this new emphasis, the owners may have deemed the vast facility and stone yard expendable. Most known projects were located outside New York City, such as the Cantilever Bridge (1883), across the Niagara River, and various projects for the Erie Railway.

Gowanus and the Brooklyn Improvement Company[26]

The NY and LI Coignet Stone Company was built on land leased from the Brooklyn Improvement Company. Founded by Edwin Clark Litchfield (1815-85) and investors in 1866, the company played a major role in the development of property along Gowanus Creek, later called Gowanus Canal – a rare inland waterway in Brooklyn. Litchfield, who was born in Delhi, New York, was trained as a lawyer and moved to 123 Waverly Place in Greenwich Village in 1848. Approximately a decade later, he settled in Brooklyn, where he built a large house, known as the Litchfield Villa (a designated New York City Landmark) in 1854-57. Designed by the noted architect A. J. Davis, it later became part of Prospect Park and serves as the headquarters of the Parks Department in Brooklyn. With income from his position as treasurer and president of the Michigan Southern and Northern Indiana Railroads, Litchfield began to invest in Brooklyn real estate in 1852. In what became Park Slope, he owned a square mile of land, extending approximately from 1st to 9th Streets, and from the canal to Prospect Park.

The Brooklyn Improvement Company was established to develop and manage Litchfield's investments. The upland blocks, east of Fourth Avenue, were lotted and sold, attracting residential development in the 1870s. The blocks west, however, were set aside for commerce. Few buildings existed here and about half the property was marsh. Though improvements to the canal had been proposed earlier, it wasn't until the late 1860s that the land was drained and the creek became a usable waterway. Of various projects taken on by Litchfield's company, the most important was construction of four 100-foot-wide basins along the east side of the canal, between 4th and 8th Streets.

The 4th Street basin provided direct access to the stone works. Located between 4th and 5th Streets, it extended from the canal to Third Avenue. Litchfield "personally financed" construction of the basin in the mid-1860s and it provided the NY and LI Coignet Stone Company with a total of 1,400 feet of wharf front. The basin accommodated barges that handled both raw materials and finished stonework. In the first year alone, 40 cargoes of sand, 2,500 tons of "sundry materials," and 8,800 barrels of imported Portland cement were delivered via the canal. During this same period, 765 pieces of stonework were shipped.[27]

Subsequent history

The New York Stone Contracting Company closed in 1882 and the building became the second office of the Brooklyn Improvement Company. As for the role played by Goodridge, he continued to identify himself as president of the company in local directories and may have also expanded the business or moved the company to New Jersey. In May 1884, he advertised a factory "to let" on the Raritan River that was "suitable for all products of clay."[28] He never lost interest in concrete and around the year of his death, in 1900, published *Methods of Laying Concrete under Water*.

For much of the twentieth century, the building was forgotten. Though some historians, including Carl Condict and Theodore H. M. Prudon, recognized the company's important role in the early development of concrete, neither mentions the office building's existence.[29] The large factory structure had been demolished and a succession of industrial tenants, including a "bagging works," rope company, and coal yard, occupied the surrounding parcels. The noted architecture critic, Lewis Mumford, however, was drawn to the mysterious structure. In 1952, he wrote:

> In the midst of this emptiness, the Brooklyn Improvement Company, whatever that may be, occupies a classic stucco mansion, standing at the corner of Third Street and Third Avenue in ironic solitude – or should we say hopeful anticipation.[30]

By mid-century, the Brooklyn Improvement Company had sold most of its property. No longer needing an office, in 1957 the building was put on the market. Joseph K. Lane's brief history of the firm, published in 1966, reported that the office had been located in:

> . . . a building said to be the first concrete structure in Brooklyn. This was built before 1860 when Edwin [Litchfield] purchased the property. There was a pot-bellied stove in the office and the BIC caretaker lived upstairs. In the old days, there was an Irishman stationed at the office . . . who drove the carriage that took the manager on his rounds collecting rents.[31]

Though the date given is incorrect, Lane seems to have been the only twentieth-century writer to recognize the building's survival and its significance to the history of concrete.

The exterior was "brightened" in the mid-1960s.[32] This probably refers to the faux red brick and coats of cement wash that were applied to the three-dimensional architectural details. Whole Foods, a national grocery chain, acquired the building and the surrounding site in 2005.

Description

The NY and LI Coignet Stone Company Building is located at the southwest corner of Third Avenue and Third Street in the Gowanus section of Brooklyn. It is two stories tall and set on a raised basement with small rectangular windows. All but the three-dimensional elements are faced with a non-historic, red faux brick. Most of the details, such as columns, quoins, and keystones are made of concrete and are painted with a cement wash. There are two chimneys, faced with faux brick. The east and north edges of the property are marked by a low, non-historic fence. At the corner, where two sections of the fence meet, is an historic concrete pedestal.

The **Third Avenue façade** is divided into three bays. Below the first story, the basement is faced with rusticated panels, interrupted by circles. The first and second story is divided by an entablature. At the level of the roof is a simple entablature. The central bay contains an arched entrance set behind an Ionic portico. It is reached by steps that curve outward and narrow as they ascend to a non-historic painted door. The surfaces beneath of the railing on the stairs are faced in faux brick. Aligned with the entrance, at the second story, is a rectangular, non-historic one over one window. The opening is flanked by fluted pilasters and crowned by a curved pediment with an elaborate keystone. Quoins divide the side bays from the center bay and mark the corner of the building. At the first story, the side bays contain arched window openings, with keystone. These openings are sealed and have non-historic metal gates. At the second story, the side bays contain arched window openings, framed by pilasters. The one-over-one windows are non-historic and the top of the arch is enclosed with brown aluminum.

The **Third Street façade** resembles the Third Avenue façade, displaying a similar arrangement of identical features. At the base of the steps is a non-historic metal fence and low stone barrier, painted white. The door is faced with faux brick, interrupted by an air conditioner near the top. The first-story windows have non-historic metal gates. The second story windows are also non-historic.

The **west façade** is visible from Third Street. The north bay is identical to the previously-described side bays, with arched window openings. The non-historic materials have been removed from the first (and part of the second) story, revealing the original concrete surface, coated with a non-historic cement wash. The north bay is rusticated and there appears to be four window openings at the first story, each recently covered by large plywood sheets. At the second story there is an arched window, flanked by pilasters in the north bay, and a smaller arched window opening, with sill, to the south. A construction fence, along Third Street, obscures most of the base.

The **south façade** is visible from Third Avenue. The original concrete surface (scored or made from blocks) is visible at the first story. At center is a blind arch, flanked by openings that are covered with plywood. The second story is faced with faux brick. There are two arched windows openings, with sills. Each window has a non-historic gate and the top of each arch is closed. At the west edge of the façade is a non-historic water pipe and drain. There are also various non-historic wires and metal tubes.

Report researched and written by
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NOTES

[1] Patents held by Francois Coignet are described in *Beton Coignet: A description of the material and its uses, in France and America, with reports of distinguished engineers and architects* (New York: John C. Goodridge, Jr. and New York and Long Island Coignet Stone Company, 1874), 59-71; and *Beton Coignet and the Goodridge System of Constructing and Repairing Railway and Other Struct*ures*; with Claim of Patents in the United States and Canada* (New York: New York Stone Contracting Company, 1885), 65. Also see Adrienne B. Cowden and David P. Wessel, "Cast Stone," in *Twentieth Century Building Materials: History and Conservation* (New York: McGraw-Hill, 1995), 87-92; and Richard Pieper, "The Maintenance, Repair, and Replacement of Historic Cast Stone," last seen at www.cr.nps.gov/hps/ tps/briefs/brief42.htm.

[2] Submission to the Committee of the Exposition Universelle, 1855. Quoted by Frank Newby in *Historic Concrete: Background to Appraisal*, (London: Thomas Telford, 2001), 13.

[3] Carl W. Condict, *American Building Art: The Nineteenth Century* (New York: Oxford University Press, 1960), 223. Also see "Tabby: The Concrete of the Low Country," last viewed at www.bc.gov.net/bftlib/tabby.htm.

[4] "A New Artificial Stone," *American Phrenological Journal* (July 1869), 271; and "Artificial Building Stone, An Extensive Manufactory," *Brooklyn Eagle*, March 9, 1871, 2. According to the latter article, specimens of the stone, sent "seven years ago" in circa 1864, were displayed in the original factory.

[5] "John Clark Goodridge, Jr.," last viewed in May 2006 at http://www.geneabios.com/williams/goodridge.htm. This obituary was originally published by Williams College, Class of Sixty Three, in 1903.

[6] Q. A. Gillmore, *A Practical Treatise on Coignet-Beton and Other Artificial Stone* (New York: D. Van Nostrand, 1871), 8.

[7] "Artificial Building Stone, An Extensive Manufactory," 2.

[8] "Local Improvements: Artificial Building Stone," *Brooklyn Eagle*, June 22, 1872, 4.

[9] "Adaptation to Architectural Ornamentation," *Van Nostrand's Eclectic Magazine* (April 1873), in *Beton Coignet* (1874), 45.

[10] "Local Enterprise Is Prepared to Accomplish" *Brooklyn Eagle*, October 2, 1872, 4; "The Coignet Stone," *Brooklyn Eagle*, October 7, 1872, 2.

[11] "The Cleftridge Bridge," *The Manufacturer and Builder* (February 1878), 29. Vaux originally planned to use granite and brick. *Scientific American* (April 11, 1874, 231), reprinted in *Beton Coignet* (1874), 54.

[12] *Brooklyn Society Magazine*, reprinted in *Beton Coignet* (1874), 47.

[13] "Business Structures," *Brooklyn Eagle* (June 11, 1873), reprinted in *Beton Coignet* (1874), 55.

[14] "Beton Coignet," in *American Commercial Times*, reprinted in *Beton Coignet* (1874), 49.

[15] "Concrete," *The American Cyclopedia* (New York, 1874), 209.

[16] Ibid.

[17] *Beton Coignet* (1885), see patents, 65.

[18] The floors of the Western Union Building consisted of wrought-iron floor girders set on a concrete bed. Sarah B. Landau and Carl W. Condict, *Rise of the New York Skyscraper* (New York, 1996), 80, 408.

[19] "The Use of Artificial Stone in Modern Architecture," *The Manufacturer and Builder* (March 1878), 52.

[20] D. B. & A. Rutan is credited as the mason. Thomas B. Rutan was described as "mason and builder" in the *Brooklyn Eagle* (January 2, 1898). He built the 14th Regiment Armory, the Prospect Water Tower (demolished), and St. Augustine's Church. Riley Cocroft was the building's stone setter, and Henry Case, the carpenter. See *Brooklyn Eagle*, June 11, 1873, cited in *Beton Coignet*, 55.

[21] "Bankruptcy Court," *NY Times*, October 13, 1873, 8; "Auction Sales," *NY Times*, April 22, 1876, 9.

[22] "The Use of Artificial Stone in Modern Architecture."

[23] John C. Goodridge, "Improvement in Manufacture of Beton," in *Scientific American*," (September 29, 1877), 201.

[24] Advertisement, *American Architect and Building News* (October 20, 1877).

[25] John C. Goodridge, *Methods of Laying Out Concrete under Water* (New York, 1900). This pamphlet is listed in the catalogue of the library of the Canadian Centre for Architecture.

[26] This section is based on Joseph K. Lane, *The Brooklyn Improvement Company: A Brief History In Honor of Its 100th Anniversary* (New York, 1966); "Edwin Clark Litchfield," and "Litchfield, Developer of Park Slope," in *Civic News* (Park Slope Civic Council, April 1966), 12-26; and "Final Report: National Register of Historic Places, Eligibility Evaluation and Cultural Resources Assessment for the Gowanus Canal," prepared for U. S. Army Corps of Engineers, New York District, May 2004.

[27] These figures are cited in *Beton Coignet* (1874).

[28] "Factory to Let on Raritan River," advertisement in *New York Times*, May 3, 1884, 6.

[29] Condict, 227. Theodore H. M. Prudhon, "Simulating Stone, 1860-1940: Artificial Marble, Artificial Stone, and Cast Stone," *APT Bulletin*, Vol. XX1, No. ¾ (1989), 83.

[30] Lewis Mumford, "A Fresh Start," in *From the Ground Up* (New York: A Harvest Book, 1956), 105.

[31] Lane, *The Brooklyn Improvement Company*, 7. The NY and LI Coignet Stone Company Building is not listed in the most recent edition of the *AIA Guide to New York City Architecture* (2000).

[32] Lane, "Litchfield, Developer of Park Slope" in *Civic News*, 24. Interestingly, in this article he contradicted his earlier article and claimed the building was built by the Brooklyn Improvement Company.

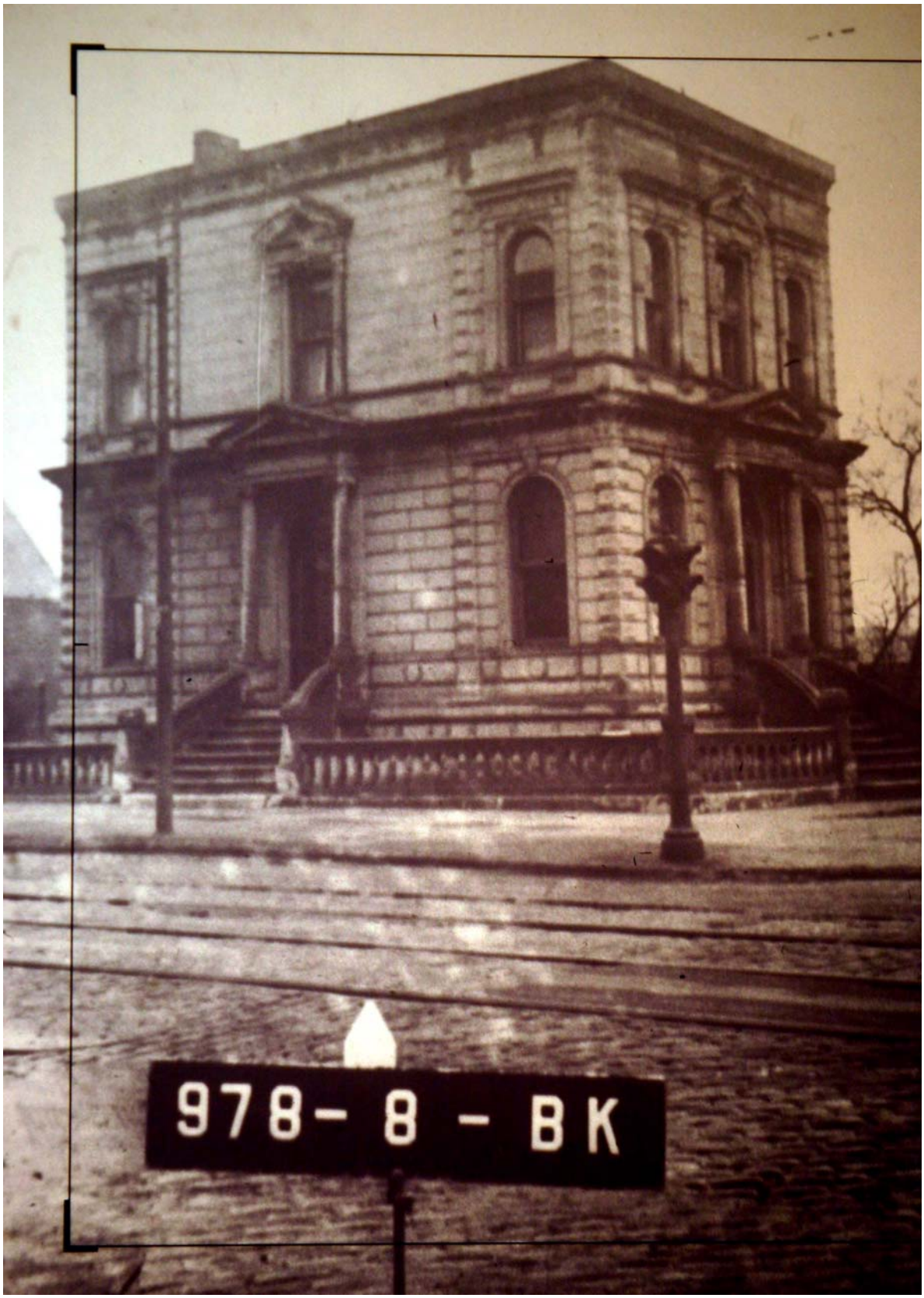
FINDINGS AND DESIGNATION

On the basis of a careful consideration of the history, the architecture and other features of this building, the Landmarks Preservation Commission finds that the New York and Long Island Coignet Stone Company Building has a special character, special historical and aesthetic interest and value as part of the development, heritage, and cultural characteristics of New York City.

The Commission further find that the New York and Long Island Coignet Stone Company Building is the earliest known concrete building in New York City; that it is a pioneering example of concrete construction in the United States; that this two-and-half-story Italianate-style structure was designed by the architect William Field and Son in 1872-73 and was originally part of a five-acre factory complex near the Gowanus Canal that manufactured Coignet stone, also called artificial stone, a variant of concrete that was invented in France by Francois Coignet during the 1850s and produced for American distribution at this location; that it supplied materials for St. Patrick's Cathedral in Manhattan, the Cleft Ridge Span in Prospect Park, and Evergreen Cemetery in Queens; that the structure is entirely constructed from concrete, including cast decorative elements and monolithic forms; that the company struggled and was reorganized as the New York Stone Contracting Company in the mid-1870s and continued to manufacture this material until 1882; and that from the closing of the stone works until 1957 the building housed the office of Edwin Clark Litchfield's Brooklyn Improvement Company, which played an important role in Brooklyn's residential and commercial development during the late nineteenth century.

Accordingly, pursuant to the provisions of Chapter 74, Section 3020 (formerly Section 534 of Chapter 21) 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 New York and Long Island Coignet Stone Company Building, 360 Third Avenue, Brooklyn and designates Borough of Brooklyn Tax Map Block 978, Lot 7, as its Landmark Site.

Robert B. Tierney, Chair
Steven Byrns, Joan Gerner, Roberta Brandes Gratz, Christopher Moore
Richard Olcott, Margery Perlmutter, Jan Pokorny, Elizabeth Ryan



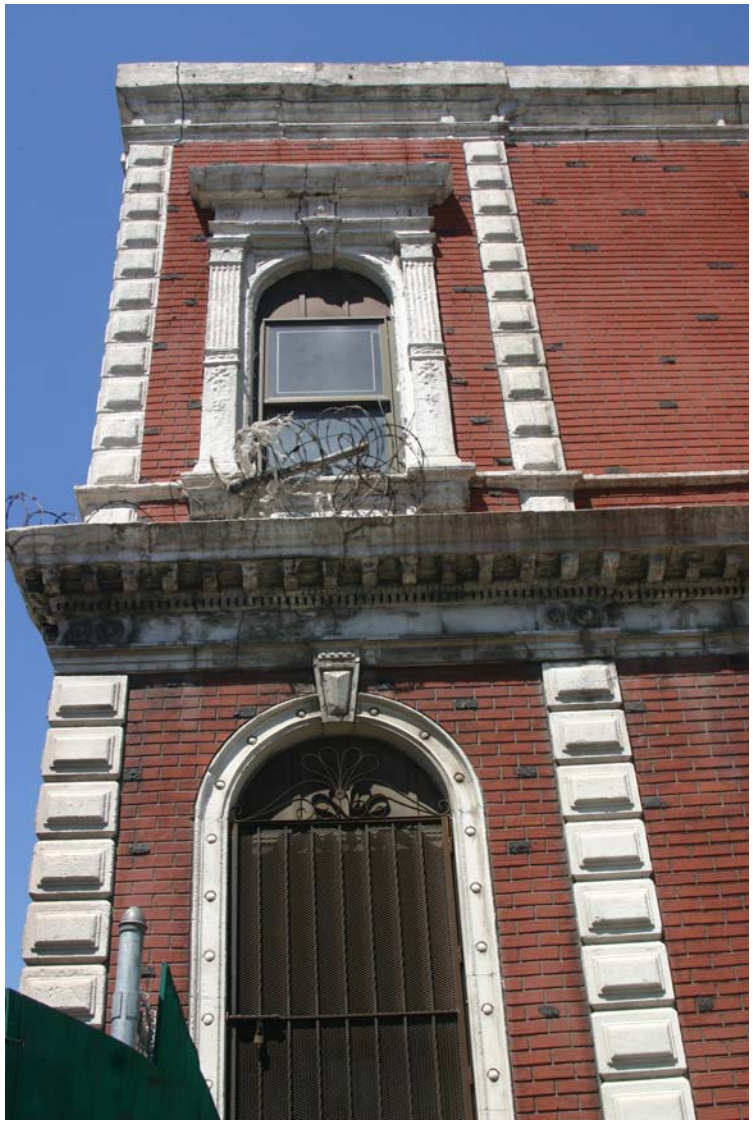
New York and Long Island Coignet Stone Company Building
360 Third Avenue, Brooklyn
Source: Department of Taxes (c. 1939)
Photo: New York Municipal Archives

New York and Long Island Coignet Stone Company Building
Third Avenue facade
Photos: Carl Forster

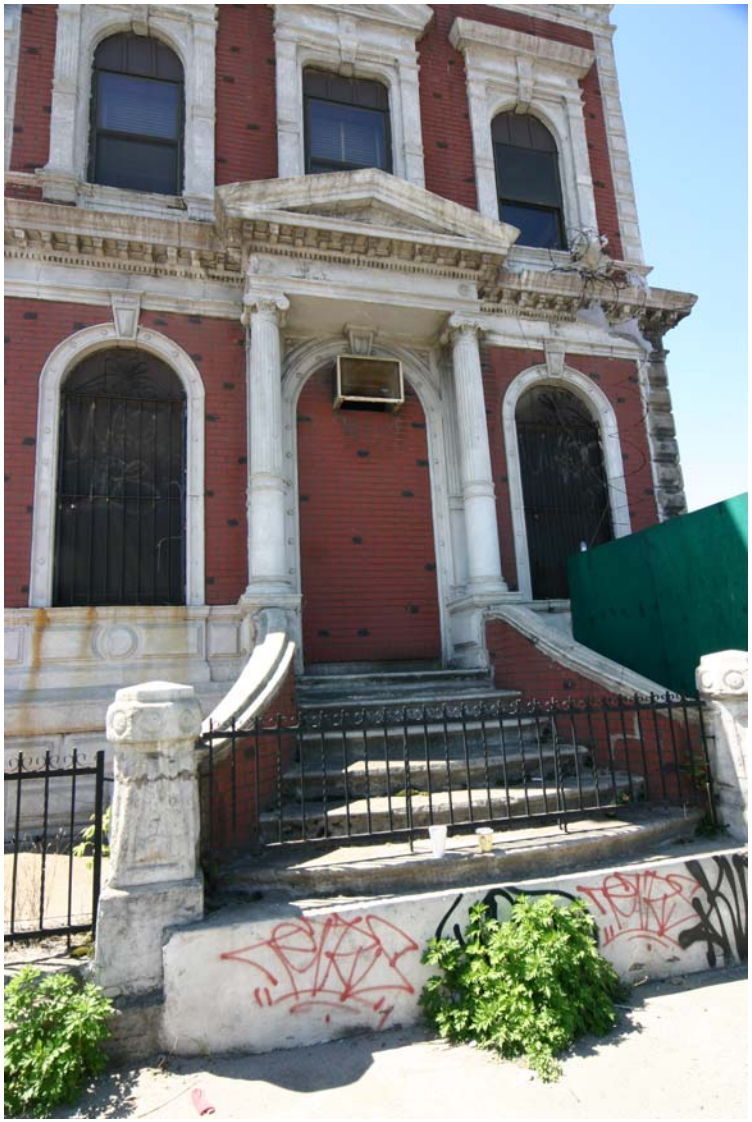
New York and Long Island Coignet Stone Company Building
Third Avenue façade: center of second story
View from south toward 3rd Street
Photos: Carl Forster

New York and Long Island Coignet Stone Company Building
Third Avenue stairs
Third Avenue, south part of base
Photos: Carl Forster and Matthew A. Postal

New York and Long Island Coignet Stone Company Building
View from Third Street, west façade
Photo: Matthew A. Postal



New York and Long Island Coignet Stone Company Building
Third Avenue windows, south end
Third Avenue window, center, above entrance
Photos: Carl Forster



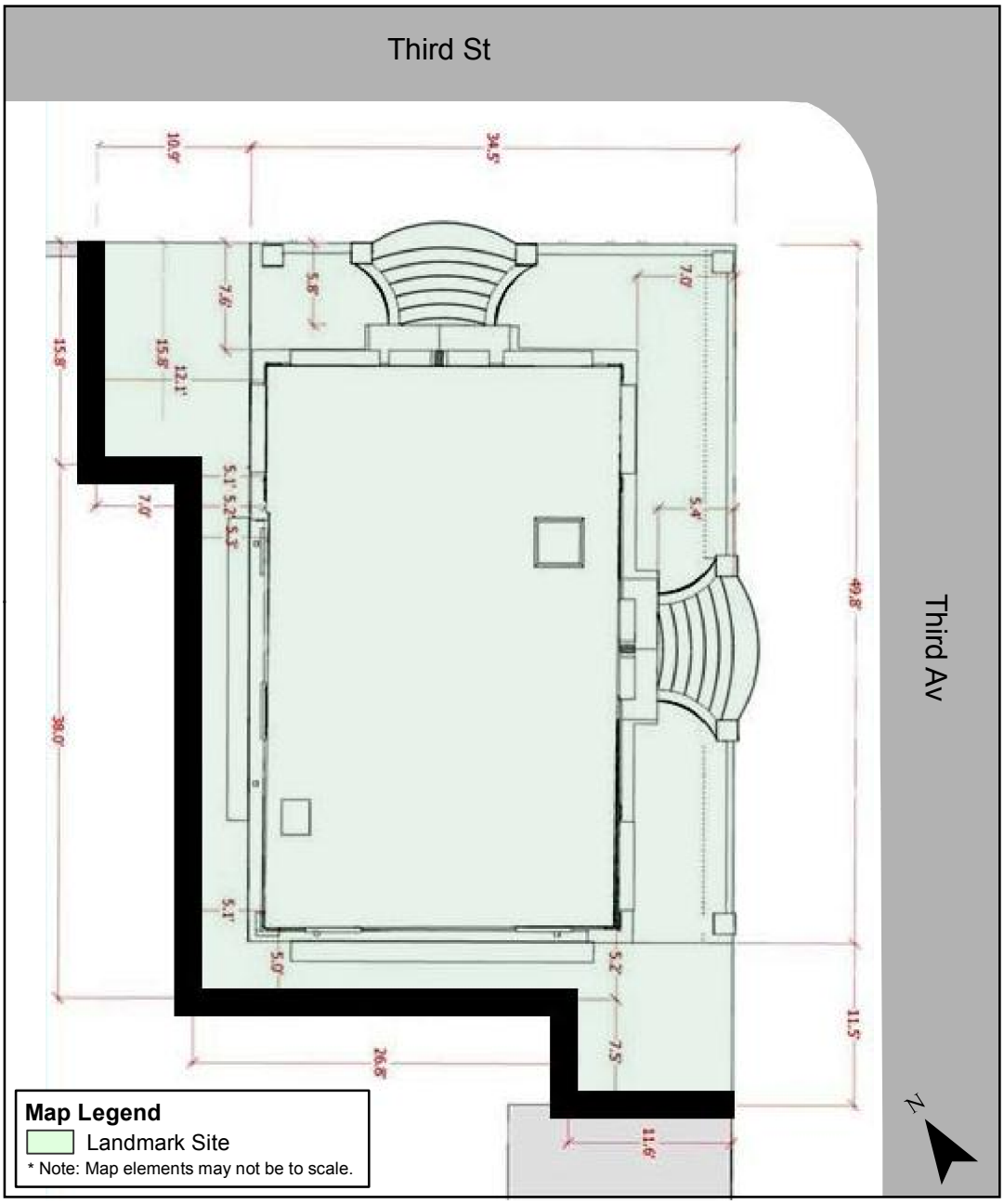
New York and Long Island Coignet Stone Company Building
Third Avenue stairs and Third Street stairs
Photos: Carl Forster

Landmarks Preservation Commission
January 24, 2012, Designation List 452-A
LP-2202-A

Amendment to New York and Long Island Stone Company Building, later the Office of the Brooklyn Improvement Company, 360 Third Avenue (aka 370 Third Avenue, 230 Third Street), Brooklyn. Built 1872-73; William Field and Son, architect.

Landmark Site: Formerly Borough of Brooklyn Tax Map Block 978, Lot 7, now Lot 7 in part, consisting of that portion of said lot bounded by a line beginning at the northeast corner of the lot and extending northwesterly along the lot line for approximately 45 feet 3 inches, southwesterly at an angle of 90 degrees approximately 15 feet 8 inches, easterly at an angle of 90 degrees for approximately 7 feet, southwesterly at an angle of 90 degrees for approximately 38 feet, easterly at an angle of 90 degrees for approximately 26 feet 8 inches, southwesterly at an angle of 90 degrees for approximately 7 feet 5 inches, easterly at an angle of 90 degrees to the lot line fronting on Third Avenue, northeasterly along said lot line to the point of beginning.

On June 27, 2006 the Landmarks Preservation Commission designated as a Landmark the New York and Long Island Coignet Stone Company Building, 360 Third Avenue (aka 370 Third Avenue, 230 Third Street), Brooklyn. On December 20, 2011, the Landmarks Preservation Commission held a public hearing (Item No. 1) to reduce the boundaries of the Landmark site. The hearing had been duly advertised in accordance with the provisions of law. Seven people testified in opposition to the boundary modification, including representatives of FROGG (Friends and Residents of Greater Gowanus), the Historic Districts Council, and the Society for the Architecture of the City. One person, representing the owner, spoke in support of the modification. The Commission also received a letter from Brooklyn Borough President Marty Markowitz supporting modification. On January 24, 2012, based on a discussion, nine commissioners voted unanimously to modify the Landmark Site, from Brooklyn Borough Tax Map Block 978, Lot 7, to Borough of Brooklyn Tax Map Block 978, Lot 7 in part, consisting of that portion of said lot bounded by a line beginning at the northeast corner of the lot and extending northwesterly along the lot line for approximately 45 feet 3 inches, southwesterly at an angle of 90 degrees approximately 15 feet 8 inches, easterly at an angle of 90 degrees for approximately 7 feet, southwesterly at an angle of 90 degrees for approximately 38 feet, easterly at an angle of 90 degrees for approximately 26 feet 8 inches, southwesterly at an angle of 90 degrees for approximately 7 feet 5 inches, easterly at an angle of 90 degrees to the lot line fronting on Third Avenue, northeasterly along said lot line to the point of beginning. The Commissioners found that existing tax lot 7 had no intrinsic relationship to the building, that the new boundaries would preserve the setting of the building as a stand alone structure, would permit views of the side facades and would provide adequate space to ensure that the building could be maintained. A map of the new landmark site is appended hereto.



NEW YORK AND LONG ISLAND COIGNET STONE COMPANY BUILDING (LATER OFFICE OF BROOKLYN IMPROVEMENT COMPANY) (LP-2202), 360 Third Avenue (aka 370 Third Avenue, 230 Third Street). Landmark Site: Formerly Borough of Brooklyn Tax Map Block 978, Lot 7, now Lot 7 in part, consisting of that portion of said lot bounded by a line beginning at the northeast corner of the lot and extending northwesterly along the lot line for approximately 45 feet 3 inches, southwesterly at an angle of 90 degrees approximately 15 feet 8 inches, easterly at an angle of 90 degrees for approximately 7 feet, southwesterly at an angle of 90 degrees for approximately 38 feet, easterly at an angle of 90 degrees for approximately 26 feet 8 inches, southwesterly at an angle of 90 degrees for approximately 7 feet 5 inches, easterly at an angle of 90 degrees to the lot line fronting on Third Avenue, northeasterly along said lot line to the point of beginning.

Designated: June 26, 2006
Landmark Site Modified: January 24, 2012

Graphic Source: New York City Department of City Planning, MapPLUTO, Edition 09v1, 2009. Author: New York City Landmarks Preservation Commission, JM. Date: January 24, 2012.