

# Massachusetts Cultural Resource Information System

## Scanned Record Cover Page

<b>Inventory No:</b>	WEL.76
<b>Historic Name:</b>	Wellesley Municipal Light Plant Substation
<b>Common Name:</b>	
<b>Address:</b>	1 Municipal Way 453 Worcester St
<b>City/Town:</b>	Wellesley
<b>Village/Neighborhood:</b>	Wellesley Hills
<b>Local No:</b>	74-50
<b>Year Constructed:</b>	
<b>Architect(s):</b>	Edison Electric Illuminating; French, Hollis; General Electric Company; Hapgood, Frost and Company; Hill and Delaney; Hubbard, Allen; Kendall, M. K. and Company; Welch, Joseph
<b>Architectural Style(s):</b>	Classical Revival
<b>Use(s):</b>	Business Office; Power House; Utilities Other; Warehouse
<b>Significance:</b>	Architecture; Community Planning; Engineering; Politics Government
<b>Area(s):</b>	
<b>Designation(s):</b>	
<b>Building Materials(s):</b>	Roof: Copper; Sheet Metal Wall: Brick; Granite; Stone, Cut; Copper; Steel; Concrete, Reinforced Foundation: Concrete Unspecified



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# FORM B – BUILDING

MASSACHUSETTS HISTORICAL COMMISSION  
MASSACHUSETTS ARCHIVES BUILDING  
220 MORRISSEY BOULEVARD  
BOSTON, MASSACHUSETTS 02125

Assessor's Number USGS Quad Area(s) Form Number

74-50	Natick		76
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**Town:** Wellesley  
**Place:** (*neighborhood or village*) Wellesley Hills

**Address:** 1 Municipal Way (formerly 453 Worcester St)

**Historic Name:** Wellesley Municipal Light Plant Substation

**Uses:** Present: storage and offices  
Original: electric power substation

**Date of Construction:** 1906

**Source:** Town Reports

**Style/Form:** Classical Revival

**Architect/Builder:** see narrative

**Exterior Material:**  
Foundation: concrete  
Wall/Trim: brick/granite  
Roof: standing seam copper

**Outbuildings/Secondary Structures:** none

**Major Alterations** (*with dates*): addition, W elevation (1924); addition, E elevation (1930); overhead garage door replaced N elevation (late 20<sup>th</sup> cent.)

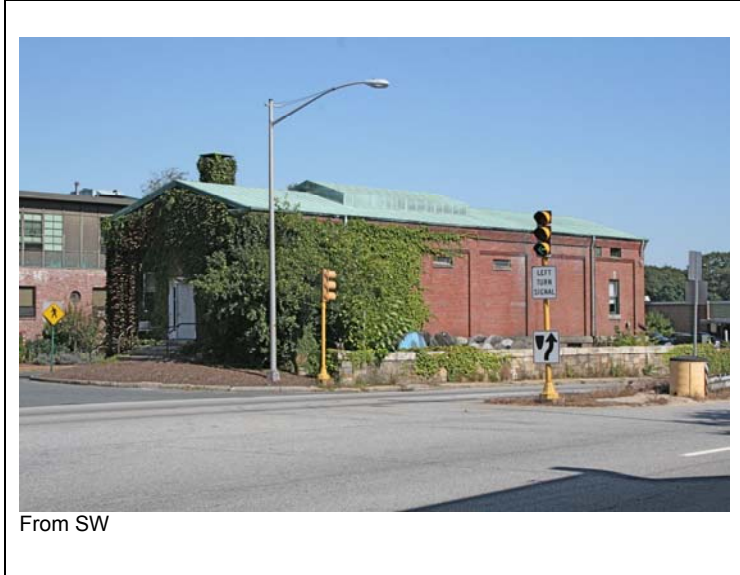
**Condition:** good

**Moved:** no |  | yes | | **Date** \_\_\_\_\_

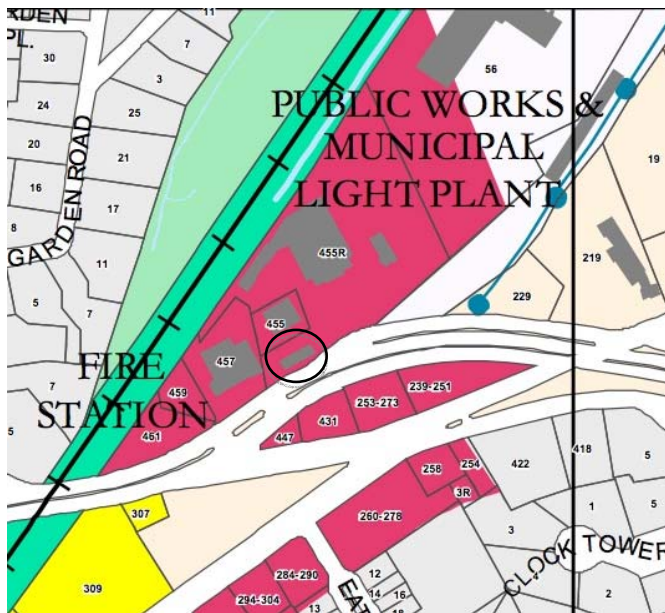
**Acreage:** 75,817 sq. ft. (1.74 acres) WMLP parcel only

**Setting:** complex of brick municipal buildings off Route 9 including headquarters for public works, municipal light plant, and fire department; substation set close to road at heavily trafficked intersection west of Route 16 (Washington St) bridge; cut stone wall at south edge of site part of stonework for parkway interchange at Routes 9/16

## Photograph



## Topographic or Assessor's Map



**Recorded by:** Kathleen Kelly Broomer  
**Organization:** for Town of Wellesley  
**Date** (*month / year*): October 2009 (map edit Dec 2009)

**RECEIVED**  
**MAY 17 2010**  
**MASS. HIST. COMM.**

\_\_\_ Recommended for listing in the National Register of Historic Places.

*If checked, you must attach a completed National Register Criteria Statement form.*

*Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.*

### ARCHITECTURAL DESCRIPTION:

*Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.*

The brick substation is a one-story, gable-front building on a raised basement, built with a westerly orientation on the north side of Worcester Street. Rectangular in massing, the 1906 building was extended in 1924, when a new façade (west elevation) was added, and in 1930, when an earlier rear projection at the northeast corner was enlarged to create the building's present southeast corner. Exterior walls are principally brick laid in common bond, with full-height brick pilasters laid in Flemish bond, brick corbelling beneath the cornice, and brick headers over entries and windows. Granite is used for decorative effect in the keystones over the main entry and windows, as well as in the window sills and capping the water table. The gable-front roof is clad in standing seam metal (rolled copper), retains a copper cornice, and includes a brick chimney vent on the north slope. The principal entrance is located on the west elevation, with a below-grade rear entrance on the east elevation, and a loading door with replacement overhead garage door on the north elevation. An oversized, wood paneled and glazed door (ca. 1930) survives at the rear entrance; other entrances contain replacement systems. The gable-front, three-bay façade consists of a center entry and flanking double-hung windows. Some windows in the building retain original wood sash, including fixed sash in the narrow rectangular windows below the eaves on the side (north and south) elevations. Window openings in the raised basement are generally infilled with brick or fitted with metal exhaust louvers.

On the interior, the substation has a small office/reception area at the front of the building, with brick walls, wood trim at the window and door surrounds, and a late 20<sup>th</sup>-century suspended tile ceiling. Paneled double doors open onto a large full-height room extending to the rear of the building. This room retains exposed steel roof trusses. An original spiral stair to the basement survives at the rear of the building, while a separate, mid-20<sup>th</sup> century steel stair, also at the rear of the building, provides access to an attic-level office in the building's southeast corner. There has been some partitioning of interior spaces for offices and other work areas on both the main and basement levels. Machinery relevant to the building's original function has been removed.

The substation is the oldest of four in Wellesley, and the most distinctive architecturally. Other substations are located on the west side of Weston Road at the foot of Linden Street, built in 1959 and reconstructed in 2005; near the northwest corner of the intersection of Cedar Street and Worcester Street (Route 9), built in 1967; and on the DPW lot to the northeast of this building, built in 1968. The 1906 substation is the only one not currently in use for storing or distributing electricity.

### HISTORICAL NARRATIVE

*Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.*

The Wellesley Municipal Light Plant is a municipal utility that stores and distributes, but does not produce, electrical current for residential, commercial, and municipal use in the town of Wellesley. The 1906 substation is the oldest building in Wellesley associated with the operation of the Municipal Light Plant, which was established in 1892 as the Electric Light Division of the Wellesley Department of Public Works. Known locally as the old substation, distinct from a newer (1968) substation on the same property, the 1906 building dates to a period when the town's role in transmitting and supplying electricity locally was confined to the operation of streetlights and the maintenance of the fire alarm and police signal systems. The original building, as well as the two additions made in 1924 and 1930, was designed to accommodate the necessary equipment for expanding the scope of the municipal light service first to commercial customers, then to residential customers. Long operating alongside the Water Division (from 1884) and the Sewer Division (from 1915) within the town's Department of Public Works, the Electric Light Division in 1994 became an independent town department known as the Wellesley Municipal Light Plant, with a governing board separate from the Board of Public Works.

**INVENTORY FORM B CONTINUATION SHEET**

WELLESLEY

1 Municipal Way

MASSACHUSETTS HISTORICAL COMMISSION

Area(s) Form No.

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

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At the time of the substation's construction, George G. S. Perkins was Wellesley's Superintendent of Wires and John W. Fowle was the foreman charged with keeping in repair the town's electric light, fire alarm, and police signal systems. In 1905, the town paid \$14,535.65 to Edison Electric Illuminating Company to acquire all the primary and secondary wires, transformers, meters, lamps, and other equipment used by Edison to distribute electricity to commercial customers in Wellesley. Edison would continue to supply their current, for a fee, from its substation on Homer Street in Newton. In 1906, the town of Wellesley completed the work of reconstructing both the commercial and street light systems, undertaken by M. K. Kendall & Co. of Boston, and building the substation at Wellesley Hills to house the switchboard, transformers, and other apparatus. The town spent \$32,000 total, selling \$1,000 bonds to raise the necessary funds. Hollis French and Allen Hubbard, consulting engineers of Boston, prepared plans for the substation, including the layout of the apparatus and the lighting circuits, and supervised the construction. Hapgood, Frost & Co. of Wellesley constructed the building for \$7,355, which included the costs of grading the site and installing a steam and hot water heating system. The substation's fireproof design featured reinforced concrete slabs at the floors and roof, where they were supported by steel trusses and clad on the exterior in copper, with a copper cornice and gutters. For \$2,944.40, General Electric Co. furnished the main switchboard, meters and other apparatus, and all wiring in and around the substation. The original switchboard had two sets of meters: three meters belonging to Edison Electric, to measure the total current supplied to the town, and three meters belonging to the town, to measure the current supplied to each of three commercial circuits. Measuring 23 feet by 40 feet, the substation was designed large enough to allow for expansion of the street and commercial lighting systems to double their 1906 capacity. That year, the town purchased 295,746 kWh of current.

Hollis French and Allen Hubbard, designers of the substation, formed their Boston-based consulting practice in 1896. French was a graduate of the Massachusetts Institute of Technology (MIT) in electrical engineering; Hubbard was a graduate of Yale University. Before forming a partnership, Hollis French worked for Thomson Electric Welding Company as their European representative, and for the engineering firm of Stone & Webster in Boston. Hubbard was previously employed as an engineer with the H. B. Smith Company of Providence, Rhode Island and later for A. B. Franklin, a heating contractor based in Boston. Commissions of French and Hubbard included design of power stations for steam and electric work, and development of water power and its transmission and application by electricity. The MHC MACRIS database includes two other buildings designed by the firm: the Briggs-Maroney Company Paint Factory, 85 Paris Street, Everett (ca. 1913, MHC #218), and the Standard Sanitary Manufacturing Company Building, 365 C Street, (South) Boston (1924, MHC #12976). Further research is needed to determine whether the firm designed other light plants or substations in the Boston area.

In 1923, the town of Wellesley contracted with Edison Electric for "high tension" service, which led to decreased costs in procuring current, but necessitated construction of an addition on the substation to house two new 13,000-volt line circuit breakers installed by Edison. Built by Joseph Welch of Wellesley at a cost of \$5,500 and completed in 1924, the addition involved removing the original façade (west elevation) of the building, extending the side walls about 13½ feet, and constructing a new façade. The building contract, reprinted in the 1924 *Annual Town Report*, provides details about the building's 1906 construction and the requirements imposed on Welch to match the original construction in materials, quality, and workmanship, including the reuse of original stone as well as wood doors, trim, and window sash. At the end of 1924, Charles E. Fuller, manager of the town's Water and Electric Light Departments, reported that 2,814,963 kWh of current was supplied at the switchboard of the substation, at an average cost to the town of 1.57 cents. Electric light service was still confined to commercial customers (including Wellesley College) and municipal use.

The town of Wellesley expanded its electric light service to include residential customers by 1930, when the final addition was made to the substation at Wellesley Hills. A small 14-foot by 14-foot extension had been constructed at the rear (east elevation) of the substation some time between 1906 and 1924. Hill & Delaney were commissioned to enlarge this space at the substation's northeast corner by carrying the walls up to the height of the main block, and building out to create the substation's present southeast corner. The original end wall (east elevation) of the main building was then removed. As in 1924, the builder was required to use materials and workmanship similar to the original construction. A temporary wood partition was erected at the east end of the regulator room to keep the area dust-free during construction. The 1930 addition was necessary for housing switches and regulators for an additional set of outgoing lines, plus provide space for more lines in the future "to take care of the constantly increasing load." [*Report of the Water and Municipal Light Commissioners*, 1930] The cost of construction was \$4,500. At the time of the 1930 addition, the town purchased 5,232,879 kWh of current and maintained 432 miles of wire, 22 miles of underground cable, and 1,614 streetlights.

Lighting of streetlights in the morning signaled to Wellesley residents that the public schools were cancelled due to snow. When school groups were given tours of the substation, students were shown the large wall-mounted switch used to turn the lights on.

**INVENTORY FORM B CONTINUATION SHEET**

WELLESLEY

1 Municipal Way

MASSACHUSETTS HISTORICAL COMMISSION

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Three additional electric power substations were built in Wellesley during the second half of the 20<sup>th</sup> century, at Weston Road (1959/1970/2005), Cedar Street (1967), and the Department of Public Works lot (1968) a short distance northeast of the original substation. With the construction of the 1968 substation, the 1906 substation was taken off-line and the equipment removed. Outdoor generators that once lined the Worcester Street frontage of the 1906 substation, between the brick south wall of the building and the fieldstone wall at the street, also were removed, along with a sizable chain link security fence that had reached as high as the building's cornice. The 1906 substation was subsequently used for storage and offices. Some offices have since relocated to a new Municipal Light Plant building completed in 2009 at the rear of the same parcel.

According to the Massachusetts Municipal Wholesale Electric Company (MMWEC), forty cities and towns in Massachusetts, including Wellesley, established municipal electric utilities between 1889 and 1926. Wellesley is not a member participant of the MMWEC.

**BIBLIOGRAPHY and/or REFERENCES**

*See survey final report for complete citations*

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- "History of Water, Light and Sewer Departments." *The (Wellesley) Townsman*, 25<sup>th</sup> Anniversary Number. 3 April 1931, 4:2. Provided by Mary E. Ward, WMLP, Wellesley, Mass., 18 September 2009.
- Historic photographs of Wellesley Department of Public Works property and Electric Light substation. Provided by James W. Verner, Line Supervisor, WMLP, Wellesley, Mass., 18 September 2009.
- Recollections of Tony Parker, Wellesley, Mass. September 2009 (re: school cancellations).
- Town of Wellesley. *Annual Town Reports* (including Reports of the Electric Light Committee, Reports of the Electrical Department, Reports of the Superintendent of Wires, Reports of the Water and Municipal Light Commissioners, and Contracts by Town Officers), 1892-1930. Wellesley Free Library.
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- Biographical entry for Hollis French in Massachusetts Institute of Technology Alumni Association and Massachusetts Institute of Technology Association of Class Secretaries. *The Technology Review*, vol. XI. Boston: The Alumni Association of the Massachusetts Institute of Technology, 1909. <http://books.google.com>. Viewed 23 September 2009.
- Biographical entry for Allen Hubbard in Bradley, Fred. T., Secretary. *The Class of '83 Sheff. Yale University Record 1883-1908*. New Haven, Conn.: The Tuttle, Moorehouse & Taylor Company, 1908. <http://books.google.com>. Viewed 23 September 2009.
- "Wellesley Municipal Light Plant." Compiled by staff and interns of the WMLP for Wikipedia. Via [http://en.wikipedia.org/wiki/Wellesley\\_Municipal\\_Light\\_Plant](http://en.wikipedia.org/wiki/Wellesley_Municipal_Light_Plant). Viewed 17 September 2009.
- "Public Power in Massachusetts." Massachusetts Municipal Wholesale Electric Company. <http://www.mmwec.org>. Viewed 18 September 2009.

View from NE (top) and view from SE near Washington Street (Route 16) bridge (bottom)

