

**HISTORICAL**  
**PERSPECTIVES INC.**



**Archaeological Memorandum: Sidewalk Vault  
Documentation**

**Willoughby Square Open Space Project  
Duffield Street/Abolitionist Place sidewalk adjacent to  
Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)  
Brooklyn, Kings County, New York**

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Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)  
Brooklyn, Kings County, New York**

**Prepared For:**

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## **I. INTRODUCTION**

In March 2022, contractors for the New York City Economic Development Corporation (NYCEDC) discovered three subsurface “vaults” under a portion of the sidewalk on Duffield Street/Abolitionist Place, which is City-owned property adjacent to the Willoughby Square Project (Abolitionist Place), located in the Borough of Brooklyn, Kings County, New York. The three vaults are situated on the east side of Duffield Street /Abolitionist Place between Willoughby Street on the north and Fulton Street on the south, adjacent to Block 146 (formerly Block 2077), Lot 16. The former addresses corresponding to these vault locations were 213-221 Duffield Street. Until 2014, there was a seven-story commercial warehouse building located on what was then known as Lot 18, fronting Duffield Street, as well as a two-story later addition fronting Willoughby Street. These buildings, which were constructed in 1914 and 1922, were demolished as part of the Willoughby Square (Abolitionist Place) project. At the time, the three vaults (labeled, from north to south, Vaults A, B, and C) were not removed, as they are located under the sidewalk and not on the block itself (Figures 1 and 2).

The NYCEDC determined that the discovered vaults must be researched and documented per 2004 Downtown Brooklyn Final Environmental Impact Statement (FEIS) commitments, particularly commitments around the handling of archaeological materials on or adjoining the site that have the potential to be significant when discovered (AKRF 2004).

## **II. PRIOR ARCHAEOLOGICAL MEMORANDUM**

In keeping with the 2004 FEIS commitments, the NYCEDC, on behalf of the City Environmental Quality Review (CEQR) Lead Agency (Deputy Mayor for Economic and Workforce Development), and in coordination with New York City Landmarks Preservation Commission (LPC) requested the preparation of an archaeological memorandum, prepared to the 2018 standards of the LPC. The memorandum culminated in a conclusion of historic sensitivity of the Vaults and recommended an appropriate mitigation and/or documentation strategy if any discoveries were found to be significant.

At the request of the NYCEDC and The LiRo Group, Historical Perspectives, Inc. (HPI) prepared the required archaeological memorandum to satisfy the requirements of CEQR and comply with the standards of the LPC (LPC 2018; CEQR 2021). HPI completed the initial archaeological memorandum in June 2022, which then was submitted to NYCEDC and LPC. LPC requested revisions to the memo, and HPI completed those changes and resubmitted the memo to NYCEDC in July 2022. However, at that time NYCEDC requested further changes to the memo based on upcoming field investigations that would provide additional data to include in the discussion. HPI then completed a third iteration of the memo in August 2022, which was submitted to NYCEDC and LPC and which was accepted by LPC, bringing completion to this task (HPI 2022).

HPI provided the following conclusions in the final memo. The three sidewalk vaults discovered in 2022 abutting the former locations of the seven-story warehouse buildings at 213-221 Duffield Street extend from the former building line to the curb line. Vault A contains two sub-grade levels, and Vaults B and C contain one sub-grade level. These sidewalk vaults appeared to be contemporary with the 1914 and 1922 seven-story buildings that they abutted and were connected to them below grade. Exterior walls are poured concrete, while some interior sections of Vaults B and C have whitewashed brick walls as subdividers. The northern vault, labeled Vault A, matched the dimensions outlined in a 1922 vault permit on file with the NYCDOT. The southern two vaults, labeled Vaults B and C, were of similar construction as Vault A and of the buildings they serviced. Although there was no formal permit found for Vaults B and C, the characteristics of these vaults argue that they were likely constructed at about the same time. NYCDOT Plan Examination staff indicated that not all sidewalk vaults have permits that were filed and/or have survived in the archives.

The research strongly suggested that three vaults neither dated to the mid-19th century nor were associated with 1840s former row houses that predated the high-rise early 20th century warehouse at 213-221 Duffield Street. A number of previous archaeological studies on Block 146, in proximity to the sidewalk vaults, have investigated the occupancies of historic lots that had similarly constructed mid-19th century row houses. Several of the studies also addressed the potential for archaeological and architectural resources associated with Underground Railroad activity on the block, specifically studying the possibility of subsurface tunnels or vaults under the Duffield Street sidewalk. Although there was no clear evidence to link any of these houses with the Underground Railroad, at least one of

nearby house at 227 Duffield Street to the east of the project site was owned and occupied by notable abolitionists Harriet and Thomas Truesdell. The row house was designated a New York City Landmark in 2021.

Despite the documented abolitionist activity of some of the former residents of Duffield Street, and the oral tradition of Underground Railroad activities on the block, the three vaults appeared to have no association with that era, since one was documented as having been constructed in the 20th century, and the other two appear to be roughly contemporaneous. Additionally, given that these three vaults are so extensive, including the entire sidewalk width and one or two levels below grade, it is assumed that if there were any earlier tunnels or vaults from the 19th century in these locations, the current vaults would have completely destroyed them.

Although HPI concluded that the three vaults along Duffield Street likely date to the 20th century, LPC requested that the Vaults B and C be photodocumented prior to final deconstruction and abandonment. The recordation was to include information about the final depths of the vaults, the construction materials, and any additional information that may become evident during the inspection. This memorandum presents the results from documenting all three Vaults.

### **III. DESCRIPTION AND DOCUMENTATION OF VAULTS B AND C**

In early March 2023, the LiRo construction team cleared out the Vaults B and C of debris and prepared them for photographing. On March 10, 2023, Faline Schneiderman of HPI went onsite and photographed the two vaults. Representative photographs are included herein (Photographs 1-6, and 8-18, see Figure 3 for Photo Key). Several brick walls in Vaults B and C had been removed to provide access to necessary machinery, although they are shown on Figure 3, and bricks removed from each were collected by LiRo for inspection by HPI (Photographs 7 and 19).

#### **Vault B**

Vault B, sited between Vaults A and C, measures 44 feet in length and 15 feet in width (Figure 3). Both Vaults A and B are 10 foot 1 inch in height from the poured concrete floor to the underside of the ceiling slab. Metal beams running the 15-foot width of the Vault and placed roughly six feet on center vary between 12 inches and 14 inches below the underside of the ceiling (Photograph 1). Above them is an approximately 4 inch thick ceiling slab topped by a tapered sidewalk slab (3 inches to 5 inches in thickness) pitched slightly westward to drain at the Duffield Street curb. While the floor of Vaults A and B floor are contiguous, they slope slightly from north to south, also likely for drainage.

When Vault B was first opened as part of this project, a gas meter room with surrounding brick walls and an entry door were identified at the southwestern corner of the Vault and have since been removed (Figure 3). Brick dividing walls were situated at the southern end of the Vault and at the middle, but have since been removed. The west wall is poured concrete like the west and north walls of Vault A (Photograph 2). Two bricked in entries in the eastern wall were removed and replaced with wood panels as part of this project (Photograph 3). Electrical equipment can still be observed attached to various walls and the ceiling (Photograph 4). At the northeast corner of Vault B is a third bricked in entry door in situ that formerly provided access to the terracotta-lined passageway into the 1930s brick building at 217 Duffield Street (Photographs 5). From the outside, it would have appeared much like the existing bricked in entryway into Vault A (Photograph 6).

Many of the bricks removed from interior locations in Vault B and saved for review were found to lack stamping, but those with embossing bore the names TERRY, S.S.B. CO, and BROCKWAY (Photograph 7). These bricks are attributed to the Terry Yard on the Rondout in Kingston (1850-1902, after which they became Terry Brothers, embossed TERRY BROS), the Sutton and Suderly Brick Company in Coeymans (1885-1957), and the Brockway Brickyard just north of Beacon (1886-1931) (brickcollecting.com, hrmm.org). They suggest at the very least a post-1850 construction date, and more likely a post-1885 construction date since there was a random assortment of bricks from different time periods and earlier ones could have been reused. It is possible that brick walls could have been added at a later date, after Vault construction, to subdivide the spaces.

#### **Vault C**

Vault C, the smallest and most southern of the Vaults, measures 15 feet by 18 foot 3 inches, with the top of the floor situated slightly more than 3 feet below the floor of adjacent Vault B so that it is approximately 13 feet 1 inch below

the underside of the ceiling slab (Figure 3). Vault C has effectively been divided into two halves by a poured concrete wall, and like Vaults A and B, the western and southern walls also are poured concrete (Photographs 8-12). In the southern half, the east wall is punctuated by an entrance that was formerly bricked in, which was mostly removed and replaced by wood as part of this project. Remnants of the wall are observed beneath the wood (Photographs 8-9). While the south wall is poured concrete alone, the north dividing wall is poured concrete with brick above (Photographs 10-11). Visible at the ceiling near the west wall are various pipes and conduits (Photograph 12). Steel reinforced concrete beams run across the 15-foot width of the Vault (Photograph 13).

Formerly bricked in openings have been removed on the east and west sides of the dividing wall as part of this project, and utility conduits are visible punctuating the uppermost section of the wall (Photographs 14 and 15). Like the south half of Vault C, the north half also possesses a bricked in entry in the eastern wall, removed and replaced by wood as part of this project (Photograph 16). Remnants of the brick wall dividing Vault C from Vault B are visible just north of the wood door (Photograph 16-18). The lower section of the brick wall was left in situ and demarcates the 3 foot 1 inch elevation difference between the floors of Vaults B and C (Photograph 18).

Bricks removed from Vault C that were embossed bore the names S.S.B. CO (1885-1957) and BROCKWAY (1886-1931) (Photograph 19). These strongly suggest a post-1885 construction date. However, the interior brick walls could have been added at a date after Vault construction, to subdivide the spaces.

#### **IV. CONCLUSIONS**

Previous research found that the northern vault, labeled Vault A, matched the dimensions outlined in a 1922 vault permit on file with the NYCDOT and thus it was not photographed and documented as part of this study. Since a similar permit was not found for either Vault B or Vault C, each of which could potentially predated the 20th century construction on adjacent lots, each vault was photographed, measured, and documented for this report.

The exterior walls of both Vault B and Vault C are of poured concrete, bearing imprints of the wood that once formed the construction shoring. The use of poured concrete for basement and/or foundation work suggests strongly a late-19th or 20th century date given the history of its use in the United States. The first widespread use of Portland cement concrete in buildings occurred in France under the builder, Francois Hennebique. Hennebique began with reinforced floor slabs in 1879 and progressed to a complete building system using a system of reinforcement that he patented in 1892 (Schaeffer 1992). The first residential house built in the United States using concrete was built in 1875 in Port Chester, New York. Still utilized for construction today, reinforced concrete gained traction in building construction after a series of inventions allowed for portable mixers and improvements in concrete pumping after the 1910s (Steiger 1995).

Given the consistence of the exterior wall construction material for all three vaults, poured concrete, it is likely that all are generally contemporaneous and post-date the 1880s. Further, the interior brick walls in both Vaults B and C contained at least two brick types from brickyards that post-date 1885, and those in Vault B contained a third type made from 1850 through at least 1902, which points to a late 19th or early 20th century date as well. Since the earlier bricks were mixed with later ones within the same wall, its earliest construction date could be 1885.

The datable bricks, construction methods and materials strongly suggest a post-1880s date for the construction of Vaults B and C. Further, given that the former building abutting these vaults was completed in 1914, it is likely that the vaults were constructed at about the same time. Last, based on this information, there is no indication that Vaults B and C could have been associated with the 1840s houses that once stood on these lots, or that the vaults could have had any association with the alleged antebellum Underground Railroad activities on Duffield Street.



## V. REFERENCES

AKRF, Inc., Philip Habib & Associates, and Historical Perspectives, Inc.

2004 *Downtown Brooklyn Development Final Environmental Impact Statement (Incorporating Final Supplemental Environmental Impact Statement)*.

City Environmental Quality Review (CEQR)

2021 *City Environmental Quality Review Technical Manual*. City of New York, Mayor's Office of Environmental Coordination.

Historical Perspectives, Inc. (HPI)

2022 *Archaeological Memorandum: Sidewalk Vaults, Willoughby Square Open Space Project, Duffield Street/Abolitionist Place sidewalk adjacent to, Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street), Brooklyn, Kings County, New York*. Prepared for LiRo Engineering and New York City Economic Development Corporation.

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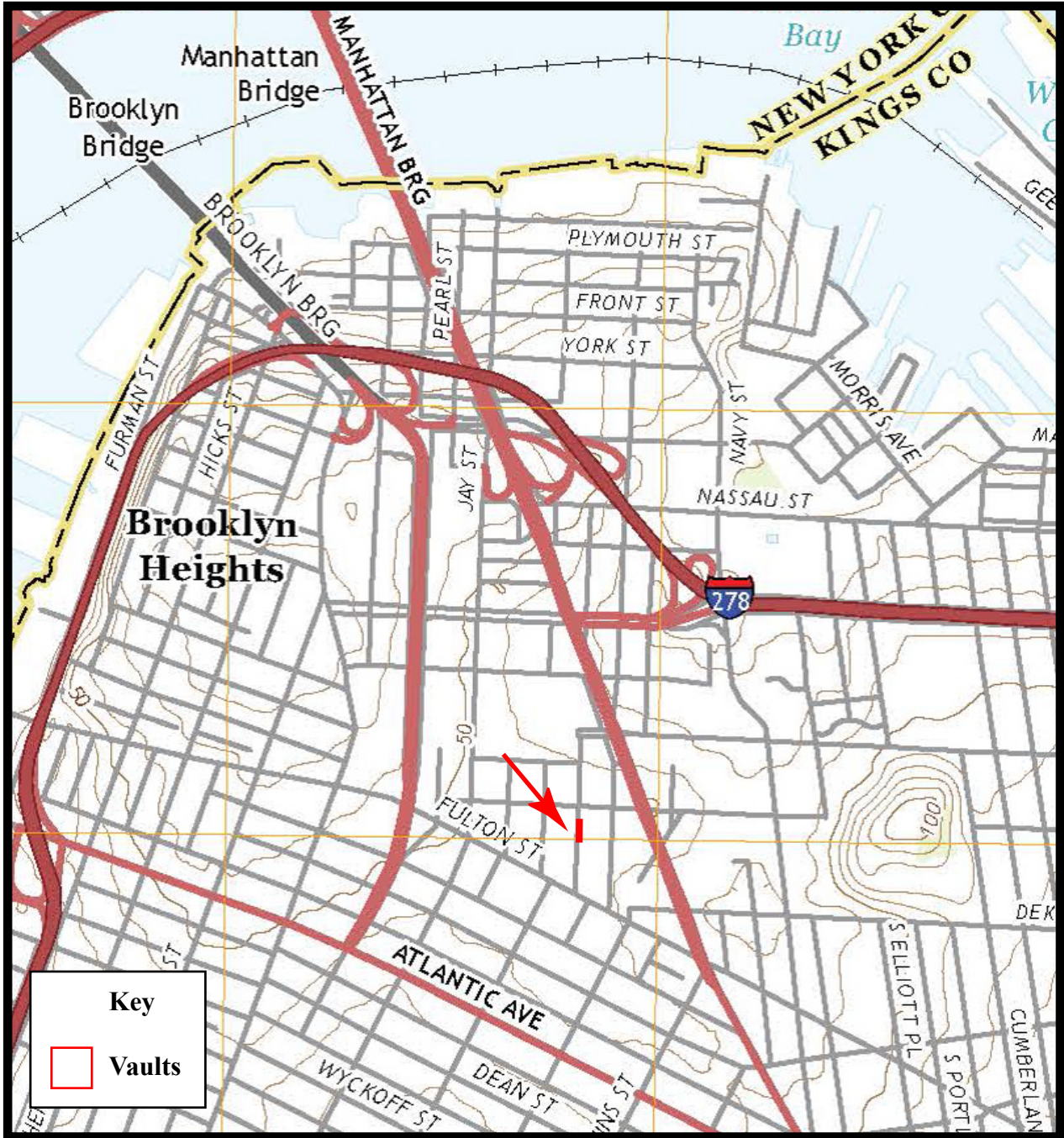
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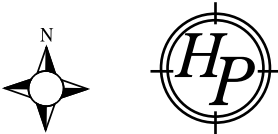
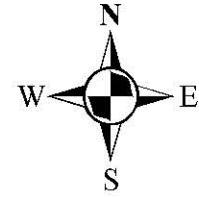


Figure 1: Vault locations on *Brooklyn, N.Y. 7.5 Minute Topographic Quadrangle* (U.S.G.S. 2019).

0 400 800 1200 1600 2000 FEET



NYC Digital Tax Map

Effective Date : 12-09-2008 17:17:10  
 End Date : 03-27-2012 10:06:08  
 Brooklyn Block: 146

Legend

- Streets
- Miscellaneous Text
- ↓ Possession Hooks
- - - - - Boundary Lines
- ↓ Lot Face Possession Hooks
- Regular
- Underwater
- Yellow Tax Lot Polygon
- Condo Number
- Blue Tax Block Polygon

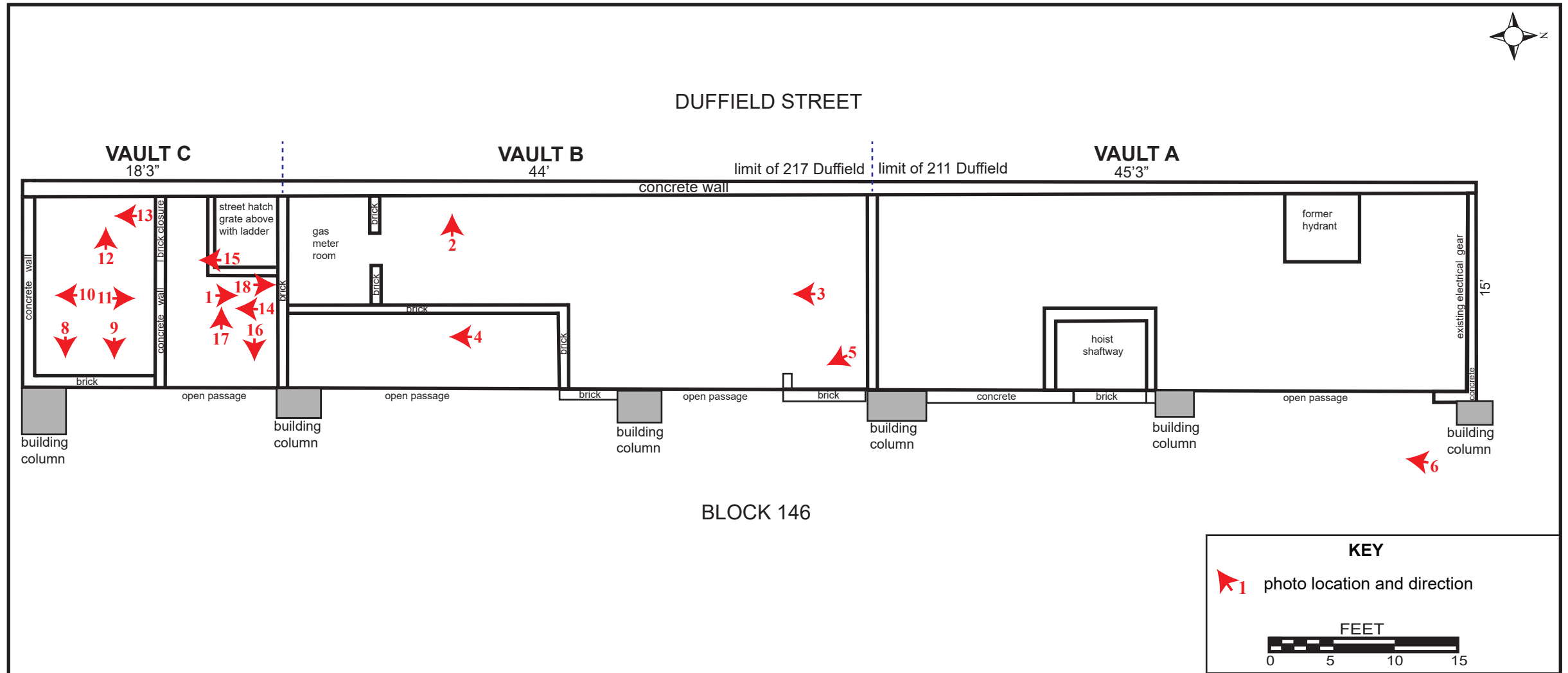
Key

Red outline = Vaults



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Figure 2: Vault locations on 2008-2012 tax map (Department of Finance 2012).



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Figure 3: Vault plan and photograph key (LiRo 2023 and HPI 2023).



Photograph 1: Facing north to ceiling of Vault B from Vault C. Note: remnant of brick wall between Vault B and Vault C removed as part of this project (right).



Photograph 2: Facing west to poured concrete west wall of Vault B. Note: break in poured concrete floor (bottom left) is filled with demolition debris from current project.



Photograph 3: Facing south from center of Vault B to south end of Vault B and north half of Vault C. Note: the eastern wall of Vault B (left) has two formerly bricked in openings that were removed and replaced with wood as part of this project.



Photograph 4: Facing south to ceiling with remnants of alarm system mounted on poured concrete steel reinforced beam in Vault B.



Photograph 5: Facing southeast to northeast corner of Vault B with bricked in former passageway (foreground). Note: formerly bricked in opening (background) was removed and replaced with wood as part of this project.



Photograph 6: Facing southwest to bricked in entrance (left) and formerly bricked in entrance (right) to Vault A.



Photograph 7: Representative bricks removed from interior walls of Vault B.





Photograph 8: Facing east to poured concrete east wall and opening in south half of Vault C, with southern wall at right. Note remnants of the formerly bricked in opening (beneath sign) with the remainder removed and replaced with wood as part of this project.



Photograph 9: Facing east to east wall and opening in south half of Vault C with poured concrete north wall at left. Note remnants of the formerly bricked in opening (beneath sign) with the remainder removed and replaced with wood as part of this project.



Photograph 10: Facing south to poured concrete south wall in south half of Vault C.



Photograph 11: Facing north to poured concrete north wall with brick infill at top in south half of Vault C. Note: this wall divides Vault C in two halves.



Photograph 12: Facing west to poured concrete west wall in south half of Vault C with formerly bricked in opening between the north and south halves of Vault C at right.



Photograph 13: Facing south to ceiling in south half of Vault C adjacent to poured concrete west wall (right).



Photograph 14: Facing south to poured concrete south wall in north half of Vault C. Note: this wall divides Vault C in two halves. Formerly bricked in openings at east (left) and right (west) were removed as part of this project.



Photograph 15: Facing south to poured concrete dividing wall in north half of Vault C (foreground) and poured concrete south wall in south half of Vault C (background). Note: formerly bricked in opening at right removed as part of this project.





Photograph 16: Facing east to east wall (center) and opening in north half of Vault C with remnants of brick north wall (left). Note: the formerly bricked in opening in the east wall was removed and replaced with wood as part of this project.



Photograph 17: Facing west to poured concrete west wall in north half of Vault C, with remnants of brick north wall (right). Note: base of Vault C is three feet below the base of Vault B to north (right).



Photograph 18: Facing north to remnant of brick north wall in north half of Vault C. Note: base of Vault C is 3 feet one inch below the base of Vault B to north.



Photograph 19: Representative brick removed from interior wall of Vault C.