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Taaffe Place Pumping Station and Park Avenue Force Main

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Archaeological Assessment

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HISTORICAL PERSPECTIVES INC.

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TAAFFE PLACE PUMPING STATION
AND
PARK AVENUE FORCE MAIN
ARCHAEOLOGICAL ASSESSMENT

The New York City Department of Environmental Protection, Bureau of Wastewater Treatment proposes to construct a pumping station at Taaffe Place and a force main along Park Avenue between Taaffe Place and Navy Street and along Tillary Street between Navy and Gold Streets in the Wallabout section of Brooklyn. The proposed system would be constructed below grade within the bed of existing city streets. For most of its length, the force main trench would require an excavation beneath the south side of Park Avenue with a width of approximately 5 feet to a depth of between 8 to 12 feet below grade.

In response to concerns regarding archaeological resources, Historical Perspectives, Inc. has prepared this assessment of the project corridor. It contains the following sections: Preliminary Assessment, Addendum, and Topic-Intensive Reports.

The Preliminary Assessment was prepared in February, 1991 and contains a contextual overview of the project corridor that identifies both archaeological resource types and loci of potential archaeological sensitivity. The exact route of the trench placement was not finalized at that time, so that the study area had to be conservatively wide.

At a meeting at the New York City Landmarks Preservation Commission (LPC) on May 8, 1991, LPC archaeologist Daniel Pagano requested certain data to be added to information gathered for the Preliminary Assessment. A portion of the additional data is required by a recent LPC policy change in regard to houselots. Additional cartographic illustrations to supplement the text were also requested. When the Addendum was prepared, the specific route of the force main had been determined so that the study area could be refined and was, therefore, narrower than it had been in the Preliminary Assessment. The Addendum section of the Archaeological Assessment addresses these requirements and concludes with recommendations for further investigation of some parcels within the impacted area.

In instances when certain sections of the corridor, because of their potential to contribute to our understanding of the past and potential eligibility for nomination to the National Register of Historic Places, were identified, in-depth research was undertaken. Seven Topic-Intensive reports were prepared and these sections are included in the Archaeological Assessment after the Addendum.

Preliminary Assessment

PRELIMINARY ARCHAEOLOGICAL ASSESSMENT

OF THE

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN PROJECT

HISTORICAL PERSPECTIVES INC.

P.O. Box 331 Riverside, Connecticut 06878

ARCHAEOLOGICAL ASSESSMENT

OF THE

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN PROJECT

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I. Executive Summary

The New York City Department of Environmental Protection is proposing to construct a pumping station on Taaffe Place and a force main along park Avenue in Brooklyn. In response to concerns regarding archaeological resources, Historical Perspectives, Inc. has prepared this assessment of the project corridor. This study is part of the overall environmental analysis of the project prepared by Allee King Rosen & Fleming, Inc.

The corridor will run along the south side of Park Avenue between Taaffe Place and Gold Street, roughly paralleling the Brooklyn Queens Expressway (BQE) in the Wallabout Bay neighborhood. As currently planned the 24 inch force main will be placed in the existing streetbed, and on the average five to seven feet beneath current grade with the open cut approximately five feet across. Existing utilities will either be moved or the force main will be installed beneath them at a greater depth below grade. The pumping station, an approximately 61-foot by 18-foot structure resting on a pile foundation, would lie about five to seven feet below grade in the Taaffe Place streetbed.

Because the design plans were not finalized and the exigencies of installation might demand force main-placement adjustments, the impact zone was interpreted broadly for the purposes of the initial archaeological analysis. For the initial level of inquiry the project corridor was assumed to be the southern 90 feet of Park Avenue, or the circa-1942 Park Avenue expansion strip. HPI completed the documentary research necessary to identify those sections of the project corridor that require further consideration for archaeological resources and those sections of the project corridor that do not warrant further consideration for archaeological resources. Prior to any additional in-depth documentary work efforts will be made to further refine the boundaries of the impact zone.

The following report presents the results of the tasks completed by HPI:

TASKS:
Establishing Historic Context

> In order to appreciate the exploitation and development of the project corridor we have developed two parallel research processes: (1) establishing a historical framework, or historic context, that covers the study area through time and (2) identifying, through a much narrower focus, the potential cultural resources to be directly impacted by the pumping station and force main installation. In other words, it was necessary to look at an expanded view of the geographic area in order to identify anticipated property types and

judiciously narrow the research focus for a concentrated look at the specific streetbed to be impacted.

The developed historic context, presented below, encompasses prehistoric, colonial, revolutionary war, federal period, nineteenth century residential, industrial, and public and twentieth century urban period factors. The specific corridor research has focused on the original (c.1835) Park Avenue southern block fronts that were fully developed prior to the 1940s expansion of Park Avenue when most of them were truncated by approximately 90 feet.

Elimination of Non Sensitive Parcels

During the research and analysis process we were able to conclude that specific portions of the corridor did not warrant further in-depth research. These conclusions were based on several factors, including: Subsurface disturbance (e.g., BQE interchanges), lack of archaeological visibility (e.g., mixed-use, multiple family dwellings) and minimum archaeological potential (e.g., original village roadbed).

This particular task is an on-going component of each phase of the assessment. Topic-intensive, in-depth documentary research, to be conducted in a subsequent phase of the archaeological analysis, should eliminate additional corridor sections form archaeological concern. The actual degree of subsurface disturbance experienced by a parcel, such as through twentieth century foundation construction and/or demolition of BQE impact, may be located through a variety of municipal files and maps.

Eliminated from further consideration at this time are the following:

(1) Taaffe Place roadbed;
(2) project corridor at Blocks 1895 and 1894, between Classon Avenue and Steuben Street;
(3) project corridor at Blocks 125, 135, and 136 between Gold Street and Navy Street;
(4) project corridor at Blocks 1892, 1889, 1887, 2042, and 2041; and,
(5) Tillary Street roadbed.

Identification of Potentially Sensitive Parcels

Certain sections of the corridor, because of their potential to contribute to our understanding of the past and potential eligibility for nomination to the National Register of Historic Places, have been identified for further research. These conclusions were based on several factors, including

(1) broad issues, such as property type representation, archaeological potential and visibility, and appropriate New York City-based research questions and also (2) specific research results, such as cartographic review, manufacturing histories, and census records. The sections, or parcels, do not necessarily embrace the entire truncated block front. The following text more precisely identifies the specific (old) lots that will be examined in more depth.

Identified for further consideration at this time, based on multiple factors discussed in detail in the accompanying text, are the following. For the ease of the reader and reviewer, the block number designations correspond to block numbers on atlases and records before consolidation which is shown on the study area map, Figure 3. (See Figure 1)

Project Corridor Block Number	Resource Category	Property Type
1896	Industrial	Ropewalk
1893	Residential	Dwelling
1891	Residential	Dwelling
1891	Industrial	Lace Works
1890	Industrial	Foundry
1888	Residential	Dwelling
2034	Residential	Dwelling
2039	Public Usage	Hospital Barracks Church and Church Yard
2039	Prehistoric	Camp/Midden
2040	Public Usage	Hospital Barracks Church and Church Yard
2040	Prehistoric	Camp/Midden
2043	Residential	Dwelling
2044	Residential	Dwelling
2045	Residential	Dwelling
2046	Residential	Dwelling

Recommendations

Entire sections of the force main corridor have been eliminated from further archaeological consideration. There are, however, specific sections that require an additional, in-depth documentary effort, what the New York City Landmarks Preservation Commission refers to as topic-intensive research. This in-depth documentary effort will entail several tasks, described below.

Narrow the impact zone if possible based on latest and/or finalized installation design, and eliminate from further assessment those parcels not to be directly impacted.

Develop a disturbance record for the potentially sensitive parcels. It may be possible that the initial documetary work did not reveal subsurface disturbances that would have destroyed the integrity of specific parcels. If such a disturbance record can be compiled it would eliminate from further assessment those parcels previously impacted adversely.

Conduct detailed nineteenth century census analysis to determine neighborhood ethnicity pattern.

Examine municipal and Naval archives to determine precise locations, in relation to the project corridor, of the barracks and hospital.

Determine more precisely the location of a "Primitive Church" rear yard in relation to the project corridor; and determine the ethnicity of the congregation, the use of the rear yard, and subsequent disturbance to the rear yard. Research for this assessment has shown that 1) the church site itself has probably been disturbed but 2) that the corridor as defined for this study (wide enough to be conservative in identifying impacts) may touch a corner of the rear yard and 3) that there is a possibility that this was an African-American congregation. This is a concern because African-American congregations sometimes buried their dead in their church yards. However, research to date has indicated that the corridor will touch rather than pass through the church yard. Further, no mention of burials at this site has yet been found.

Establish, through census and tax records, residency pattern for the potential dwelling resources in the project corridor.

histories for significance of the project corridor industrial complexes in the general development of technology, production, and labor relations, and in the manufacturing history of Brooklyn and greater New York.

II. Project Description

The New York City Department of Environmental Protection has proposed the construction of a pumping station (Taaffe Place pumping station) and installation of a force main (Park Avenue force main) to divert sewage from the Newtown Creek Water Pollution Control Plant to the Red Hook Water Pollution Control Plant. Its operation is scheduled to begin by February of 1992.

The proposed system would be constructed at or below grade and within the bed of existing city streets. The pumping station will require pile-foundation construction of six components: diversion, valve and screening chambers, a wet well, an electrical room, and a ventilation system. For most of its length, the force main would lie about five to seven feet below grade. At certain locations the force main will descend below existing utility lines to a depth of approximately sixteen to eighteen feet. In one location, between Navy and Gold Streets, an old sewer will be relocated to allow for the new force main.

Project Location

The project corridor will run along the south side of Park Avenue between Taaffe Place and Gold Street, roughly paralleling the Brooklyn Queens Expressway in the Wallabout Bay neighborhood of Brooklyn (Figure 2). Figure 3 is a base map of the project corridor. The reader should keep in mind that block numbers, street names and spellings have changed somewhat over the years. As currently planned the force main and pumping station installation, being restricted to the existing roadbed, will not impact extant structures.

Today the project corridor is of mixed use with large-scale, housing projects at the south end and warehouses, auto repair shops, and small businesses at the north end. There are some vacant lots fronting on Park Avenue. The Commodore J. Barry Park is near the southern terminus of the corridor and the city's Taaffe Place Playground is located on the corner of the proposed pumping station site at the northern terminus of the corridor. (See Photographs)

Project Impact Zone

The design plans for the pumping station installation and force main construction are still in the preliminary stages. And in consideration of the problems encountered during actual construction/installation which might demand force main placement adjustments, the project corridor impact zone was interpreted broadly for the purposes of the initial archaeological analysis. For the initial level of inquiry the project corridor was assumed

to be the southern 90 feet of Park Avenue, or the circa-1942 Park Avenue expansion strip.

Archaeological Approach

The force main corridor has been approached not as individually impacted sections of a roadbed, but as one study unit. Twenty three blocks of a historical urban center can potentially possess numerous varied and complex cultural resources. It is known that the Wallabout Bay section of Brooklyn was likely traversed by Native Americans, hosted one of the borough's three earliest settlements, experienced action during the Revolutionary War, supported governmental institutions for almost two centuries, and was both a residential and manufacturing center during the nineteenth and twentieth centuries. Any individually proposed development in such a culturally rich neighborhood, regardless of how small, would necessitate a detailed archaeological analysis of the development parcel (e.g., construction for a public school, demapping of a street, or zoning permit for an office tower).

An archaeological analysis determines the potential significance of cultural resources, that is, the eligibility of landmark status. Determinations of significance are, in large part, based on comparisons with similar sites and the breadth and depth of understanding of a particular time, place, and type of resource.

The benefit of addressing an extended corridor as one study unit enables us to place the evolution of land use into the historical context of the development of Brooklyn. The historic context approach is currently encouraged by review agencies as a methodological tool for multi-resource large scale projects. Placed within a historical context that functions as a comparative base, one specific parcel does not assume more import than is warranted within the context of an entire settlement. And, conversely, a particular type of resource will not be overlooked as an idiosyncratic phenomenon if, in fact, it reflects a significant neighborhood-wide trend.

The use of contextual overviews was recently described in a U.S. Department of the Interior technical brief:

> Historic preservation planning consists of many components. Its centerpiece, however, is the historic context. Historic contexts provide a framework for the identification, evaluation, designation, and treatment of cultural resources associated with particular themes, areas, and time periods. The Secretary of the Interior's Standards and Guidelines for Preservation Planning detail procedures for developing historic

contexts. These include collecting and synthesizing appropriate information, defining property types, and identifying areas to be surveyed for cultural resources (National Park Service 1983).

> Historic context-based planning permits recognition of individual properties as parts of larger systems. Historic contexts also help managers and others evaluate properties within proper levels of significance. As such, they provide both a systematized basis for comparison and a comprehensive frame of reference. In so doing, historic contexts provide cultural resource managers and those whose activities affect historic properties with a guide for rational decision making. (Grumet 1990:1)

Employing the historic context concept for the Newtown Creek Water Pollution Control Plant Force Main project enabled us to assess potential significance of the corridor's cultural resources.

Although a broad view of a total study area, as described above, was necessary, specific and in-depth analysis has been reserved for those corridor parcels that will be directly impacted by the cut and cover installation process and the Taaffe Street pumping station construction.

III. Historic Context

1) Prehistoric Overview

An understanding of prehistoric cultures in the Northeast will help to recognize where potential sites can be anticipated. The prehistoric era has been divided into three general cultural periods: the Paleo, the Archaic, and the Woodland. Each has its own characteristics, with varying lifestyles and habitat preferences.

The Paleo-Indians were the first human inhabitants of the southern New York coastline, arriving somewhere between thirteen and ten thousand years ago, following the retreat of the Wisconsin Glacier. They were hunters of now-extinct big game animals such as mastodon, musk-ox, moose-elk, caribou, peccary, giant beaver and ancient horse (Funk 1976:210).

The Paleo-Indians preferred high places from which they could watch the movements of the herds they depended on, or places near a water source. The diagnostic tool of their culture is the Clovis Point, a finely crafted spearpoint with a flute removed from the center of each face.

As the glacier melted, sea levels rose and the low lying sites became submerged. As of 1973, no Paleo-Indian sites had been found in Kings County (Saxon 1973:259), but this may be because of the extensive development that leveled the knolls and filled in the wetlands.

The Archaic period followed, from approximately 10,000 to 2,700 years ago. It has been subdivided into Early, Middle and Late stages. Although the people still hunted, the climate was becoming more and more as it is today, and the large animals were replaced by smaller game such as white-tailed deer.

Archaic peoples also relied on gathering plant materials from swamp and forest, and during the Late stage they developed a growing preference for the shellfish to be found along the shore and at the mouths of rivers. They also fished, sometimes building weirs, and hunted birds. Thus the swampy edge of Wallabout Bay would have been an attractive environment for them, as a stop during their seasonal rounds.

Artifactual markers for this period are tools of bone and ground stone, as well as several distinctive projectile point styles. At the end of the Late Archaic, during a transitional period, the use of vessels made of soapstone developed.

The Woodland period, also divided into Early, Middle and Late stages, followed, beginning about 2,700 years ago and ending with

the arrival of European settlers in the early seventeenth century, the Contact Period. Woodland peoples developed agriculture and settled in villages near their fields of maize, squash and beans, but they continued to gather nuts and other wild foods. They too ate shellfish, and the settlers found mounds of shells along the coast, which they sometimes used to make plaster. Woodland Indians also developed the use of pottery and the bow and arrow.

The Canarsee Indians, an Algonkian speaking group, inhabited the project area during the Contact Period. Distinct from the Algonkian group living to their east and in Connecticut (Ment 1979:6-7), their numbers were greatly diminished by initial interaction with the colonists.

Several students of the Indians of Brooklyn have identified settlement areas that existed when the first Europeans arrived. Nearest of these, about 3200 feet south/southwest of the project, was Marechawick, "supposed to have been an important village, in which the local sachem made his home, situated at Gallatin Place and Elm Place" (Bolton 1934:144). Bolton also notes "a sand hill, with buried pottery, arrowheads and broken clay pipes" (Bolton 1934:45). This is probably the same as Site 3606, inventoried by the New York State Museum, Anthropological Division, a campsite discovered by Arthur Parker. It lies over a mile and half south of the project area.

Grumet also shows habitation sites and planting fields southwest of the project area, but all are over a half mile away (see Figure 4). No indian trails cross the project area, but we know from J. Rapalie's 1637 deed that Native Americans still held the project area during the first half of the seventeenth century (Stiles 1869, Vol. I:24).

The screening file of the New York State Museum, office of the State Archaeologist, does not identify any Indian sites within a half mile of the project area (see Appendix). However, the office does give the area a "higher than average probability of producing prehistoric archaeological data," based on "the physiographic characteristics of the location." The report continues [the] "probability rating is based on the assumed presence of intact original deposits, possibly under fill, in the area. If near water or if deeply buried, the materials may occur submerged below the water table."

Also, an understanding of the landscape of the project area before the arrival of the European settlers is crucial to an analysis of where any potential prehistoric archaeological resources may lie. As in much of New York City, this landscape has been drastically modified since the time of the Indians.

Early maps give us clues, sometimes conflicting, of the lay

of the land. In 1766, Ratzer showed Wallabout Bay as a horseshoe-shaped cove with a stream, the Runneconck flowing into the southeast side of the bay just east of the project area. The southwest corner of Wallabout Bay was an extensive swamp with several streams running through it. This swamp was once part of the project area, but is now filled in and is the Commodore John Barry Park, once known as the City Park. Other maps and ethnographers place a "Rennegackonk" stream with in the wetland system on the bay's southwest side (Grumet 1981:46). At least two freshwater springs have been recorded on the edge of the bay, north of the east end of the project corridor (Stiles 1869, Vol. I:57).

Lying between the bay's mud flats to the north and elevated knolls to the south, the project parcel was apparently on dry, relatively flat land except for the wetland at the southwest terminus of the corridor (Figures 5 & 6). Battle maps of the Revolutionary War provide another source of information. Fort Green, then called Fort Putnam and an unmistakable landmark, is shown separated from the bay by one or more small knolls. It is possible an elevated knoll(s) was as far north as Park Avenue and was part of the early corridor landform. A slight and gentle rise in the corridor elevation is noticeable today, roughly between St. Edwards Street and Adelphi Street.

The interpretation of early maps is confirmed by early descriptions of the project area, as repeated by the Brooklyn historian Henry Stiles (1869, Vol. I:87-88):

> Wallabout is "a bay tolerably wide, where the water rises and falls much and is at low water very shallow and much of it dry."
>
> A general description of the neighborhood includes reference to "woodland in the Hills (i.e., where the Penitentiary is) [immediately northwest of Fort Green] and some meadow-land where the City Park now is."

Recently conducted soil boring tests for the proposed DEP corridor also confirmed the presence of an extensive wetland by yielding 30 feet of organic matter near the Park Avenue and Navy Street intersection (personal communication, Jersey Boring geo-technician to Cece Kirkorian, 1/15/91).

2) Colonial/Revolutionary/Federal Periods

In 1621 the States-General, or governing body of the Netherlands, granted a trading monopoly to the Dutch West India Company for the territory of New Netherland. What is today Brooklyn was part of that large area and its settlement began soon

after 1621. The earliest recorded land purchase by the Dutch in the western portion of Long Island, now Brooklyn, was in 1636. In the following year, Joris Jansen de Rapalje bought 335 acres near Wallabout Bay from the Native Americans (Ment 1979:12). Rapalje (or Rapalie) was one of the Walloon immigrants of 1623. Other Walloons followed in the ensuing years and by 1654 when Rapalje had established a residence, the neighborhood had gained the appellation of the Waal-Bogt or the "bay of the foreigners" according to one theory of the derivation of the term (Stiles 1869:24).

The corridor of the proposed force main is in Park Avenue which runs east-west about two blocks south of what was Wallabout Bay and is now the Navy Yard area. Historian Henry Stiles reported that "around the 'Bogt' were lowlands, overflowed by the sea at every tide and covered with salt grass, coarse and hard to cut with a common scythe but which the cattle preferred to fresh hay or grass" (Ibid:25). After his death, Rapalje's holdings passed to his son, Jeronimus. The property stayed in the family for years, passing through the Schenck and Skillman lines. Martin Schenck sold his portion to the United States Government for the Marine Hospital Grounds (slightly north of Flushing Avenue which is a block north of the proposed corridor - note the name Schenck, or Schaak, shown on maps, Figures 5 and 7). Frances Skillman sold her parcel to Samuel Johnson. A general description of the tract states that it was designated on maps "as lands of Gen. Johnson, J.F. and E.P. Deplaine, Jackson, Skillman, and Teunis Cowenhoven; together with woodland in the Hills (i.e., where the penitentiary is), and some meadowland where the City Park now is" (Ibid:87). Those names as well as Vanderbilt, Remsen, and Ryersen are found in records and maps such as the two figures referred to above and the Farm Line maps for the study area. Some streets in the area, for example Ryersen and Vanderbilt, still bear the names of these early landowners.

The eighteenth century maps (Figures 5, 6, 7, 8, and 9) give a general idea of the topography and the extent of the homes or farms clustered around the Wallabout Road following the southern boundary of the bay which roughly corresponds to the current Flushing Avenue. Where Park Avenue was eventually laid out - a block south and parallel to Flushing - was farmland.

These maps also show the study area in relation to Revolutionary War events. Undoubtedly there was activity in the vicinity. Fort Putnam was a few blocks south of the project corridor near present Myrtle Avenue, two blocks away (see Figure 9). To the north was Wallabout Bay which was the location of British prison ships and hospital ships during the British occupation of Long Island. "A tragic feature of the British military occupation was incarceration of prisoners at the Wallabout. Thousands of sailors, captured from American navy

vessels and from privateers, as well as some infantrymen, were incarcerated in the JERSEY and other prison ships - worn-out British naval vessels transformed into dungeons...As many as eleven thousand may have died in the holds of these ships" (Ment 1979:24). "The bodies of our countrymen...were taken on the shore of the Wallabout, and thrown scarcely beneath the surface" (Stiles 1865:5). "The shore of the bay was one vast graveyard...Long after the initial gathering of the bones of these martyrs began in the late 18th century, periodically other skeletal remains have been discovered due mainly to the establishment of the Brooklyn Navy Yard" (Palisi 1976:1). "Large quantities of bones [were] found in cutting away the high banks, which then formed the shore of the Bay" (Stiles 1865:175). "Twenty hogsheads of bones were collected, deposited in 13 coffins, - representing the 13 original States, - and, May 26, 1808, they were buried upon Hudson Avenue, near the Navy Yard, under the auspices of the Tammany Society" (French 1860:372). "Today, most of the remains...lie in a crypt under the...Prison-Ship Martyrs Monument in Ft. Greene Park" (Palisi 1976:1). There is no reason to think that bones were disinterred as far away from Wallabout Bay as the project corridor. (See Figures 7 and 10 for locations of some ships and a picture of the JERSEY.)

"The United States Navy purchased a small private shipyard on Wallabout Bay in 1801 and began to use the facility for repair and resupply of its ships during the War of 1812" (Ibid:32). "During the War of 1812 a considerable amount of voluntary labor was expended in erecting a line of fortifications around the city, and bodies of troops were stationed there to protect the people" (French 1860:372). This line of entrenchments may have run right through the study area - and perhaps the project corridor - from the bay to Fort Putnam (see Figure 11). The government holdings were later expanded, and the Navy Yard had a profound influence on the surrounding area throughout its existence until it was abandoned by the Government in 1966. For example, as early as 1803, the Tucker and Carter Cordage Company began making rope at a location that today would run from Myrtle Avenue almost to Flushing Avenue through the Taaffe-Classon block, presumably for shipping. Aside from support industries like this, the Navy Yard was a major employer, and the study area was largely developed with working-class housing during the nineteenth century.

Through the first quarter of the nineteenth century, the street grid in the immediate study area consisted of the Wallabout Road which was regulated and officially opened as Nassau Street (now Flushing Avenue) by 1819 (Dikeman 1870:90). Running north-south was Division Street (it is called the "Old Road to the Toll Bridge" on some maps). The toll bridge was at the intersection of what would be Division and Flushing as seen on Figure 6 near what became Portland and Elliott Streets. These streets ran through what was still a decidedly rural area with a

few houses dotted along the main roads.

One example of land use during the first quarter of the nineteenth century was especially pertinent to the project corridor. In January of 1825 "a portion of the ground near Fort Greene, lately purchased by the town of Brooklyn, was appropriated for a cemetery, and divided into convenient parcels, which were allotted to the different religious denominations of the town, viz: Dutch Reformed, Friends, Presbyterians, Roman Catholic, Methodist Episcopalian, Universalist, Episcopalian, Baptist, and a Common Plot" (Stiles 1869, Vol. I:223). The burial ground was in the block between what is now Portland and Edwards Streets south of the project area. Figure 6 shows its position outside the project corridor; other maps such as the Perris 1855 atlas also confirm the cemetery's location to the south of the project corridor. It had been removed by the time the Dripps 1869 atlas was published. The dotted line on the 1834 map shows the path of what would become Park Avenue. Note the hospital which does not appear on 1850 and 1855 atlases. No records have been found concerning it to date.

3) The City of Brooklyn - Nineteenth and Twentieth Century Urban Period

In 1834 Brooklyn received its city charter from the New York State legislature. Thus began "an age of transition from a small but active village to a substantial urban center" (Ment 1979:37). Contributing factors in this change included European immigration, transportation network expansion, and industrialization. The study area was a prototypic example, changing from rural farmland to urban commercial in a few decades. It was part of a section known as East Brooklyn which was included in the city charter (East Brooklyn Savings Bank 1922:16-18).

By 1839, a state-appointed commission had produced a map indicating the location and widths of new city streets. As the large farms were subdivided into smaller lots, the city streets were built, generally following the commissioners' map. The street grid imposed on the landscape was a profound change in itself. Street, block, and lot divisions replaced fields. Kent and Myrtle Avenues were opened in 1835. Park Avenue, 70 feet in width, was opened by 1839 (Dikeman 1870:35). An 1839 map shows the street grid as it was proposed in a portion of the study area (Figure 12). Early development was spotty, as attested to in a letter written by the Reverend Jonathan Greenleaf in 1860 which contains his recollections of East Brooklyn in the early 1830s.

> At that time the whole space from Division avenue to Fort Greene, and from Myrtle avenue to Jamaica turnpike, being a tract of ground about two miles in length from east to west and one mile in breadth from north to

south, contained only thirty houses. (Johnson 1893:41)

Figure 6, the map of 1834 corroborates this description.

But by 1850, the bucolic setting had greatly changed. Clearly, the presence of the Navy Yard was an impetus for neighborhood growth; people still had to live close to their places of work. (The horse drawn railway was not introduced to Brooklyn until c.1854.) "Because Brooklyn lacked mass transportation, the city had grown up as a series of tightly-knit communities with homes clustered around the factories and storage areas where neighborhood men worked" (Schoenebaum 1976:4).

Indications of the types of land use can be ascertained from an examination of 1850 and 1855 atlases. Identified on the 1850 Dripps Atlas in the study area are Navy Yard facilities, a distillery, churches, schools, the rope manufacturing company, an orphan asylum, and a city park, all indicating a viable emerging neighborhood.

The City Park had an area of 7 acres, bounded by Park and Flushing Avenues and Navy and Park Streets. Its purchase was authorized in 1835 after the Selectmen's report that recommended that "the terms of the proprietors of the low-lands between Nassau [Flushing] and Tillary Streets be accepted..." (Brooklyn Eagle Files:333).

The Perris Atlas of 1855 shows slightly more development. Among the named enterprises in the study area are an oil cloth factory on the north side of Park Avenue between Adelphi and Clermont, an iron foundry between Navy and Hudson on Tillary, and a tannery/slaughter-house complex along Hudson between Park and Tillary. The City Park is also indicated as is the cemetery mentioned above. Directly north of the cemetery, and in the project corridor, two buildings are labeled "Barracks." The remainder of the structures in the project corridor are generally "framed dwellings" (according to the key for the atlas), many of which also contained stores. The more substantial structures, sometimes brick dwellings/stores, are generally located on the street corners. However, the area covered by the atlas goes only as far east as Clinton Street, nine blocks less than the extent of the project corridor.

That the early growth had much to do with the presence of the Navy Yard with its opportunities for employment is suggested by this account from 1860. "Within the inclosure are various mechanic shops necessary in building and repairing vessels, a large and costly dry dock, two large buildings to cover ships of war while in process of building, extensive lumber warehouses, several marine railways, and a large amount of balls, cannon, and other munitions of war...Upon a gentle rise, a little E. of the

Navy Yard, is a U.S. Marine Hospital for the care of sick and infirm seamen belonging to the navy. Near it is an extensive laboratory for the manufacture of medicines for the navy. The grounds belonging to these establishments occupy an area of 35 acres. A little E. of the Navy Yard, upon Park Avenue, are extensive temporary Marine Barracks" (French 1860:368). (These are the "barracks" referred to in the preceding paragraph of this report.) Dripps' 1869 Atlas gives an idea of the increased density of development, but gives little indication about the types of structures. Most of the block fronts which would today be in the project corridor had at least several buildings on them; some appear to have 6 or more structures fronting on Park Avenue, although it is difficult to be sure. The blockfront lots between Hampden (later Elliott) and Portland are vacant, and the eastern portion of the project corridor from Hamilton (Waverly) is much less developed.

Municipal services indicative of emerging urbanization were becoming available. An 1875 map of the sewer system of Brooklyn shows one or more pipeline in every street in the study area. City water had been introduced in 1859, so there were surely at least some water lines. Horse drawn railroad lines were dramatically expanded, allowing more freedom of movement between home and work. One writer noted that during the post-Civil War period many manufacturing plants moved into the harbor regions or into a light industrial section extending from Fort Greene to Williamsburg (Schoenebaum 1976:8).

The 1875 Kings County census provides valuable demographic data about the residents of the neighborhood. For the most part they were American-born, but with significant numbers of Irish and English immigrants and fewer numbers of Germans and Italians. The great majority of the residences were multi-family; the most extreme example located was #92 Park Avenue which housed 5 families totaling 25 people. In some instances there are in-laws and other relatives within one family group. There are many boarders and a number of servants. It was a working-class neighborhood with a wide range of occupations including cooper, plumber, flower merchant, paper folder, fish dealer, sail maker, and clerks. Often the wives were listed as housekeepers.

Atlases of 1886 and 1898 show complete urbanization of the study area. It was a neighborhood made up of commercial, industrial, residential, public, and municipal buildings all mixed together. The development was in an irregular pattern. There are buildings of all sizes and lots, even a few vacant ones, of all sizes. The residential structures are 2, 3, and 4 stories, many of them also containing stores. There are warehouses and candy factories and large bakeries and an ice maker and manufacturing plants, such as the Jennings' Lace Factory at Park and Hall Street. Some churches, such as the Park Avenue Primitive

Methodist Church near Elliott Street, and schools remain, but the cemetery is gone. A church and church yard was located in the project corridor. According to atlases it was in place by 1880 and gone by 1915. It was variously labeled over the years, including "Primitive Methodist Church" and "M.E. Church" which usually indicates an African-American congregation. In the same block, although south of and outside the project corridor was a school which was labeled "Colored School No. 1" on an 1886 atlas. It is thereafter referred to on atlases as "Public School No. 67."

Historian David Ment's comments aptly apply to the study area in the last quarter of the nineteenth century:

> The locations [of the factory districts] were determined by the need for access to the waterfront for receiving raw materials and coal for fuel and for shipping out manufactured goods. A great number of manufacturing firms were established in these areas, ranging from distilleries to rope and twine factories. Diversity in product was matched by diversity in size: although some firms were huge, occupying full blocks, most were small, employing fewer than twenty workers. Even in larger factories, the manufacturing process was often labor-intensive, with machines aiding only portions of the work. (Ment 1979:41)

The study area functioned as a commercial/manufacturing/blue-collar residential area well into the first quarter of the twentieth century. During this period Brooklyn became a borough of Greater New York (1898). Its population doubled between 1900 and 1940 and its transportation systems also expanded dramatically (Ment 1979:67-68). But as the years passed, this expansion actually worked toward lowering the socio-economic status of the neighborhood since it allowed middle-class workers to move to the suburbs and still be able to commute easily to work. For example, shown on a 1929 atlas for the first time, there are "garages" among the candy making and printing establishments. Also, redistribution of industrial plants took place as many businesses moved out of the city center, thus narrowing the job opportunities for those remaining in the area.

Due to these factors as well as the Depression, real estate values in the inner city plummeted. "Older tenement-house neighborhoods...[shared] some of the crowding and squalor of older neighborhoods in Manhattan. It was the Depression of the 1930s that brought the greatest pressures to bear...Boarding houses declined into low-grade rooming houses. Unemployed tenants could pay little or no rent. Unpaid landlords closed their buildings or allowed them to fall into disrepair. Journalists and social planners began to speak of the 'slums' of Brooklyn" (Ment

1979:76). Indeed, the 1939 WPA GUIDE writer alluded to "...the Brooklyn Navy Yard with its adjacent slums and sprawling factories" (WPA 1939:440).

It is within the context of neighborhood decline and the onset of World War II that the great change which occurred in the study area in 1942 should be viewed. After 35 years of "wrangling," plans were approved to widen Park Avenue into a "highway" from Tillary and Navy Streets to the Naval Hospital [Steuben Street] (Brooklyn EAGLE: 8/16/42). This decision encompassed a number of interests. The Navy Yard "officials looked upon it as an essential by-pass for traffic carrying war materials to the Navy Yard" (Ibid.). Brooklyn Borough officials considered it part of a city revitalization effort, much of it directed toward arterial improvement. The existing roadbed, 70 feet in width, was to be used for west-bound traffic. Then 90 feet of additional roadbed was created out of the blocks which fronted on Park Avenue to the south to allow for a median and the east-bound traffic lane. The property condemnation cost was estimated at 2 million dollars, and $104,000 was appropriated for demolition of existing buildings. Monies were allocated for additional improvements to parks and sewers (Brooklyn EAGLE: ?/?/42).

Also reflected in this project was the New Deal attitude of "commitment to deal with the problems of urban 'slums,' and to replace dilapidated, unsanitary tenements with modern low-cost housing" (Ment 1979:76). Concurrent with the street improvement was the construction of large housing projects between Prince and Carlton Streets. From Carlton to Steuben are the remaining 10 block-fronts within the project corridor that were affected by street widening. A 1951 atlas shows some commercial buildings, but also a number of vacant spaces. In several places, the sides of dwellings that front on the side streets off Park Avenue are exposed to vacant lots or to Park Avenue.

In 1960 further impact to the study area was caused by the construction of the Park Avenue viaduct section of the Brooklyn-Queens Expressway which runs from Concord and Prince Streets to Flushing and Classon Avenues. The visual impact of this overhead roadway affects the entire study area. Despite - or perhaps because of - road improvements, the study area never regained its vitality as a neighborhood. The description given in the most recent edition of the AIA GUIDE TO NEW YORK CITY is apt: "...[the vicinities] along the Old Navy Yard are roughened by cheap commercial areas and by neighborhoods of urban renewal still in flux" (Willensky and White 1988:623).

IV. Archaeological Considerations

1) First level elimination of certain portions of corridor

a) Lack of integrity based on disturbance:

Where the proposed force main corridor turns south from Park Avenue toward Tillary Avenue was once Block 125 bounded by Navy and Hudson Streets, Tillary and Park Avenues. It was obliterated during the Park Avenue widening project of 1942 and disturbed even further by the placement of the BQE viaduct and access ramp supports. No archaeological consideration of this block is warranted.

b) Lack of archaeological potential:

Portions of the proposed force main corridor will be placed in the original roadbeds of the blocks of Park Avenue between Classon and Steuben Street, and in the original roadbed of the blocks of Tillary Avenue between Hudson and Gold Streets. The proposed pumping station will be in the roadbed of Taaffe Place. Roadbeds of nineteenth century streets have no intrinsic archaeological value in and of themselves. Even if there were potential for archaeological resources, any integrity would have been destroyed by road building, improvements, and utility placements. No archaeological consideration of the corridor within these blocks is warranted.

2) Archaeological Potential - Categories of resources identified

a) Prehistoric

Native American settlement pattern data indicates a marked preference for elevated, well-drained land in proximity to an extensive wetland and/or protected bay and/or large estuarine water resource. The project corridor, in part, would have provided just such an ideal environment. We know from early maps that there was at least one knoll in the southern section of the corridor and this is apparently confirmed by current topography. This elevated land was immediately south and east of the extensive wetland that was transformed into City Park, now the Commodore J. Barry Park.

b) Colonial/Revolutionary War Period

The study area was settled quite early in Brooklyn's history. On early maps buildings cluster along what was to become Flushing Avenue, a block north of the project corridor. Names of owners and records of property transactions are available. Material

culture resources from the Colonial Period are scarce in the New Yrk City area and data obtained from any such sites would make a valuable contribution to the historical/ archaeological record. Similarly, the study area is in a locale where war activities may have occurred; in situ Revolutionary or 1812 War sites in urban settings are rarely located and would be a significant find.

c) Residential

Another category of resources potentially located within the project corridor boundaries are nineteenth century dwellings, their associated outbuildings, and yards. Resources from lots associated with former dwellings have the potential to shed light on the life of past residents, residential settlement patterns within the city, land use patterns, socio-economic status/class issues, ethnicity, and consumer choice. Dwellings were built along Park Avenue at least by 1850 (Dripps Atlas, 1850), and very possibly soon after the street was opened in 1839.

d) Industrial

Sites associated with industrial buildings/complexes, many of which were located in the study area during the 19th-20th centuries, must also be evaluated in terms of the type of information research might reveal that is of value to the historical/ archaeological record. The types of intact archaeological deposits likely to be encountered on such a site must be considered. Industrial sites within the project corridor may include architectural remains, yard scatter or trash deposits from past activities, shaft features used as privies, wells, and cisterns, as well as features and artifacts directly associated with a particular industrial activity (e.g. a tunnel associated with a ropewalk). Research on different site components may reveal information about the physical layout of a particular industry and the activities undertaken on the site, and may help in documenting the styles or work habits of the individuals working on that site.

e) Public Use

Much of the land surrounding Wallabout Bay was developed early for public or governmental use (for example, the Naval Yard, the c.1935 City Park, the Orphan Asylum, a colored school, and the mid-twentieth century BQE). Specifically, the nineteenth and twentieth century manipulation of land spaces in the project corridor for non-individual "consumption" holds a great deal of resource potential: military barracks, a hospital, a church and church yard. The church and church yard, very possibly belonging to an African-American congregation for several decades, was identified within the project corridor. The church building itself was probably seriously disturbed by a subsequent structure,

although records must be found to corroborate this fact. Also, the exact location of the church yard in relation to the project corridor must be ascertained. African-American churches yard's were sometimes used as burial grounds for parishioners, so the exact location of the church yard and church records will need careful scrutiny. Research on the growth of public land use, early urban planning, the demands of a growing metropolis, and emerging concepts of urban space could be approached through the parcels used for public/governmental purposes in the project corridor.

3) Second level elimination

The following discussion deals with resource types potentially existing in the portions of the project corridor remaining after first level elimination.

a) Prehistoric

The entire project corridor does not possess equally the potential for prehistoric resources. This differential potential is based largely on three factors: (1) topography; (2) distance from an extensive wetland; and, (3) soil conditions.

The City of Brooklyn/U.S. Government chose to place hospitals and barracks, both of which demand ventilation, and a cemetery, which demands well-drained soil, on Blocks 2039 and 2040 between North Portland and St. Edwards Streets. These block areas appear to correspond to knolls depicted on early maps. It is our proposition that these two blocks were also the most "inviting" to earlier inhabitants, the Indians. It is possible that Archaic- and/or Woodland-period resources are in this section of the project corridor.

b) Colonial/War Period

The earliest Colonial Period map which shows the study area is the Ratzer Map of 1766 where buildings are depicted along the Wallabout Road which was to become Flushing Avenue (Figure 5). But none are shown on the project corridor which would have run through fields and farmland south of Flushing Avenue. Of course, there may have been colonial era structures present, since outbuildings are rarely shown on maps, but the probability of substantial, intact resources from the period is low given the degree of disturbance which has taken place in the last century and a half. Recovery of in situ remains from the Revolutionary War or War of 1812 has a similarly low probability. There is good reason to think the project corridor may have at least been traversed by military personnel given its proximity to Fort Putnam (now Fort Greene, two blocks south) and the Navy Yard (two blocks

north) where American prisoners were kept by the British. However, no known Battle of Brooklyn skirmishes actually took place in the project corridor, and the bodies of dead prisoners were interred elsewhere as discussed in the preceding section. Therefore, there is no data to suggest a definite locus for further study. Entrenchments built during the War of 1812 may have run through the project corridor according to one map (Figure 11) and a historian's account, but there is no way to fix the location of these temporary structures on today's landscape which has been drastically altered by building episodes of many decades. The project corridor might yield random artifacts from these periods, but it would be irresponsible to recommend subsurface testing just because something might be there. Excavations to seek out such tentative resources would be untenable; therefore further consideration of this category of resource is not warranted.

c) Residential

Several criteria must be considered when judging the potential value of possible resources associated with former dwellings. The period of occupation is particularly important. Portions of shaft features once used as privies, wells, or cisterns are often encountered on lots because their lower (i.e. earlier) layers remain undisturbed by later construction on the lot. These types of features often contain the best domestic remains found on an urban site. Frequently, later construction activities aid in the preservation process by covering over the lower sections of these deep features and sealing them below structures and fill layers. However, lots first occupied after the installation of city services, such as sewer and water, will probably have few or no archaeological resources contained in shaft features because there was no need for these features to have ever been present on the lot.

The value of architectural remains, such as cellar holes, footing, or foundation walls is also dependent on the period of occupation. Archaeological excavation of resources dating after the mid-nineteenth century, in most urban environments, is usually not the most cost or time effective way of studying architectural features. Adequate documentation for this type of resource can usually be found through map and atlas research and research in building records, tax records, and deed records. Generally, the importance of architectural remains is greatly enhanced if these resources are found in relation with other archaeological features such as backyard features like fences, paths, and sheet midden scatter which may furnish information unlikely to be recovered from any other source.

A final criterion for assessing the eligibility of nineteenth century homelots would be knowledge of who lived in the homes and

for how long. For example, the New York City Landmarks Preservation Commission requires that certain conditions be met before significant archaeological potential can be assumed. That is, research must identify one decade of continuous occupancy by a special affinity group about whom data is scarce - such as an African-American or Oriental family. Another criterion for further investigation is residency by a single family for at least twenty years. These periods of occupancy must occur at least in part prior to the installation of municipal sewer and/or water supplies, which, of course, obviate the need for backyard privies, wells, and cisterns. The reason for the length of residency concern was succinctly stated in the 1987 Barclay's Bank Site (NYC) report: "As is clear in this and many recent urban archaeological studies, the research value of historical archaeological materials, especially domestic refuse, decreases when there is no historical context to associate them with" (Berger 1987:VIII-32).

Tenements, meaning multi-family dwellings, further complicate the obtaining of significant data from residences because it is very difficult to associate recovered artifacts with specific occupants. The problem would be how to evaluate remains found near these tenements which indicate multiple families that were probably unrelated, of different cultural backgrounds, and transient. The possible presence of commercial remains from mixed-use buildings would obscure the interpretation of artifacts and their utility still further.

Evaluating the importance of archaeological resources formerly associated with a dwelling hinges, therefore, on locating undisturbed resources that can be associated with a particular individual, family, or ethnic group for a particular time period - never an easy task in an urban environment. In the second level elimination process, all dwellings of more than two stories were removed from further consideration. The study area was a working class neighborhood which logically would not have hosted large single family homes of three or more stories. This assumption was supported by information garnered from the 1875 King's County census which documented a large preponderance of multi-family buildings. Also eliminated were those buildings which served as commercial establishments as well as residences because of the mixed context of artifacts that would be recovered.

The final cut, therefore, was directed at one or two story buildings having only residents and no businesses. For this process, the only extant nineteenth century land use atlases that show enough detail were carefully examined (1850, 1855, 1886, and 1898). A public water supply first became available in Brooklyn in 1859 and sewers by 1869. There was often a lag time before they were actually installed, but an 1875 sewer map showed that all streets in the study area had lines in place by that date.

Therefore, only dwellings shown in place by the 1869 atlas were identified for further research; it was assumed that if they were built after that date, they would not have had to have backyard facilities for waste and water.

d) Industrial

Eliminated on this level are industrial buildings which cannot be associated with a particular function and those that, while associated with a particular purpose, would not have left visible archaeological remains of significance for further study.

An extensive block by block cartographic review of the force main project corridor revealed numerous buildings that stood for a period of time during the last half of the nineteenth century and the first half of the twentieth century. During the nineteenth century, very few of these structures were labeled by owner and/or function which means they cannot be associated within any historic context. But a 1904 atlas furnished a great deal of information since buildings are labeled by function. The vast majority of the structures in the project corridor were labeled as "dwelling" or "store." Those that were shown to be industrial rather than residential or commercial were evaluated in two ways. 1) Those that were considered to have no archaeological visibility - for example, a storage facility - were eliminated from further scrutiny. 2) Those that were considered to have the potential to yield important material remains were cartographically followed backwards and forwards in time to see if the building(s) footprint had existed relatively unaltered by subsequent building episodes. Any of the few industries that were named on the 1850, 1855, 1886, and 1898 atlases were evaluated in the same manner. The result was that all but three industries, discussed below, were eliminated from further study.

e) Public Use

Numerous buildings for public use, such as schools, churches, parks, and hospitals were identified in the study area. All of those outside the actual project corridor were eliminated since their possible remains would not be impacted by the project. Of those resources that might exist within the corridor - barracks, hospital, church and church yard - none can be confidently eliminated without further research. They are discussed in the following section.

4) Identification of loci requiring further consideration

The following discussion identifies loci that require further archaeological analysis and consideration. The loci of potential sensitivity are noted on the attached map, Figure 1. It should be

noted that on the accompanying map entire block fronts are identified as sensitive when, in reality, the loci are lot(s) specific. In-depth research will be geared to a lot-specific effort but block-level research is a necessary starting point in many circumstances.

An effort will be made, through consultations with the design engineers on the final plans, to narrow the impact zone of the proposed construction and installation. The narrowing of the impact zone may preclude certain of the identified loci from further archaeological consideration.

a) Prehistoric

The project corridor between St. Edward's Street and North Portland Avenue has been identified for further prehistoric archaeological consideration based on topographic and geographic features. It may be possible that the initial documentary work did not reveal subsurface disturbances (e.g., basement-level construction) that would have destroyed the integrity of potential prehistoric resources in this area. If such a disturbance record can be compiled on a lot(s) it would eliminate that lot(s) from further assessment.

b) Residential

Limited portions of the following blocks have been identified as potentially sensitive for residential resources: Blocks 1893, 1891, 1888, 2034, 2043, 2044, 2045, and 2046. As with the potential prehistoric resources, a disturbance record will be compiled on each of the specified lots, undoubtedly eliminating a number of the identified loci from further consideration if the backyard spaces, which would host deep household features (e.g., cisterns, privies, and wells), have been severely impacted since abandonment as a backyard.

It will be necessary to conduct a detailed nineteenth century census analysis to determine neighborhood ethnicity patterns. The potential sensitivity of a residential resource is, to a degree, determined by the recognized ethnicity of the past residents. There is the possibility that the project corridor was an African-American neighborhood during part of the nineteenth century, supporting both a church (Block 2039) and school (Block 2039).

Another determining factor is the length of residency by an identifiable family unit. Tax records, directories, and block and lot construction files will be researched to establish a residency pattern. The in-depth study will try to determine if a single family unit occupied, for any length of time, any of the identified residences prior to the installation of utilities.

c) Industrial

Three industrial complexes have been identified as potentially sensitive resources in the project corridor: a foundry, a lace works, and a ropewalk.

Foundry

In Block 1890, between Hall and Washington Streets, was a late nineteenth century foundry. According to atlases the one and two story brick complex maintained a machine shop (with engines), the foundry, a cupola, and an erecting shop. Although not noted, the foundry had to maintain large supplies of coke and iron. Subsequent construction (c.1911) obliterated the machine shop (#266 Park Avenue) but the site of the old foundry and cupola may have remained undisturbed. The cupola, or furnace in general use for melting iron for the production of castings, was the heart of any foundry.

Lace Works

The Jennings Lace Works (A.G. Jennings & Sons), by 1884 the oldest and largest of the 15 manufacturers of silk goods in Brooklyn, was located in project corridor Block 1891, fronting on Hall Street abutting Park Avenue (Stiles 1884, Vol. II:807). It was in c.1871 that Jennings erected the facility in Brooklyn, a "commodious factory, specially adapted for the business of manufacturing silk laces in all its branches, from the raw silk to the dyeing and finishing the lace perfect for the use of the consumer" (Ibid:808). During the 1880s the works were enlarged to the north of Park Avenue, outside the project corridor. It was a common practice, more than in any other branch of the textile industry, to conduct different silk processes in separate plants, a practice which became more common as the century closed (Clark 1929, Vol. III:211).

Jennings, like many silk manufacturers in the Northeast, initially imported European skilled laborers but, by 1884 when the plant employed approximately 600 persons, the majority of the workers were local, foreign born women and girls (Stiles 1884, Vol. II:808). Cheaper female labor of the Pennsylvania coal and iron towns eventually came to play a role in the decline of this industry in the southern New York area (Clark 1929, Vol. III:215).

Jennings' Spanish and Escurial lace and hair net enterprise, originally located in New Jersey, was one of the many New York/New Jersey silk manufacturers to import raw silk from China to produce trimmings and narrow goods (Ibid). By the end of the nineteenth century New Jersey and New York produced most of the country's

laces, nets and veils (Clark 1929, Vol. III:211). Apparently the Jennings Lace Works functioned with modern, automatic belt-driven steam machinery, the lace looms using approximately 100,000 disk bobbins by 1884 (Stiles 1884, Vol. II:808). According to the 1904 and 1915 Sanborn Insurance maps, in the project corridor the Lace Works included 2 four story brick structures (one containing steaming boxes), a two story, skylighted rear structure, a coal vault, a dye house, a one story boiler room, a blacksmith shop, and a steam dry house.

Ropewalk

Operating for over 100 years, the Tucker and Carter Cordage Co. (TCC), which was started in 1803 as Tucker and March, maintained an extensive ropewalks facility on Blocks 1881 and 1896 in the study area. Fronting on Classon Avenue, south of the project corridor, was the substantial castellate-style brick office complex. TCC had three separate distinct departments: "The ropewalk [brick], for the production of ropes and cordage, which is 1,200 feet in length, and extends from Myrtle nearly to Flushing avenue, passing under Park avenue [between Taaffe Place and Classon Avenue] by a tunnel [brick]; the Harvester twine department, which turns out one hundred tons of Harvester twine weekly, without being able to supply the demand; and the jute department, which produces Island and Upland cotton" (Stiles 1884, Vol. II:718). By 1884, when there were 14 rope and twine factories in Kings County, the "greatly enlarged and extended" TCC employed 850 hands with an annual production of 18,000,000 pounds of rope, cordage, bagging and twines, realizing more than $3,000,000 (Ibid:719). Significantly, TCC was the first ropewalks to introduce the spinning jenny for spinning hemp in the place of hand spinning.

> This change was first attempted about 1833, and met with the most strenuous opposition form the hand-spinners. Then the first installement of rope spun on the jenny was completed, the enraged spinners seized Mr. , who had charge of it, and treated him to a coat of tar and feathers; they then seized the hemp he had spun, paid the company for it, took it to a hill near by and burned it publicly. But the spinning jenny triumphed. ...[TCC] ropewalks was known for many years as "the steamer." (Stiles 1884, Vol. II:717)

By the fourth quarter of the century the entire TCC establishment was driven and heated by two steam engines, a Corliss engine of 500 horsepower and a Harris engine of 300 horsepower. To accommodate the space requirements for "laying rope" the ropewalk required almost the length of two full blocks. TCC managed to gain this length by constructing a brick, arched tunnel (approximately 30 feet wide) underneath Park Avenue.

By 1929 TCC had become the Waterbury Company Rope and Wire Works and in 1951 the Gallo Original Iron Works maintained the northern half of the old complex. The southern half of the complex is now occupied by the Taaffe Place city park and it is assumed that the brick "laying ground" is in the project corridor.

As with the other resource types work efforts will be directed at compiling a disturbance record of the industrial sites to eliminate them from further assessment if their subsurface integrity has been severely disturbed. The question of archaeological visibility will again be addressed regarding these three specific types of industrial resources.

The initial documentary work has not associated the foundry with a specific business. In-depth research will focus on establishing such an association and comparing this foundry to other iron works in the area.

The intensive research will focus on business directories and manufacturing monographs and industrial histories in order to assess the significance of the project corridor industrial complexes in the general development of technology, production, and labor relations, and in the manufacturing history of Brooklyn and greater New York.

d) Public Use

Two sections of the project corridor, the truncated northern ends of Block 2039 and Block 2040, experienced extensive public/governmental use for over one hundred years. These two blocks, and the old Division Street that ran diagonally through them prior to the opening of North Elliot Street, appear to have possibly hosted, in the project corridor, a hospital, two barracks, and a church and church yard. As with the other resource categories, a disturbance record of the public-use sensitive parcels will be compiled. This record may preclude any or all of the public-use sensitive parcels from further archaeological consideration.

Hospital

First noted on a c.1834 map, a hospital structure apparently overlapped both block fronts where North Elliot Street now intersects Park Avenue (Figure 6). By 1855 this structure had been adapted to a "barracks". Because of this change in function and the early military use of the hillocks around Wallabout Bay, the topic-intensive level of research will examine available archives to determine the precise location and potential significance of the hospital.

Barracks

As described above, the early nineteenth century hospital that straddled North Elliot Street apparently was adapted for military barracks by the mid century. A second barracks was built nearby on Block 2040, roughly parallel to Park Avenue but set back from the Avenue and placed immediately north of it. Municipal and naval archives will be examined to determine, as closely as possible, the precise locations, in relation to the project corridor, of the barracks. Also, the nature of the barracks, i.e., construction material, and the length of use, i.e., temporary or permanent structures, will need to be determined.

Church and Church Yard

Prior to 1886 the one story Methodist Episcopal Church was established at 56 and 58 Park Avenue on Block 2039. The "church" was still on the lots in 1898 and by 1904 was labeled the Park Avenue Primitive Methodist Church. Most likely serving an African-American congregation, the brick structure stood until replaced, c.1910, by the three and half story building for John Thatcher & Sons Contractors. The new construction probably destroyed remains of the earlier church structure but Thatcher & Sons maintained a rear yard approximating the church yard. The project corridor appears to pass through the church structure itself but not what was the rear church yard. Building Department Block and Lot files will be examined to ascertain the amount of disturbance on the original church foundation by the subsequent construction. The in-depth research will also attempt to determine, through deed and survey research the likelihood that the rear yard area will be impacted. If the rear yard is to be impacted then the research will continue, determining (1) the disturbance record of the rear yard after the demolition of the church and (2) the likelihood that the church, in consideration of laws, health codes, and prevalent trends, used their land as a graveyard.

V. Recommendations

A second-level, or topic-intensive, study is recommended for those loci which have not been eliminated during the documentary research described in this report. The result would be either four reports, each dealing with one of the four resource types, or one report with four chapters, each chapter devoted to one of the resource types. The tasks which would be entailed are outlined in the preceding section. It is anticipated that this study would again eliminate loci from archaeological consideration. For example, it may be proved that the M.E. Church was totally disturbed by subsequent building phases and thus warrant no further consideration. It is also anticipated that the installation design for the force main corridor will have been finalized by this time. Further definition of the design is expected to allow us to decrease the conservatively wide corridor. Any portions which will not be impacted, whether archaeologically sensitive or not, would be eliminated. If there are potential sites which cannot be eliminated in this final documentary research effort, mitigation measures would be proposed for them.

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Taaffe Place Pumping Station and Park Avenue Force Main

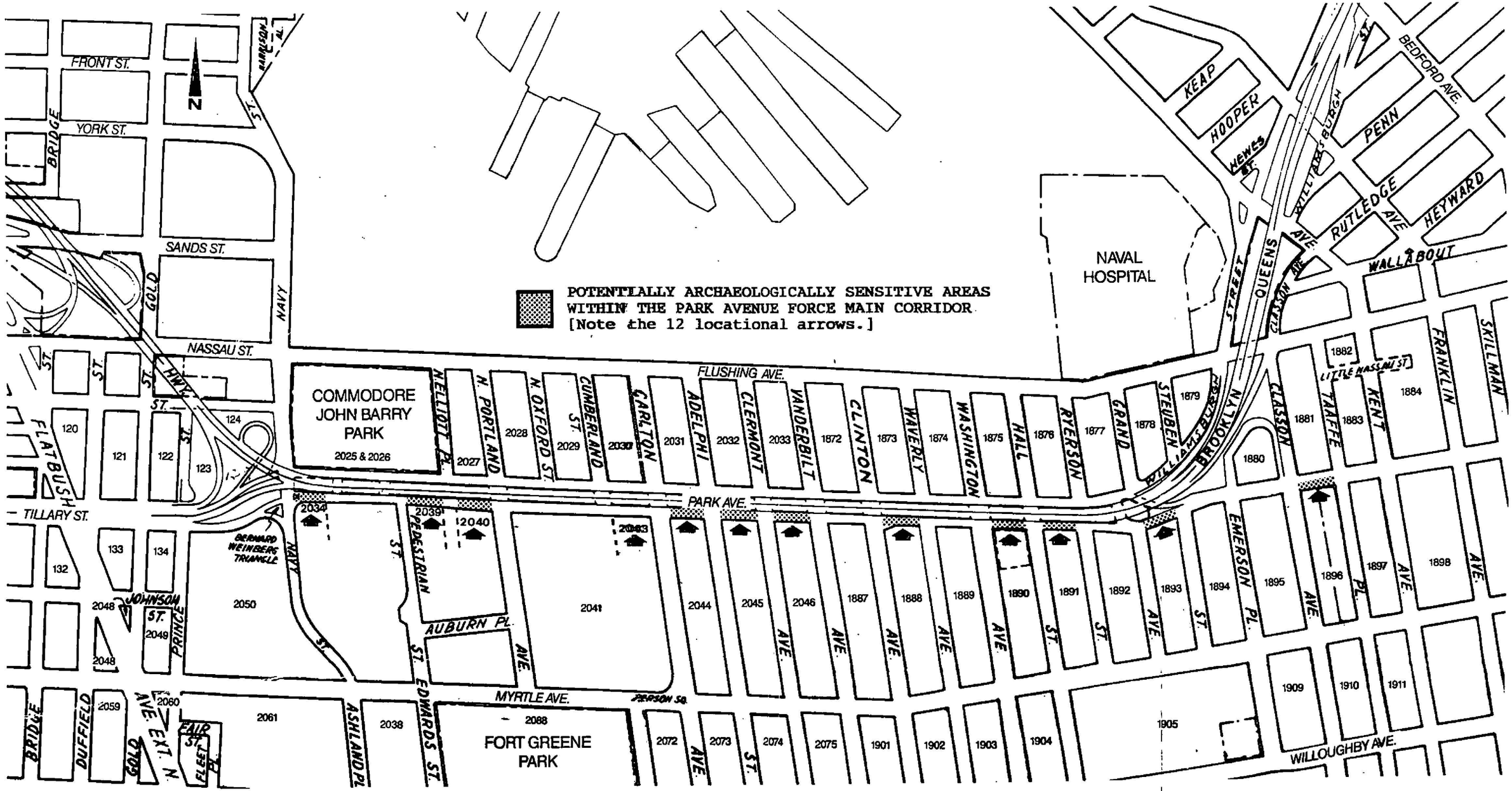
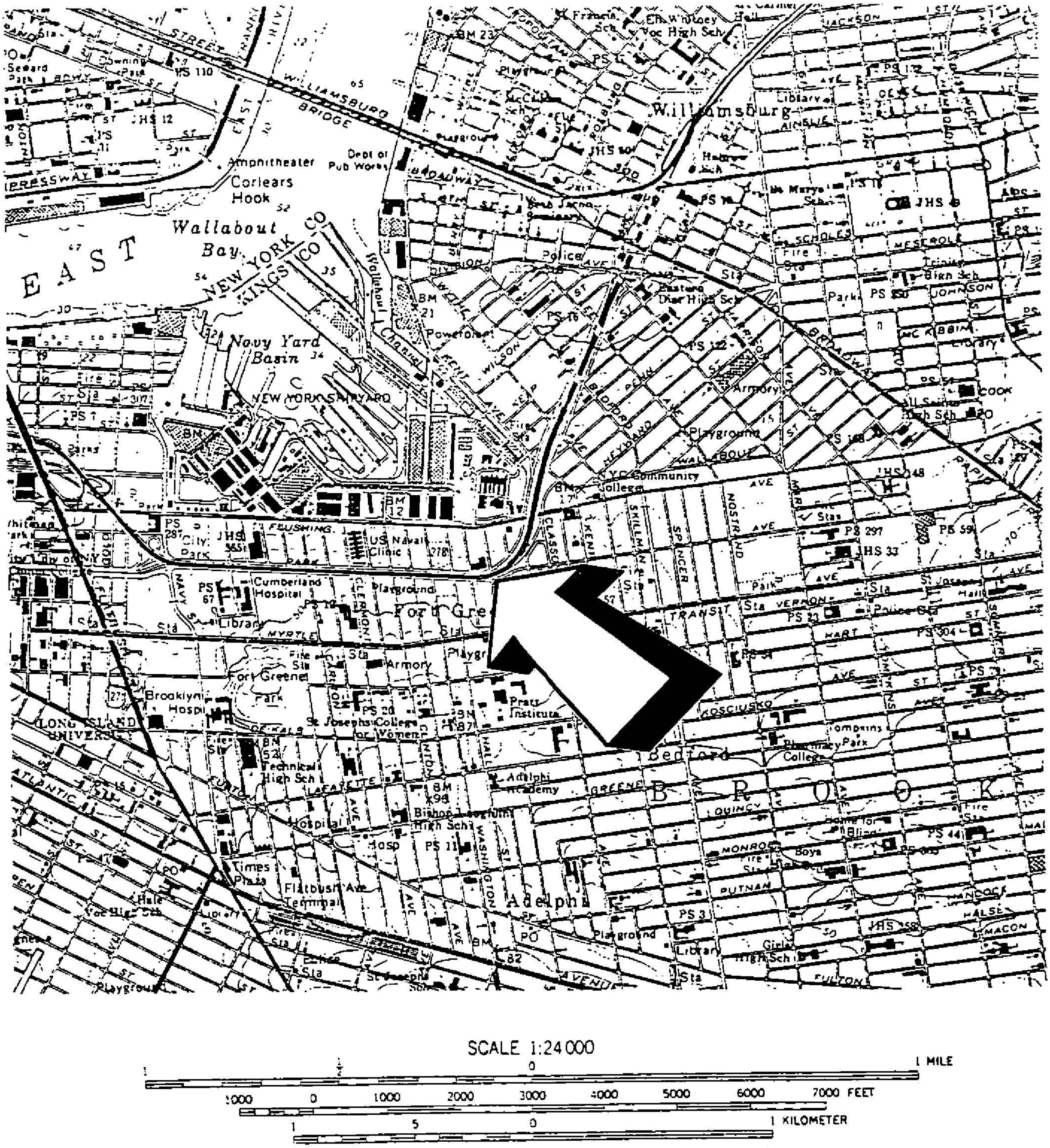
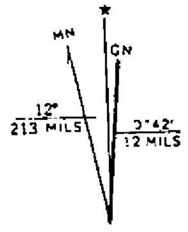


Figure 2

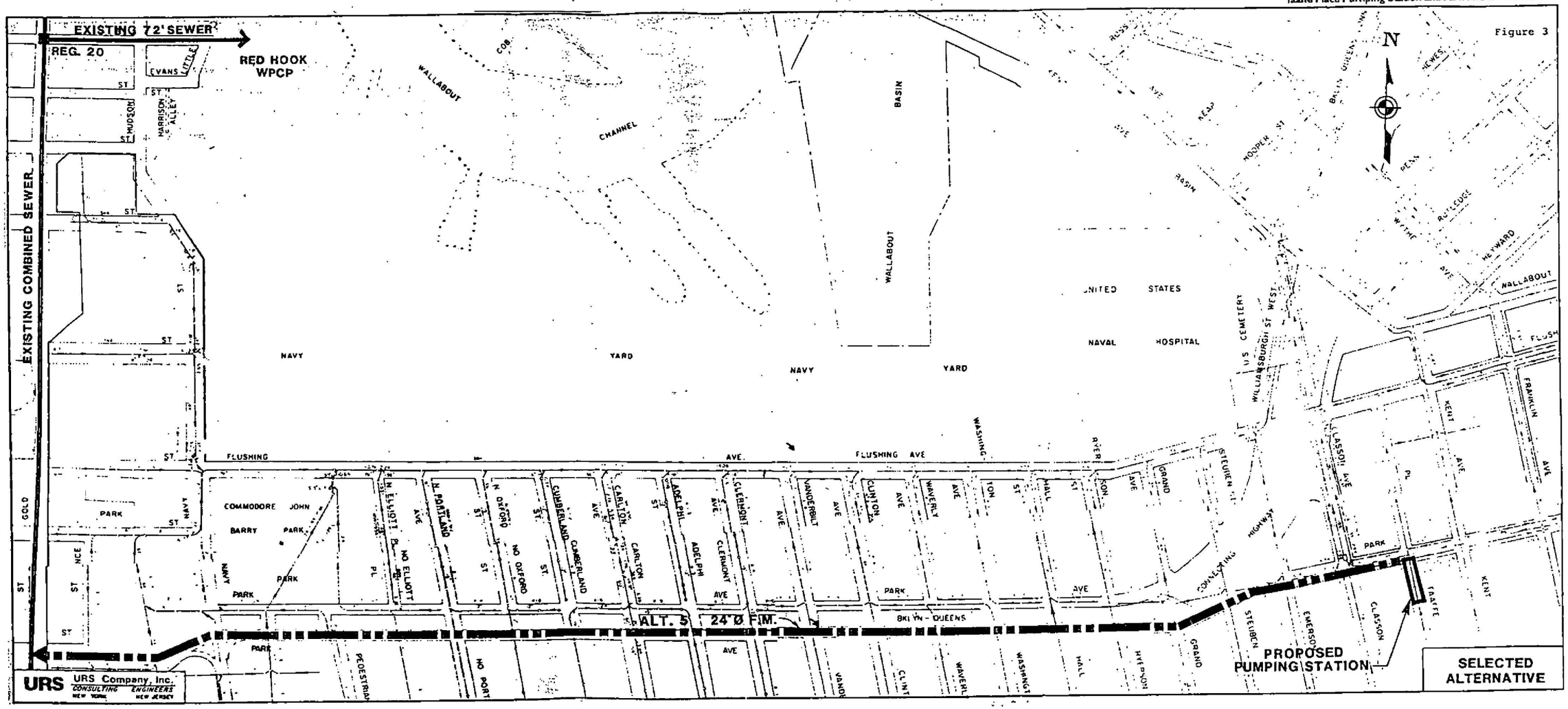
USGS 7.5' Series Topographic Map
Brooklyn Quadrangle





TAAFFE PLACE PUMPING STATION
AND
PARK AVENUE FORCE MAIN CORRIDOR

Figure 3


EXISTING 72" SEWER
REG. 20
RED HOOK WPCP
EXISTING COMBINED SEWER
WALLABOUT CHANNEL
WALLABOUT BASIN
NAVY YARD
UNITED STATES NAVAL HOSPITAL
FLUSHING AVE.
WASHINGTON AVE
PARK AVE
HEYWARD AVE
KENT AVE
FRANKLIN AVE
CLASSON AVE
EMERSON PL
STEUBEN ST
GRAND AVE
HALL ST
WAVERLY AVE
CLINTON AVE
VANDERBILT AVE
CLERMONT AVE
ADELPHI ST
CARLTON AVE
CUMBERLAND ST
NO OXFORD ST
NO ELLIOTT PL
COMMODORE BARRY PARK
PARK
PEDESTRIAN
ALT. 5 24"Ø F.M.
BKLYN - QUEENS EXPWY
PROPOSED PUMPING STATION
SELECTED ALTERNATIVE
N
URS
URS Company, Inc.
CONSULTING ENGINEERS
NEW YORK NEW JERSEY

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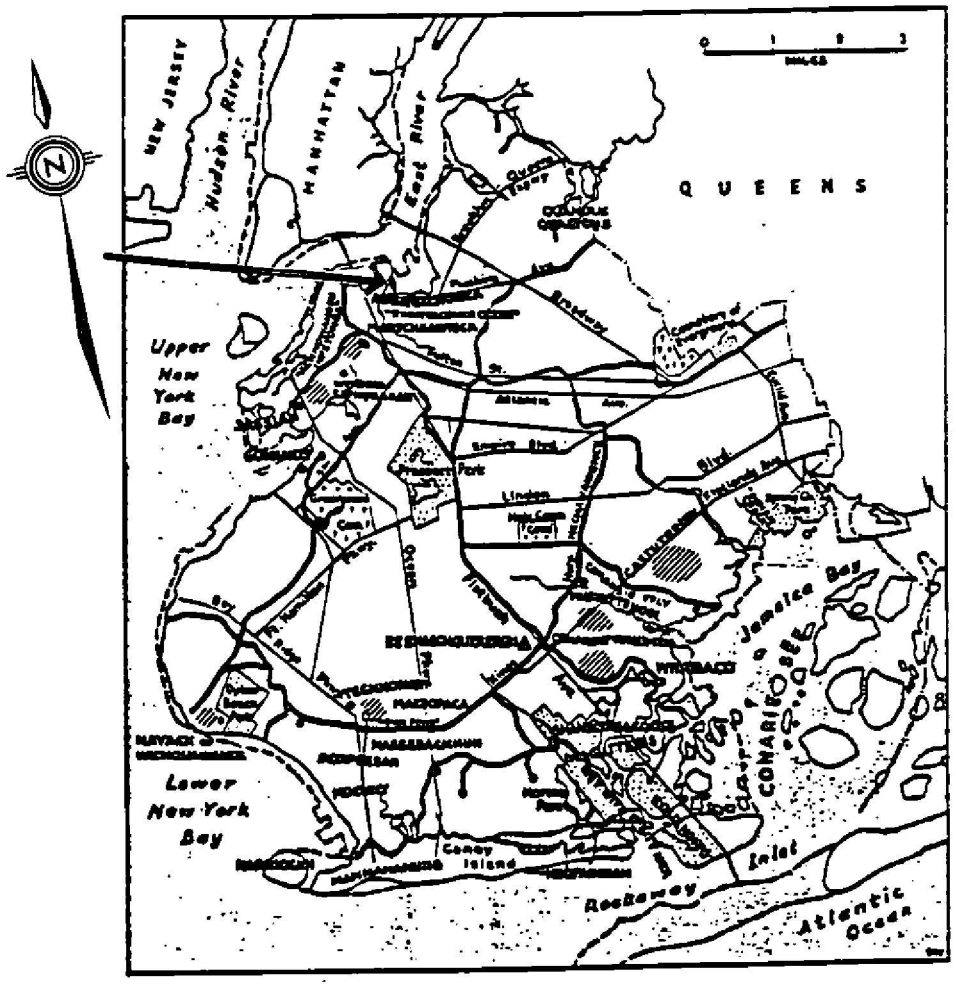


LEGEND FOR FIVE BOROUGH MAPS

- TRAIL (AFTER BOLTON 1922)
- PLANTING AREAS AND OLD FIELDS
- INDIAN NAMES OF LOCAL ORIGIN
- NAMES NOT OF LOCAL ORIGIN
- HABITATION SITE
- PRESENT-DAY CITY PARKS
- MODERN SHORELINE
- CEMETERY

RATZER, PLAN OF THE TOWN OF BROOKLYN, 1766

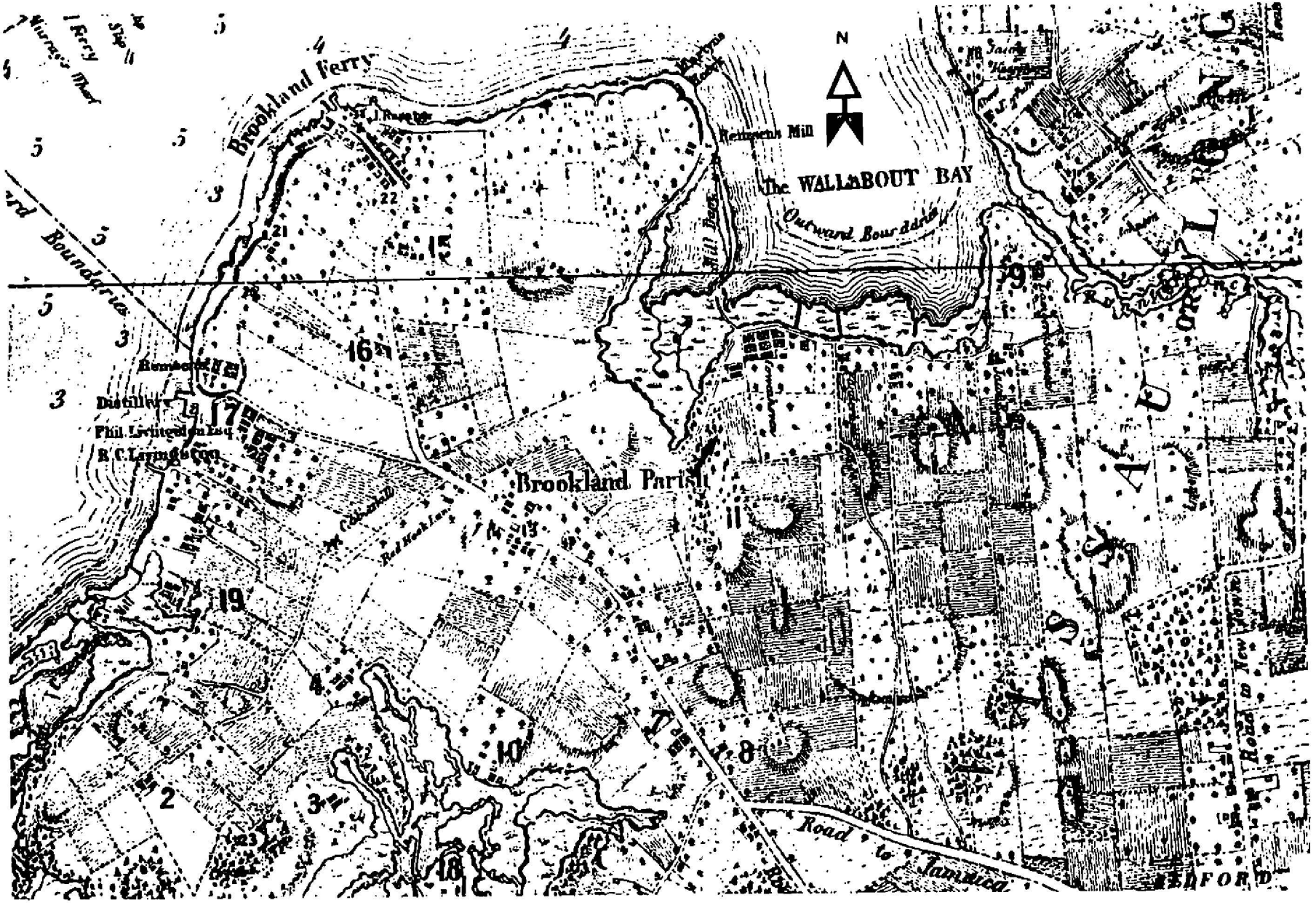


Figure 5

MAP of BROOKLYN

KINGS COUNTY LONG ISLAND

from an Entire New Survey

by

ALEXR. MARTIN

1834

P. Desobry's Lith.r cor. Broadway & Cortlandt St.

RIVER

Navy Yard Ferry. 635 Yards

The Block

U.S. NAVY YARD

WALLABOUT BAY

N.

Wallabout Bridge

Toll Gate

WILLIAMSBURGH ROAD

Hospital

Cemetery

William & Post

Wm. Hunter

Jeremiah Spader

Pine & Van Antwerp

Wm. Hunter

Fort Green

BEDFORD ROAD

Hyde

Wm. Hunter

Jer.a Spader

Hamilton H. Jackson

FIFTH WARD

Methodist Ch.

LITTLE DOCK ST.

NAVY ST.

LITTLE ST.

DIVISION STREET

JACKSON ST.

BOLIVAR ST.

RAYMOND ST.

LAFAYETTE ST.

FLEET STREET

JACKSON STREET

BRIDGE STREET

STANTON STREET

GOLD STREET

PRINCE STREET

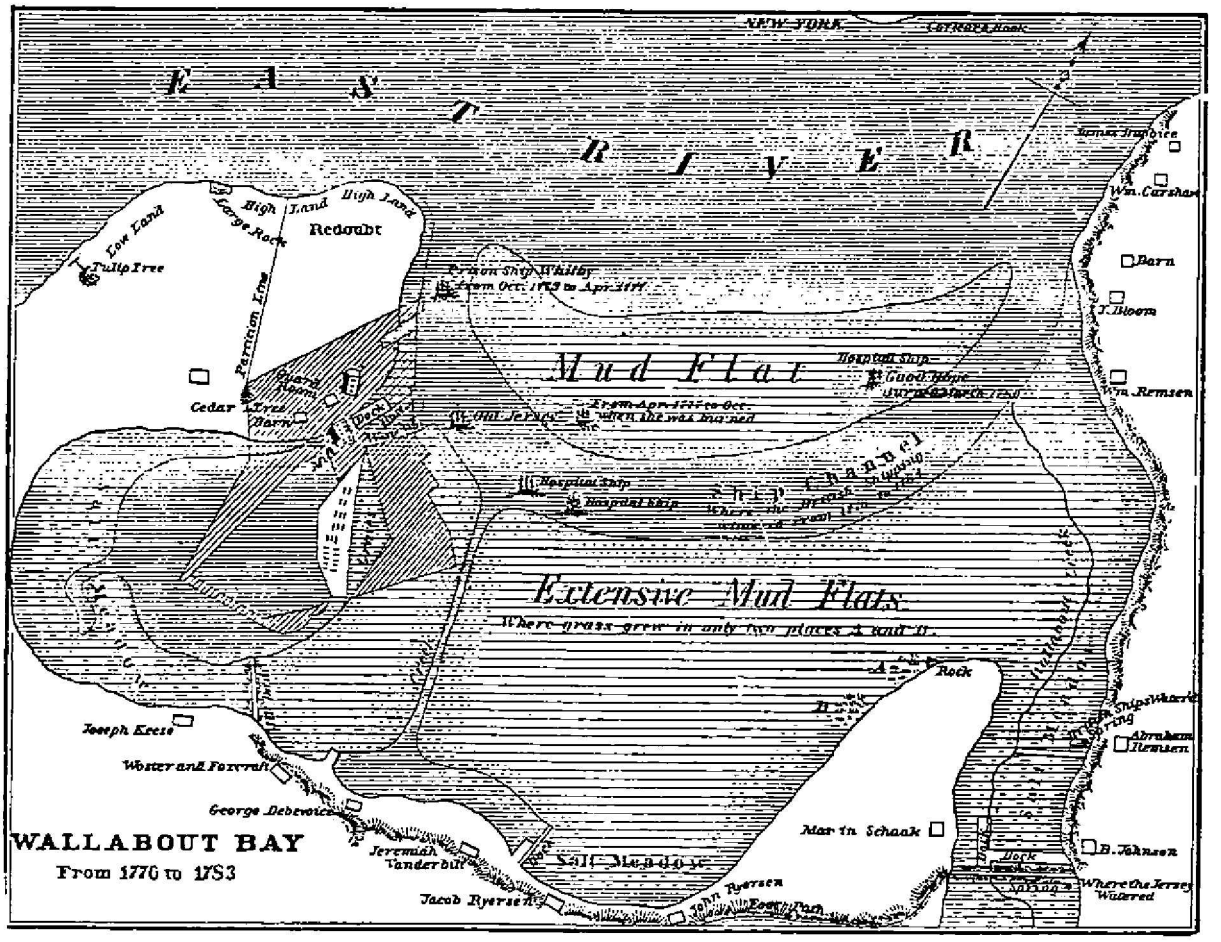
CARLTON STREET

WILLIAMSBURGH AVENUE

PINE AVENUE

Figure 6

Figure 7



Photocopied from Stiles 1884, Vol.I

Figure 8

BRITISH HEAD QUARTERS MAP, 1782

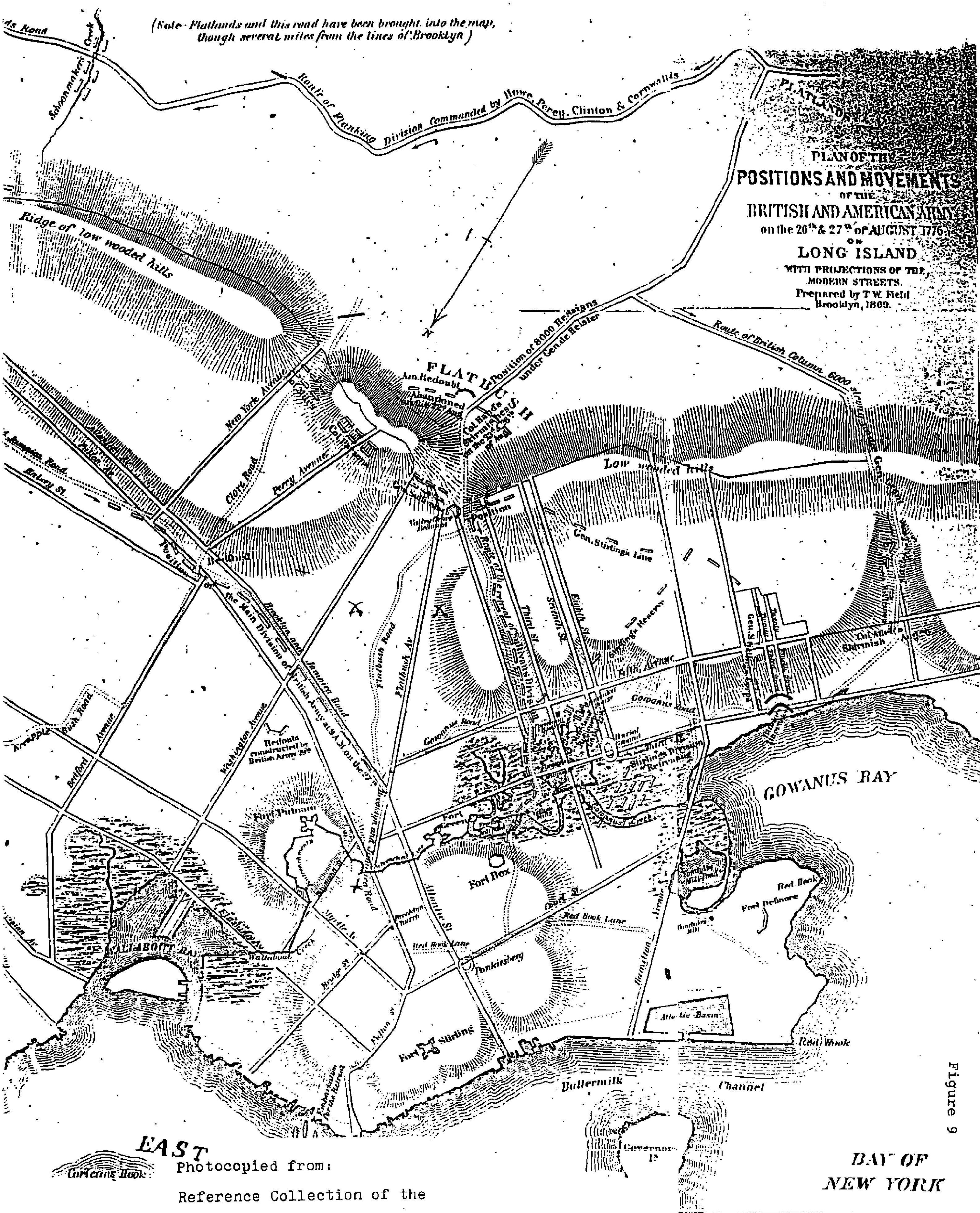
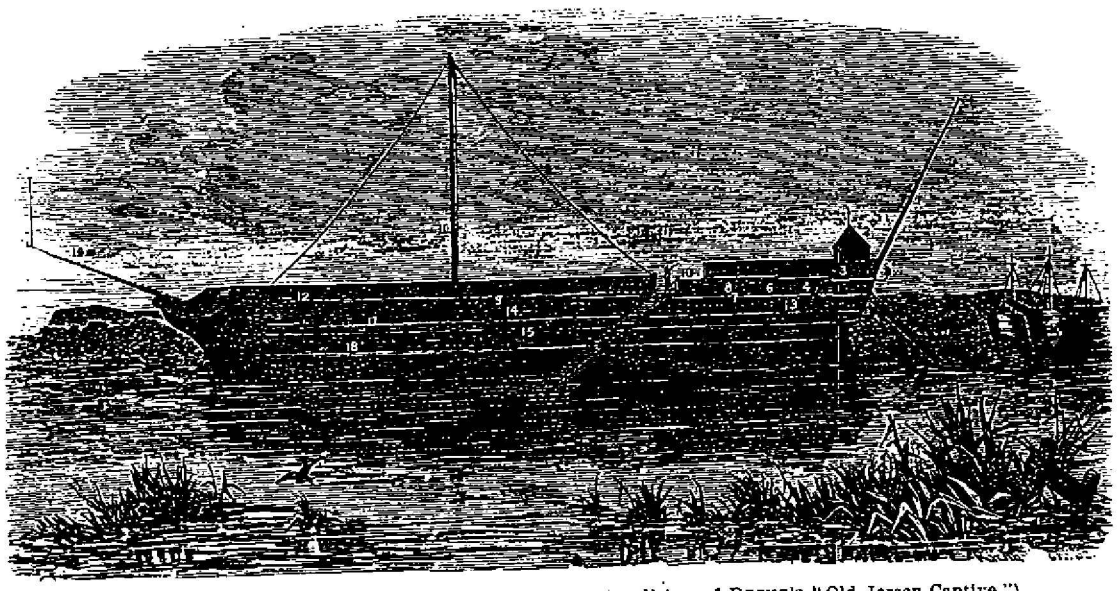


Figure 9

Photocopied from:

Reference Collection of the Long Island Historical Society

Figure 10



THE "OLD JERSEY" PRISON-SHIP. (From DAWSON'S edition of DRING'S "Old Jersey Captive.")

EXTERIOR VIEW OF THE "OLD JERSEY."

1. The Flag-staff, which was seldom used, and only for signals.
2. A canvas awning or tent, used by the guards in warm weather.
3. The Quarter-deck, with its barricade about ten feet high, with a door and four holes on each side.
4. The Ship's Officers' Cabin, under the Quarter-deck.
5. Accommodation-ladder, on the starboard side, for the use of the ship's officers.
6. The Steerage, occupied by the sailors belonging to the ship.
7. The Cook-room for the ship's crew and guards.
8. The Sutler's room, where articles were sold to the prisoners, and delivered to them through an opening in the bulkhead.
9. The Upper-deck and Spar-deck, where the prisoners were occasionally allowed to walk.
10. The Gangway ladder, on the larboard side, for the prisoners.
11. The *Jeerwick*, on the starboard side, for taking in water, etc., etc.
12. The Galley, or Great Copper, *under* the forecastle, where the provisions were cooked for the prisoners.
13. The Gun-room, occupied by those prisoners who were officers.
14, 15. Hatchways leading below, where the prisoners were confined at night.
17, 18. Between-decks, where the prisoners were confined at night.
19. The Bowsprit.
20. Chain cables, by which the vessel was moored.

Photocopied from Stiles 1884, Vol.I

PLAN OF FORT GREENE, 1814

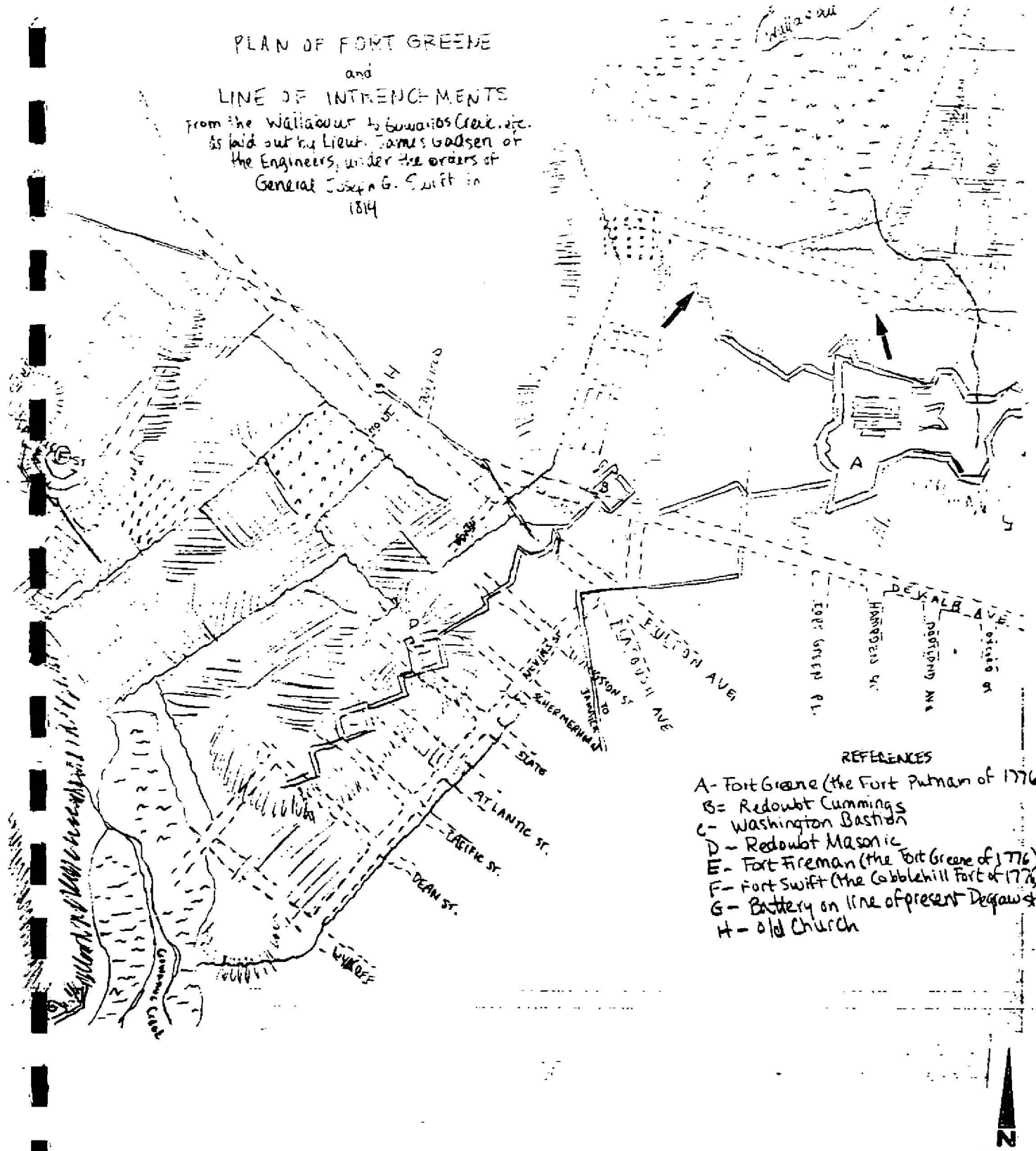


Figure 12

STODDARD, MAP OF THE CITY OF BROOKLYN, 1839

Addendum

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

ARCHAEOLOGICAL ASSESSMENT

ADDENDUM

ARCHAEOLOGICAL ASSESSMENT

OF THE

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN PROJECT

ADDENDUM

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Date: June, 1991

ADDENDUM

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ADDENDUM

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Figure 43 1904 Sanborn Atlas
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Figure 46 1915 Sanborn Atlas

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Figure 58 Historically Sensitive Homelot Areas

Figure 59 Historically Sensitive Homelot Areas

INTRODUCTORY NOTE TO THE ADDENDUM

At a meeting at the New York City Landmarks Preservation Commission (LPC) on May 8, 1991, LPC archaeologist Daniel Pagano requested certain data to be added to information gathered for the Preliminary Archaeological Assessment of the Taaffe Place Pumping Station and Park Avenue Force Main Project. A portion of the additional data is required by a recent LPC policy change in regard to houselots. In previous studies reviewed by LPC, homelots which hosted multiple families, or transient residents, or mixed residential and commercial usage were excluded from further research. As the result of a recently completed report (Sullivan Street), this policy has been reversed. The criterion that homes must have been constructed prior to the introduction of city water and sewer lines in order to be considered archaeologically sensitive remains in effect. Because of the change in policy, it was necessary to add 43 homelots to the original list of 17 for further study to determine their archaeological potential.

Additional cartographic illustrations to supplement the text were also requested. An examination of the impact of the force main trench as defined by the most current engineering plans and its relation to potential archaeological resources were also asked for. LPC instructed that the additional data be presented by block and lot within the project area. The Shorehaven, Bronx, report was the model referred to by Pagano. The following Addendum to the Preliminary Assessment follows the same format as the Shorehaven report (Kearns and Kirkorian, 1987, "Shorehaven Project:Second Level Documentary Study - Phase IA." CEQR 87-010x).

I. PROPOSED DEVELOPMENT PROJECT

Areas of Impact

The force main will run along Park Avenue between Taaffe Place and Navy Street and along Tillary Street between Navy and Gold Streets (see Figures 1 and 2). The portion of Park Avenue in the project area was laid out by 1839 with a width of 70 feet. This is the northern, or westbound, lane of Park Avenue as it exists today. In 1942, Park Avenue between Navy and Steuben Streets was widened by 90 feet, taking the 90 feet from blocks fronting on the south side of Park Avenue (see Figure 3, street widening maps). When the preliminary assessment report was prepared, the precise placement of the force main had not yet been determined. However, since it was known that the force main would, for most of its length, lie below grade within the 90 foot, 1942-expansion strip, this expansion strip was taken as the impact zone.

Since that time, design plans have been completed by URS Consulting Engineers showing the exact path of the force main. (The design plans are drawn on seven sheets which have been reduced by 50% and are included as Figure 4.) The force main trench will be approximately 5 feet in width and its excavation depth below grade will be about 8 to 12 feet. It is designed to avoid existing utilities wherever possible.

Reduction of the design plans by 50% made them the same scale as Sanborn maps of 1904 on which the extent of the 1942 street widening had been indicated with a dashed line. When the maps were overlaid, it was possible to trace the path of the force main onto the 1904 Sanborn map thus identifying which lots would be impacted by the trench. (Figure 5 is one of the maps, inserted here as an example.)

The affected lots were then researched and cartographically compared through time for the possibility that they might contain potentially significant archaeological resources. Possible resources and their locations are listed and described in the individual block summaries. When considered necessary, topic-intensive research reports were undertaken in order to fully evaluate the resource potential. The rationale for the topics/parcels selected for intensive research was based on the resource types identified in the contextual overview of the project corridor which is contained on pages 7 -18, 19 -20, and 21-29 of the Preliminary Assessment. The resource categories identified as being potentially present in the project corridor were 1) Prehistoric; 2) Residential (dwellings); 3) Public Usage (barracks and a church/churchyard); and 4) Industrial (Jennings Lace Factory, John Good's Foundry, and Tucker/Waterbury ropewalk complex). The topic-intensive reports are included in full after the Addendum.

Exact comparative measurements are impossible in this kind of process. All of the maps worked with are at least second-generation reproductions; most have necessarily been reproduced a number of times. There are, for instance, tracings, photographs, and microfilm reproductions as well as reductions and enlargements. Inaccuracies or distortions in scale are inevitable. Therefore, in the lot by lot research, we have allowed for a plus or minus 5 foot error factor for the exact location of the force main trench. The map shown on Figure 5 exemplifies the problem; we felt that we could not be positive that Lot 4 on Block 2034 would not be impacted by the trench and so included it in our research.

II. AREAS OF KNOWN DISTURBANCE/MINIMUM ARCHAEOLOGICAL POTENTIAL

Block 125

Where the proposed force main corridor turns south from Park Avenue toward Tillary Street, Block 125 bounded by Navy, Hudson, and Tillary Streets and Park Avenue once existed (see Figures 2 and 6). The entire block was removed during the Park Avenue widening project of 1942 (see Figure 7), which would have disturbed subsurface deposits. But it was the placement of the BQE viaduct and access ramp supports that caused the major disturbance to the former block area (see Figures 8 and 9). The deep subsurface impact of that construction would have effectively obliterated potential resources; therefore, no further archaeological consideration of Block 125 is warranted.

Intersections

The URS design plans (Figure 4) for the placement of the force main included a mapping of the existing utility lines since it was crucial for the trench to avoid them wherever possible. Existing lines are shown in relation to the proposed trench in plan and profile views. These plans show that all the street intersections in the project corridor, already disturbed by the 1942 street widening, are crowded with lines and pipes running both perpendicular and parallel to the trench. For example, Figure 4, Sheet 5, shows the intersections of Park Avenue with Clinton, Waverly, Washington, and Hall Streets; clearly these intersections have experienced severe subsurface disturbance from the placement of the many utilities. Note that at all four intersections there is a 24 inch sewer running north-south (perpendicular to the force main) which is <u>below</u> where the force main trench will be placed. And, according to Nick Marifini of URS Consulting Engineers, there may be other utility lines that were not documented in existing records. On the basis of disturbance from 1942 street widening and utility placement, these intersection areas warrant no further archaeological consideration.

Roadbeds

ok

Portions of the trench will be placed in the original roadbeds of the blocks of Park Avenue between Gold and Hudson Streets to the west, and between Steuben Street and Taaffe Place to the east (see Figures 2, 10, 11, 12, and 13). The proposed pumping station will be in the roadbed of Taaffe Place and the diversion chamber in the roadbed of Park Avenue just east of Taaffe Place. Roadbeds of mid-nineteenth century streets have no intrinsic archaeological value in and of themselves. The path of what was to be Park Avenue as laid out in 1839 was farmland prior to that time. No maps show

loci of potential archaeological sensitivity in these portions of the project corridor (see discussion of this subject in the Preliminary Assessment, pages 11-14 and 21-22). Similarly, the potential for intact prehistoric resources to exist in the roadbeds is minimal as discussed in the Preliminary Assessment, pages 9-11 and 21, and in the Prehistoric Topic-Intensive Report. No further archaeological consideration of these areas is warranted.

III. AREAS OF ARCHAEOLOGICAL POTENTIAL

The sections of the force main corridor discussed above warrant no further archeological consideration because they have either been seriously disturbed or contain minimum archaeological potential. The remaining blockfronts that existed before the 1942 road widening may contain archaeological resources that will be impacted by the 5 foot wide trench which has been designed to avoid existing parallel utility lines. It is possible that these areas have already been seriously disturbed by the 1942 street widening. On the other hand, the Park Avenue streetbed may serve as protection for features such as well or privy shafts. No construction plans for the 1942 project could be located and letters and phone calls to the New York City Department of Transportation for assistance and permission to do research in their archives were to no avail. In the absence of conclusive proof of the loss of integrity, these areas were evaluated for archaeological resource potential. The 17 blocks assessed in the following Block Summary section are numbers 2034, 2035, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 1887, 1888, 1889, 1890, 1891, 1892, and 1893 (see Figure 2).

III. BLOCK SUMMARIES

For general reference, see the following map that shows street names and block numbers; however, all lot numbers and street addresses are referenced according to the 1898 Hyde Atlas appended to this section. The Block Summary section is directly followed by the group of maps used for the cartographic study of the entire 17 blocks.

Prehistoric

The potential for prehistoric archaeological resources in the force main corridor was discussed in the Preliminary Assessment, pages 9-11, 19, 21, and 25 and in the Prehistoric Topic-Intensive Report included in this Addendum. Background research was combined with an evaluation of the disturbance record of each block as well as the planned location of the actual force main trench in order to determine the sensitivity of each block. The conclusion of the research is stated for each block.

Colonial/Revolutionary War/Federal Periods

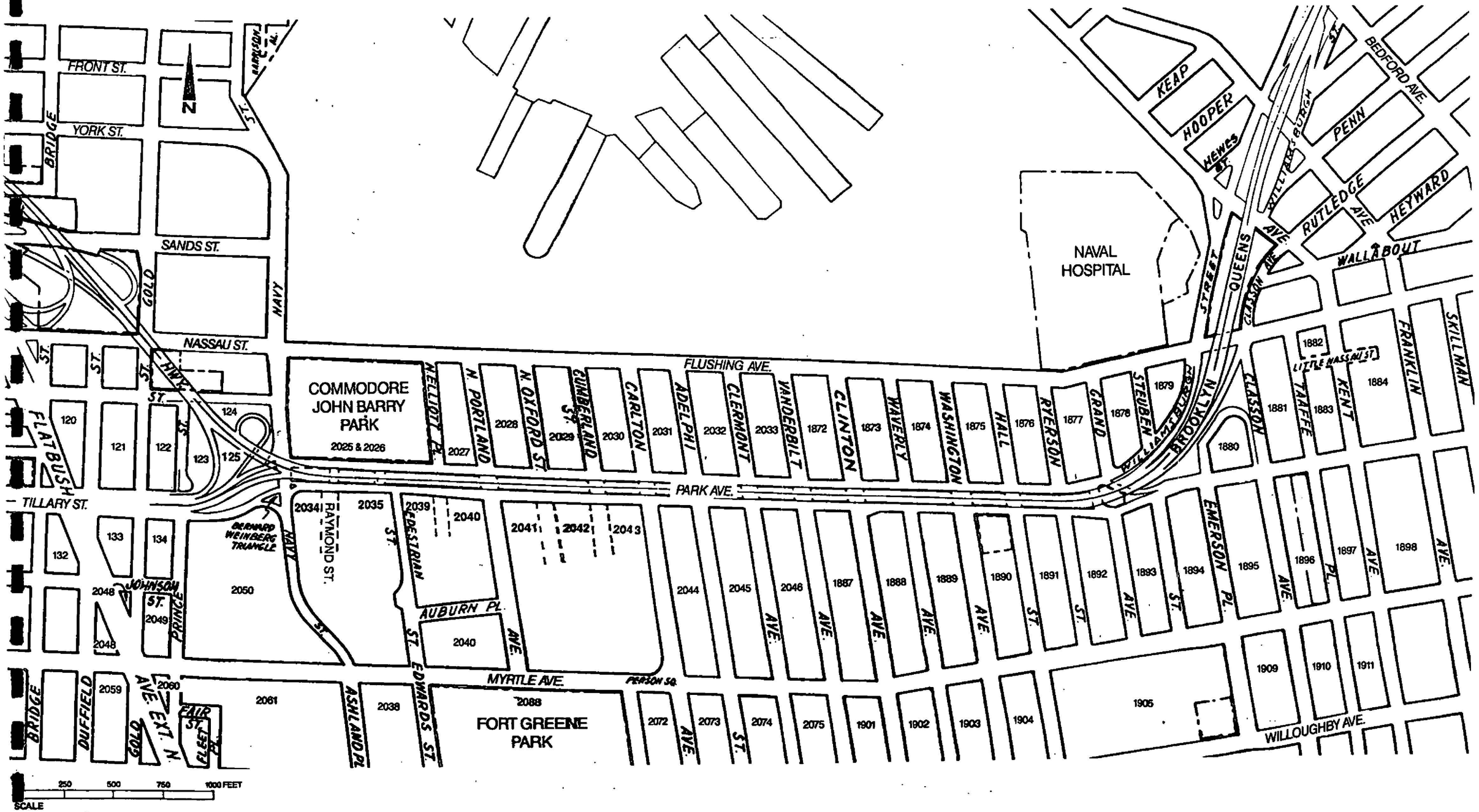
The potential for archaeological resources in the force main corridor from the Colonial/Revolutionary War/Federal Periods was discussed in the Preliminary Assessment, Pages 11-14, 19-20, and 21-22. Background research using documents and maps was combined with an evaluation of the disturbance record of each block as well as the planned location of the actual force main trench in order to determine the sensitivity of each block. The conclusion of the research is stated for each block.

Urban Development Period

The potential for archaeological resources in the force main corridor from the urban development period which began in the second quarter of the nineteenth century was discussed in the text (and accompanied by appropriate maps) of the Preliminary Assessment, Pages 14-18, 20-21, 22-24, and 25-29 and in the topic-intensive reports included in this Addendum. Dwellings first shown on maps as being constructed subsequent to dates (if known) of connection to municipal sewer and water lines do not warrant archaeological consideration according to LPC guidelines. Also, unlabeled structures, that is, structures that cannot be associated with a specific function or business enterprise, do not warrant archaeological consideration. Historical context is what gives material culture, or artifacts, an archaeological value. The archaeological potential of unassociated structures is limited because the historical context of the resource is unclear and so its investigation is not likely to yield substantive data to address research questions.

For the Block Summary section of the Addendum, all blocks and lots were studied on maps beginning with the 1850 Dripps Map (the first one that may accurately depict development in the study area) and proceeding with Perris 1855 (which does not include any blocks east of Clinton Street - Block 1887), Dripps 1860, Dripps 1869, Robinson 1886, Hyde 1898, Sanborn 1904, Sanborn 1915, Sanborn 1929, Sanborn 1951, and Sanborn 1990.

The known disturbance record for each block as well as the placement of the force main trench were studied in relation to lots where archaeological potential may once have existed in order to evaluate the possibility that potential might still exist. The conclusion of the research is stated for each block.


FRONT ST.
YORK ST.
SANDS ST.
NASSAU ST.
FLUSHING AVE.
PARK AVE.
MYRTLE AVE.
WILLOUGHBY AVE.
TILLARY ST.
JOHNSON ST.
AUBURN PL.
RAYMOND ST.
BRIDGE
GOLD
NAVY
HARRISON PL.
FLATBUSH
DUFFIELD
PRINCE
EDWARDS ST.
ASHLAND PL.
FLEET PL.
EXT.
HWY.
COMMODORE JOHN BARRY PARK
2025 & 2026
FORT GREENE PARK
BERNARD WEINBERG TRIANGLE
NAVAL HOSPITAL
PEARSON SQ.
KEAP
HOOPER
HEWES ST.
WILLIAMSBURGH
PENN
BEDFORD AVE.
RUTLEDGE AVE
HEYWARD
WALLABOUT
QUEENS
CLASSON AVE
BROOKLYN
STREET
LITTLE NASSAU ST.
SKILLMAN
FRANKLIN
KENT
TAAFFE
PEMBERTON
PORTLAND
OXFORD ST.
CUMBERLAND ST.
CARLTON
ADELPHI
CLERMONT
VANDERBILT
CLINTON
WAVERLY
WASHINGTON
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RYERSON
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2072
2073
2074
2075
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121
122
123
124
125
132
133
134
250
500
750
1000 FEET
SCALE

BLOCK 2034 Between Navy and Raymond Streets.

The force main corridor will cut through a portion of Block 2034 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lot 4 and Lots 16 through 20. These are at 26 through 32 Park Avenue prior to 1942. (See Figure 32, 1898, for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - The northern section of the block is empty. Figure 14.

1855 - Four structures are located along Park Avenue from Navy Street east. The backyard of a framed dwelling on Lot 4 may be impacted by the trench. Figure 15 and following map.

1860 - Same building configuration as 1855.

1869 - Same building configuration as 1855. Figure 25.

1886 - More structures have been erected, but buildings are not labled as to use. Lot 4 as above. Figure 27.

1898 - Buildings are not labled as to use. Lot 4 as above. Figure 32.

1904 - Other than Lot 4, the trench will pass through non-sensitive yards or unidentified, unassociated post-1869 buildings. Figure 38.

1915 - The same building configuration as 1904, with one building labled "wheel-wright." Figure 45.

1929 - The eastern one half of the block is occupied by a brick "Metal Hose Tubing Co."

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitivity is limited to the backyard of a c.1855 dwelling on Lot 4; however no names of occupants residing in the home prior to sewer installation, which was accomplished by at least 1868, could be found. Refer to the Dwellings Topic-Intensive Report, pages D-4 and D-5, and the Conclusions/Recommendations section of this Addendum.

Block 2034 is considered to have minimum potential for archaeological research.

Block 2035 Between Raymond and St. Edwards St.

The force main corridor will cut through a portion of Block 2035 that existed before the 1942 street widening. The route of the proposed force main trench may impact Lots 17, 18, 19, 20, 21, 1, and 2 at #33-45 Park Avenue. (See Figure 32, 1898, for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:
1850 - No buildings on block. Figure 14

1855 - No buildings on the portion of the block to be impacted. Figure 16.

1860 - No buildings on the portion of the block to be impacted.

1869 - No buildings on the portion of the block to be impacted. Figure 25.

1886 - Buildings on St. Edwards Street corner. Not labeled as to use. Figure 27.

1898 - "Express Co." on Raymond Street corner, other buildings not labeled as to use. Figure 32.

1904 - Entire block front occupied by White's Express Co. Figure 38.

1915 - Similar configuration to 1904, now occupied by Wells, Fargo & Co., Express. Figure 45.

1929 - The block front is covered by a one story brick "garage."

1951 - The lots on this block that will be impacted became part of the road bed during the 1942 widening of Park Avenue.

Conclusions: The portion of the block to be impacted is considered non-sensitive because its known use as an express facility would not have left visible archaeological remains of significance for further study (see discussion on page 24 of the Preliminary Assessment).

Block 2039 Between St. Edwards Street and N. Elliott Place.

The force main corridor will cut through a portion of Block 2039 that existed before the 1942 street widening. The route of the proposed force main trench may impact Lots 4 through 9, and Lots 61, 69, 70, and 71 at 46-64 Park Avenue and 74-80 North Elliott Place. (See Figure 32, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - The northern portion of the block is empty. Figure 14

1855 - A frame "dwelling with store" with another structure to the rear (south) of the lot is shown at what will become Lot 7, 52 Park Avenue and may be impacted by the trench. See Figure 17 and following map.

1860 - Lot 7 as above. Additional structure, also "dwelling with store" on Lot 9, 48 Park Avenue.

1869 - Same configuration as above except for structure at 71 North Elliott Place, Lot 9 or 10. Figure 25.

1886 - More structures have been erected, but none are labeled except "M.E. Church" on Lots 4 and 5 [?], 56-58 Park Avenue. Figure 27.

1898 - Similar configuration as above. Buildings unlabeled as to use except for "Church." Figure 32.

1904 - Similar configuration as above. Buildings unlabeled as to use except for "Park Ave. Primitive Meth. Church." Figure 39.

1915 - Similar configuration as above except that church has been replaced by a 3 and 1/2 story building occupied by "John Thatcher and Sons, Contractors." Figure 46.

1929 - Similar configuration as above. Thatcher and Sons still in place.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The church on Lots 4 and 5 was identified in the Preliminary Assessment as a potential archaeological resource. It was the subject of topic-intensive research which concluded that the parcel was not sensitive for burials or church remains. Refer to the Church/Churchyard Topic-Intensive Report and the Conclusions/Recommendations section of this Addendum.

The areas of sensitivity on this block are limited to the backyard spaces on Lot 7, 52 Park Avenue and Lot 9, 48 Park Avenue. However, the trench will cross through the location of the structure at 48 Park Avenue, entirely avoiding the backyard, leaving the parcel with minimum archaeological potential (see following map). Only a small portion of the yard at 52 Park Avenue will be impacted by the trench (see following map). There were no water or sewer connection records available for these lots; occupant names were found for the c.1875 period. Refer to the Dwellings Topic-Intensive Report, Pages D-5 and D-6, and the Conclusions/Recommendations section of this Addendum.

Block 2039 has an area, Lot 7, 52 Park Avenue, of low potential for archaeological resources.

Block 2040 Between N. Elliott Place and N. Portland Avenue.

The force main corridor will cut through a portion of Block 2040 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lots 1 through 10, #66-84 Park Avenue prior to 1942. (See Figure 32, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - Barracks building only structure in impacted area. Figure 14.

1855 - Barracks building only structure in impacted area. Figure 17.

1860 - Same building, now labeled "Straw Hat Manufactury" only structure in impacted area.

1869 - No structures appear on the impacted portion of the block. Figure 25.

1886 - Buildings are present, but they are not labeled as to use. Figure 27

1898 - Buildings are not labeled as to use. Figure 32.

1904 - The block front contains buildings on all 10 lots, labeled only S[tores]. Figure 39.

1915 - Same configuration as 1904. Figure 46.

1929 - Similar configuration to above.

1951 - The portion of the block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The portion of the block to be impacted by the force main trench is considered non-sensitive. There were no structures predating 1869, except for the barracks whose site was assessed in the Barracks Topic-Intensive Report and found to be seriously disturbed. (It appears that the barracks actually were in the North Elliott Place roadbed, but for convenience sake the site is included with Block 2040.) Post-1869 use was limited to small stores, unlabeled as to use, constructed after municipal utilities were available.

Block 2041 Between North Portland Avenue and North Oxford Streets.

The route of the proposed force main traverses Lots 1 through 10. Between 1850 and 1855 three buildings were erected which may be impacted by the trench - one each on Lots 7 through 9. These were at 86, 88, and 90 Park Avenue prior to 1942. (See Figure 33, 1898, for lots/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - There are no structures on the block. Figure 14.

1855 - The force main corridor impacts the six lots which have structures. The actual trench may impact the three frame "stores with dwellings" located on Park Avenue at the North Portland Avenue corner. They are Lots 7, 8, and 9, at 86, 88, and 90 Park Avenue. Figure 18 and the following map.

1860 - Same building configuration as 1855.

1869 - Same building configuration as above. Figure 25.

1886 - Lots 7, 8, and 9 as above. Unlabeled brick buildings fill the remaining block frontage. Figure 27.

1898 - Similar configuration to above. Figure 33.

1904 - Other than Lots 7, 8, and 9 (86, 88, and 90 Park Avenue), the force main trench will pass through non-sensitive yards or unidentified, unassociated post-1869 buildings. Figure 40.

1915 - Similar configuration to 1904. Figure 47.

1929 - Similar configuration to 1904 and 1915.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The sensitivity of Block 2041 is limited to the backyards of three c.1855 dwellings with stores. These three buildings were connected to sewers by 1868; however no names of occupants residing in the homes prior to that date could be found. Refer to the *Dwellings* Topic-Intensive Report, Pages D-6 and D-7, and the Conclusions/ Recommendations section of this Addendum.

Block 2041 is considered to have minimum potential for archaeolgical research.

Block 2042 Between North Oxford Street and Cumberland Street.

The force main corridor cuts through a portion of Block 2042 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lots 7 (later Lot 90) through 1, 106-124 Park Avenue prior to 1942. (See Figure 33, 1898, for lots/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - A building is shown on Lot 2 and one on Lot 3. Figure 14.

1855 - By 1855 the original two buildings have been replaced; there are structures on Lots 1, 2, 3, 4 and 5. Figure 19.

1860 - By this time a building has been erected on the corner of North Oxford Street, Lot 7 (later Lot 90) and the earlier building on Lot 2 replaced. Other lots the same as before.

1869 - Same building configuration as above. Figure 25.

1886 - Similar building configuration to above. Buildings are not labeled as to use. Figure 28

1898 - Similar configuration to above, with more structures on Lot 3. Figure 33.

1904 - Structures labeled 2 and 3 story buildings with stores. The interior of Lot 3, 114-118 Parks contains 3 dwellings. Figure 40.

1915 - Similar configuration to 1904. Figure 47.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Structures were built on Lots 5, 4, 2, and 1 (110,112,122, and 124 Park Avenue, respectively) by 1855. Sewers were installed in Lots 5, 4, and 2 by 1868 and Lot 1 in 1873. Names of occupants prior to sewer availibility were located. The structure at 106 Park Avenue on Lot 90 was built between 1855 and 1860 and had a sewer line connected at least by 1868; however no names of occupants residing in the home prior to 1868 could be found. Refer to the Dwellings Topic-Intensive report, pages D-8, D-9, and D-10, and the Conclusions/Recommendations section of this Addendum.

Block 2042 is considered to have potential for further archaeological investigations of backyard areas at 110, 112, 122, and 124 Park Avenue.

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124

hno

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Block 2043 Between Cumberland Street and Carlton Avenue.

The force main corridor will cut through a portion of Block 2043 that existed prior to the 1942 street widening. The route of the force main trench traverses Lots 8 - 1 at 126 - 144 Park Avenue. (See Figure 33, 1898 for lots/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - Structures are shown on Lots 1, 2, 3, and 8 at 144, 142, 140, and 126 Park Avenue. Figure 14.

1855 - All lots have structures except Lot 7 at 130 Park Avenue. Figure 20.

1860 - There are buildings on each lot.

1869 - There are buildings on each lot. Figure 25.

1886 - There are buildings on each lot; none are labeled. Figure 28.

1898 - There are buildings on each lot; none are labeled. Figure 33.

1904 - There are buildings on each lot, labeled either S[tore] or D[welling]. Figure 40.

1915 - Same configuration as above. Figure 47.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitivity is limited to backyards.
A structure was built at 126 Park Avenue, Lot 8, prior to 1850. A sewer line was installed in 1869; however, no occupants names during that period could be found.

A structure was built at 130 Park Avenue, Lot 7, between 1850 and 1860. A sewer line was installed in 1871; however, no occupants names during that period could be found. ← what sources were consulted?

A structure was built at 132 Park Avenue, Lot 6, c. 1860. A sewer line was installed in 1890. Names of occupants prior to sewer installation were found.

A structure was built at 134-136 Park Avenue, Lot 5, c. 1860. A sewer line was installed sometime prior to 1868; however, no occupants names during that period could be found.

A structure was built at 138 Park Avenue, Lot 4, between 1850 and 1855. A sewer line was installed in 1872. Names of occupants prior to sewer installation were found.

A structure was built at 140 Park Avenue, Lot 3, c. 1855. A sewer line was installed in 1875. The first known resident, who was also the owner, dates to 1875 when the sewer was installed. no entry

A structure was built at 142 Park Avenue, Lot 2, c. 1855. A sewer was installed in 1870. Names of occupants prior to sewer installation were found.

A structure was built at 144 Park Avenue, Lot 1, c. 1855. A sewer line was installed sometime prior to 1868; however, no occupants names during that period could be found.

Block 2043 is considered to have potential for further archaeological investigations of backyard areas at 132, 138, 140, and 142 Park Avenue. Refer to the Dwellings Topic-Intensive report, pages D-10, 11, 12, 13, and 14, and the Conclusions/Recommentations section of this Addendum.

Block 2044 Between Carlton Avenue and Adelphi Street.

The force main corridor will cut through a portion of Block 2044 that existed before the 1942 street widening. The route of the force main trench traverses Lots 87, 88, 7, and 8 at 64 Adelphi, 63 Adelphi, 63 Carlton, and 65 Carlton. (See Figure 34, 1898, for lots/street numbers.)

I disagree See fig 4-3 4-4

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - There are buildings on Lots 1, 2, and 5. Figure 14 These lots will not be impacted by the force main trench.

1855 - There are buildings on every lot except Lot 89 at 162-4 Park Avenue (or 58-60 Adelphi Streer) Figure 21.

1860 - Same configuration as 1855.

1869 - Same configuration as above. Figure 25.

1886 - Similar configuration to above; no buildings are labeled. Figure 28.

1898 - Similar configuration to above; no buildings are labeled. Figure 34.

1904 - Similar configuration to above; Buildings are labeled S[tore] or D[welling] Figure 41.

1915 - Similar configuration to above. Figure 48.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The sensitive areas of this block are limited to the backyard areas of the 4 lots to be impacted by the force main trench.

A structure at 63 Carlton Avenue, Lot 7, was built c. 1855. No sewer records could be located, although a sewer line was installed and inspected along Park Avenue between Carlton Avenue and Adelphi Street by 1863. No residents could be tracked for this address between c. 1855 and the 1860s, when a sewer line would have been available.

A structure at 65 Carlton Avenue, Lot 8, was built c. 1855. A sewer line was installed in 1874; however, residents prior to that date could not be determined.

A structure at 62 Adelphi Street, Lot 88, was built c. 1855. A sewer line was installed sometime prior to 1868; names of residents prior to 1868 could not be obtained.

A structure at 64 Adelphi Street, Lot 87, was built c. 1855. A sewer line was installed sometime prior to 1868; names of residents prior to 1868 could not be obtained.

Refer to the Dwellings Topic-Intensive report, pages D-15 and D-16, and the Conclusions/Recommendations section of this Addendum.

Block 2044 is considered to have minimal potential for archaeological research.

Block 2045 Between Adelphi Street and Clermont Avenue.

The force main corridor will cut through a portion of Block 2045 that existed before the 1942 street widening. The force main trench will traverse Lots 11 and 10 at 59 and 57 Adelphi Street, and Lots 7 - 1 at 172 - 184 Park Avenue. (See Figure 34, 1898, for lots/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - No structures are shown on the portion of the block to be impacted. Figure 14.

1855 - Only the structures shown on each of the western ends of Lots 10 and 11 at 57 and 59 Adelphi Streets would be in the path of the force main trench. Figure 22.

1860 - Dwellings built on the northern ends of Lots 2 through 7 at 172 through 182 Park Avenue.

1869 - Similar configuration to above. Figure 25.

1886 - Similar configuration to above. Figure 28.

1898 - Similar configuration to above. Buildings are not labeled. Figure 34.

1904 - Similar configuration to above, except 2 story addition on Lot 6, 174 Park Avenue, and small additions on Lots 10 and 11, 57 and 59 Adelphi. All structures are labeled S[tore] or D[welling]. Figure 41.

1915 - Similar configuration to above. Figure 48.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitive areas on this block are limited to backyard spaces that will be impacted by the force main trench.

Lots 10 and 11 at 57 and 59 Adelphi Street, which hosted buildings by c.1855, had sewer lines installed in 1869. Residents could not be tracked for that period.

No sewer records at all were located for the Park Avenue lots that hosted structures by c. 1860. However, the block to the west had a sewer line in Park Avenue by c. 1863. Presumably, all dwellings were hooked up to sewers by the 1870s, since lines were available in the 1860s. No residents could be identified before 1875.

Refer to the Dwellings Topic-Intensive report, pages D-16, 17, and 18, and the Conclusions/Recommendations section of this Addendum.

Block 2045 is considered to have minimal potential for archaeological research.

Block 2046 Between Clermont and Vanderbilt Avenues.

The force main corridor will cut through a portion of Block 2046 that existed prior to the 1942 street widening. The route of the force main trench traverses Lots 8 - 1 at at 186 - 204 Park Avenue and Lot 77 at 64 Vanderbilt Avenue. (See Figure 34, 1898, for lots/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - There are structures on Lots 2, 3, and 77. Figure 14

1855 - There are structures on every lot except Lot 5, 194 Park Avenue. Figure 23.

1860 - There are structures on every lot except Lot 5, although some buildings are replacements of earlier ones.

1869 - There is a structure on every lot. Figure 25.

1886 - There are structures on every lot although the configuration has changed. Figure 29.

1898 - Similar configuration to above. Buildings are not labeled as to usage. Figure 34.

1904 - There are structures on every lot, although there are some changes in configuration. Buildings are labeled D[welling] or S[tore]. Figure 41.

1915 - Similar configuration to above. Figure 48.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Refer to the Dwellings Topic-Intensive report, pages D-18, 19, and 20 for a discussion of the changes in building configuration over time. Lot 5 at 194 Park Avenue and Lot 1 at 204 Park Avenue were removed from further consideration.

Conclusions: Sensitive areas on this block are limited to backyard spaces that will be impacted by the force main trench.

No records of sewer installation were obtainable for any of the lots. Based on the aggregate data gathered for the study corridor, sewers would have been available by the early 1870s which is, therefore, used as the presumed date by which hook-ups took place. Water line installation records were not available when the report was prepared - see Dwellings Topic-Intensive report, page D-3.

No information about residents prior to 1875 could be found for Lot 8 (186/188 Park Avenue), Lot 6 (192 Park Avenue), or Lot 3 (198 Park Avenue). or Lot 77 (Vanderbilt Avenue). Typo?

Names of occupants residing at 64 Vanderbilt Avenue (Lot77),190 Park Avenue (Lot 7), 196 Park Avenue (Lot 4), and 200 Park Avenue (Lot 2) for some periods prior to 1875 were obtained.

Refer to the Dwellings Topic-Intensive report, pages D-18, 19, and 20, and the Conclusions/Recommendations section of this Addendum.

Block 2046 is considered to have potential for further archaeological investigations of backyards on Lots 77,7, 4, and 2.

Block 1887 Between Vanderbilt and Clinton Avenues.

The force main corridor will cut through a portion of Block 1887 that existed before the street widening of 1942. The force main trench will traverse Lots 6, 5, 4, 3, 2, 1 at 206 - 216 Park Avenue, Lot 57 at 218/220 Park Avenue, and Lots 56 and 55 at 56 - 58 Clinton Avenue. (See Figure 34, 1898, for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - Structure on Lot 6 at 206 Park Avenue.

1855 - Structures are shown on Lots 1 through 6 at 206 -216 Park Avenue, Lot 57 at 218/220 Park Avenue and Lot 55 at 58 Clinton Avenue. Figure 24.

1860 - Lot 56 at 56 Clinton Avenue now also has a structure.

1869 - Building configuration appears the same as above. Figure 26.

1886 - Similar configuration to above. Figure 29.

1898 - Similar configuration to above. Buildings not labeled as to usage. Figure 34.

1904 - Similar configuration to above. Buildings are labeled D[welling] or S[tore]. Figure 42.

1915 - Similar configuration to above. Figure 49.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitive areas on this block are limited to backyard spaces that will be impacted by the force main trench.

No records of sewer installation were obtainable for any of the lots. Based on the aggregate data gathered for the study corridor, sewers would have been available by the early 1870s which is, therefore, used as the presumed date by which hook-ups took place. Water line installation records were not available when the report was prepared - see Dwellings Topic-Intensive report, page D-3.

No information about residents prior to 1875 could be found for Lot 3 (212 Park Avenue), Lot 2 (214 Park Avenue) Lot 1 (216 Park Avenue), Lot 57 (218/220 Park Avenue), Lot 56 (56 Clinton Avenue), and Lot 55 (58 Clinton Avenue).

Names of occupants residing at 206 Park Avenue (Lot 6), 208 Park Avenue (Lot 5), and 210 Park Avenue (Lot 4) were obtained.

Refer to the Dwellings Topic-Intensive report, pages D-20, 21, 22, 23, and 24, and the Conclusions/Recommendations section of this Addendem.

Block 1887 is considered to have potential for further archaeological investigations of backyards on Lots 6, 5, and 4.

Block 1888 Between Clinton and Waverly Avenues.

The force main corridor will cut through a portion of Block 1888 that existed before the 1942 Street widening. The route of the proposed force main trench traverses Lot 2 at 63/65 Clinton Avenue, Lot 3 at 67 Clinton Avenue, and Lot 39 at 62 Waverly Avenue. (See Figure 35, 1898, for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes prior to 1942, and disturbance due to the 1942 street widening. Refer to the Preliminary Assessment, pages 11-14 and 21-22.

Urban Development Period:

1850 - No structures are shown on the impacted portion of the block. Figure 14.

1855 - The map does not extend this far east.

1860 - There are structures on Lot 39 and Lot 3. ← what map ? —X

1869 - Same configuration as above. Figure 26.

1886 - Lots 39 and 3 remain the same although blockfront configuration is changed. Figure 29.

1898 - Similar configuration to above. No structures are labeled. Figure 35.

1904 - The route of the force main trench appears to cut the backyards of D[wellings on Lots 39 and 3. Out of the route, on the corner of Park Avenue and Clinton, there is a facility labeled "Department of Public Buildings, Lighting Supplies. Figure 42

1915 - Lots 39 and 3 as above. Park Avenue blockfront, north of the route of the force main trench, is occupied by Atlanta Storage and Trucking Co. Inc. Figure 49.

1929 - Lots 39 and 3 as above. The trucking company has been replaced by a garage. Figure 52.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitive areas on this block ar limited to backyard spaces that will be impactd by the force main trench. Refer to the Dwellings Topic-Intensive report, pages D-24 and D-25 and the Conclusions/Recommendations section of this Addendum.

No records of sewer installation were obtainable for any of the lots. Based on the aggregate data gathered for the study corridor, sewers would have been available by the early 1870s which is, therefore, used as the presumed date by which hook-ups took place. Water line installation records were not available when the report was prepared - see Dwellings Topic-Intensive report, page D-3.

No information about residents prior to 1875 could be found for Lot 39 or Lot 3.

Block 1888 is considered to have minimum potential for archaeological research.

Block 1889 Between Waverly and Washington Avenues.

The force main corridor will cut through a portion of Block 1889 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lots 2, 4, 5, 6, 7, 8, and 74, #248-260 Park Avenue and #94 Washington Ave. (See Figure 35, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to 1942 street widening. Refer to the Preliminary Assessment, pages 11-14, 19-20, and 21-22.

Urban Development Period:

1850 - No buildings on the portion of the block to be impacted by the trench. Figure 14.

1855 - [The map does not extend this far east.]

1860 - No buildings on the portion of the block to be impacted by the trench.

1869 - No buildings on the portion of the block to be impacted by the trench. Figure 25.

1886 - Most lots in the impacted area appear to be vacant; those buildings depicted are not labeled as to use. Figure 29.

1898 - Most lots in the impacted area appear to be vacant; those buildings depicted are not labeled as to use. Figure 35.

1904 - Corner of Waverly and Park (Lots 6,7,& 8) labeled "Compound Mill Construction." Other lots either vacant or have unlabeled structures. Figure 42.

1915 - Former "Compound" now labeled "F.X.Kuchler and Sons Candy Mfg." Other buildings are not labeled as to use. Figure 49.

1929 - Corner buildings called Chocolate Manufacturing Co. Figure 52.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The portion of this block to be impacted is considered non-sensitive and no further archaeological investigation is warranted.

There is low probablity that the candy factory that occupied the Waverly Street corner between at least 1915 and 1929 would have left archaeological remains of any significance. The factory had been converted from its earlier use rather than constructed especially for the making of candy. Even had it been built specifically for candy manufacture, the archaeological visibility of the process itself would be low in that waste or by-products, remains of machinery, or building foundations either would not be present or would not yield important data. Nor was the candy plant unique in time or place; others (such as Rigney & Co. on Park Avenue between Steuben and Emerson c. 1904) in the neighborhood were noted during research for the contextual overview of the project corridor. Also, the process of candy making during that period can be fully understood from the documentary record.

Other buildings on the block, most of them constructed during the twentieth century, are either stores, unlabeled as to function, or dwellings built after municipal utilities were available.

Block 1890 Between Washington Avenue and Hall Street.

The force main corridor will cut through a portion of Block 1890 that existed before the 1942 street widening. The proposed force main trench traverses Lots 1 - 10 at 266 - 284 Park Avenue. (See Figure 36, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to 1942 street widening. Refer to the Preliminary Assessment, pages 11-14, 19-20, and 21-22.

Urban Development Period:
1850 - No structures on shown on the block. Figure 14

1855 - [The map does not go this far east.]

1860 - The portion of the block to be impacted is shown as vacant.

1869 - The portion of the block to be impacted is shown as vacant. Figure 26.

1886 - Although not labeled on the map, the entire blockfront was occupied by buildings that had housed John Good's Cordage Machine Company since 1878. Figure 29.

1898 - Same configuration as above. Figure 36.

1904 - The company buildings, occupying the entire blockfront are shown in detail. Figure 43.

1915 - The Washington Avenue portion of the block was occupied by Wallace & Co. Confectioners, while the Hall Street portion is shown as vacant. Figure 50.

1929 - Same configuration as above. Figure 52.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The portion blockfront of Block 1890 that will be impacted by the force main trench is considered archeologically sensitive bacause of its long-term occupancy by the John Good Cordage Machine Company, an innovative leader in the field. Refer to the Foundry Topic-Intensive report and the Conclusions and Recommendations section of this Addendum.

Block 1891 Between Hall and Ryerson Streets.

The force main corridor will cut through a portion of Block 1891 that existed before the 1942 street widening. The route of the trench will traverse Lots 1 - 10 at 286 - 304 Park Avenue. (See Figure 36, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to 1942 street widening. Refer to the Preliminary Assessment, pages 11-14, 19-20, and 21-22.

Urban Development Period:

1850 - There are no structures on the block. Figure 14.

1855 - [The map does not extend this far east.]

1860 - The blockfront is vacant except for a brick building at the rear of lots 4 and 5.

1869 - The portion of the block to be impacted is empty. Figure 26.

1886 - Although not labeled on the map, the entire blockfront had been occupied by the Jennings Lace Works since 1871. Figure 30.

1889 - Similar configuration to above. The complex is now labeled "Jennings Lace Wks." Figure 36.

1904 - The company buildings, occupying the entire blockfront, are shown in detail. Figure 43.

1915 - Similar configuration to 1904. Figure 50.

1929 - The building configuration is the same as above, but the complex no langer bears Jennings' name. Figure 52.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: The Preliminary Assessment indicated archaeological sensitivity on the portion of the Jennings Lace Works site that would be impacted by the force main trench. A Topic-Intensive report was prepared in order to assess the industrial complex. Because of low archaeological visibility and minimum research potential, the block was considered non-sensitive. Refer to the Lace Topic-Intensive report and the Conclusions and Recommendations section of this Addendum.

Block 1892 Between Ryerson Street and Grand Avenue.

The force main corridor will cut through a portion of Block 1892 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lots 112, 99, 121, 120, 96, and 95 at 65 Ryerson Street and 314 - 322 Park Avenue. (See Figure 36, 1898, for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to 1942 street widening. Refer to the Preliminary Assessment, pages 11-14, 19-20, and 21-22.

Urban Development Period:

1850 - No structures are shown on the block. Figure 14.

1855 - [Map does not extend that far east.]

1860 - There are no structures on the impacted portion of the block.

1869 - A small structure is shown on Lot 95 at the corner of Grand and Park Avenues. Figure 26.

1886 - The structure shown in 1869 is no longer present, and none of the buildings on the portion of the block to be impacted are labeled as to use. Figure 30.

1898 - Similar building configuration to above. Figure 36.

1904 - The portion of the block to be impacted contains a mix of dwellings and stores. On Lot 120, 318 Park Avenue, there is a "Tar Roofing Material Storage." Figure 43.

1915 - Similar building configuration to above. Figure 50.

1929 - Similar building configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: A small structure first appeared on this block in 1869, but it was gone by 1886. Even assuming that it was a dwelling, no sewer records can be obtained, and the 1875 census had no entry for that address at 322 Park Avenue, so there is no context at all within which to research Lot 95. Refer to the Dwellings Topic-Intensive report on page D-25. The portion of this block to be impacted is considered non-sensitive and no further archaeological investigation is warranted.

Block 1893 Between Grand Avenue and Steuben Street.

The force main corridor will cut through a portion of Block 1893 that existed before the 1942 street widening. The route of the proposed force main trench traverses Lots 1 - 8 at 326 - 340 Park Avenue. (See Figure 36, 1898 for lot/street numbers.)

Prehistoric: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. Refer to the Prehistoric Topic-Intensive Report.

Colonial/Revolutionary War/Federal Periods: The impacted portion of the block is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to 1942 street widening. Refer to the Preliminary Assessment, pages 11-14, 19-20, and 21-22.

Urban Development Period:

1850 - No structures are shown on the portion of the block that will be impacted by the corridor. Figure 14.

1855 - [The map does not run that far east.]

1860 - [The map does not run that far east.]

1869 - A small structure on the corner of Park Avenue and Steuben Street (Lot 62) is shown. Figure 26.

1886 - Buildings are not labled as to use. Figure 30.

1898 - Buildings are not labeled as to use. Figure 36.

1904 - The buildings that exist in the impacted area are labeled D[welling] or S[tore]. Figure 44.

1915 - The eastern portion of the block has the same configuraion as above. A complex on the western portion is labeled [?] Specialities. Figure 51.

1929 - Similar configuration to above.

1951 - The lots on this block that will be impacted became part of the roadbed during the 1942 widening of Park Avenue.

Conclusions: Sensitive areas on this block are limited to backyard spaces that will be impacted by the force main trench. Refer to the Dwellings Topic-Intensive report, pages D-25 and D-26, and the Conclusions/Recommendations section of this Addendum.

No records of sewer installation were obtainable for any of the lots; however, sewers existed throughout the study area by 1875. Lot 62 at 340 Park Avenue/58 Steuben Street is the only known locus of a building before that date, and it was replaced by 1886 with a structure which probably destroyed the footprint of the earlier building. The rear yard of the 1869 structure where homelot features might be found is south of the route of the force main trench which appears to impact the location of the structure only.

Block 1893 is considered to have minimum potential for archaeological research.

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Several phases of research were necessary in order to complete an archaeological assessment of the Taaffe Place Pumping Station and Park Avenue Force Main project corridor. Areas of known subsurface disturbance that would preclude the retrieval of intact remains and areas of minimum archaeological potential were identified and removed from further study. These included 1) the area that was once Block 125, 2) all intersections along the project corridor, and 3) original nineteenth century roadbeds. (Refer to discussion on pages A-3 and A-4.)

The remaining areas were further researched. The Preliminary Assessment contains a contextual overview that identified and discussed archaeological resource types potentially present within the project corridor (Pages 9 - 18 and 19 - 29). At the time the Preliminary Assessment was prepared, the study corridor was taken to be the 90 foot southern - or eastbound - lane of Park Avenue (which had contained blockfronts prior to the 1942 expansion of Park Avenue) because the actual route of the trench was as yet not finalized. The resource types potentially existing in the force main corridor were assigned to three time periods: 1) Prehistoric, 2) Colonial/Revolutionary War/Federal, and 3) Urban Development.

what is the drafted route? See Fig 4 (107)

A Topic Intensive report was prepared addressing the probability of potentially significant and intact prehistoric resources surviving within the corridor. The report concluded that the corridor is non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening. (Refer to the Prehistoric Topic-Intensive Report.)

The potential for resources from the Colonial/Revolutionary War/Federal periods was discussed in the Preliminary Assessment, Pages 11 - 14, 19 - 20, and 21 - 22. Background research using documents and maps was combined with an evaluation of the disturbance record. The corridor is considered non-sensitive because of low potential, disturbance due to building construction episodes, and disturbance due to the 1942 street widening.

The resource types potentially existing in the force main corridor that date to the Urban Development Period beginning in the second quarter of the nineteenth century include 1) Industrial, 2) Residential, and 3) Public Usage.

Three industrial complexes that existed before the 1942 widening of Park Avenue were identified and topic-intensive reports prepared. The Topic-Intensive report for the Jennings Lace Factory concluded that the site on Block 1891, between Hall and Ryerson Streets, is non-sensitive because of minimum archaeological visibility and research potential. The Topic-Intensive report for the Tucker and Carter Cordage Company/Waterbury Rope Company ropewalk tunnel in the Park Avenue roadbed between Classon Avenue and Taaffe Place concluded that the site warrants further archaeological consideration. The Topic-Intensive report for the John Good Cordage Machine Company once located on Block 1890, between Washington and Hall Streets, concluded that the site warrants further archeological consideration. (Refer to the Topic-Intensive reports.)

In the Public Use resource category, two potential parcels were identified. The Topic-Intensive report for the church/churchyard that once existed on Block 2039 between St. Edwards Street and North Elliott Place concluded that the parcel was non-sensitive for burials, churchyard, or church remains. The Topic-Intensive report for the barracks concluded that the site that once existed between Blocks 2039 and 2040 in North Elliott Place was too seriously disturbed to warrant further archaeological consideration. (Refer to the Topic-Intensive reports.)

In the Residential (Dwellings) resource category, 17 lots were identified as having the potential to yield backyard remains. These 17 lots were identified in the Preliminary Assessment according to Landmarks Preservation Commission criteria in effect for previous projects and a Dwellings Topic-Intensive report was prepared. However, it was learned at a meeting with LPC on May 8, 1991 that criteria have been changed (described on page A-1). The result of the changes was that an additional 43 homelots had to be researched and a new Dwellings Topic-Intensive report prepared.

It was requested by Landmarks Preservation Commission archaeologist Daniel Pagano that research results be presented in block by block summaries - including maps - as well as in text form. That effort constitutes the bulk of this Addendum. The block summaries also evaluate the impact of the force main trench as defined by the most current engineering plans, eliminating from further consideration the area of the southern or east bound lane of Park Avenue that will not be directly impacted by trench placement.

Recommendations

The Archaeological Assessment has concluded that there are three categories of resources which merit subsurface investigation that may exist within the proposed route of the force main trench

1) The Tucker and Carter Cordage/Waterbury Rope Company ropewalk tunnel located between Classon Avenue and Taaffe Place in the Park Avenue roadbed (see locational map, Figure 53 and refer to the Topic-Intensive report). ← OK

The ropewalk tunnel has the potential to yield significant information on construction and design techniques, and technological adaptations. The ropewalk was used for approximately 100 years, spanning many eras of mechanical progress. The company not only adapted to progress, but forged the way with other companies following in their footsteps. Even after the factory no longer produced fiber rope, many of the original buildings on Block 1881 were later adapted for use as a wire and iron works and subsequently a knitting mill.

Research on the TCC complex has been possible through available histories, directories, and company publications but the written record has been unable to fully document the subsurface ropewalk tunnel that may be impacted by the force main project corridor (Figure 53). Real questions exist concerning the construction period, size, and function of the brick, arched tunnel. The integration of the tunnel with the ropewalk buildings is unknown. It is assumed that existing utilities were placed beneath the ropewalk and current engineering drawings agree (Figure 54).

In order to address these research questions we recommend that photo documentation of the brick ropewalk tunnel be undertaken when the Park Avenue streetbed is opened for the laying of the force main if the trench will impact the tunnel, whose depth is to approximately 9 feet below grade as shown on the profile view on Figure 54. As currently planned, the force main will be placed in a trench dug under the tunnel in order to avoid it (Figure 54). However, in a telephone conversation with Nick Marifini of URS Consulting Engineers, Mr Marifini stated that a decision might be made to cut through the ropewalk tunnel. If that is the procedure, we recommend that a Society of Professional Archaeologists (SOPA) certified archaeologist be on site when the cut through the tunnel area is anticipated. Photography, measuring, and map work should be done according to Historic American Engineering Record (HAER) standards. Three days is the estimated time the work would take.

2) John Good's Cordage Machine Company located on Block 1890, Lots 9 and 10, between Washington and Hall Streets (see locational map, Figure 54, and refer to the Foundry Topic-Intensive Report)

The foundry/cupola site of an inventor and leader in machinery production for such an important industry in nineteenth century America as cordage manufacturing is archaeologically sensitive. The foundry and cupola were dismantled and are no longer on Block 1890. The court records indicate that all of the machine works were auctioned off. However, it is very possible that detritus from the foundry process in the portion of Lots 9 and 10 to be impacted by the force main trench. There is no way to estimate what amount of material remains related to John Good's cordage machine works rests beneath the surface of Block 1890. And, there is no way to estimate which resources , or types of foundry materials, were left behind by Good and his laborers. But the possible remains of the machine works would be very instructive. "Studies of the waste products of industry, especially slag and raw materials, have revealed a wealth of information about process sequencing, technical operating standards, efficiency of operations, and value of the end product" (Teague 1987:177).

? will transect & use this info?

Site fieldwork and metallurgical studies of the Good site resources could assist us in understanding the inventor's development phases by approaching a number of research questions (refer to Topic-Intensive report, pages F-9 and F-10). We recommend that the foundry/cupola site (Figure 55) be archaeologically investigated prior to the installation of the force main. Subsurface fieldwork should be conducted along the force main path as it extends through the areas identified as lots 9 and 10. This would entail an excavation approximately 60 feet long and 5 feet wide. The depth of the cut would be no greater than the planned depth of the force main trench. Under the direction of a SOPA certified archaeologist both machine and shovel excavation procedures could be used.

specialization in Indust Ag req

water hookups is contemporaneous w/ sewer hookup
what is this date?

3) Dwellings - Homelots that existed before the installation of sewers, thus having the potential to contain backyard features such as privies and cisterns, were identified at the following locations:

Need to look at text discussion for hookup info.

1	26 Park Avenue, Block 2034, Lot 4
2	48 and 52 Park Avenue, Block 2039, Lots 7, 9
3	86, 88, and 90 Park Avenue, Block 2041, Lots 7-9
5	106, 110, 122 and 124 Park Avenue, Block 2042, Lots 1, 2, 4, 5, 90
8	126 and 130-144 (even) Park Avenue, Block 2043, Lots 1-8
2	63 and 65 Carlton Avenue, Block 2044, Lots 7, 8
2	62 and 64 Adelphi Street, Block 2044, Lots 87, 88
5	172-182 (even) Park Avenue, Block 2045, Lots 2-7
2	57 and 59 Adelphi Street, Block 2045, Lots 10, 11
16	186-192 (even) and 196-200 (even) Park Avenue, Block 2046, Lots 2-4, 6-8
1	64 Vanderbilt Avenue, Block 2046, Lot 77
7	206-220 (even) Park Avenue, Block 1887, Lots 1-6, 57
2	56 and 58 Clinton Avenue, Block 1887, Lots 3, 56
1	62 Waverly Avenue, Block 1888, Lot 39
1	67 Clinton Avenue, Block 1888, Lot 3
1	322 Park Avenue, Block 1892, Lot 95
1	58 Steuben Street/340 Park Avenue, Block 1893, Lot 62
1	334 Park Avenue, Block 1893, Lot 5
93	

what is date of construction in relation to date of connection to water supply - (info @ Bklyn Bldgs dept.)

As far as can be determined through map and atlas study, these homelots were not seriously disturbed by subsequent building episodes after the original buildings were erected on them in the mid-nineteenth century. These houses, built fronting Park Avenue or adjacent side streets, stood for several decades. The majority were removed during the early 1940s for the widening of Park Avenue. They may have been seriously impacted by the 1942 expansion of Park Avenue, but no proof is available since the 1942 construction plans could not be located (refer to page A-4).

Specifically where the lots will be traversed is problematical since we feel it necessary to allow for a ten foot margin of error (refer to page A-2). However, the approximate area of impact was assessed and listed on page D-29 of the Dwellings Topic-Intensive report.

Many of the dwellings were built prior to the installation of a sewer line along Park Avenue, the earliest record of which dates to 1860 (Inspectors Tracing #3065, 1860, Sewer Records and Permit Office, Brooklyn). Ms. Lokshina of the Sewer Records and Permit

Office in Brooklyn stated that the sewers in Park Avenue predate annexation, but that the specific date is unclear (Personal Communication to Mary Dieter, March 1991). An 1875 map of the sewer system of Brooklyn shows one or more pipeline in every street in the study area. City water had been introduced in 1859, but the date of availability for these dwellings is in question since early records are vague and incomplete. Many of the water lines were virtually completed by 1862 in the city of Brooklyn, however availability did not ensure actual household hookup (Stiles, Vol. I 1884:587). Unfortunately, the Map Division of the Department of Environmental Protection, Water Division, is in the process moving to a new address, leaving all of these water line maps unavailable at the time this report was prepared.

The research effort, documented in the Dwellings Topic-Intensive report entailed a study of conveyance records, city directories, and census records in order to determine who the occupants of the homelots were prior to sewer installation and to examine neighborhood demographic patterns. (Refer to the Dwellings Topic-Intensive report, pages D-4 through D-26)

The exhaustive research conducted on these lots has yielded a number of insights into the community development of the area. The majority of structures were owned by absentee landlords, often bankers and lawyers who purchased them for investment purposes. Those structures that were owned by their occupants, were occasionally used as a place of business, that is grocers lived above their grocery stores. A large portion of the population represented was composed of unskilled and skilled laborers and craftsmen. Few professionals were observed in the directory and census search for this neighborhood. There was a particularly high number of Irish renters. Germans seemed to also comprise a fairly high percentage of the residents. To a lesser degree, other northern and eastern European immigrants settled in this area. The surrounding industries attracted a fairly transient, working-class group who resided in the community.

Issues which could be addressed through archaeological research on a selection of these lots could include issues of class as it was defined in the mid-nineteenth century. Were the grocers, who maintained servants, living at a higher standard than their neighbors? Were the long-term residents at 138 Park Avenue, Catherine Douglas and her extended family, utilizing more expensive wares than those of the surrounding transient population? Did

those families that owned the structure they occupied have a different pattern of consumption than renters? Could ethinic consumption patterns be observed, for instance, between German-Americans and Irish-Americans? These types of issues could be addressed by comparing depositional material between these lots, and by comparing depositional material to other dwellings with transient populations (i.e. those reported from Sullivan Street).

Only a few of the 53 structures identified had known occupants for any period of time prior to the installation of sewer lines. If just establishing a transient population is considered sufficient criteria for establishing sensitivity, then all of the lots could be considered potentially eligible. However, the cultural make-up of these transient residents is unknown, rendering it difficult to establish a contextual understanding in which to assess potential archaeological resources. Since 18 of these 53 dwellings did have known residents for the years prior to sewer hook-up, these would be the more likely candidates with which to address specific research issues. A list of the 18 is on page D-27 and D-28.

The list was further refined: Dates of sewer hook-ups were not available for 10 of the lots. It is known that sewer lines were in place in every street in the project area by 1875, so that date was assumed in the absence of any other data. On 4 of the 10 lots, the first residents who could be identified did not live there prior to 1875. Since they would have become occupants concurrently if not after sewers were installed, the lots are considered to have lower research potential than others where earlier occupants were identified.

The following is a list of the 14 lots on four blocks of the project area considered to have the most potential to produce data from homelot features that could make a substantive contribution to the archaeological record. They are shown on Figures 57, 58, and 59.

Lots With Known Residents Predating Sewer Installation

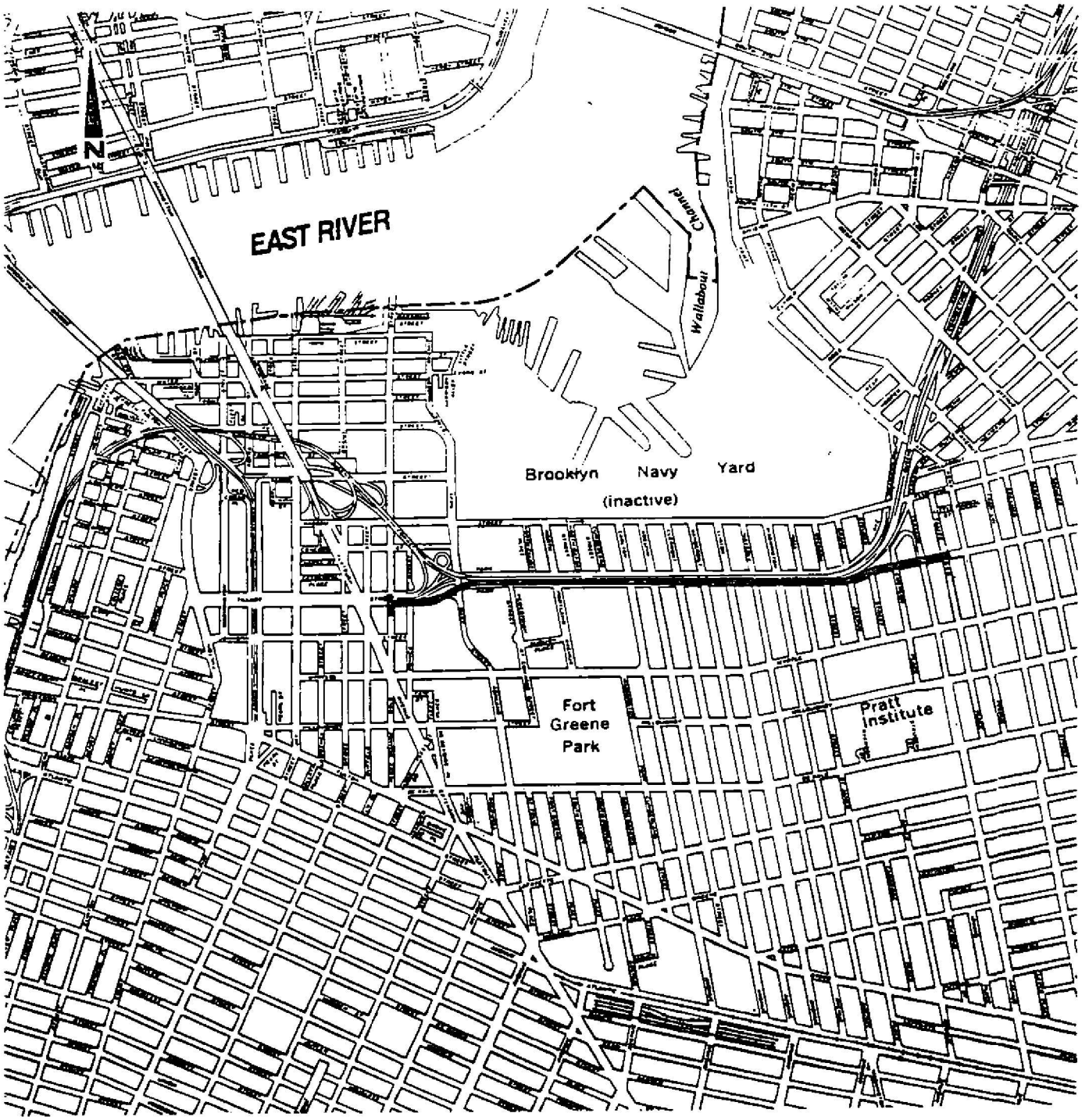
Street Address	Year Built	Year Sewers	Date of Resid.		Name of Occupants	Occupation/ Ethnicity
110 PA Block 2042	c.1855	1868	1860	(?)	Martin Fargo	NA
112 PA Block 2042	c.1855	1868	1860	(?)	Martin Fargo	NA

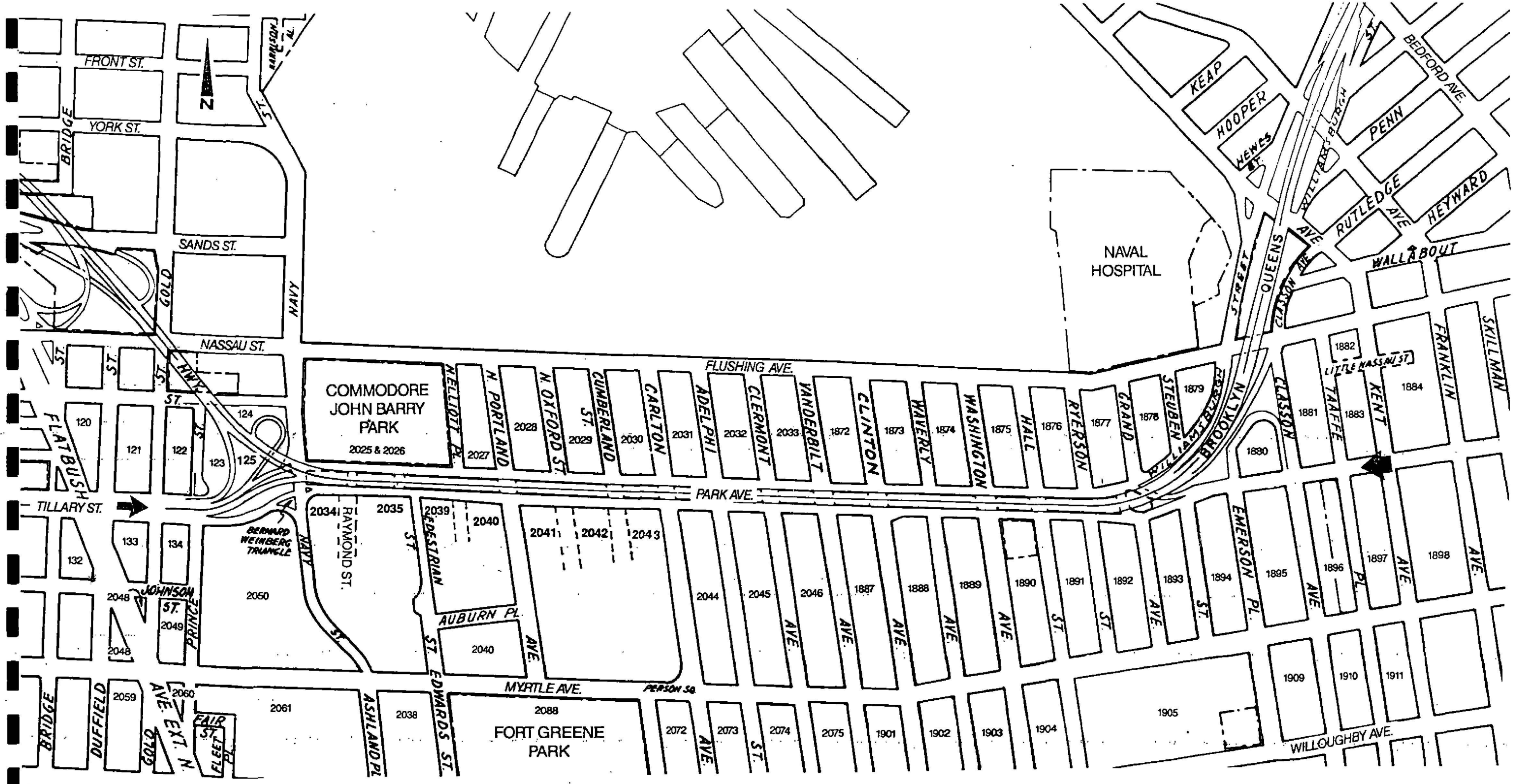
122 PA Block 2042	c.1855	1868	1860	(?) John Hohn	owners 1852-59
124 PA Block 2042	c.1855	1873	1860-75	(?) Lewis Meyer	German
132 PA Block 2043	c.1860	1890	1868	Henry Rule	Baker
			1875	Hugh Skillman wife, family	Irish Tinsmith
			1875	Alex Prinkle wife, 2 kids	Scottish Gas fitter
138 PA Block 2043	c.1855	1872	1857-82	Cath. Douglas & family (O'Keefe)	Irish
			1875	Snydam	NA
142 PA Block 2043	c.1855	1870	1860	G. McKee	NA
			1865	Wm. Alexander	plumber
190 PA Block 2046	c.1855	?	1870-75	Charles Albrecht	German butcher
196 PA Block 2046	c.1855	?	1860 1874-81	Maria Frazer	NA
200 PA Block 2046	c.1850	?	1855-61	Wesley Wright	NA
64 Van Block 2046	c.1855	?	1861/62	H. Weber	NA
206 PA Block 1887	c.1850	?	1861-68	Hedges	Grocer
			1875-82	Deidrich Mahnken + family	Ger. grocer
				+ 2 boarders	Ger. clerks
				+ 1 servant	German
			1875	Wm. Smith + family	fish dealer
				+ 1 servant	English
210 PA Block 1887	c.1855	?	1857	John Cadmus	NA
214 PA Block 1887	c.1855	?	1857-61	(?) Oliver Pettit (?) William Kincaid	NA

If these lots are considered to meet sensitivity criteria established by the New York City Landmarks Preservation Commission, then a sampling plan based on the current research goals, such as those described above, should be devised with the review and approval of the LPC.

Project Site Location

Figure I-1




FRONT ST.
YORK ST.
BRIDGE
SANDS ST.
GOLD
NAVY
NASSAU ST.
HARRISON AVE.
FLUSHING AVE.
COMMODORE JOHN BARRY PARK
2025 & 2026
NAVAL HOSPITAL
KEAP
HOOPER
HEWES ST.
WILLIAMSBURGH
BEDFORD AVE.
PENN
RUTLEDGE AVE
HEYWARD
WALLABOUT
QUEENS
CLASSON AVE
FRANKLIN
SKILLMAN
KENT
TAAFFE
GRAND
STEUBEN
BROOKLYN
RYERSON
HALL
WASHINGTON
WAVERLY
CLINTON
VANDERBILT
CLERMONT
ADELPHI
CARLTON
CUMBERLAND ST.
N. OXFORD ST.
N. PORTLAND
N. ELLIOTT PL.
PARK AVE.
TILLARY ST.
FLATBUSH
BERNARD WEINBERG TRIANGLE
RAYMOND ST.
PEDESTRIAN
AUBURN PL.
JOHNSON ST.
PRINCE
MYRTLE AVE.
PERSON SQ.
EDWARDS ST.
ASHLAND PL.
DUFFIELD
BRIDGE
FAIR ST.
FLEET PL.
FORT GREENE PARK
WILLOUGHBY AVE.
LITTLE NASSAU ST.
EMERSON PL.
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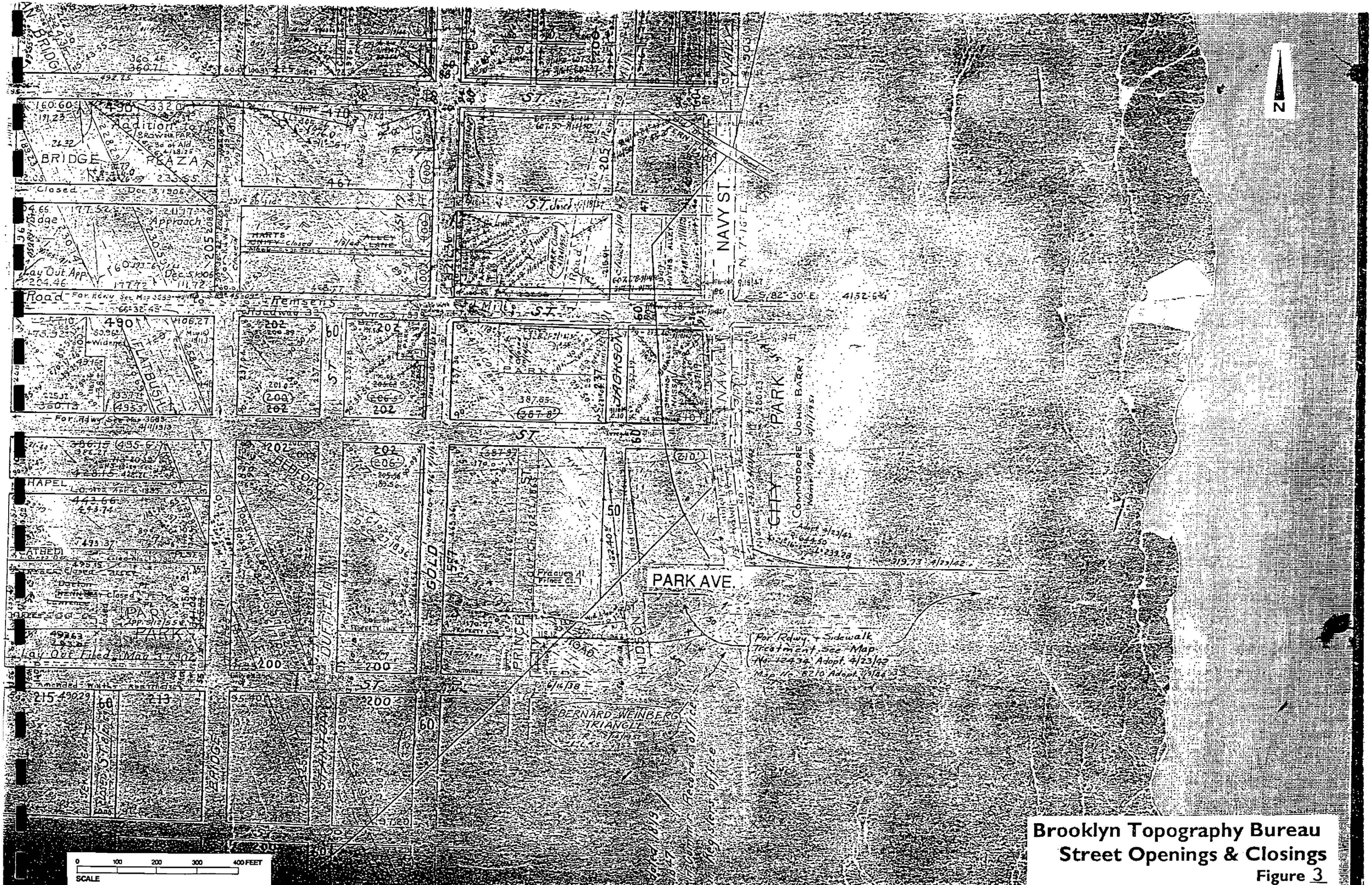
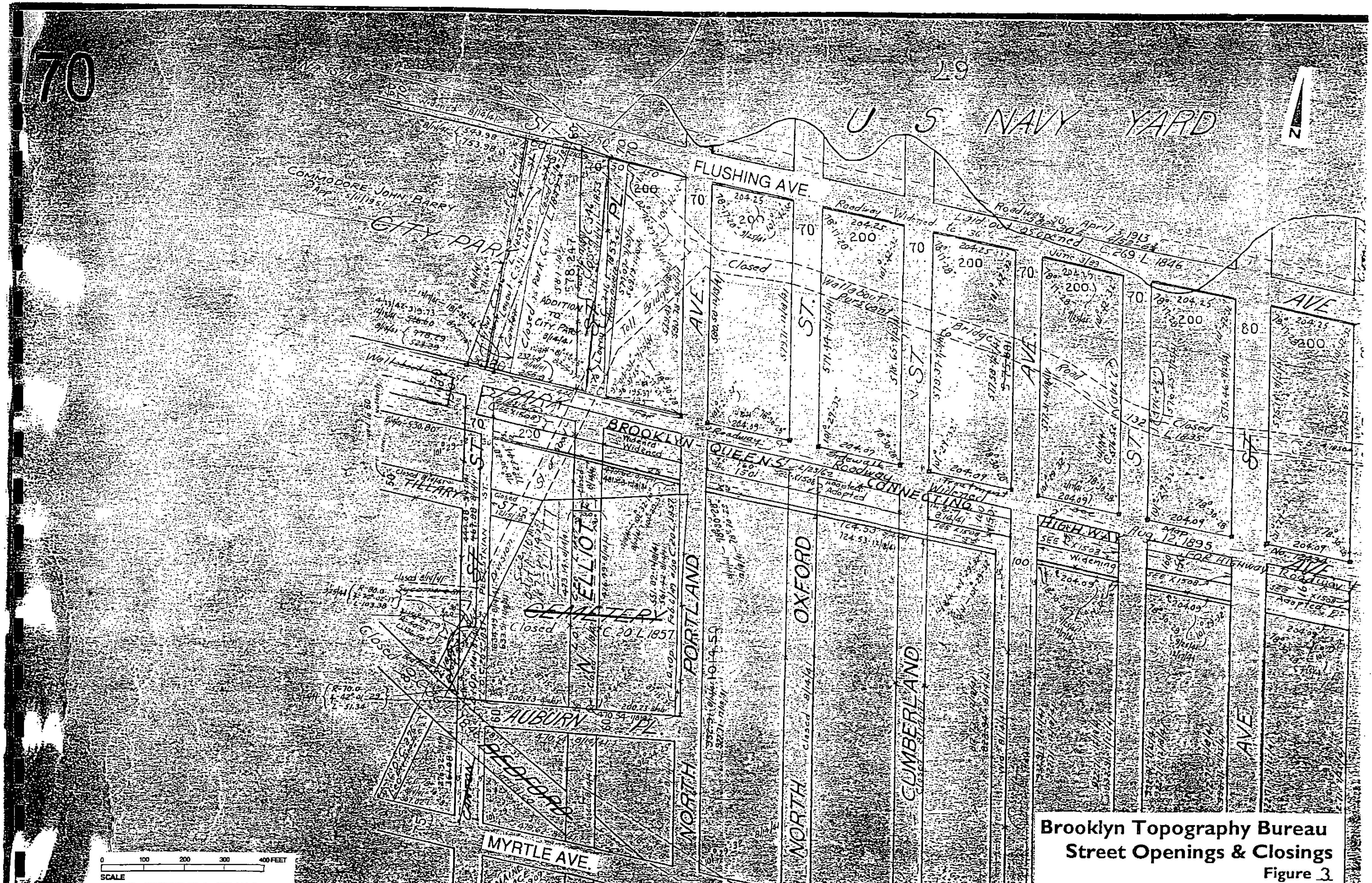
SCALE



Brooklyn Topography Bureau
Street Openings & Closings
Figure 3



Brooklyn Topography Bureau
Street Openings & Closings
Figure 3

L9

U S NAVY YARD

170

FLUSHING

NORTHERN BLVD

QUEENS

NORTH OXFORD

CUMBERLAND

CLERMONT AVE.

HIGHWAY

Closed

Widened

Adopted

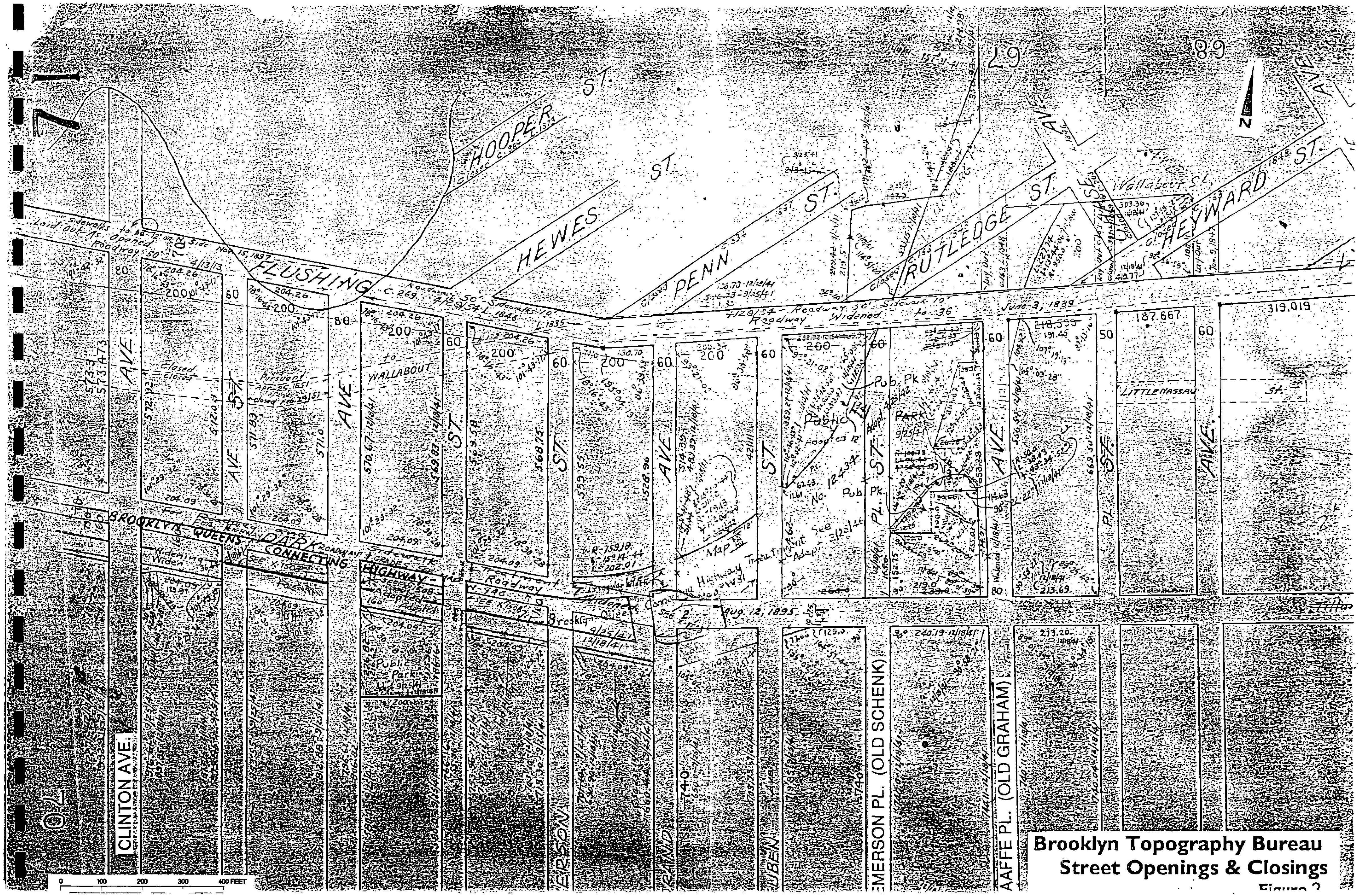
Aug. 12 1895

April 5 1913

June 3 1869

Map No. XVI-94C 11/1/55

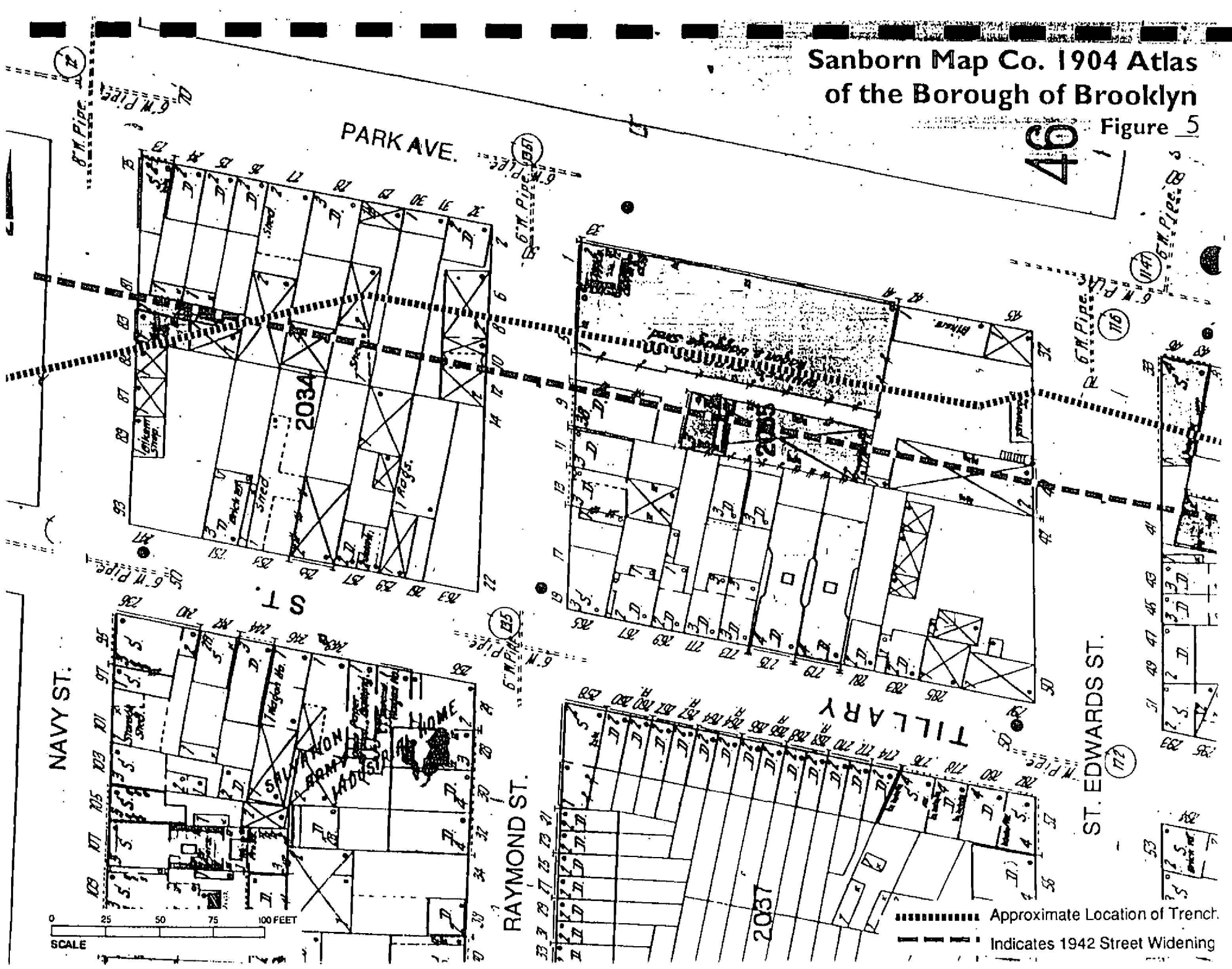
Brooklyn Topography Bureau
Street Openings & Closings
Figure 3

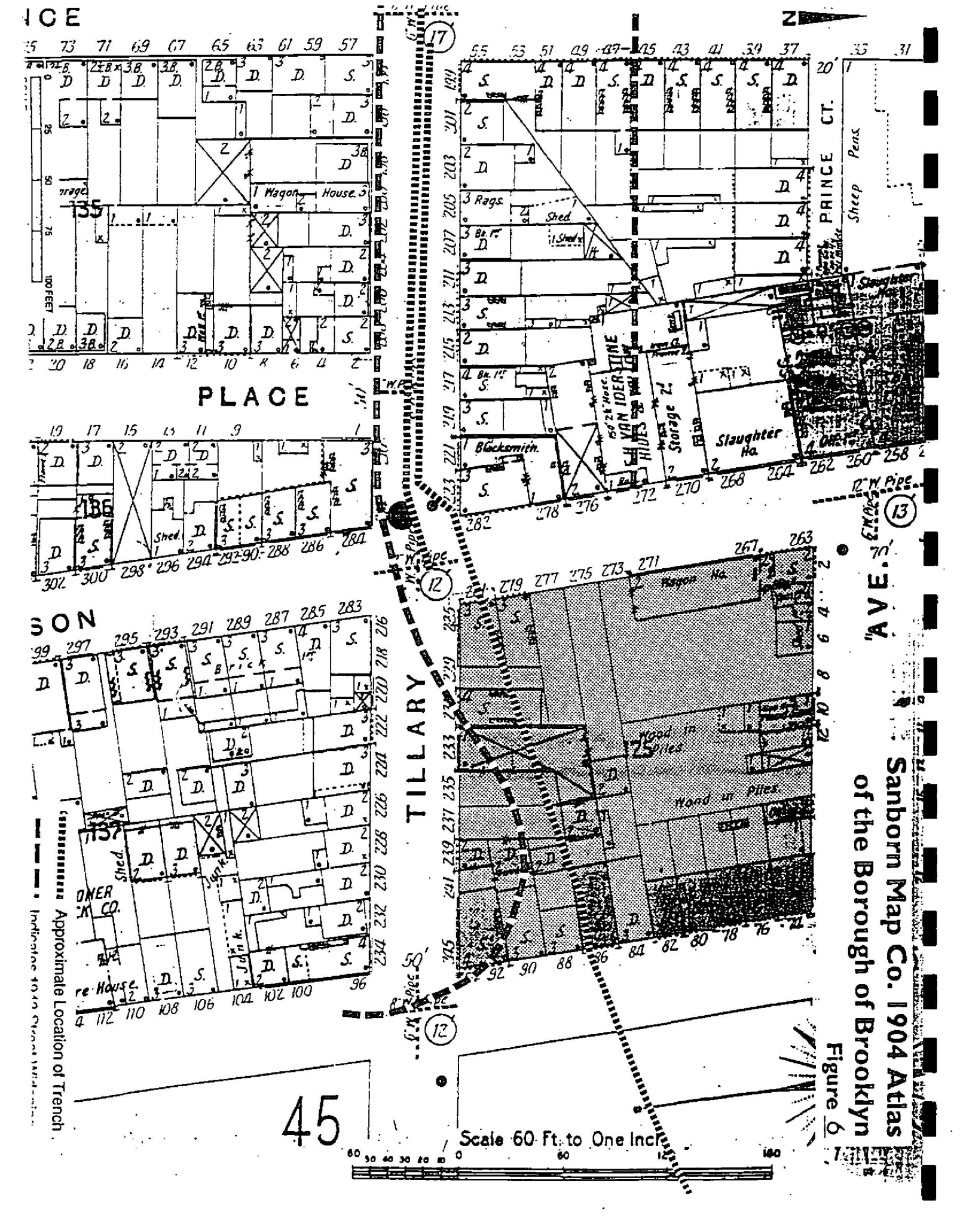


Brooklyn Topography Bureau
Street Openings & Closings
Figure 2

Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 5



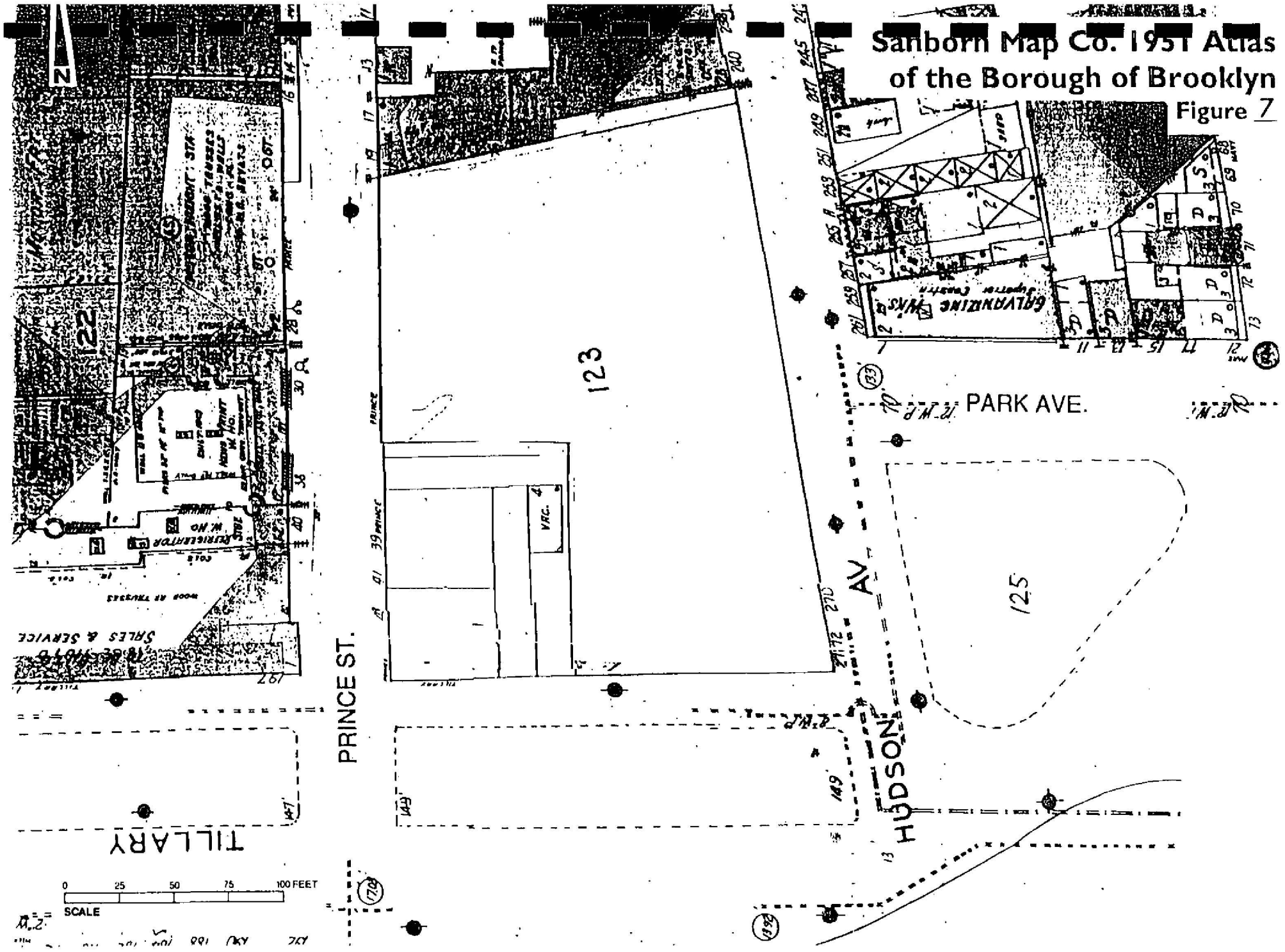


Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 6

Approximate Location of Trench

Sanborn Map Co. 1951 Atlas of the Borough of Brooklyn

Figure 7



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Sanborn Map Co. 1990 Insurance Map of Manhattan

Figure 8

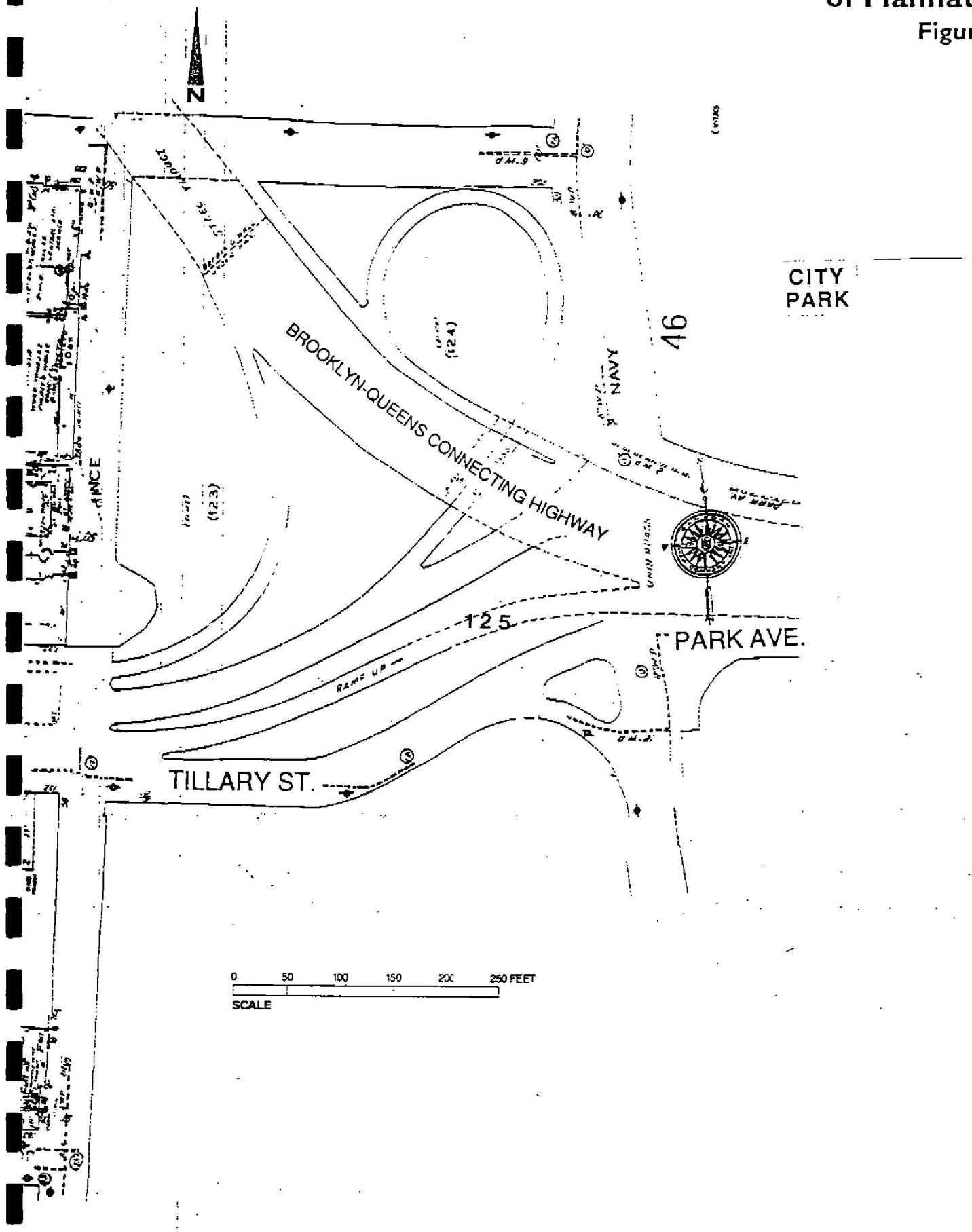

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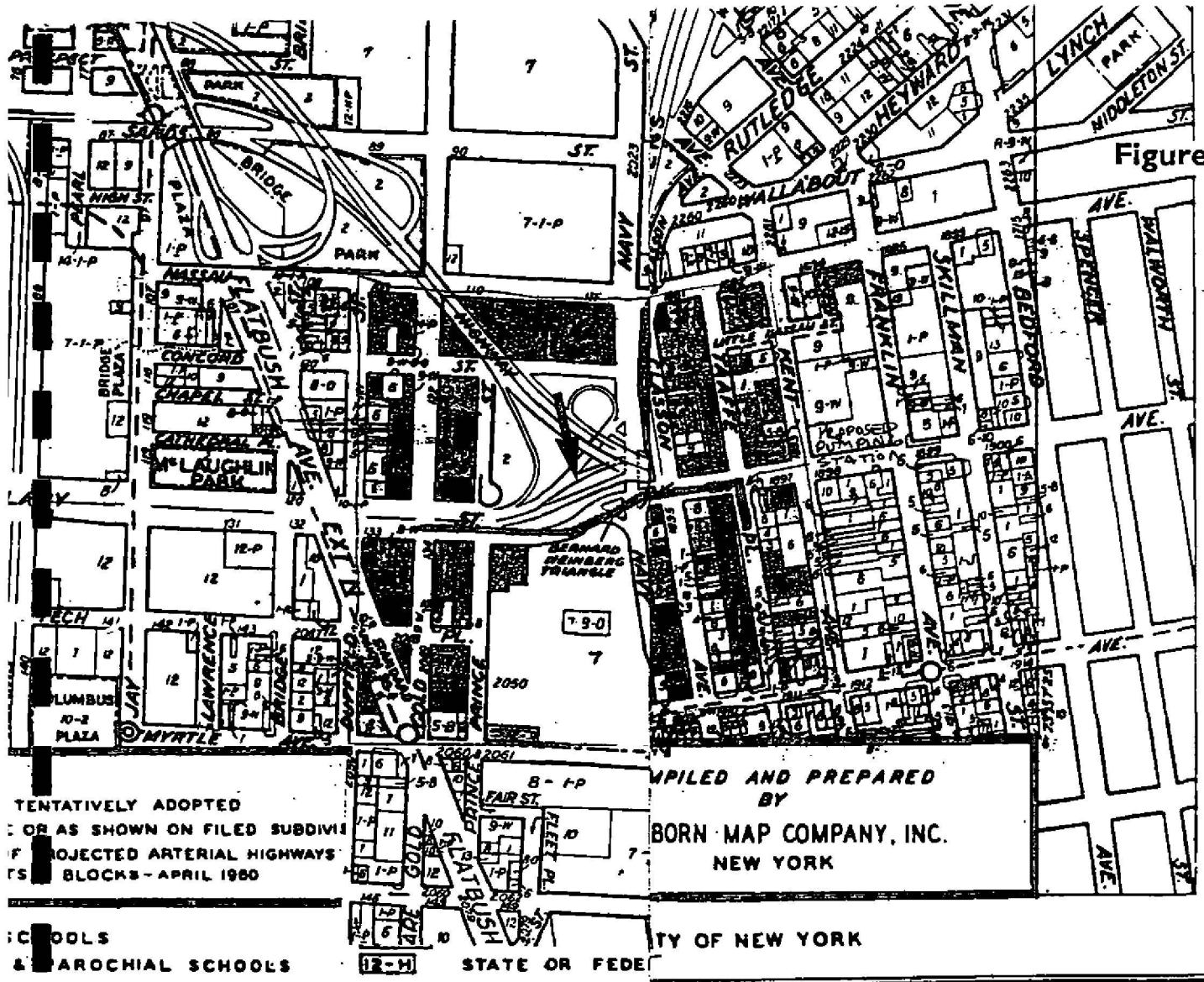
Figure 9



TENTATIVELY ADOPTED
OR AS SHOWN ON FILED SUBDIVI
OJECTED ARTERIAL HIGHWAYS
BLOCKS - APRIL 1960

OOLS
AROCHIAL SCHOOLS

MPILED AND PREPARED
BY
BORN MAP COMPANY, INC.
NEW YORK

TY OF NEW YORK

STATE OR FEDE

LAND USE - 1987

ISES

PLE

7 ELEVATOR MULTIPLE
GROUND FLOOR RETAIL
-H HOTEL - SHOWN WITH "8" OR "7"

8 COMMERCIAL
8-O OFFICE

STATION
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NS

COMM
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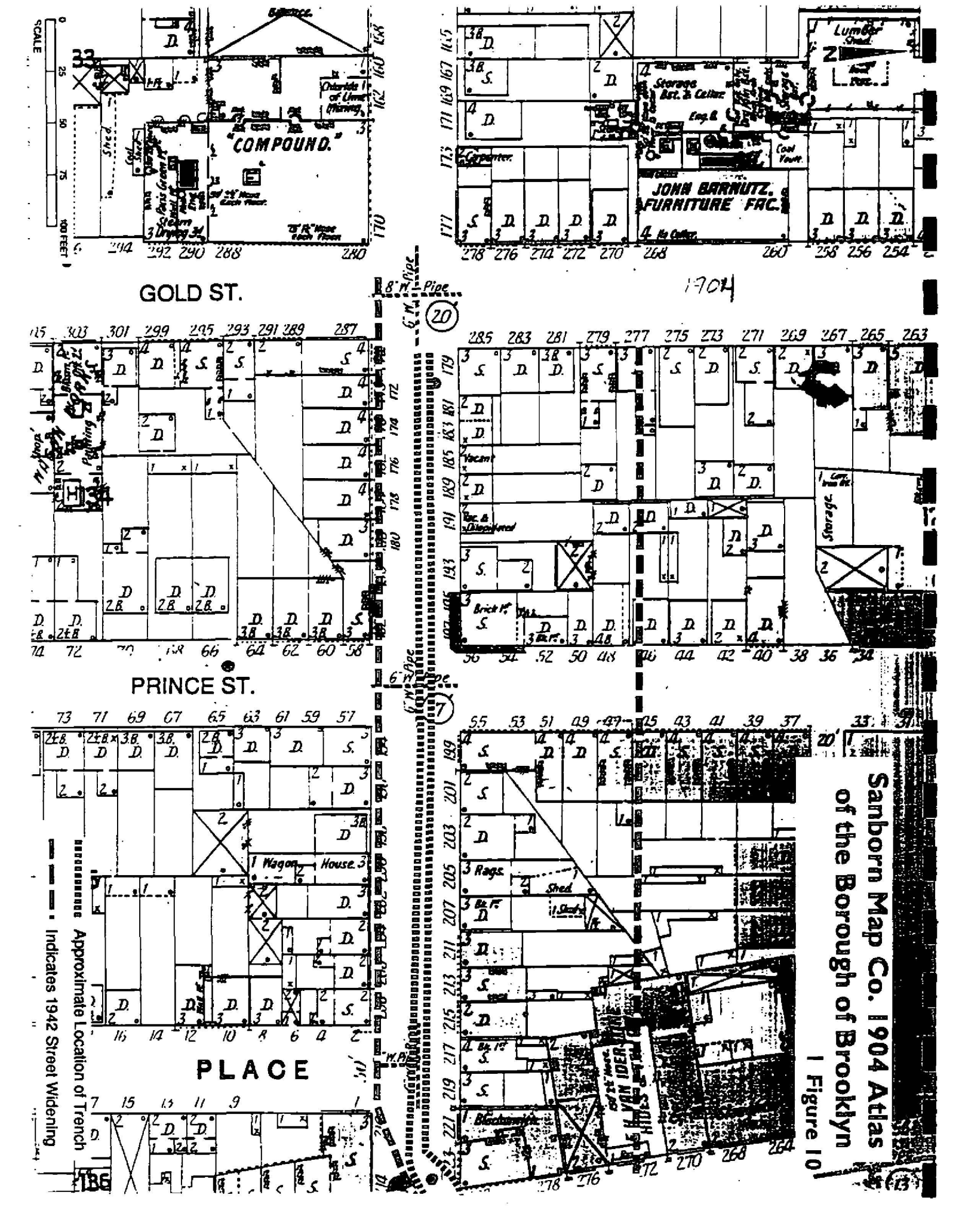
JMBER
ALLY OR TENTATIVELY ADOPTED
TS IN USE OR AS SHOWN ON FILED SUBDIVISION MAPS
CATION OF PROJECTED ARTERIAL HIGHWAYS
F STREETS & BLOCKS - APRIL 1960

COMPILED AND PREPARED
BY
SANBORN MAP COMPANY, INC.
NEW YORK

MUN BY THE CITY OF NEW YORK
STA

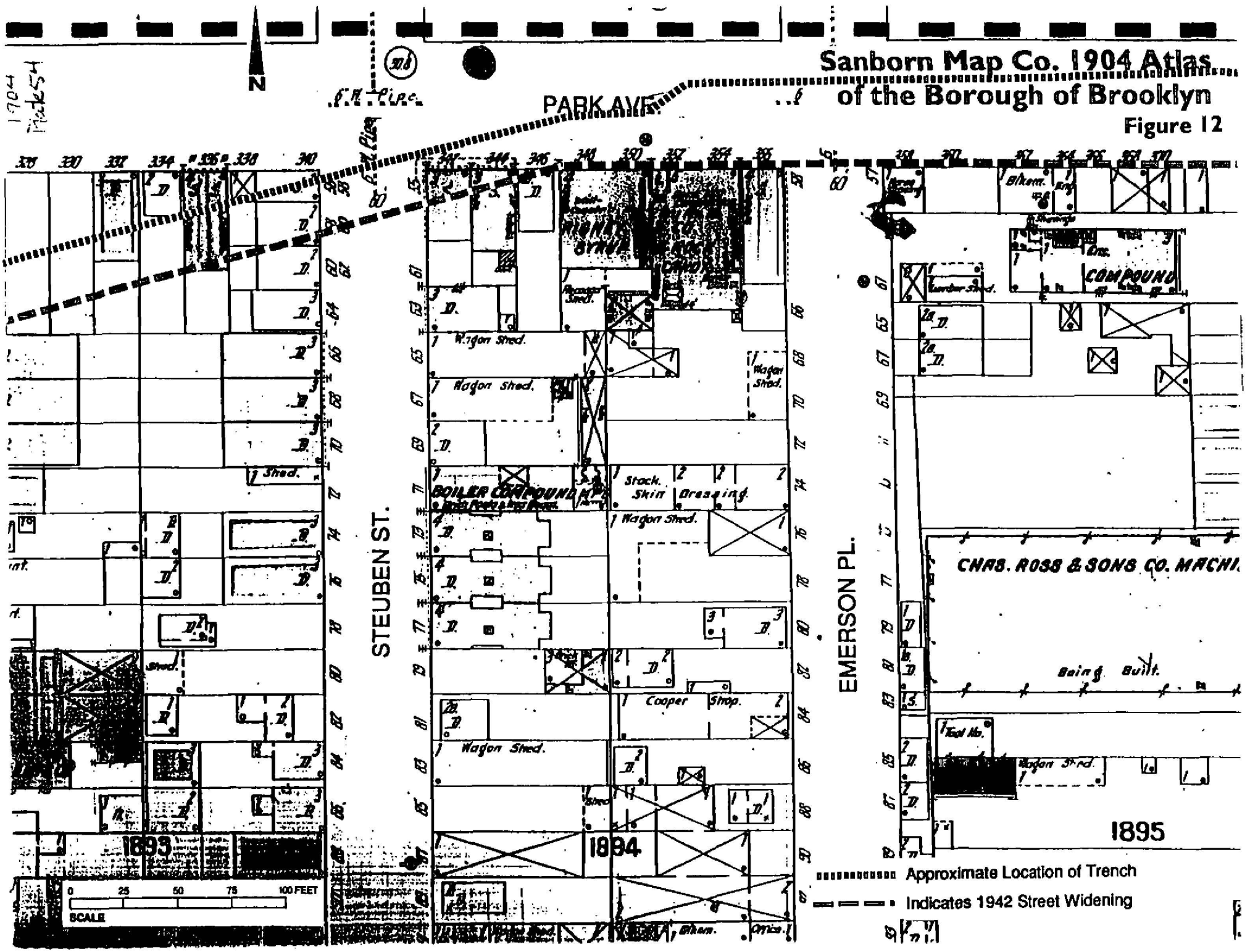

"COMPOUND."
JOHN BARNUTZ. FURNITURE FAC.
GOLD ST.
PRINCE ST.
PLACE
Wagon House
Rags
Shed
Approximate Location of Trench
Indicates 1942 Street Widening
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn
Figure 10

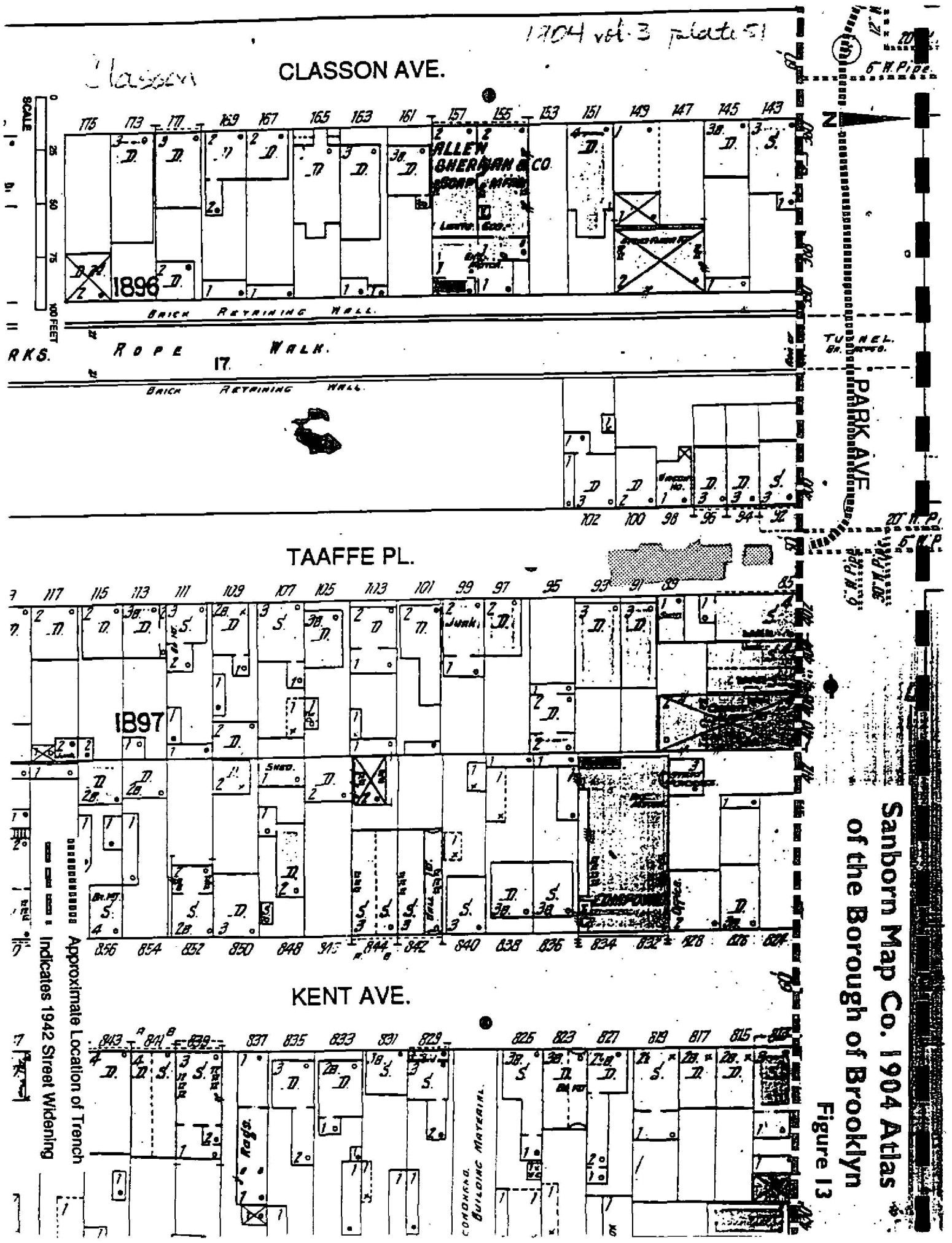
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

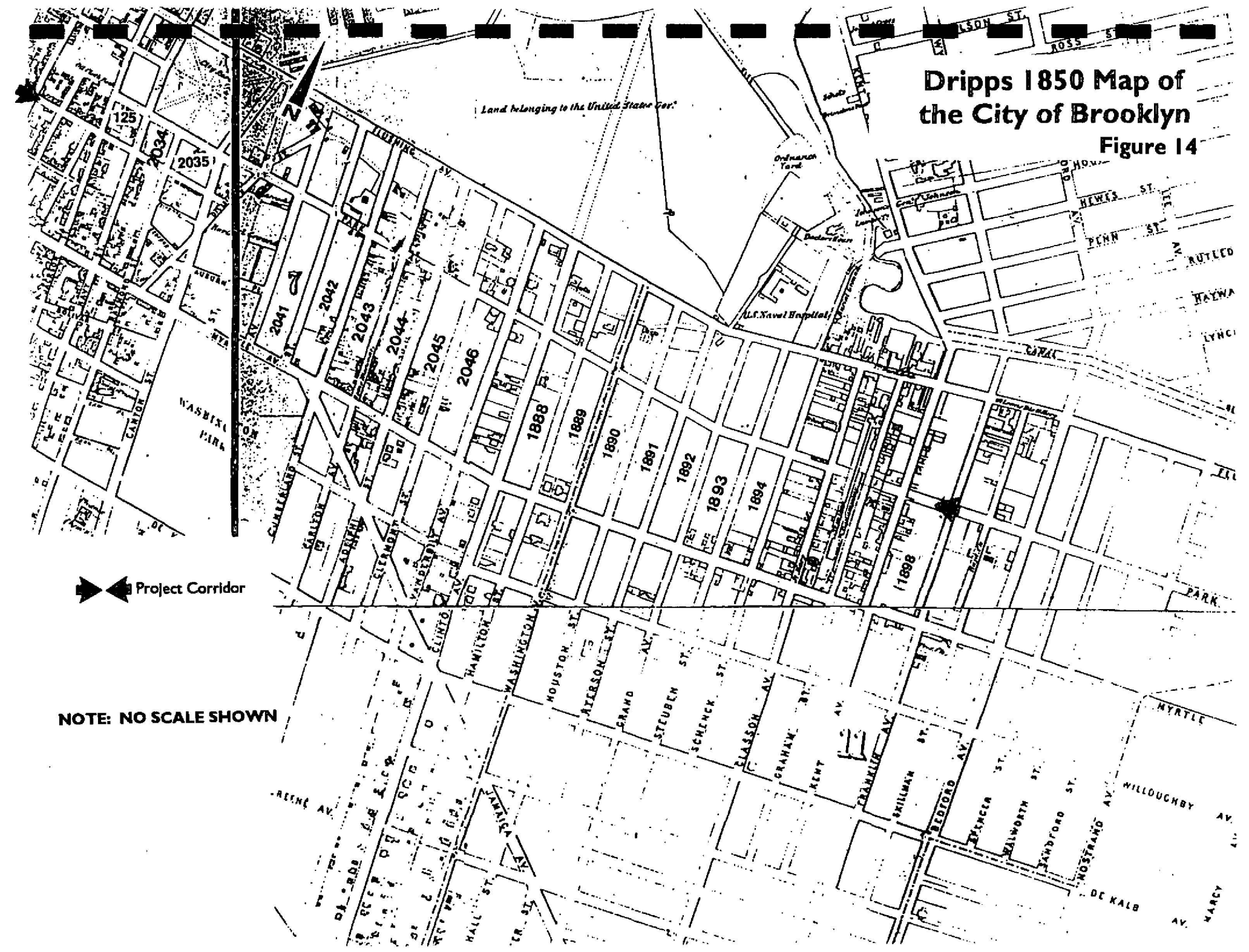
Figure 11

Approximate Location of Trench

Indicates 1942 Street Widening

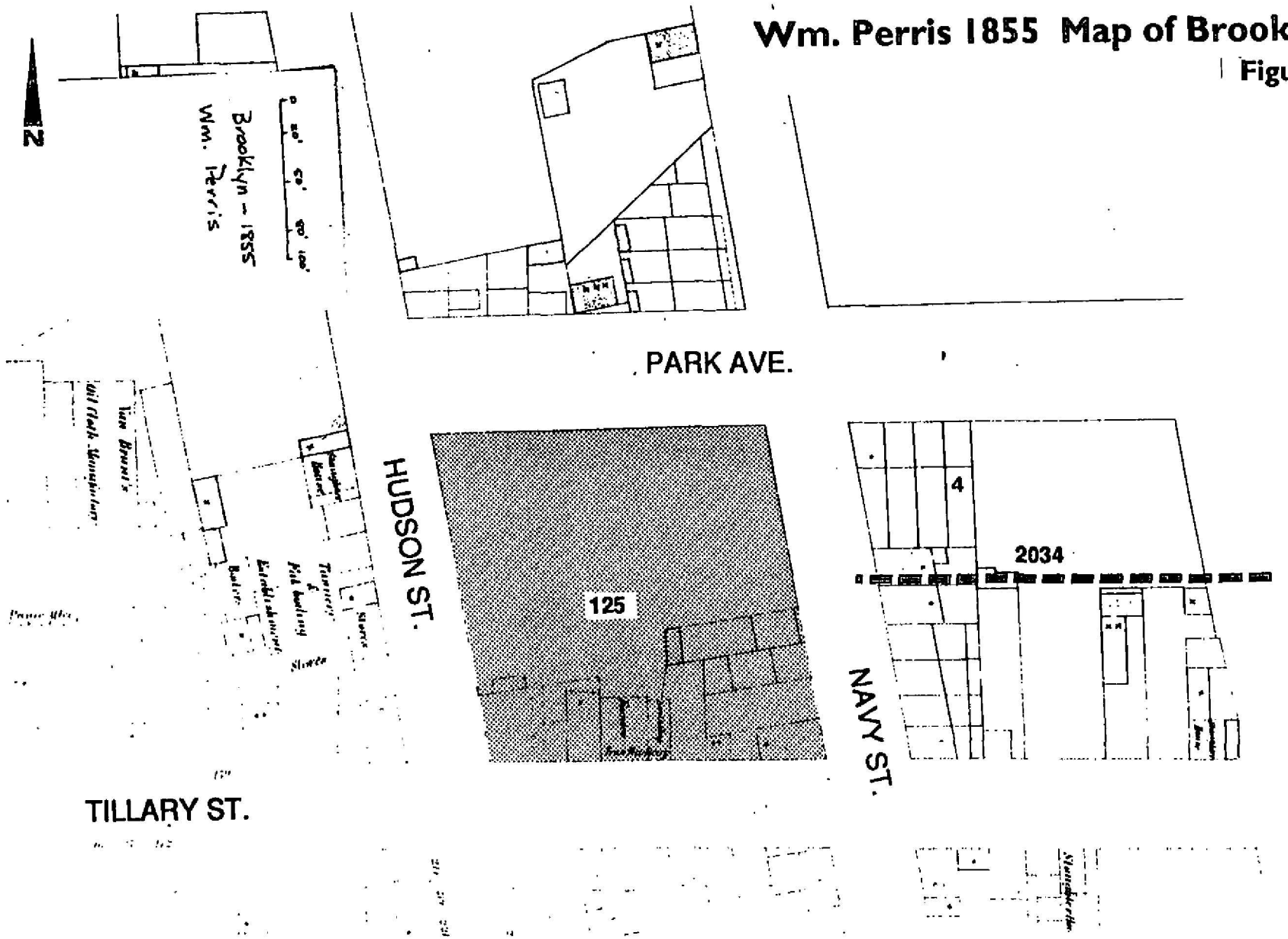

Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 12
PARK AVE.
STEUBEN ST.
EMERSON PL.
BOILER COMPOUND
Wagon Shed.
Stock, Skin Dressing
Cooper Shop.
CHAS. ROSS & SONS CO. MACHI
Being Built.
1893
1894
1895
0 25 50 75 100 FEET
SCALE
Approximate Location of Trench
Indicates 1942 Street Widening


1904 vol. 3 plate 51
CLASSON AVE.
ALLEN SHERMAN & CO.
SOAP MFRS.
1896
BRICK RETAINING WALL
ROPE WALK.
17.
BRICK RETAINING WALL
PARK AVE
TUNNEL
6" W. Pipe
TAAFFE PL.
1897
SHED
KENT AVE.
Approximate Location of Trench
Indicates 1942 Street Widening
Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 13


Dripps 1850 Map of the City of Brooklyn
Figure 14
Land belonging to the United States Gov.
Ordnance Yard
U.S. Naval Hospital
Project Corridor
NOTE: NO SCALE SHOWN

Wm. Perris 1855 Map of Brooklyn

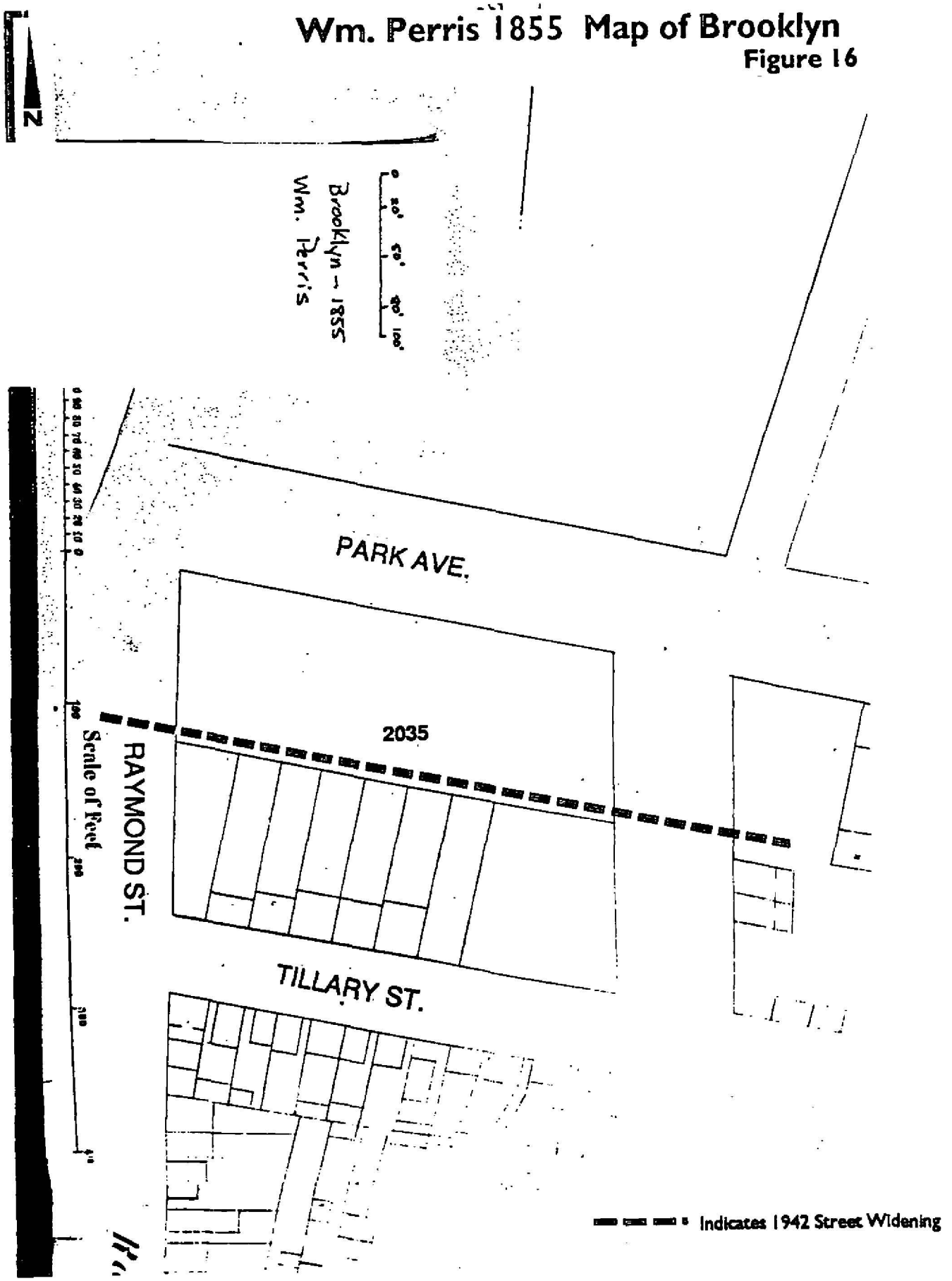
Figure 15



Indicates 1942 Street Widening

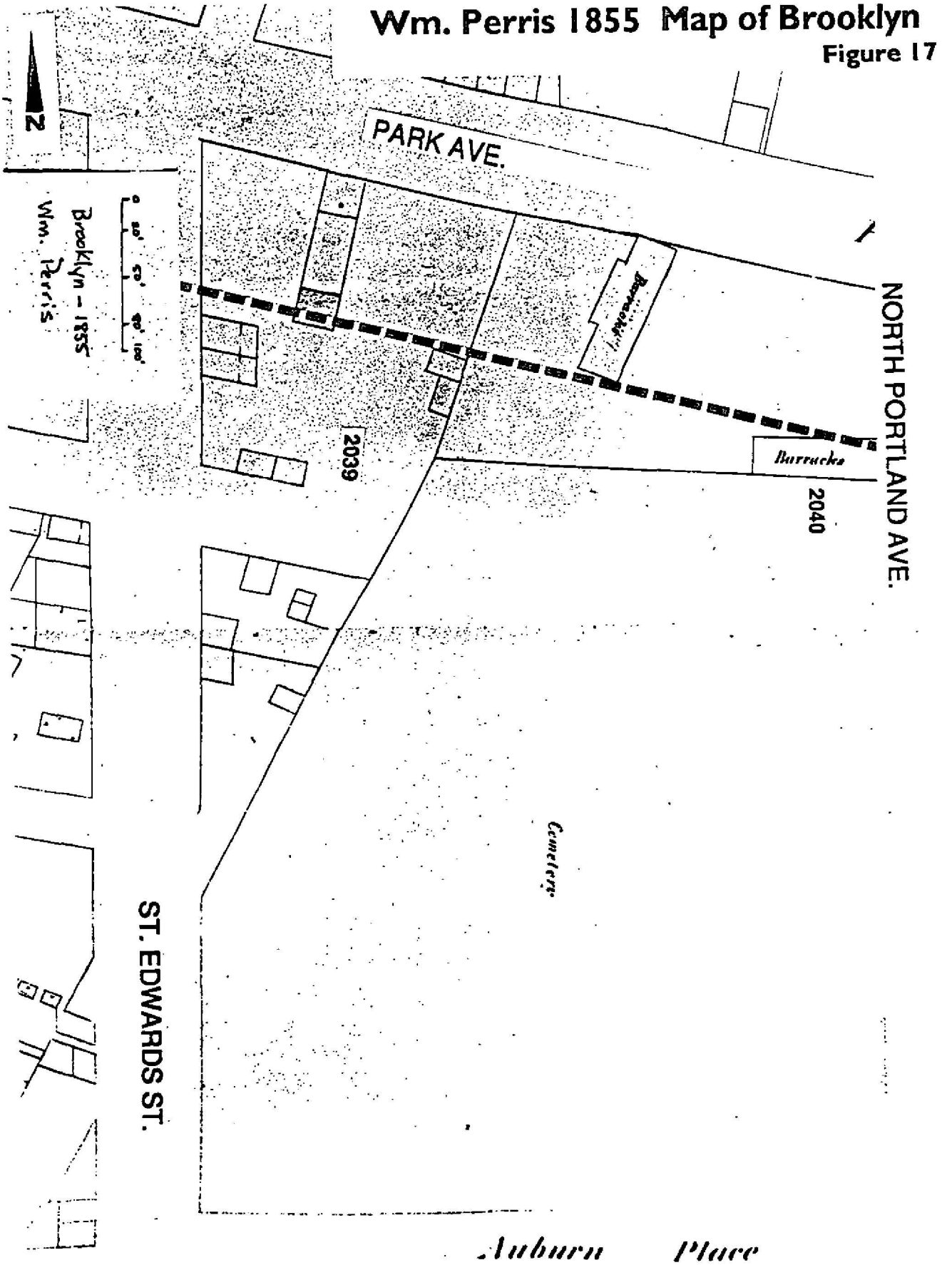
Wm. Perris 1855 Map of Brooklyn

Figure 16



Wm. Perris 1855 Map of Brooklyn

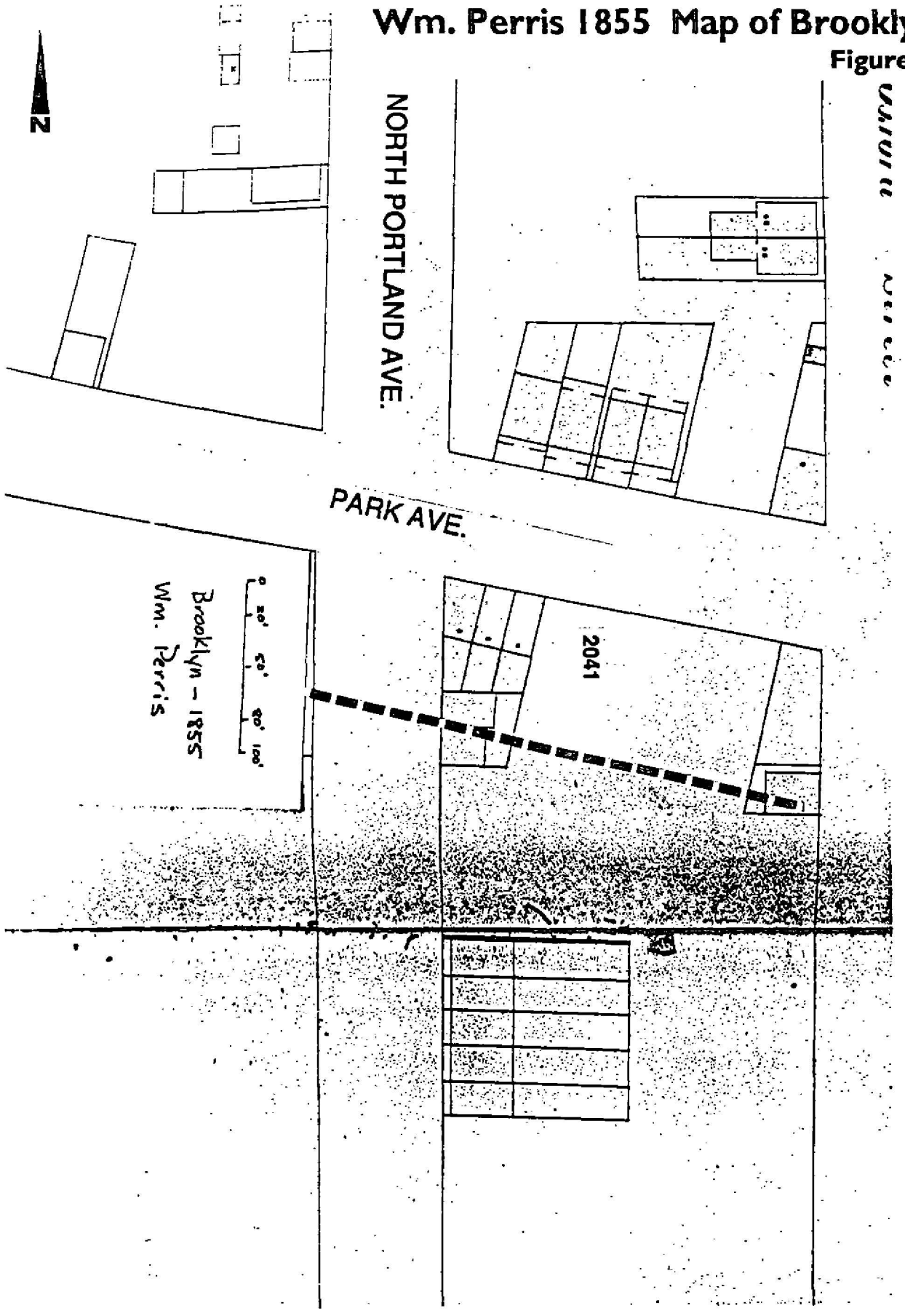
Figure 17



Indicates 1942 Street Widening

Wm. Perris 1855 Map of Brooklyn

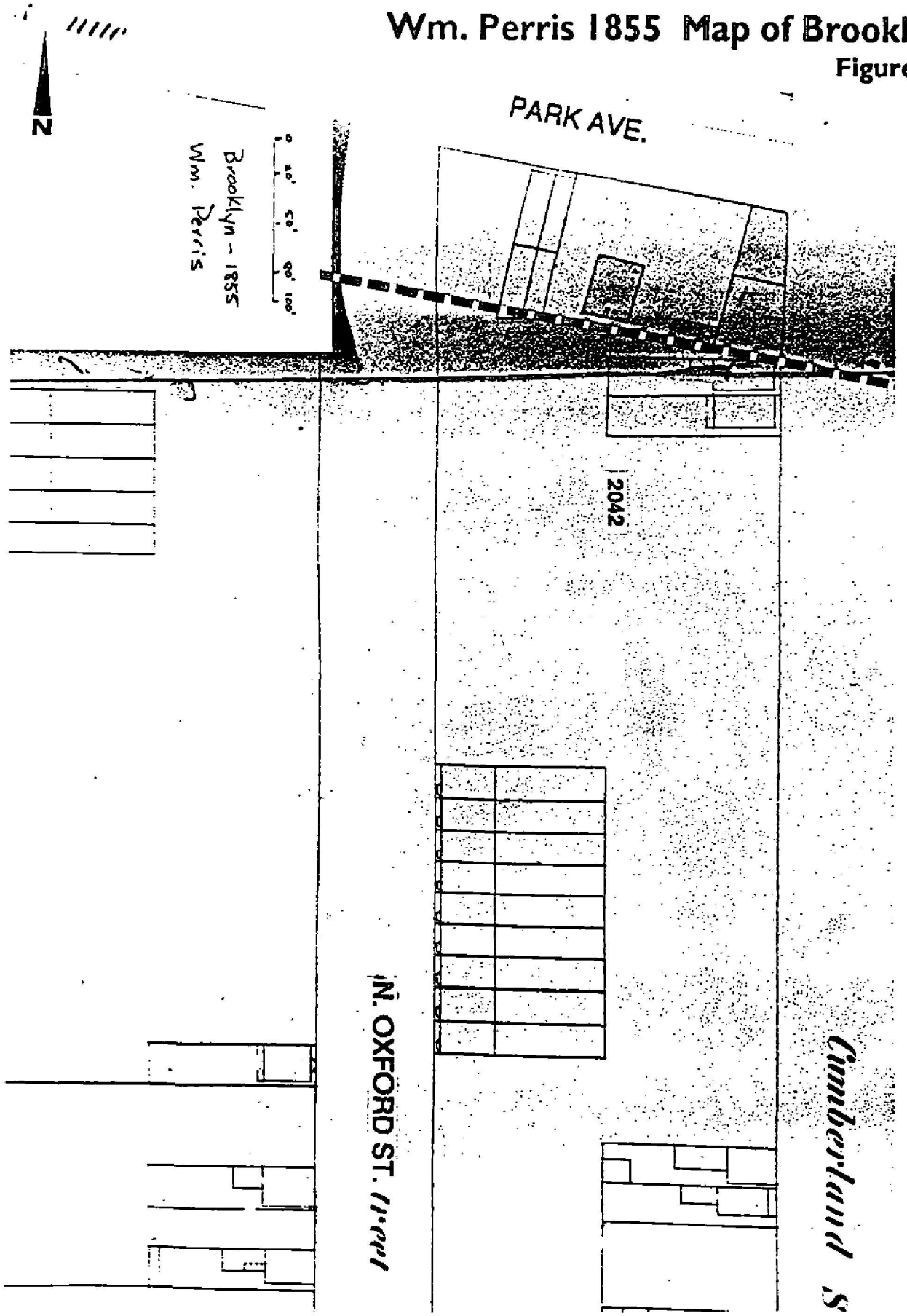
Figure 18



Indicates 1942 Street Widening

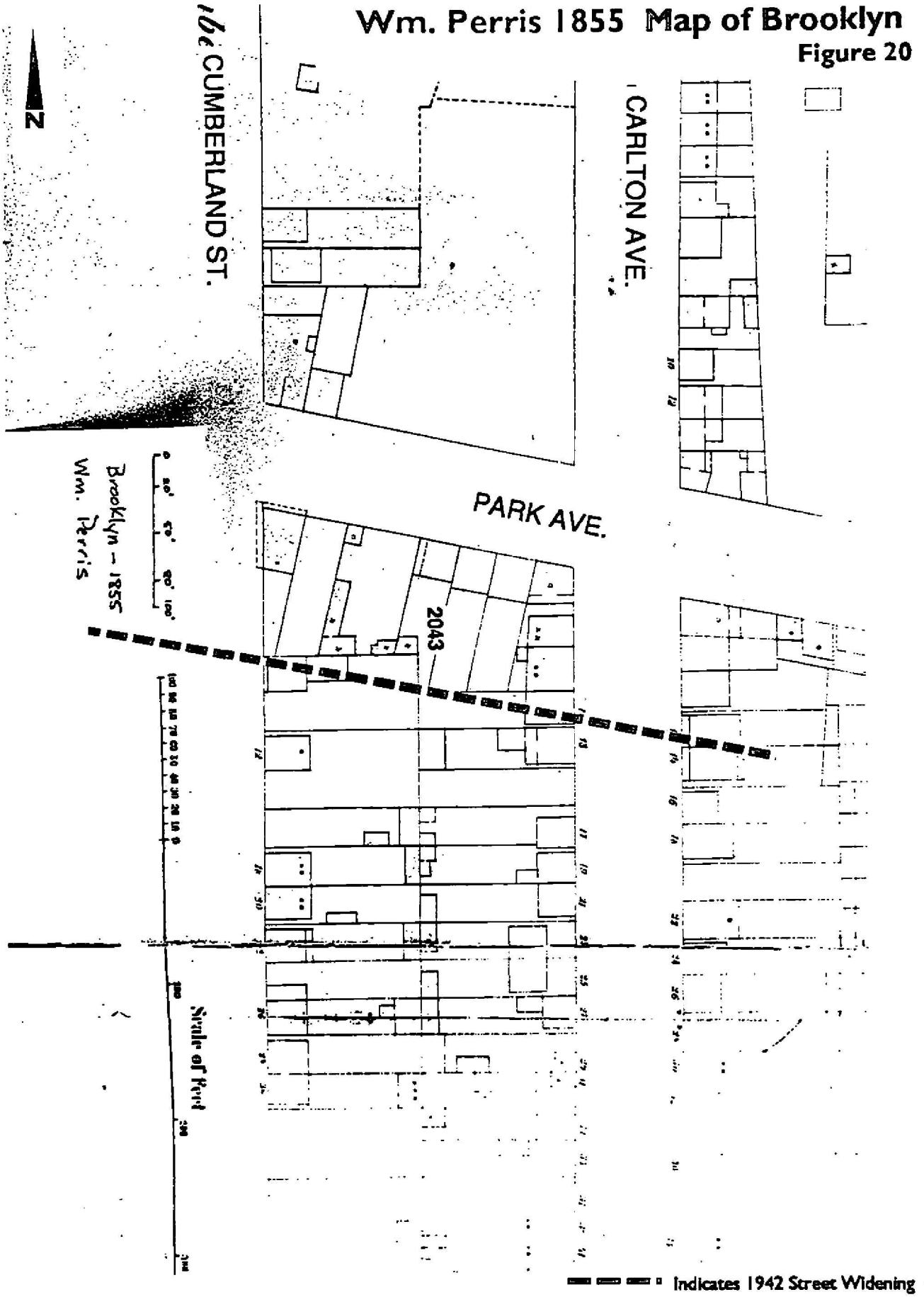
Wm. Perris 1855 Map of Brooklyn

Figure 19



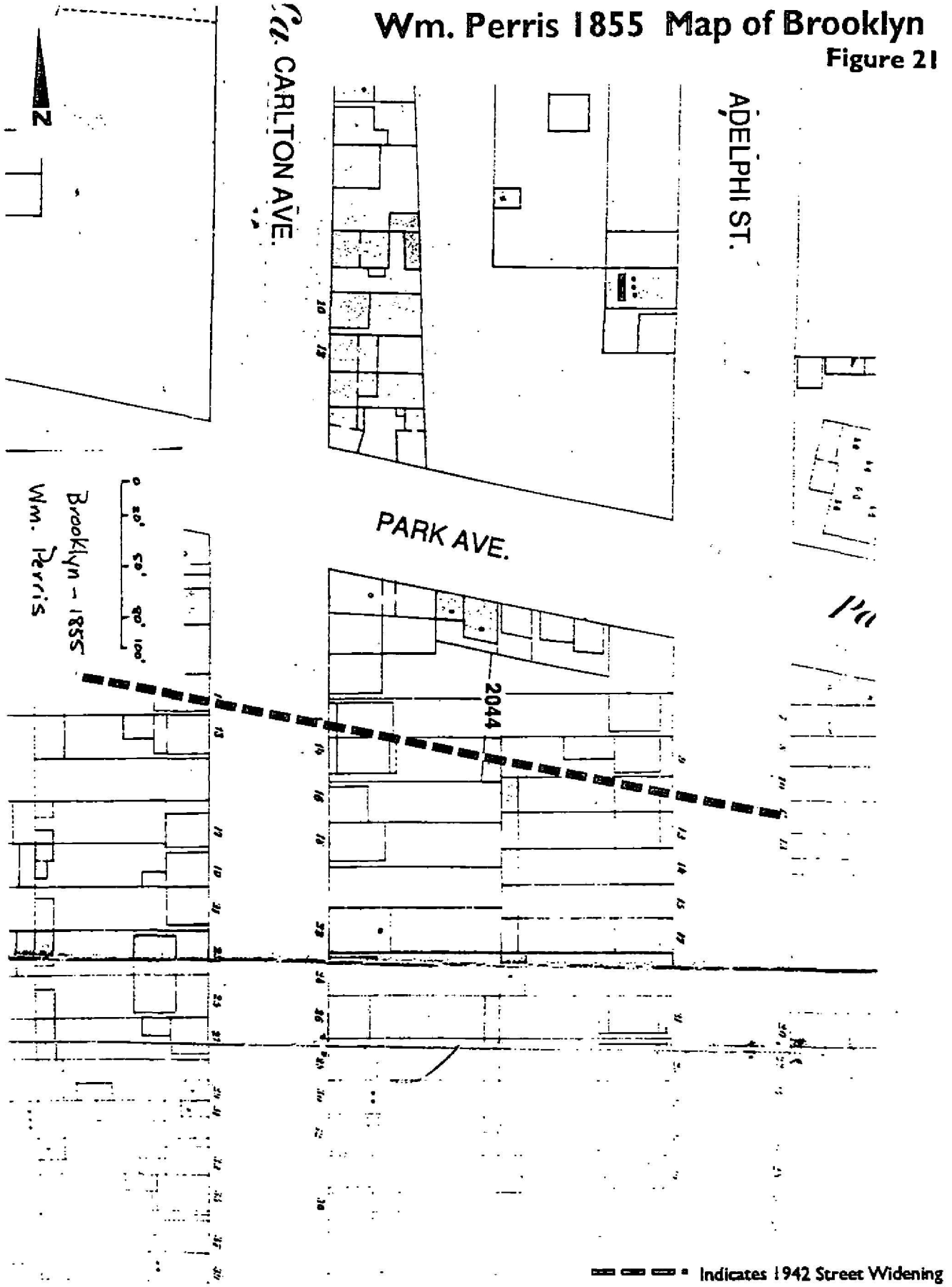
Wm. Perris 1855 Map of Brooklyn

Figure 20



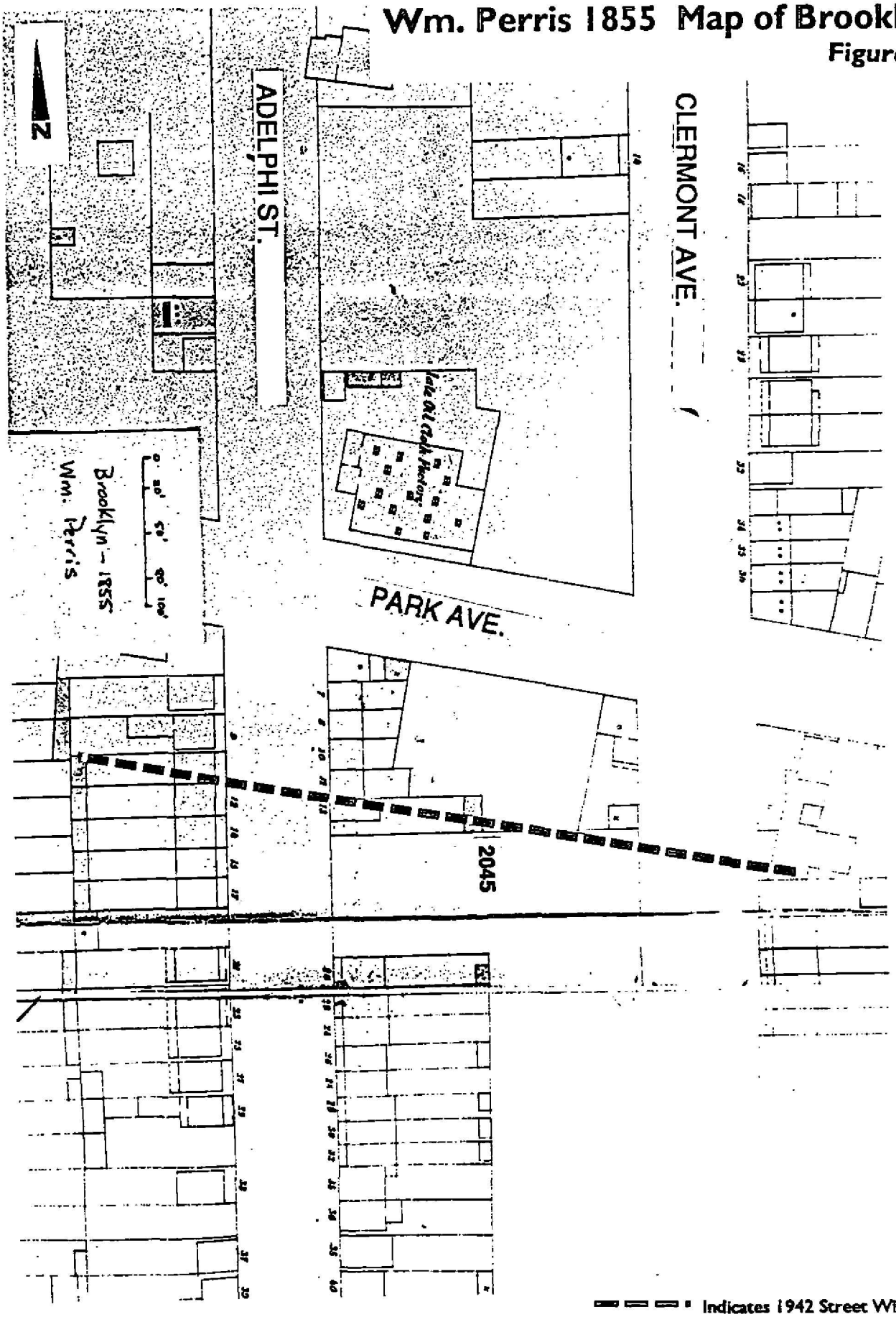
Wm. Perris 1855 Map of Brooklyn

Figure 21



Wm. Perris 1855 Map of Brooklyn

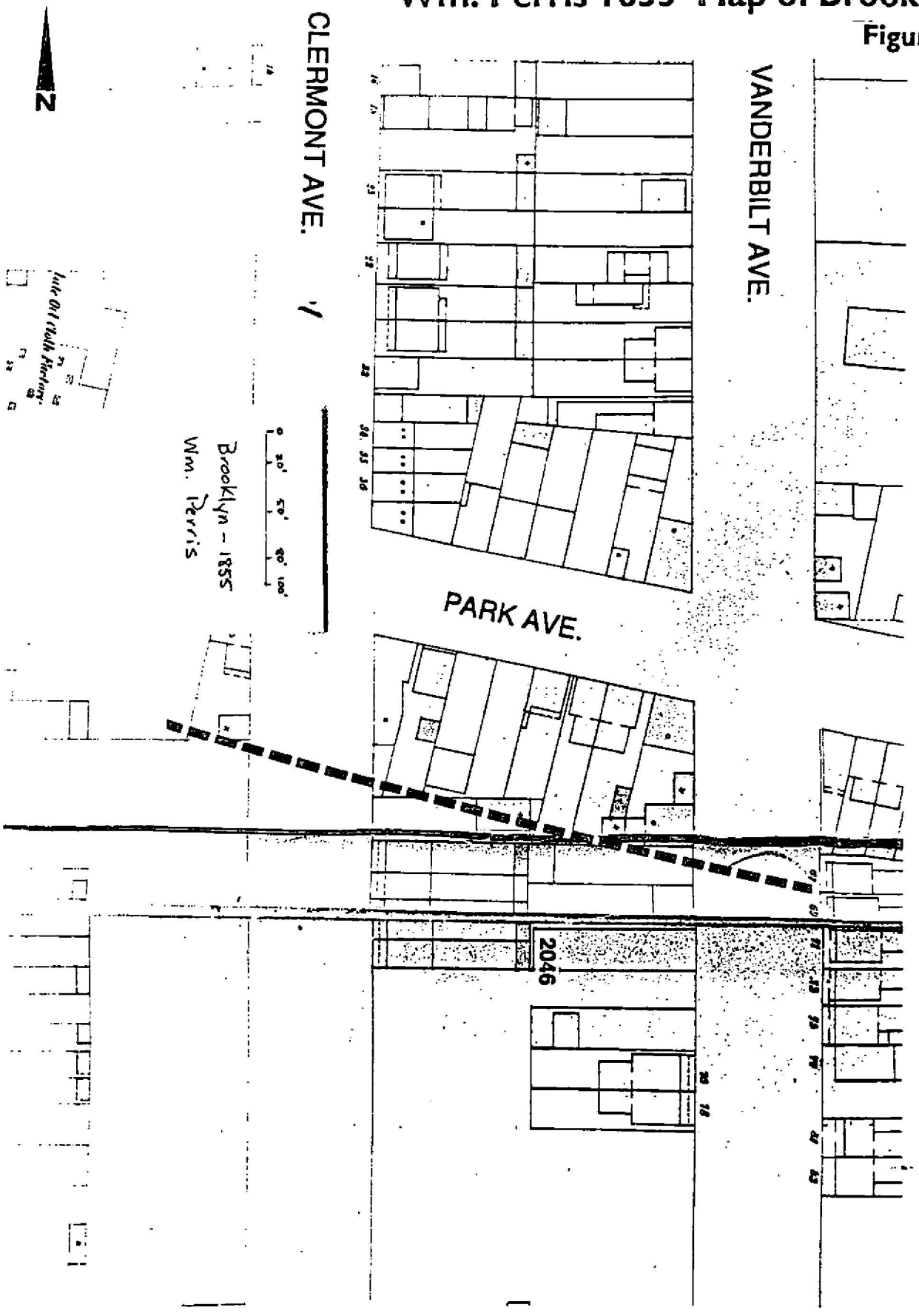
Figure 22



Indicates 1942 Street Widening

Wm. Perris 1855 Map of Brooklyn

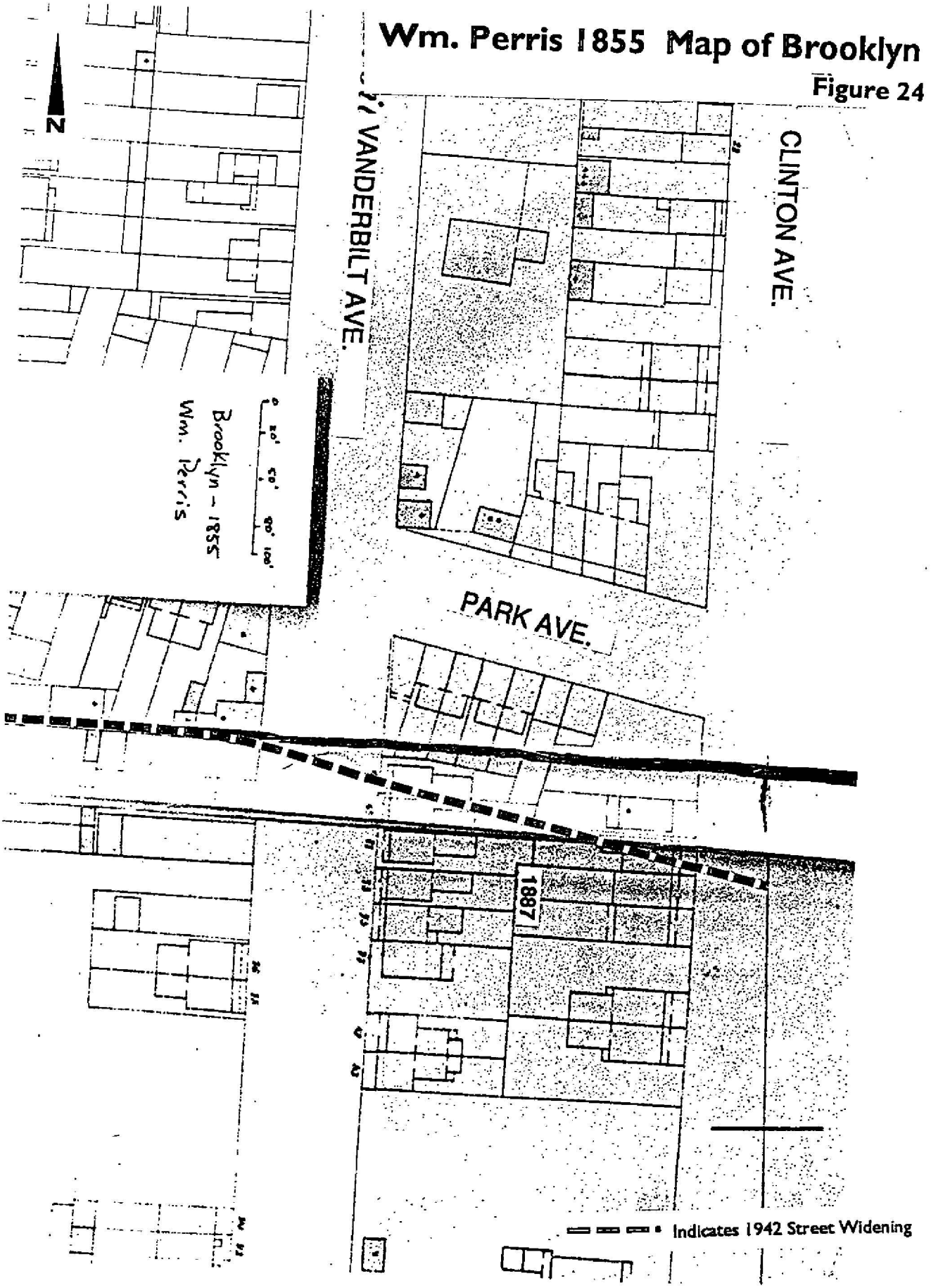
Figure 23



Indicates 1942 Street Widening

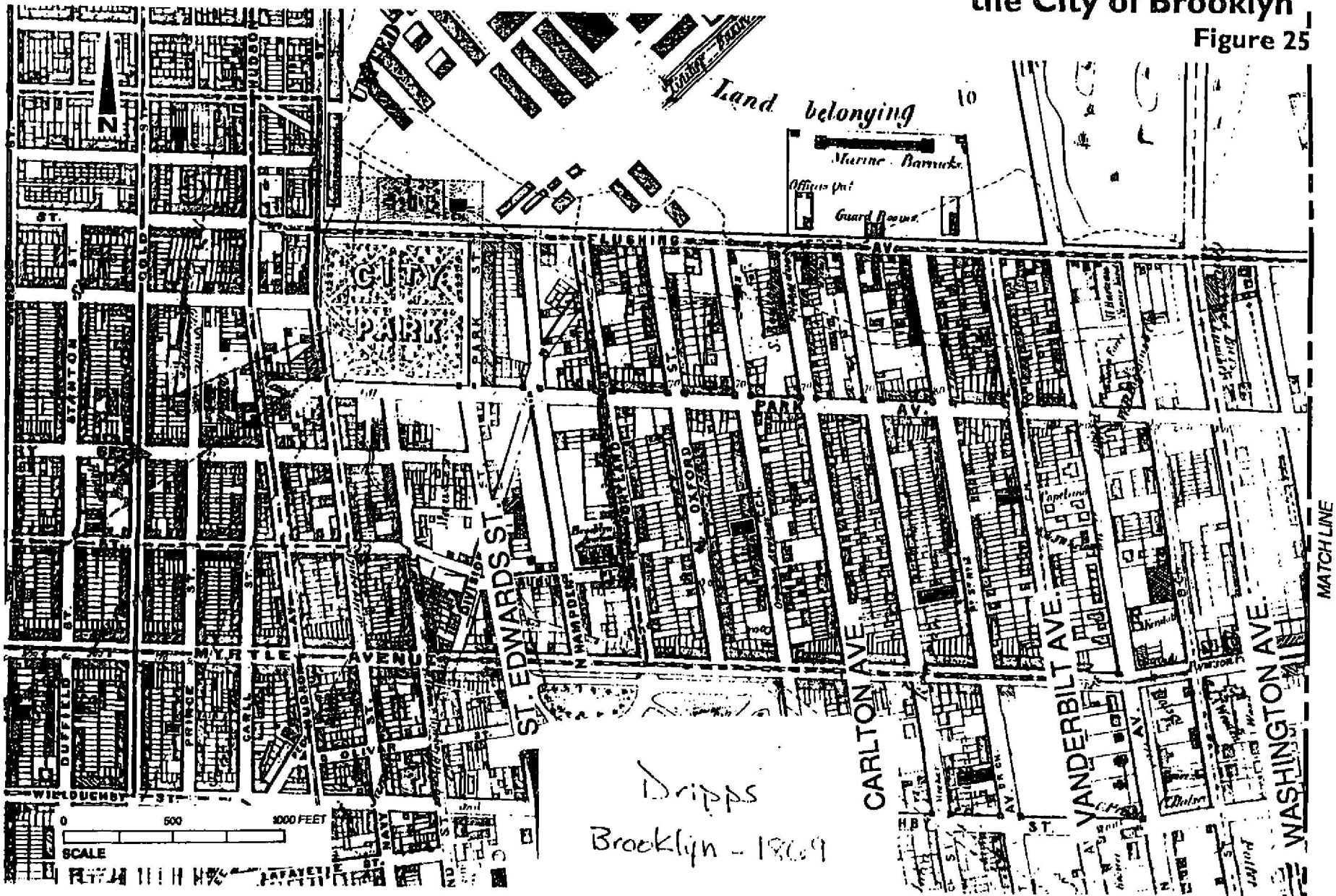
Wm. Perris 1855 Map of Brooklyn

Figure 24



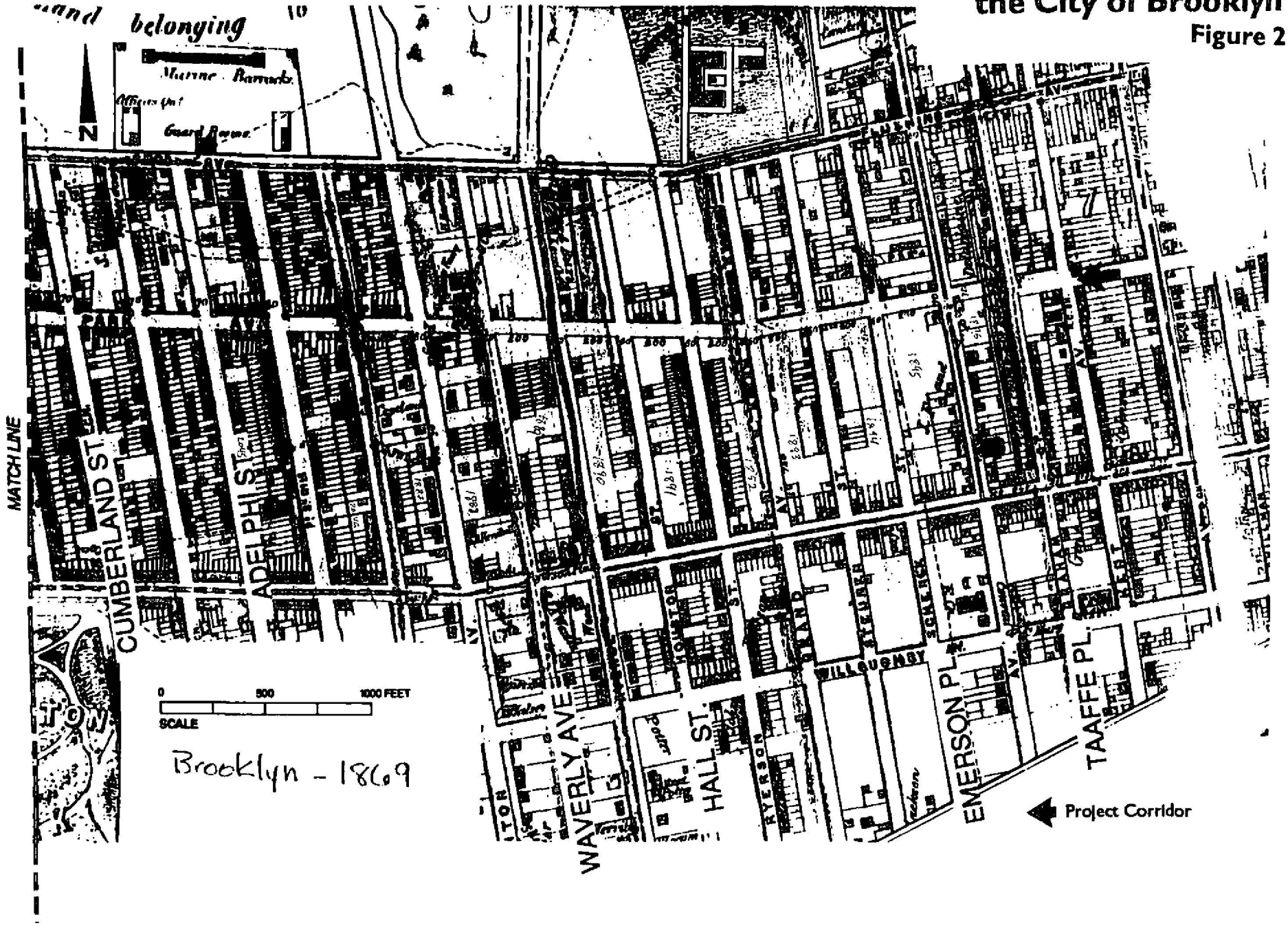
M. Dripps 1869 Map of the City of Brooklyn

Figure 25



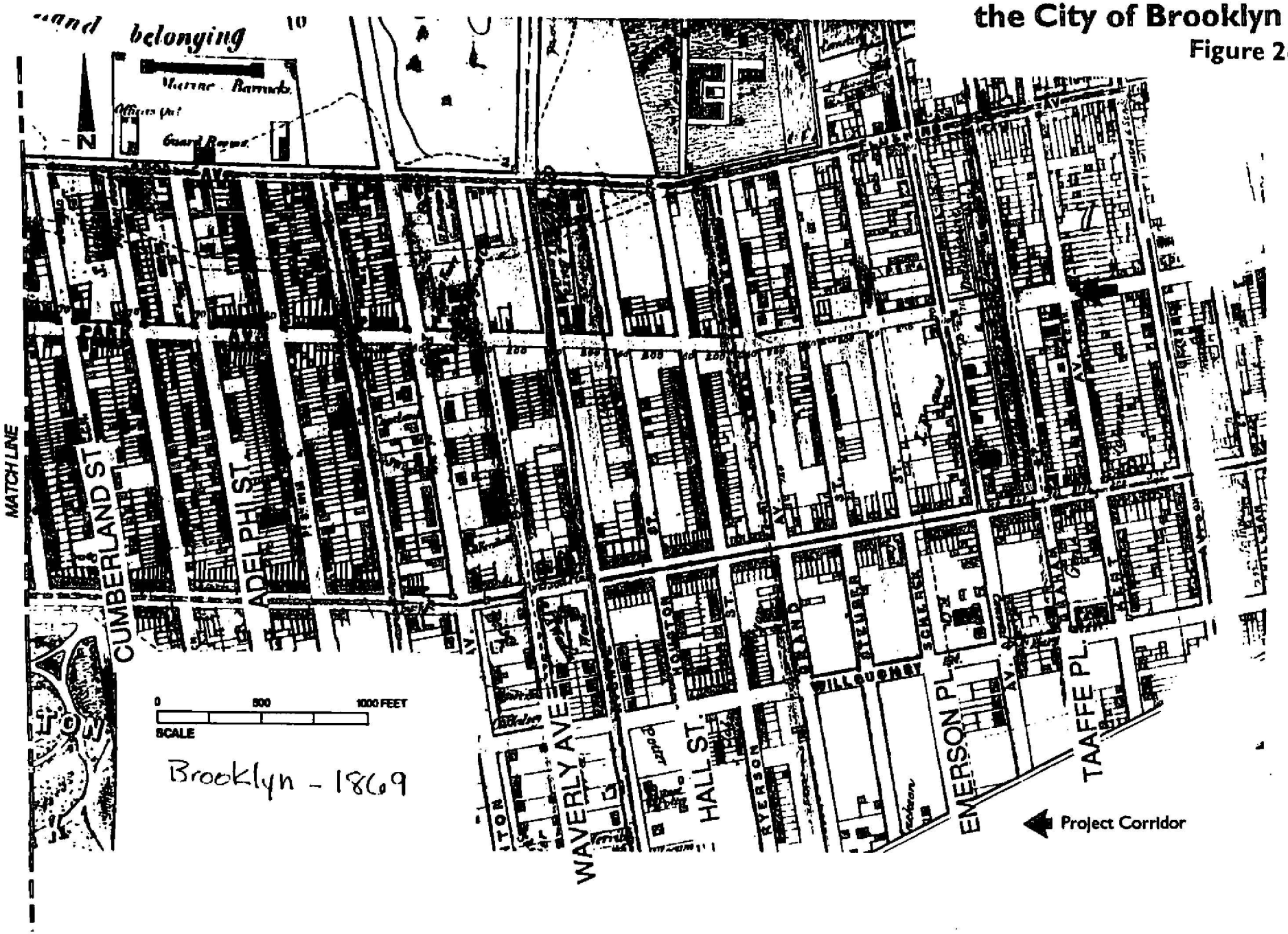
M. Dripps 1869 Map of the City of Brooklyn

Figure 26



M. Dripps 1869 Map of the City of Brooklyn

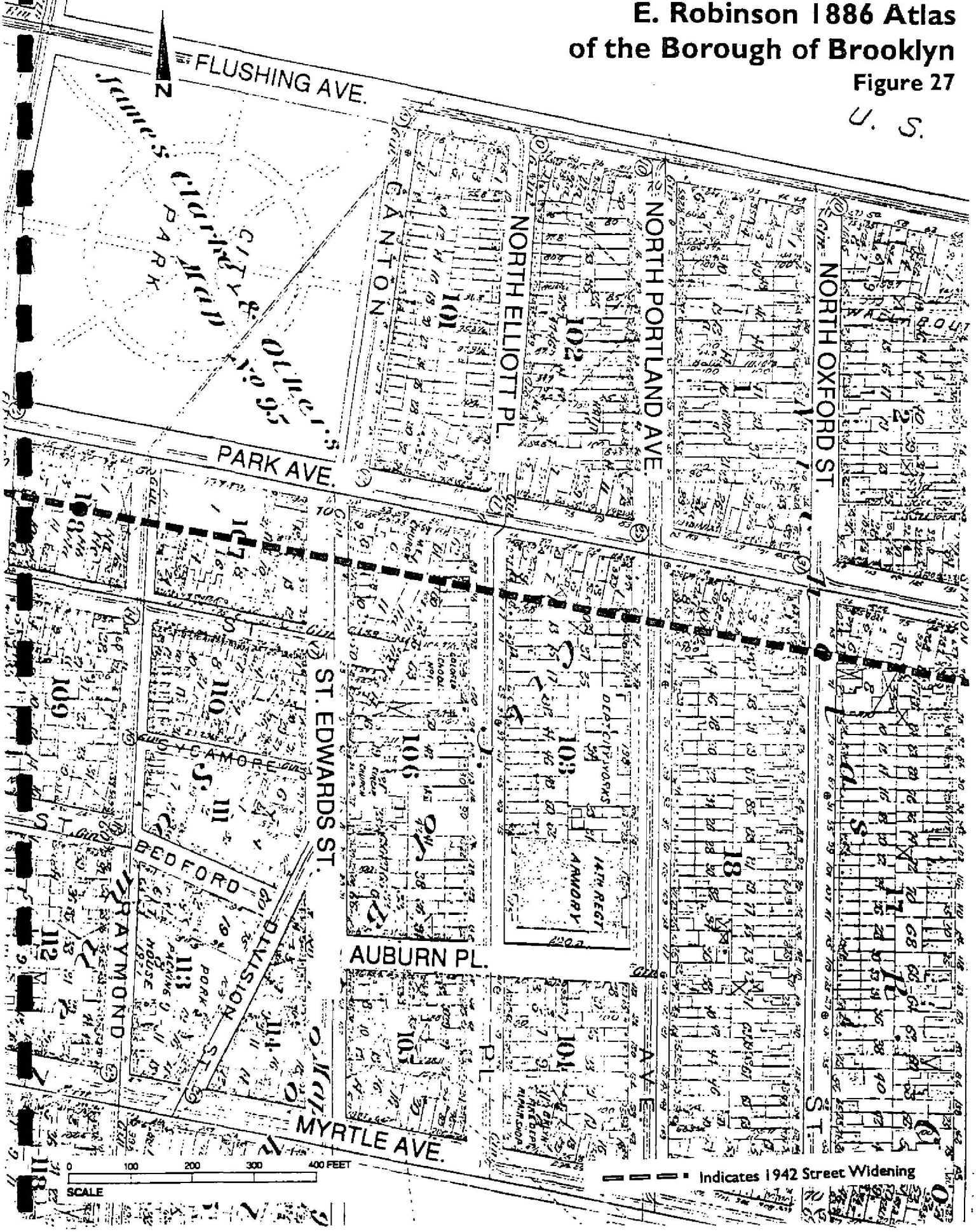
Figure 26



E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 27

U. S.

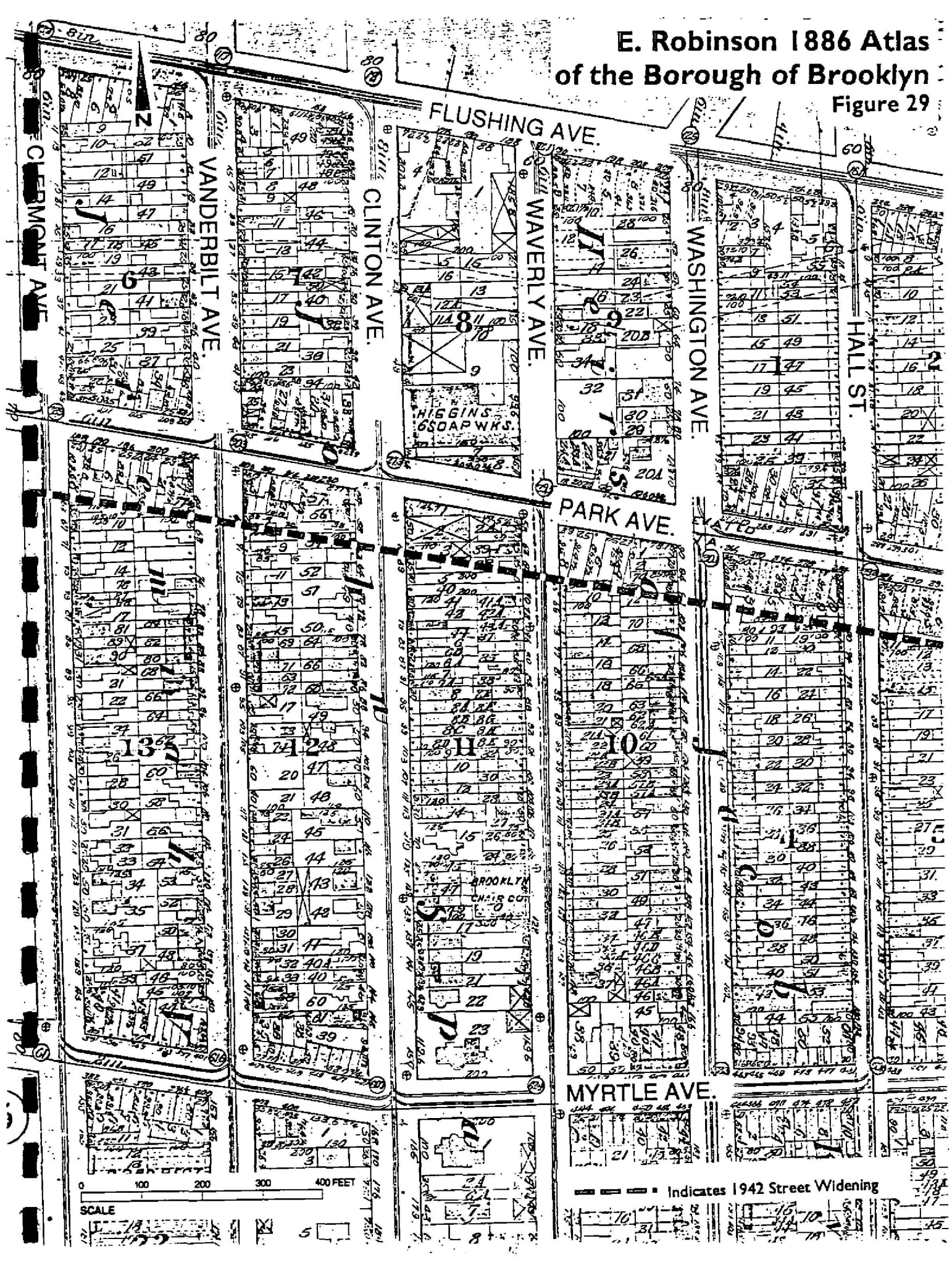


E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 28

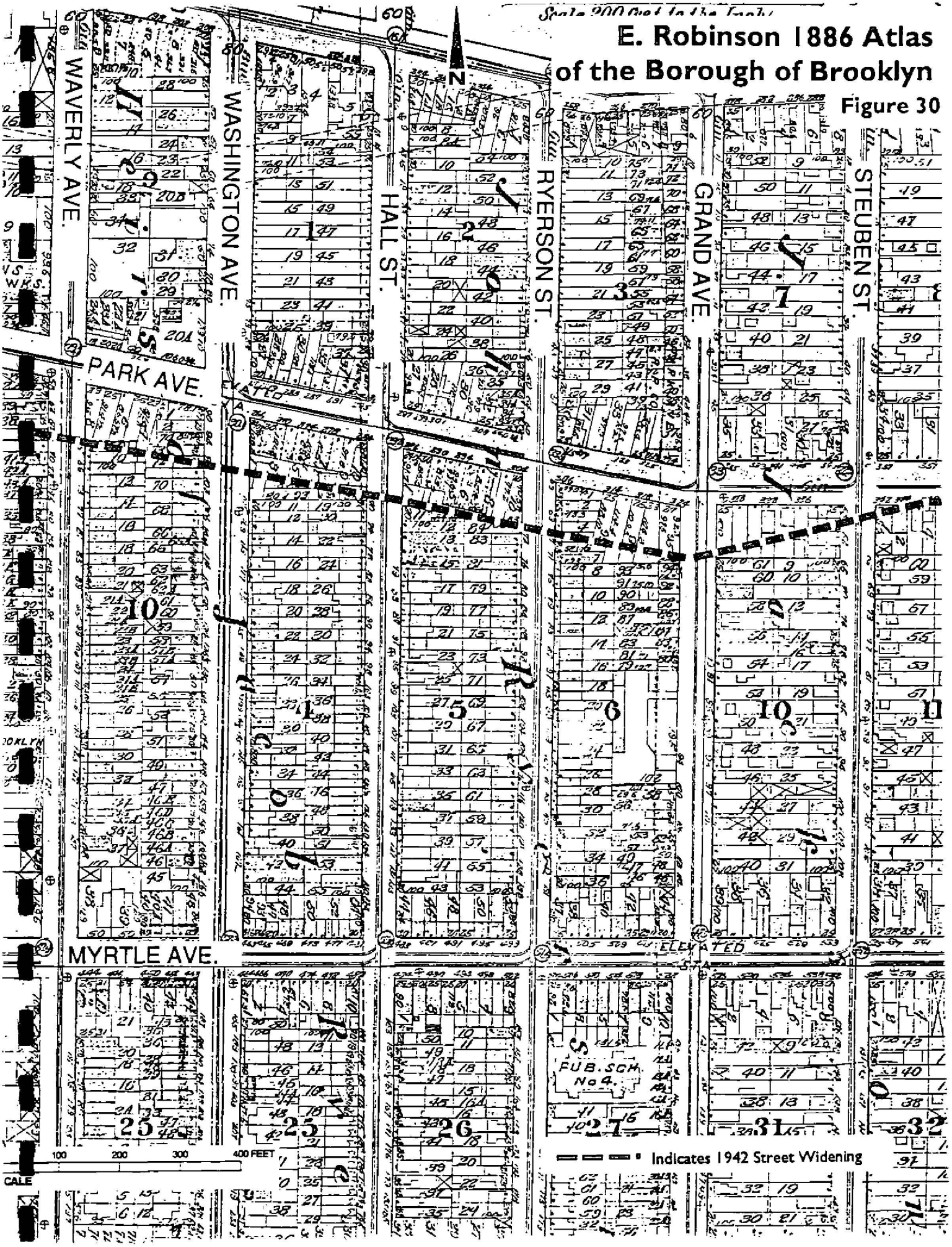
E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 29



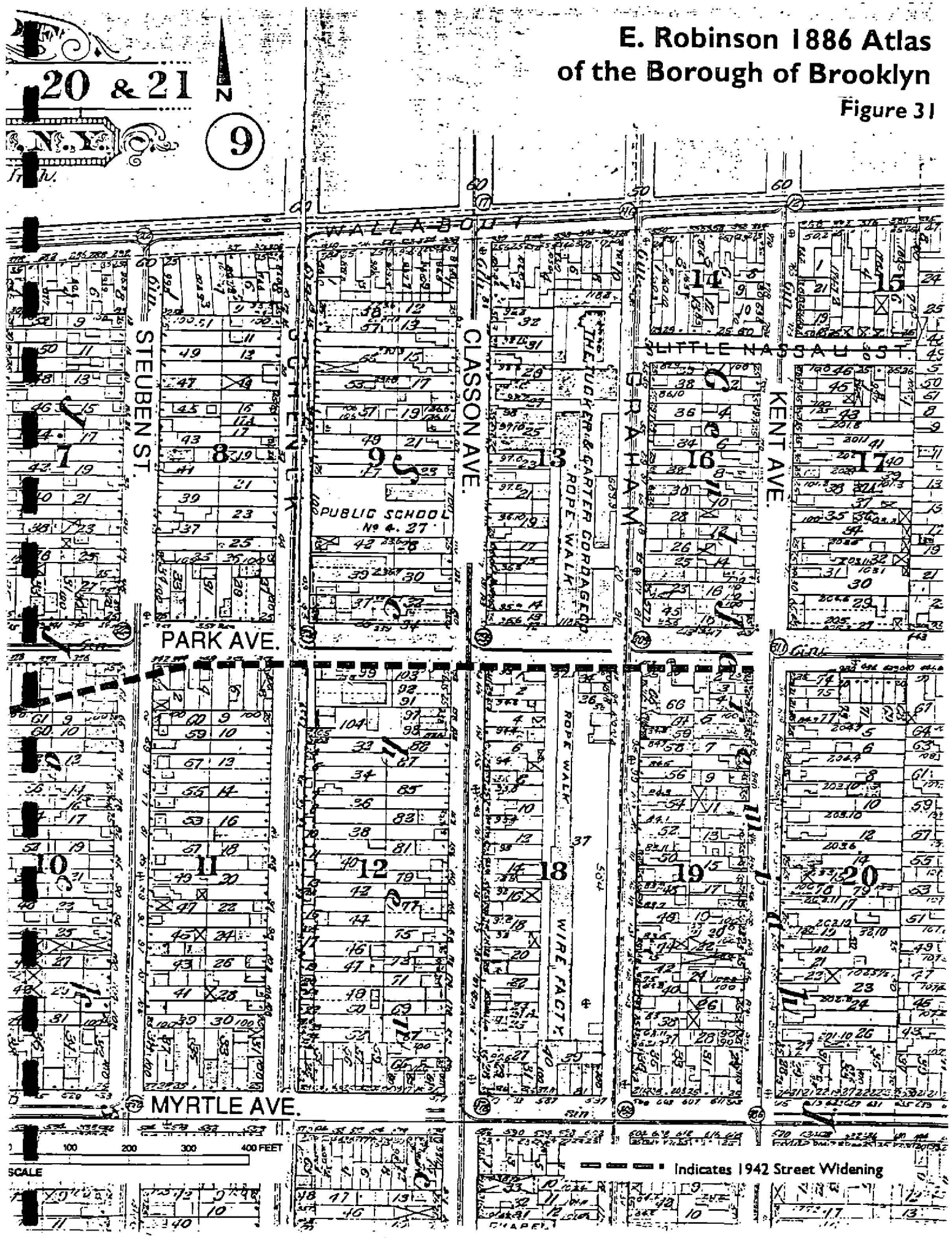
E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 30



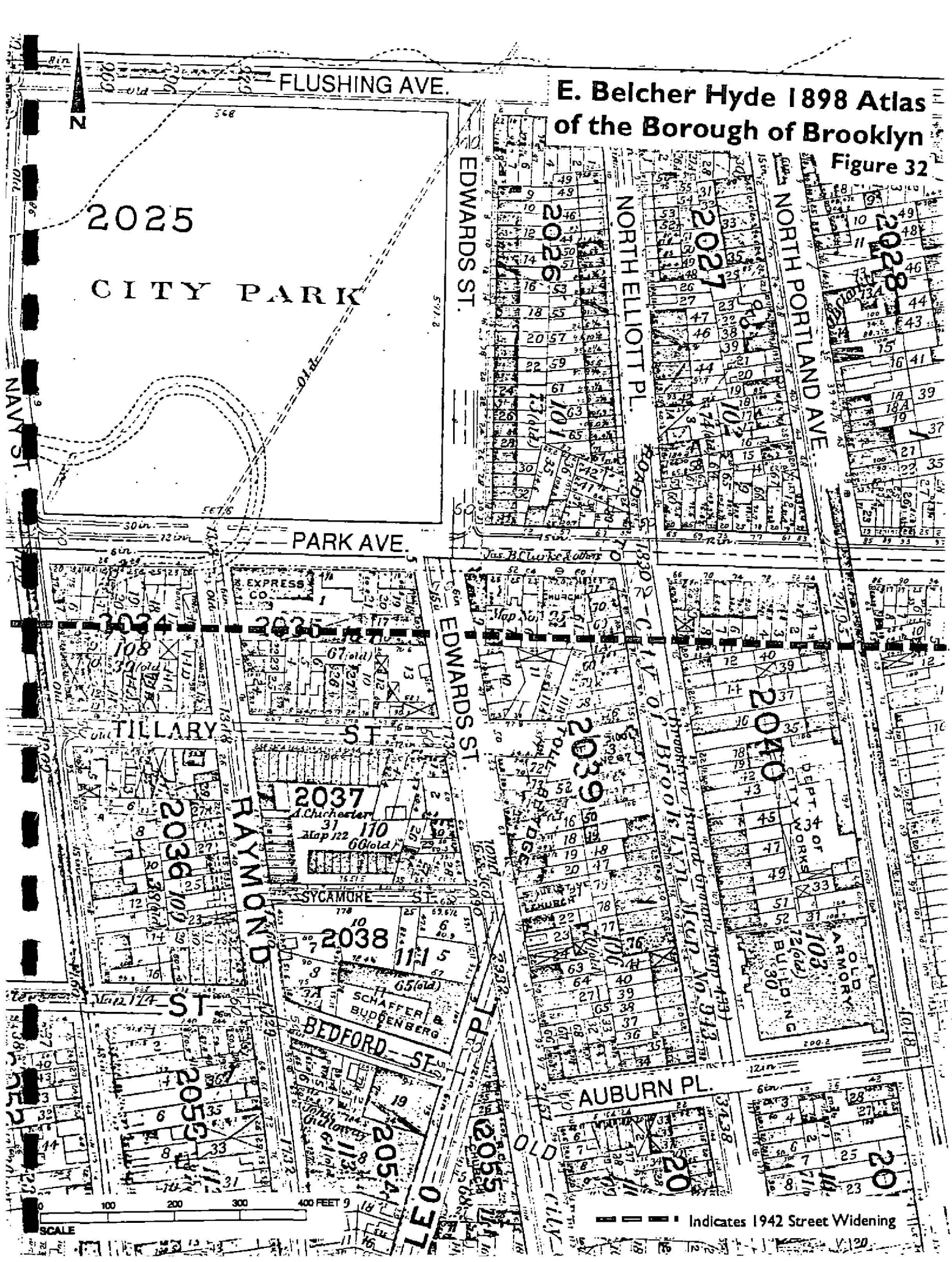
E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 31



E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 32

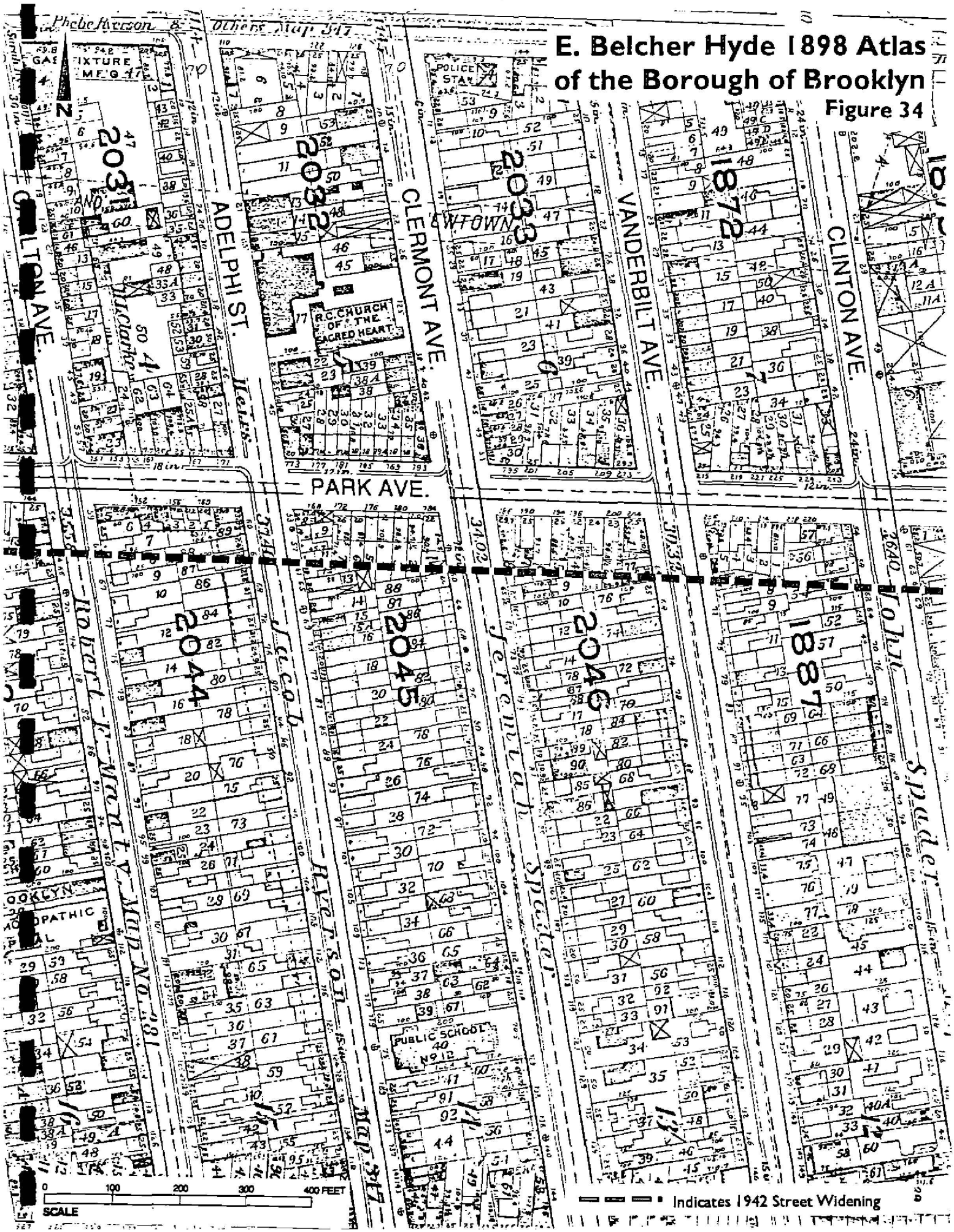


E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 33

E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 34

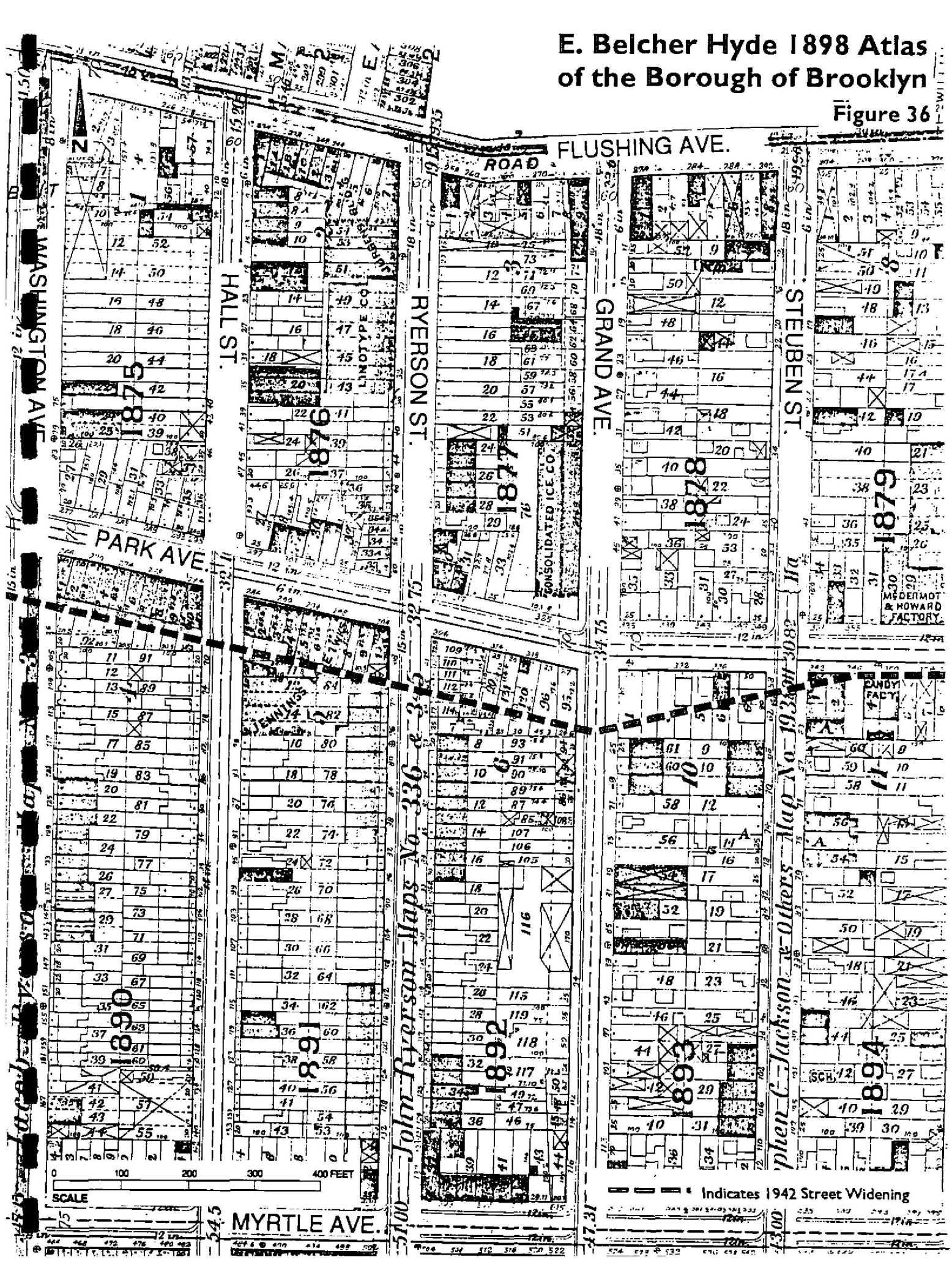


E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 35

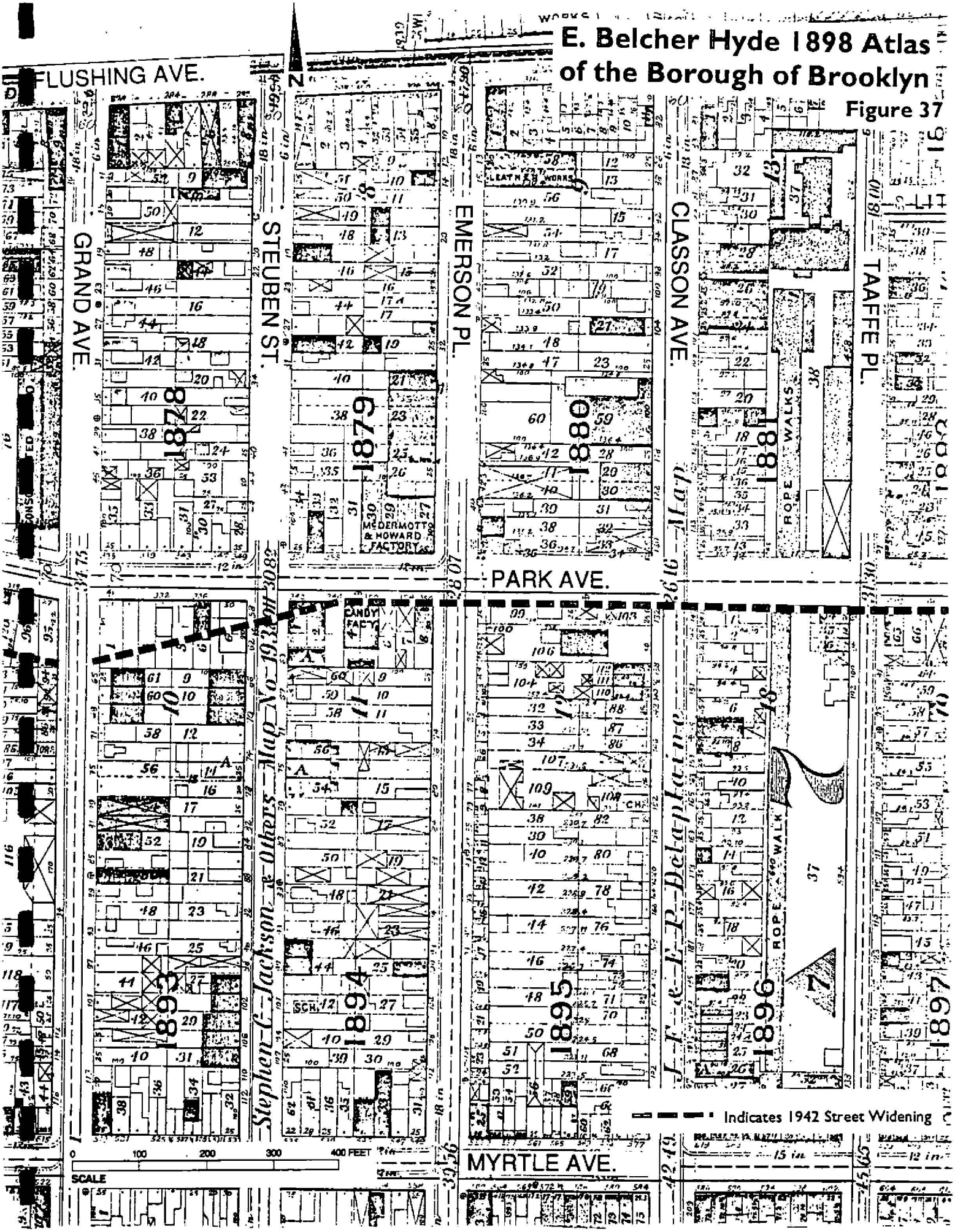
E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 36

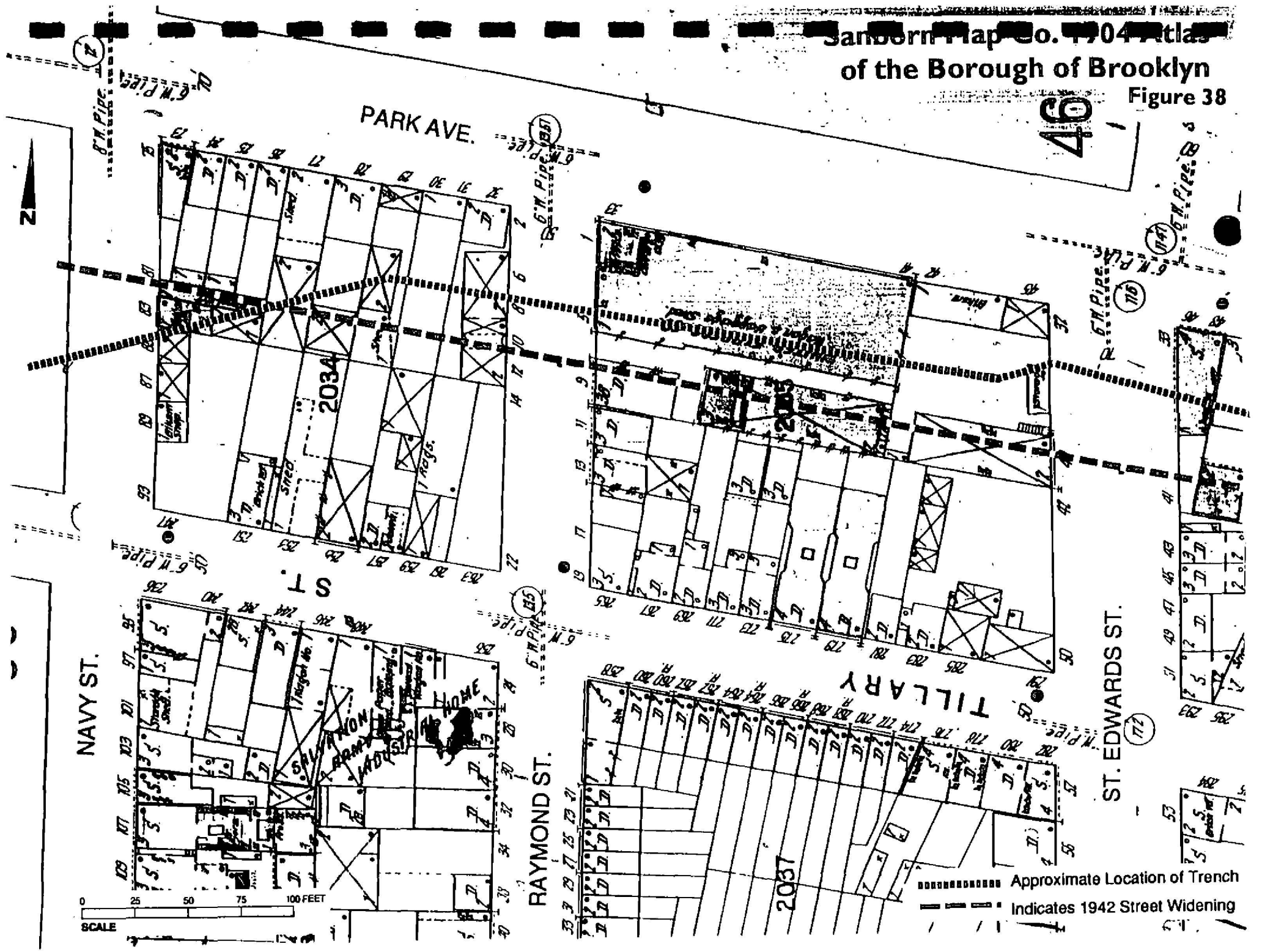


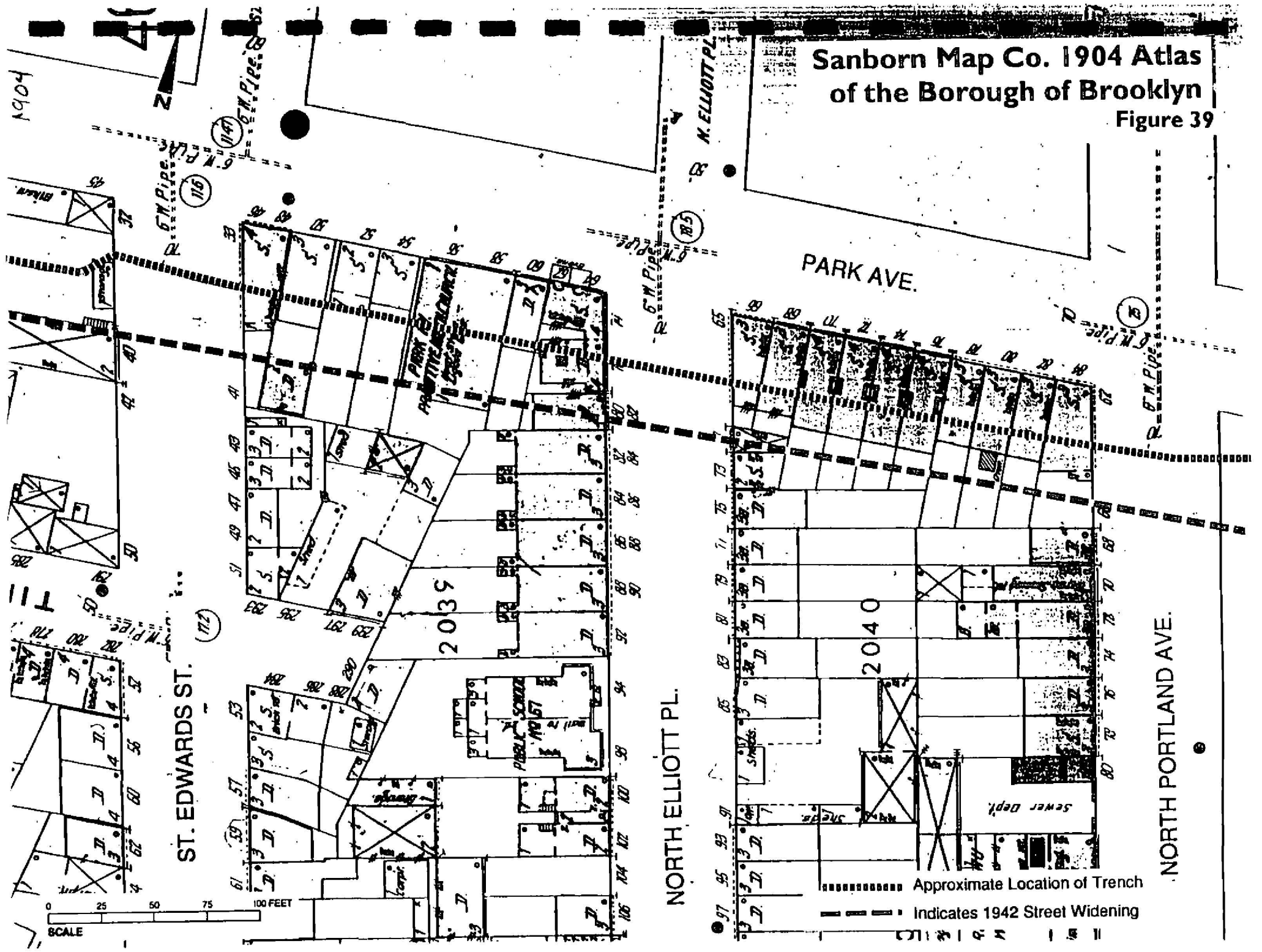
E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 37



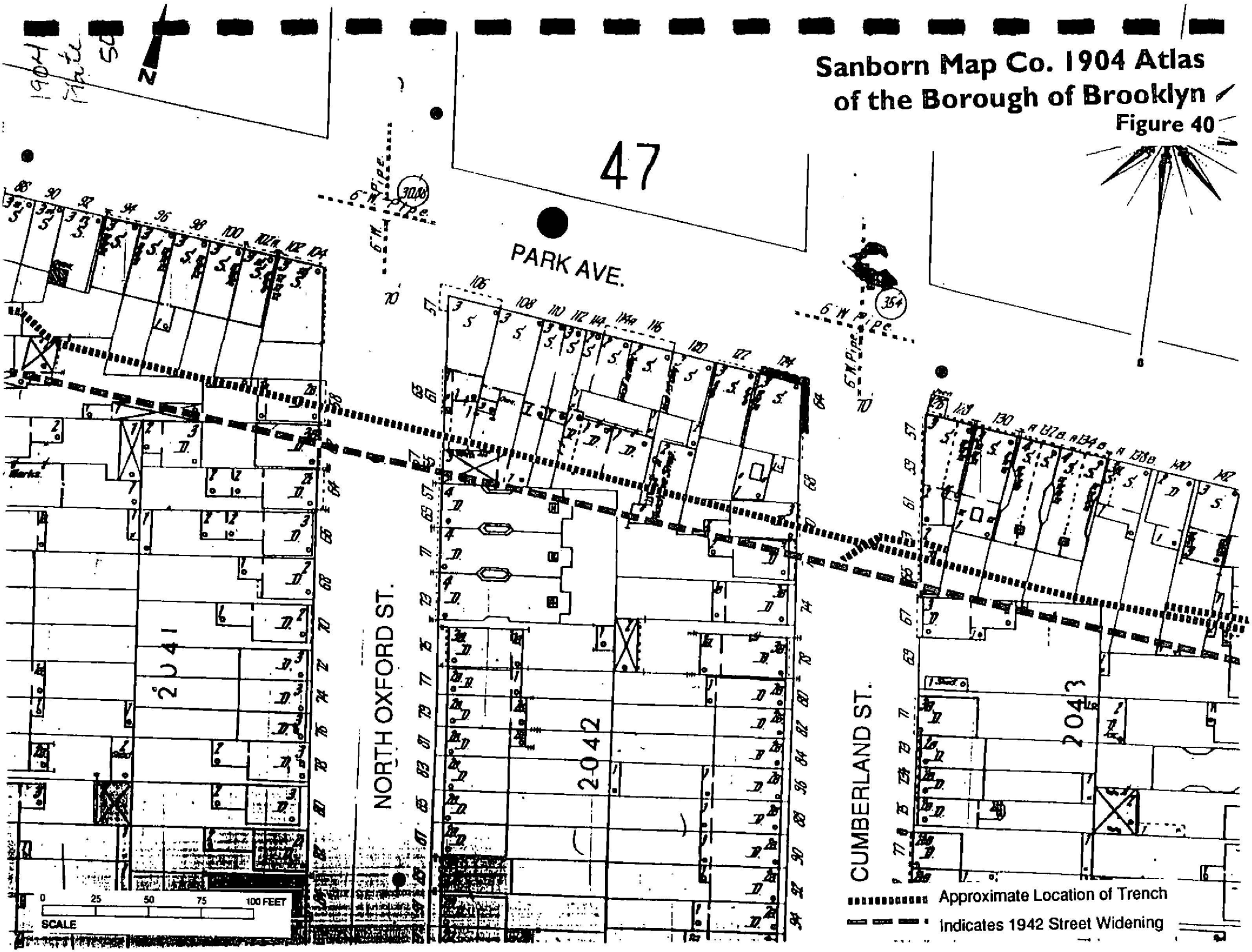
Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 38

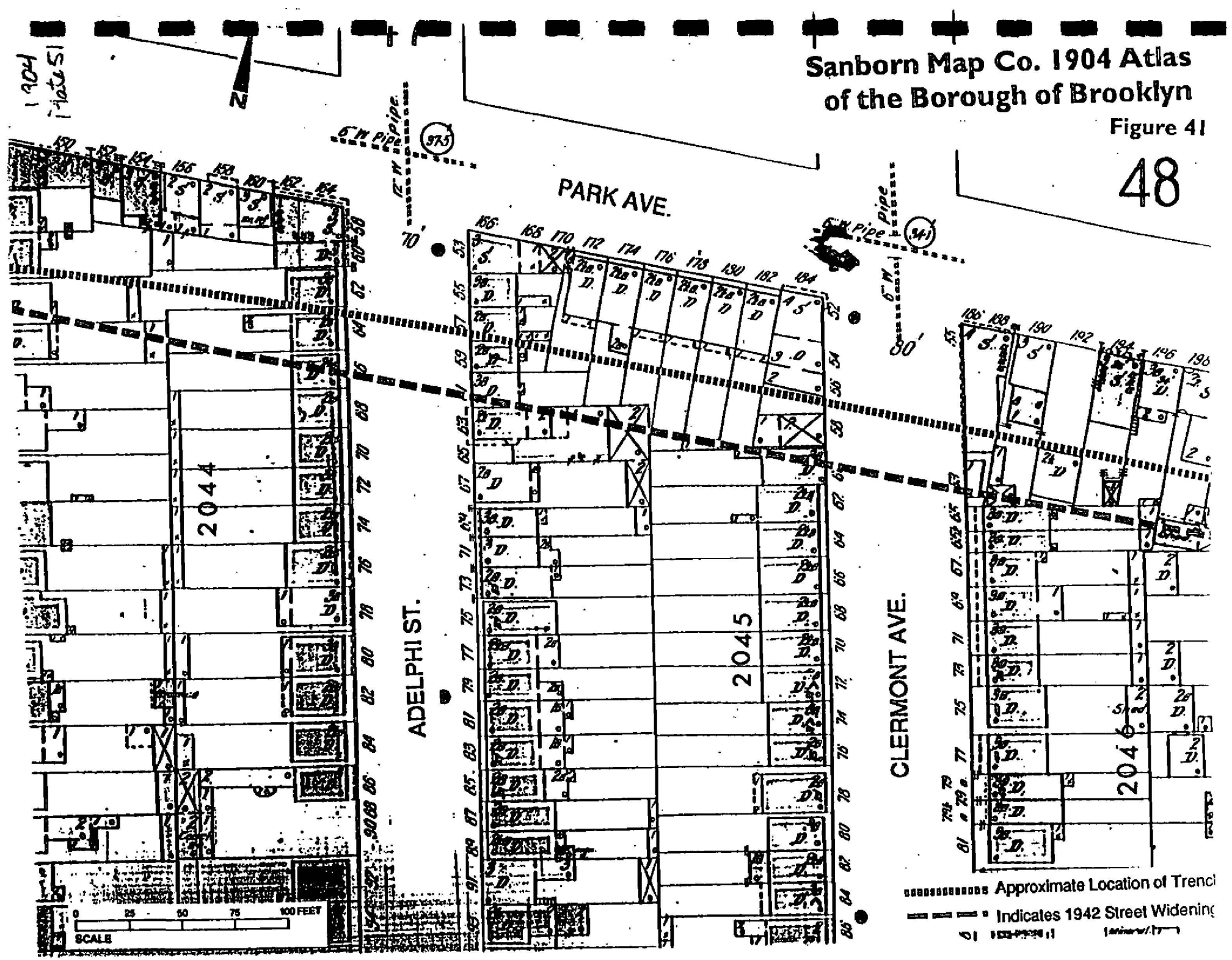



Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 39
1904
PARK AVE.
ST. EDWARDS ST.
NORTH ELLIOTT PL.
NORTH PORTLAND AVE.
2039
2040
PUBLIC SCHOOL NO 67
Approximate Location of Trench
Indicates 1942 Street Widening
0 25 50 75 100 FEET
SCALE

Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

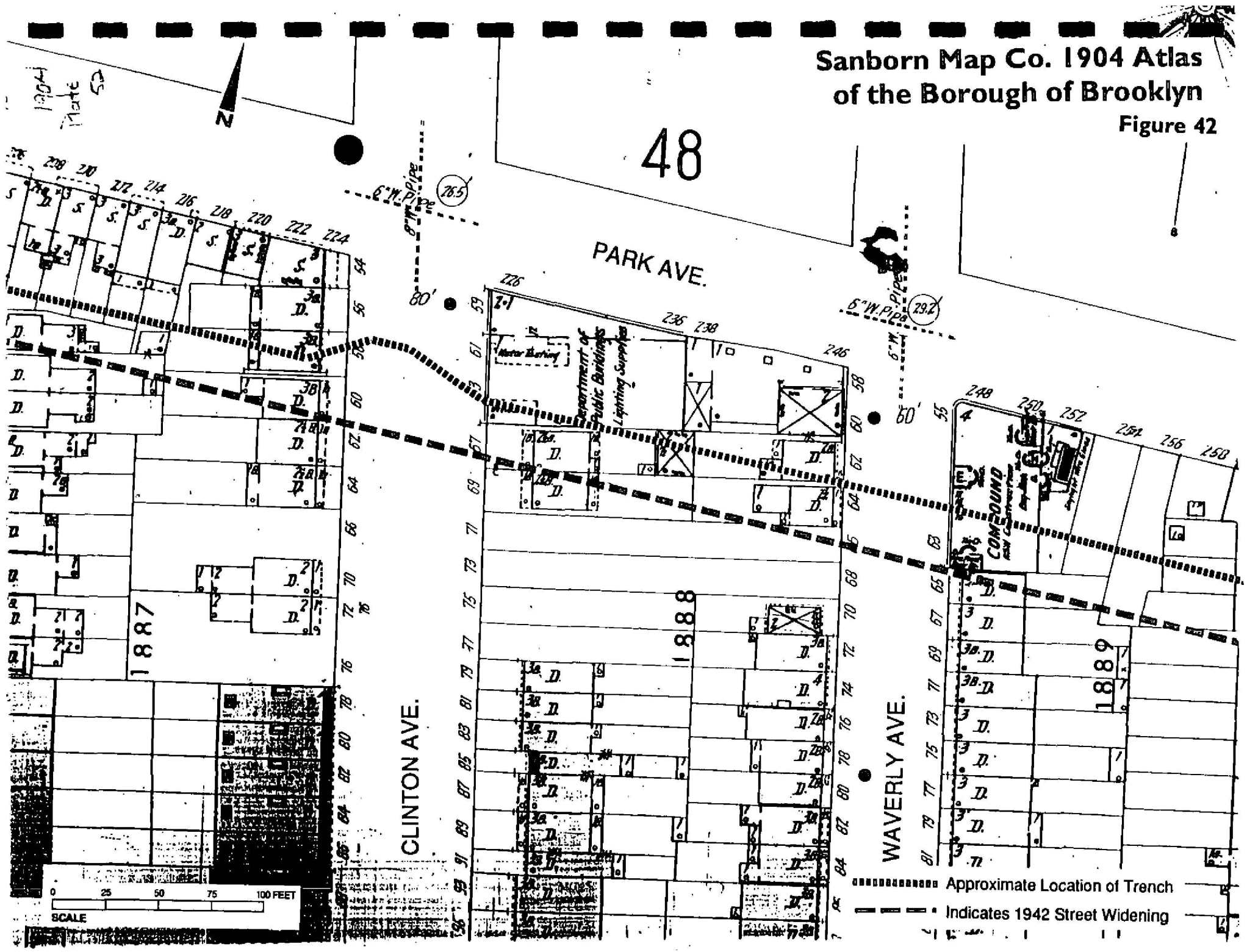
Figure 40




1904 Plate 51
Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 41
48
N
PARK AVE.
ADELPHI ST.
CLERMONT AVE.
2044
2045
2046
6" W. Pipe
12" W. Pipe
70'
80'
0 25 50 75 100 FEET
SCALE
Approximate Location of Trench
Indicates 1942 Street Widening

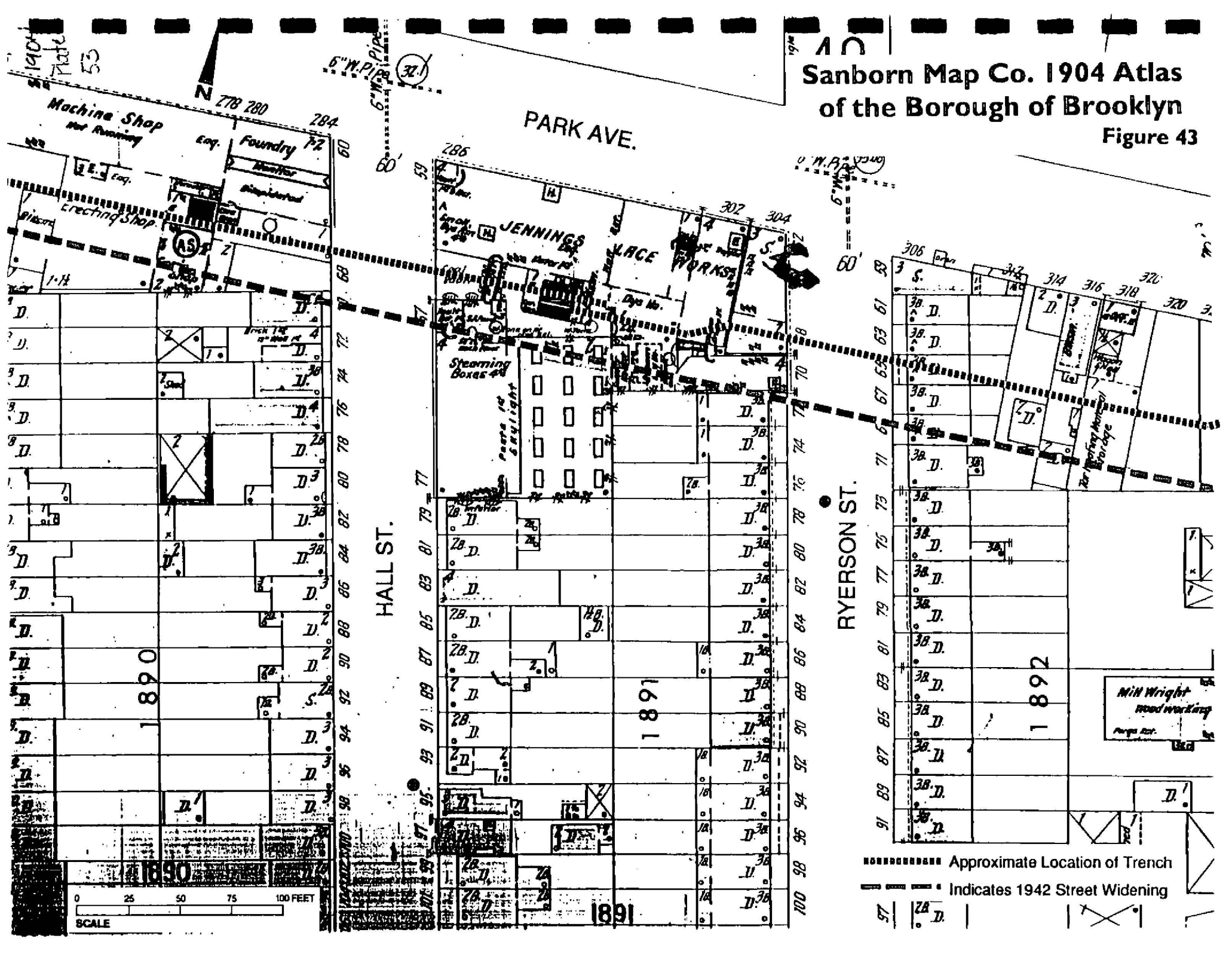
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

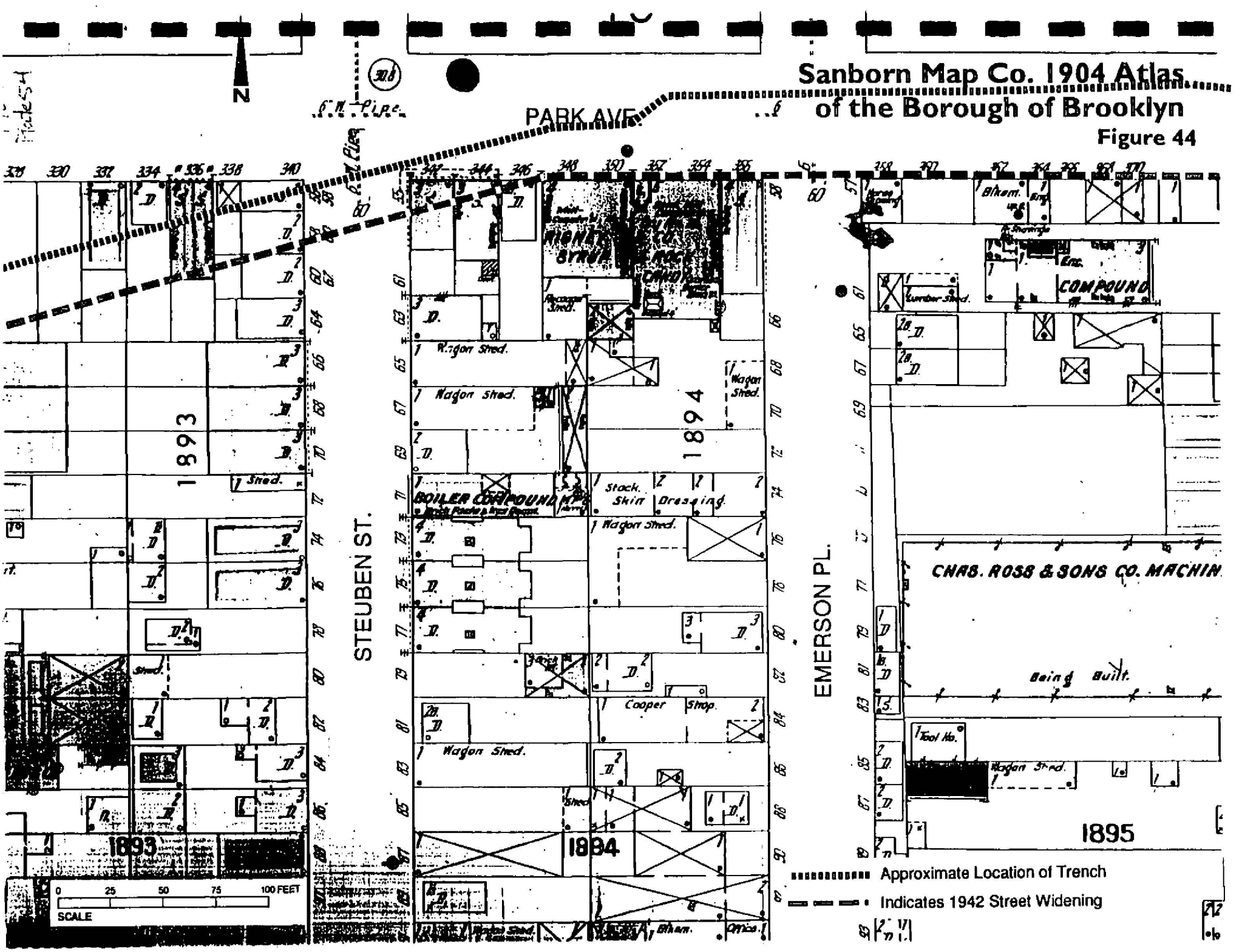
Figure 42

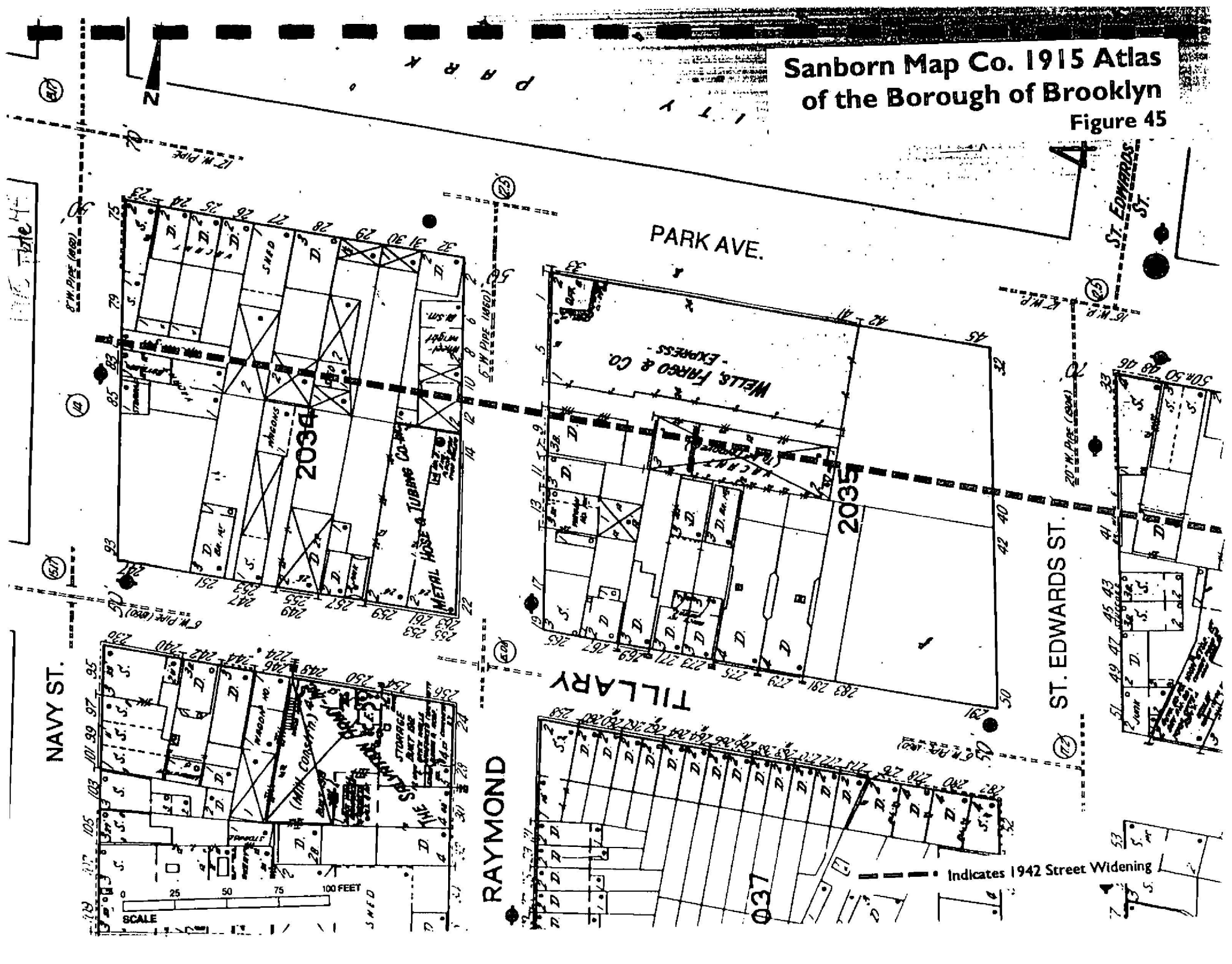


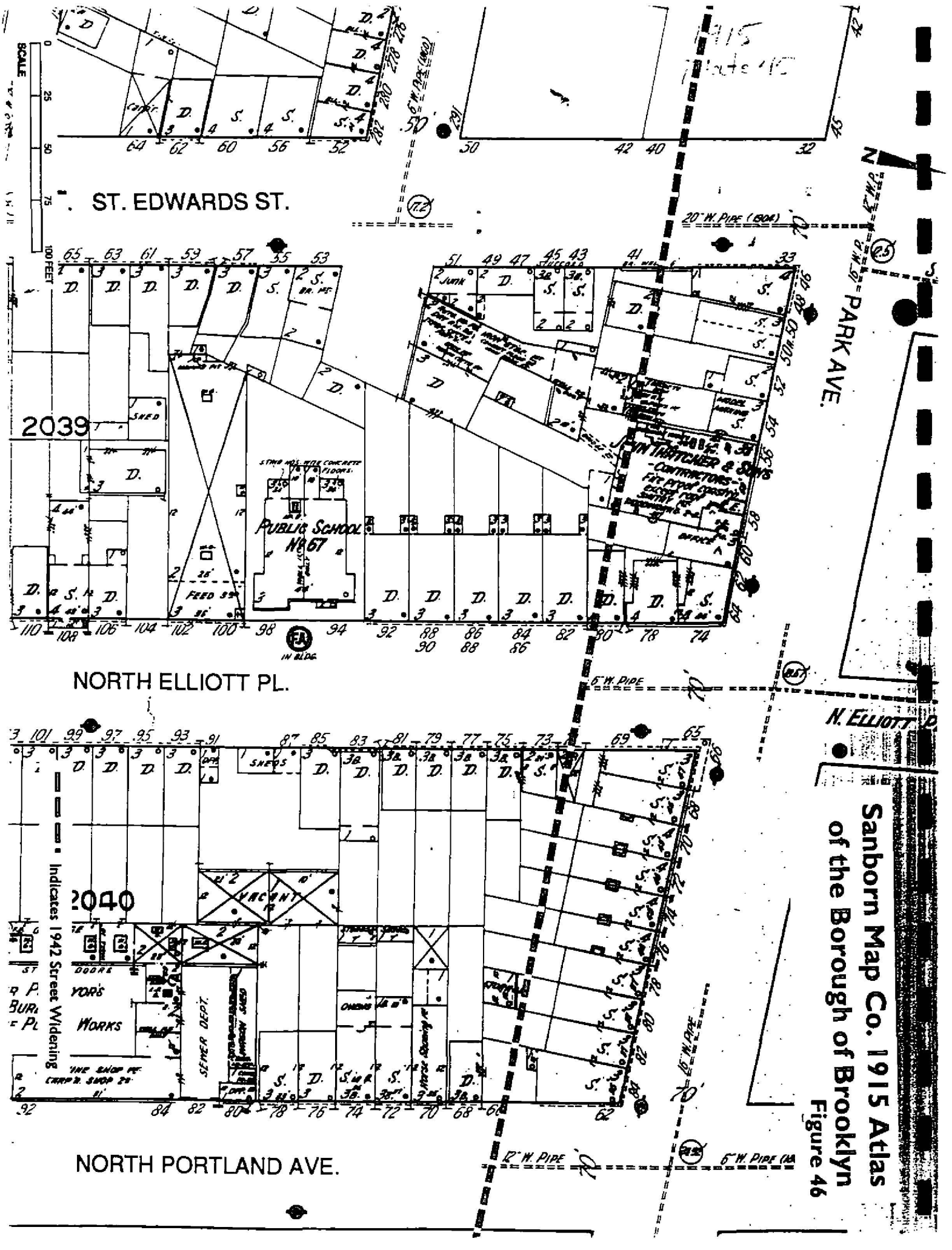
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 43

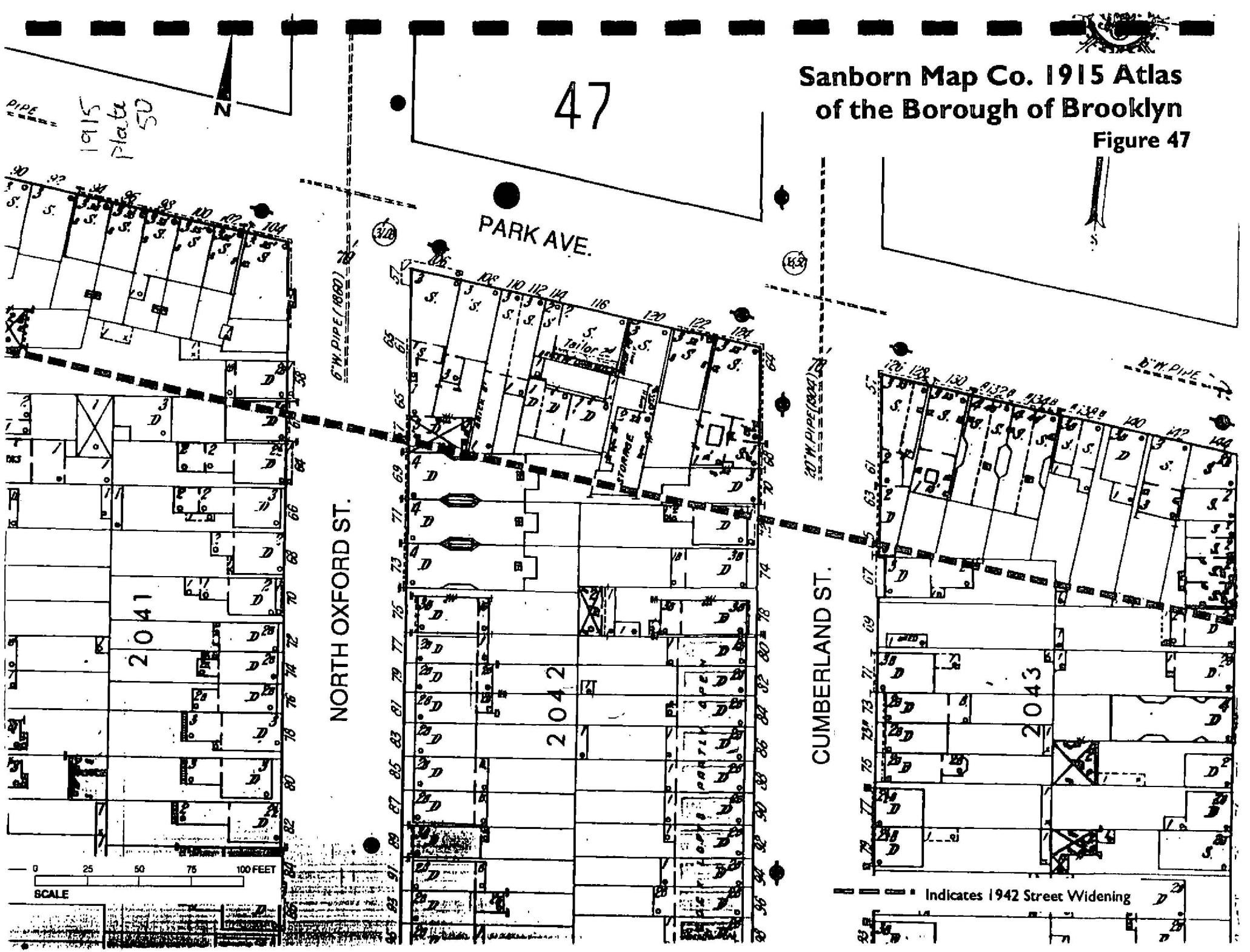


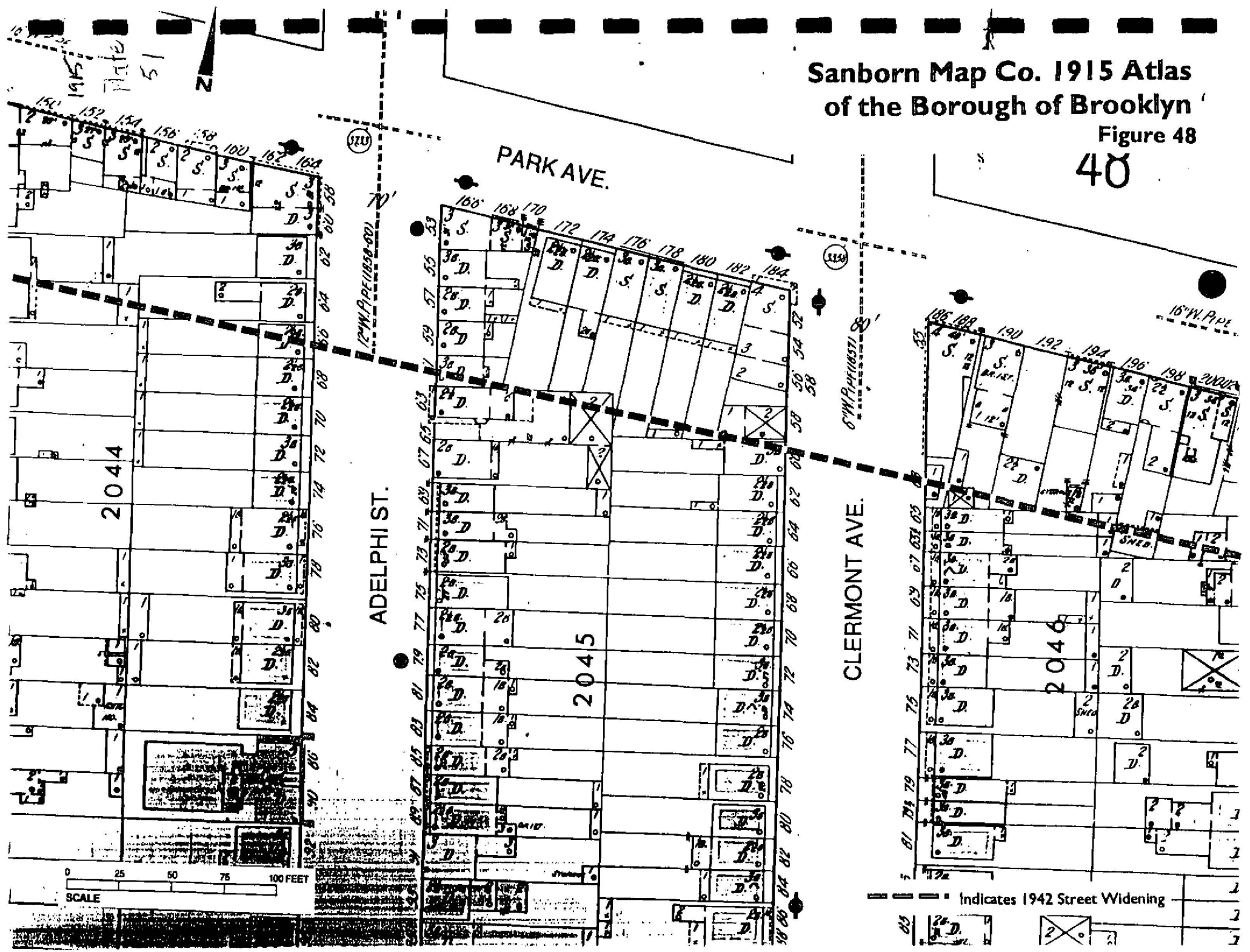

Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 44
PARK AVE.
STEUBEN ST.
EMERSON PL.
1893
1894
1895
BOILER COMPOUND
COMPOUND
CHAS. ROSS & SONS CO. MACHIN
Wagon Shed.
Cooper Shop.
Stock, Skin Dressing
Being Built.
Tool Ho.
Approximate Location of Trench
Indicates 1942 Street Widening
0 25 50 75 100 FEET
SCALE


Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 45
PARK AVE.
TILLARY
NAVY ST.
RAYMOND
ST. EDWARDS ST.
ST. EDWARDS ST.
2039
2035
037
WELLS FARGO & CO. EXPRESS
METAL HOSE & TUBING CO.
SHED
STORAGE
Indicates 1942 Street Widening
0 25 50 75 100 FEET
SCALE



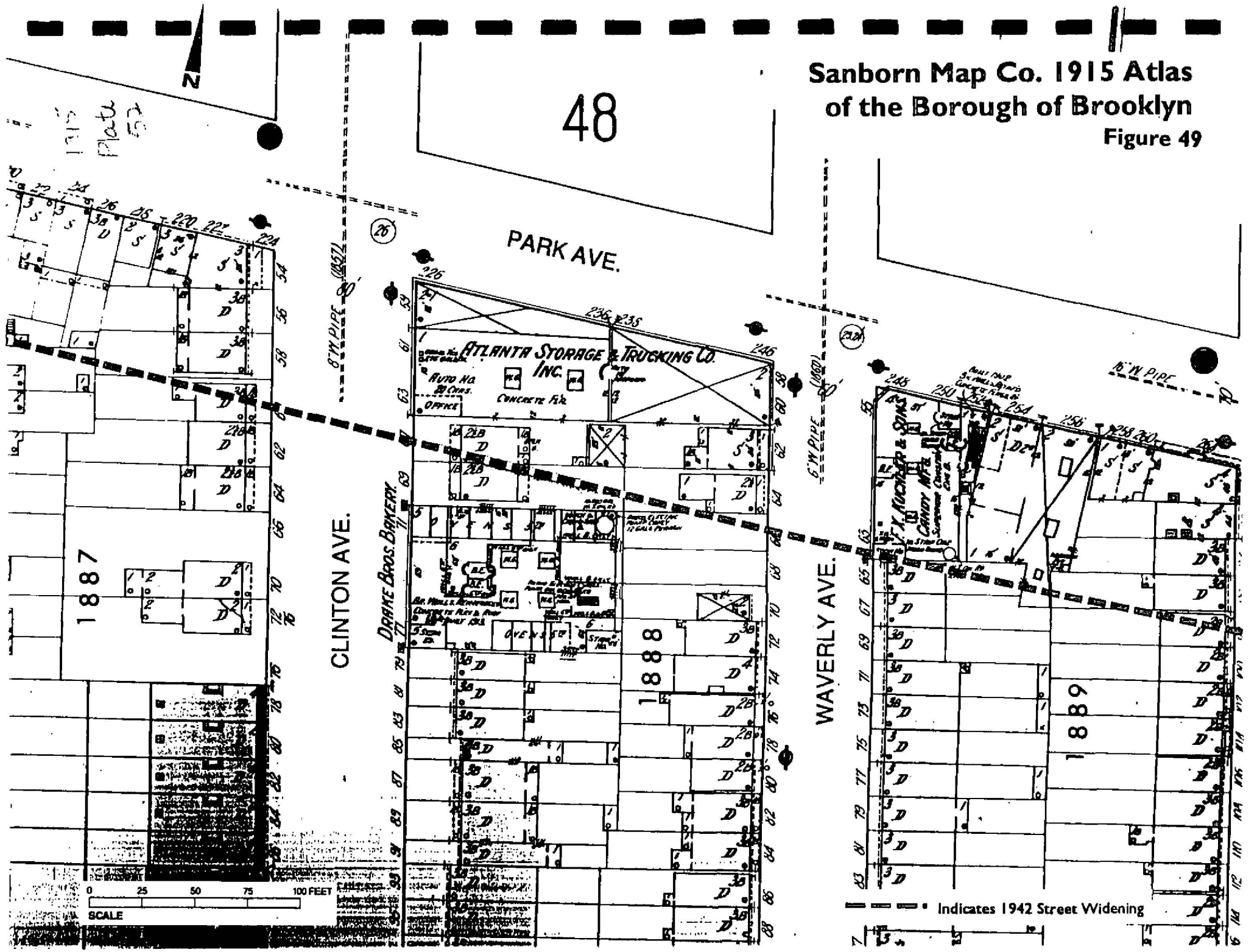
Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 46

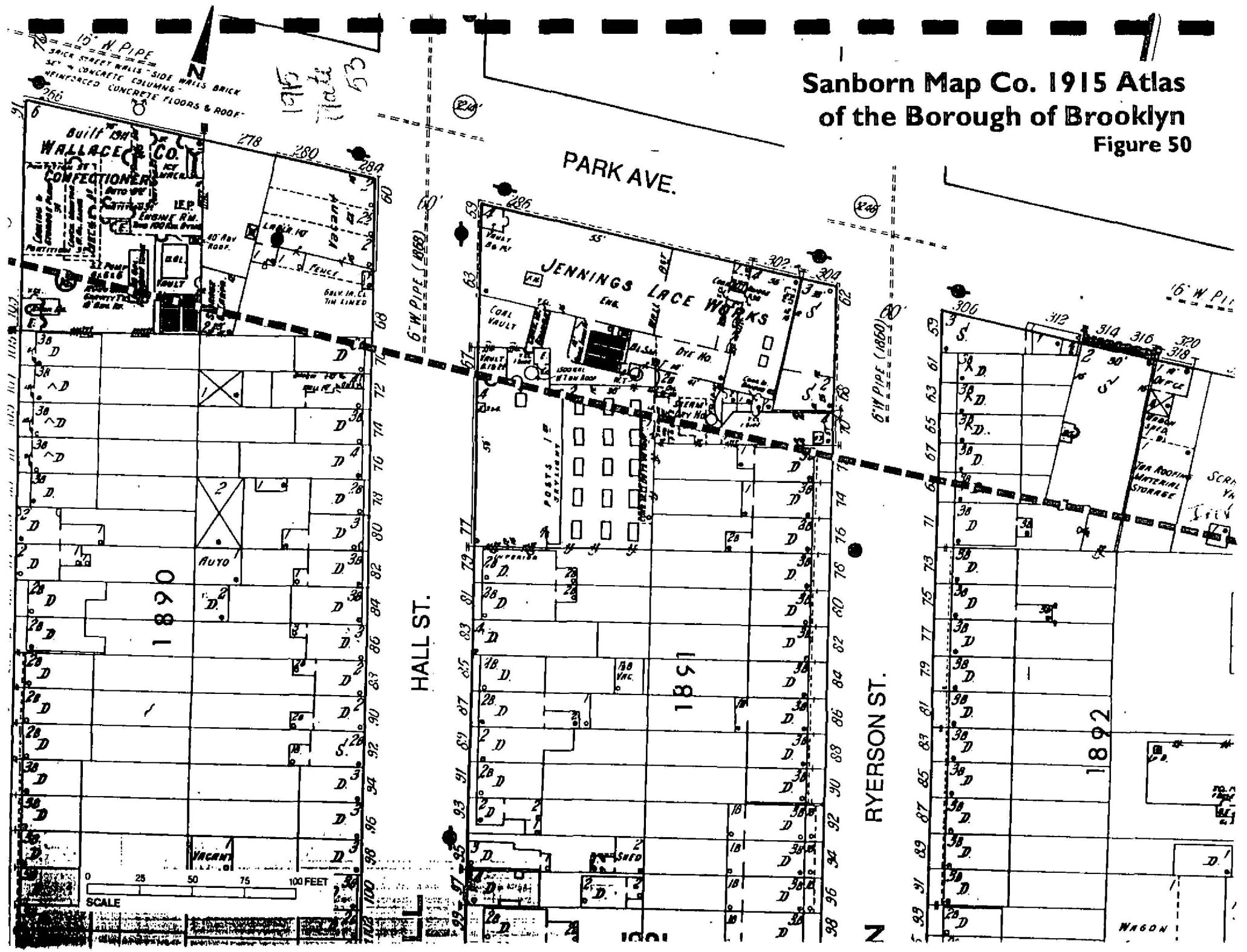

Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 47
1915 Plate 50
47
PARK AVE.
NORTH OXFORD ST.
CUMBERLAND ST.
2041
2042
2043
6"W. PIPE (1860)
10"W. PIPE (1864)
8"W. PIPE
STORAGE
Tailor
0 25 50 75 100 FEET
SCALE
Indicates 1942 Street Widening


Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 48
40
PARK AVE.
ADELPHI ST.
CLERMONT AVE.
2044
2045
2046
12"W.PIPE(1858-60)
6"W.PIPE(1857)
16"W.PIPE
N
0 25 50 75 100 FEET
SCALE
Indicates 1942 Street Widening

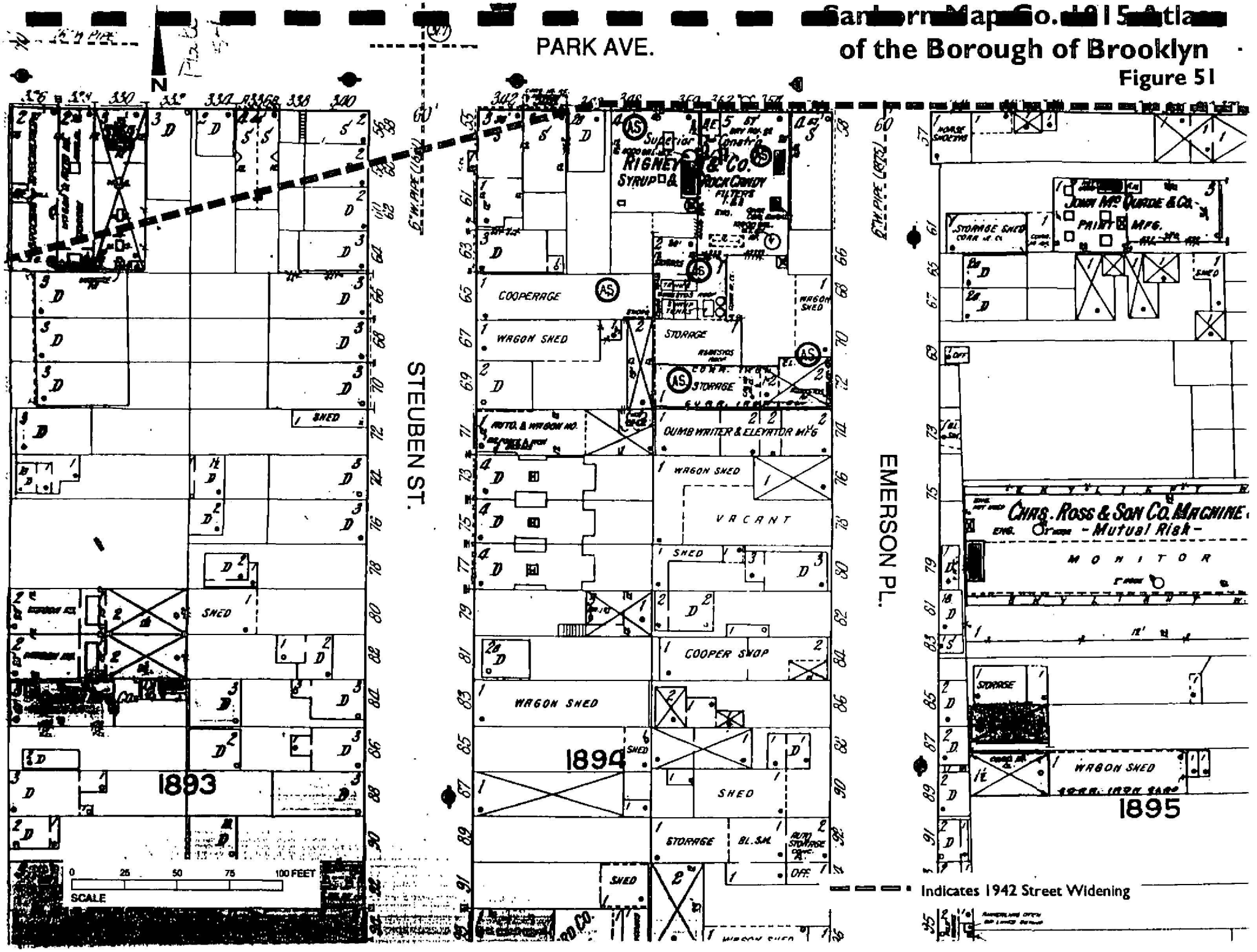
Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

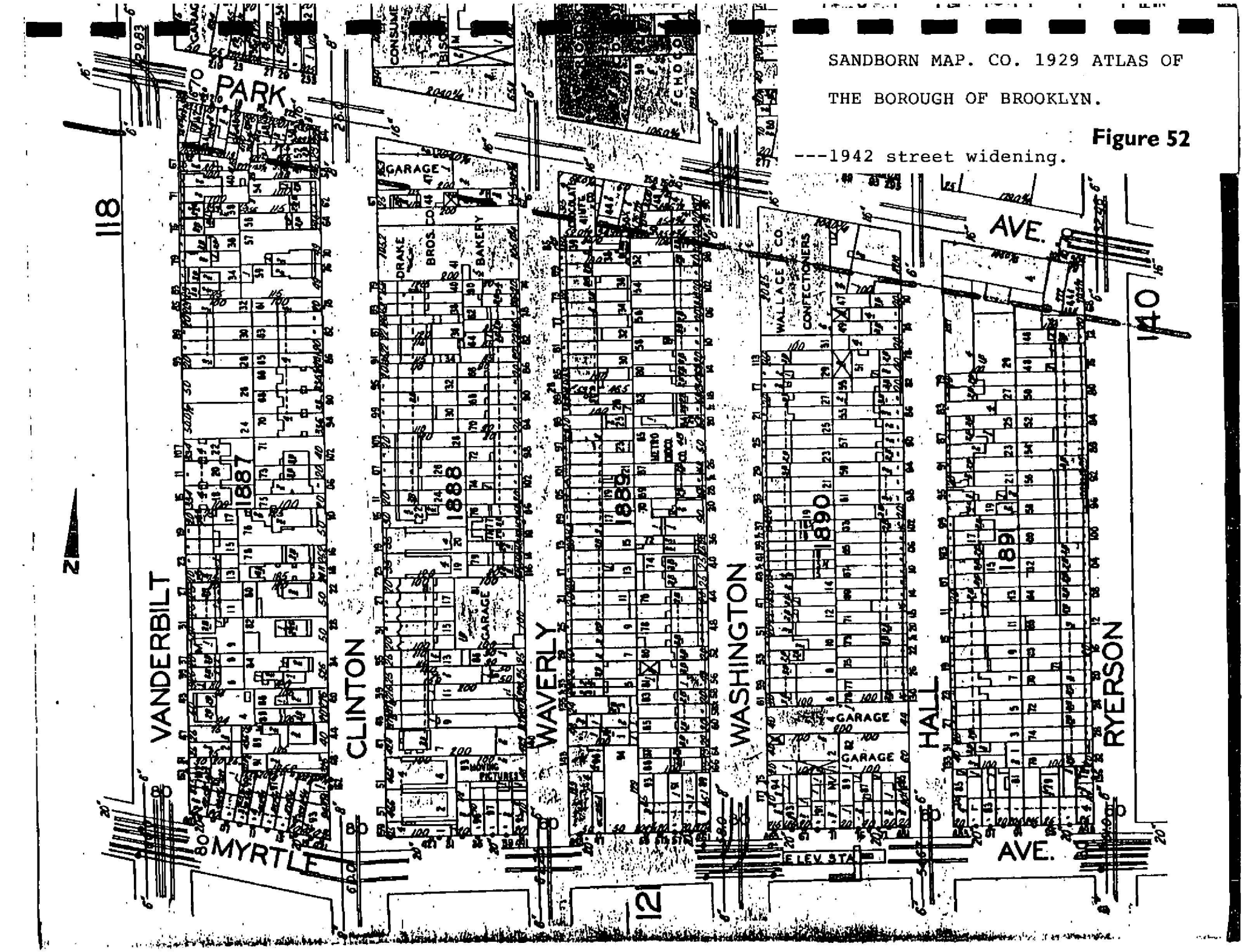
Figure 49




Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 50
PARK AVE.
HALL ST.
RYERSON ST.
JENNINGS LACE WORKS
WALLACE & CO.
CONFECTIONERS
1890
1891
1892
SCALE
0 25 50 75 100 FEET

Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 51



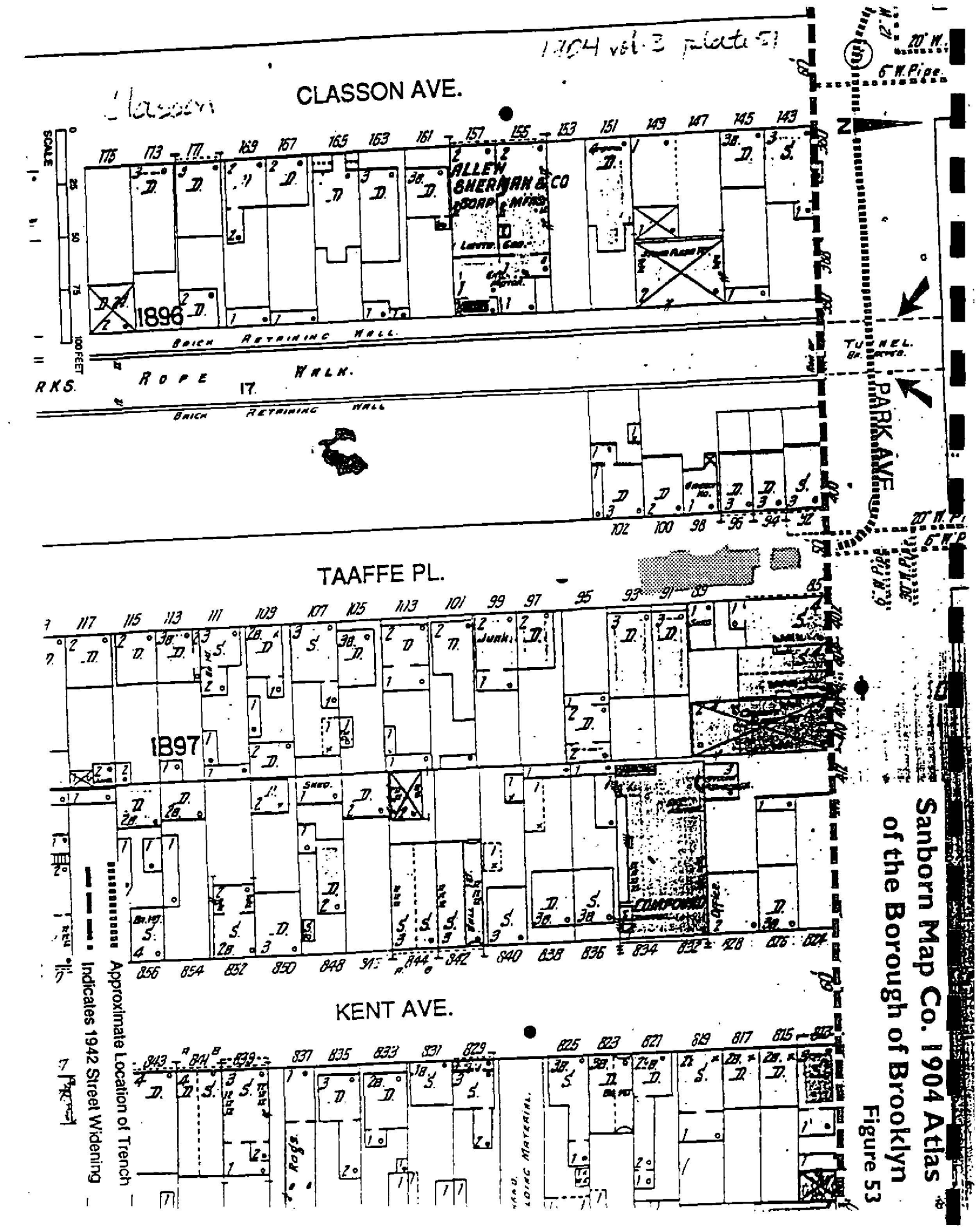


SANDBORN MAP. CO. 1929 ATLAS OF

THE BOROUGH OF BROOKLYN.

Figure 52

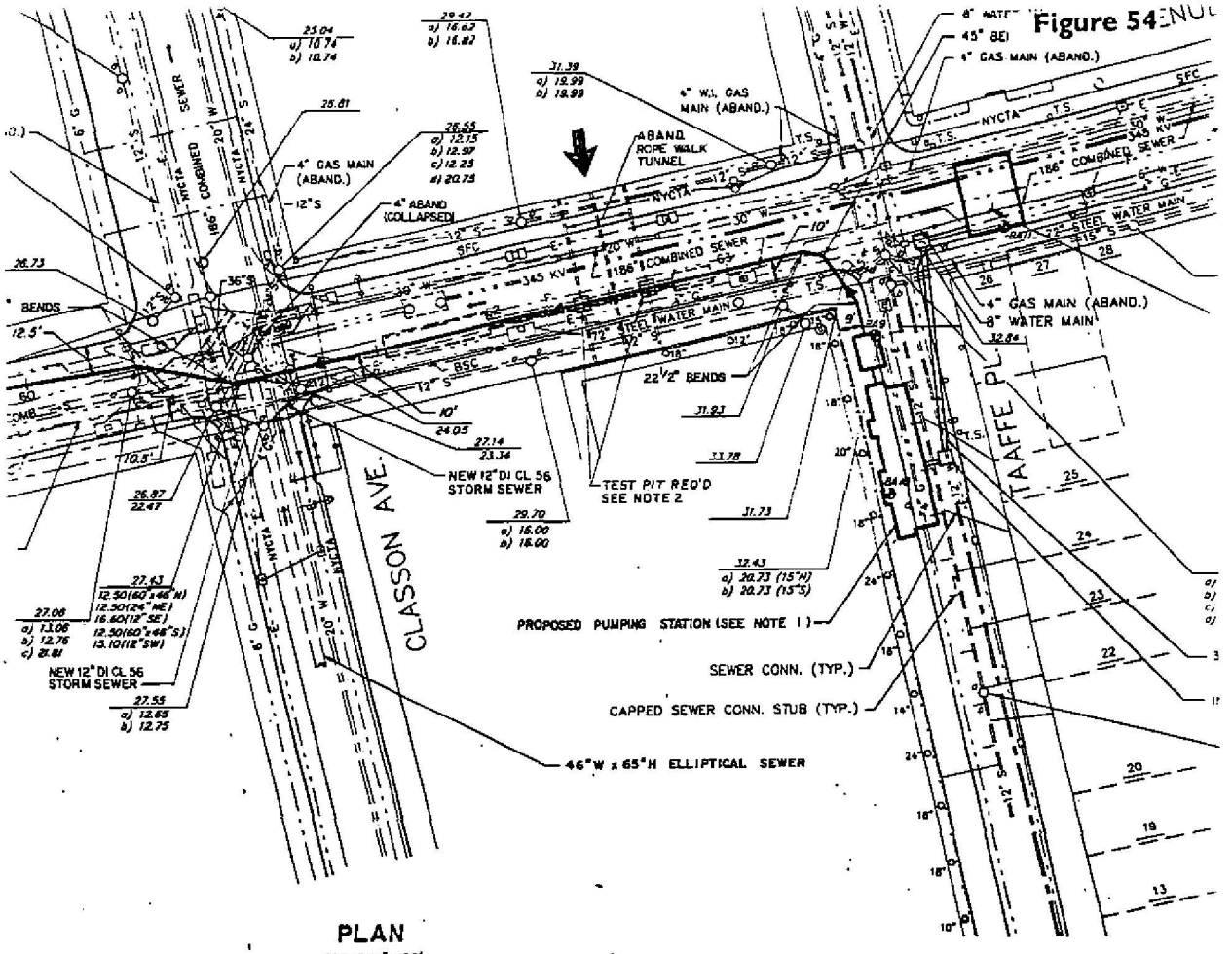
---1942 street widening.



Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

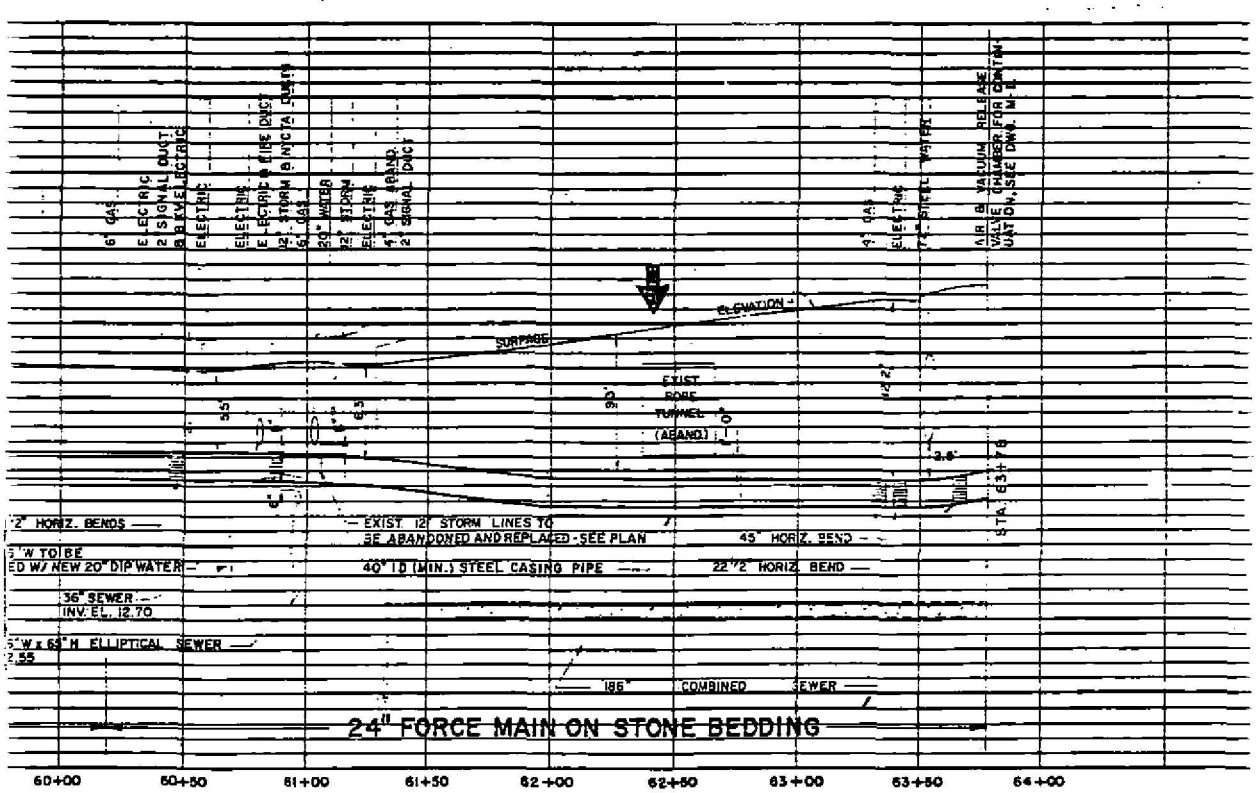
Figure 53

Figure 54



PLAN

SCALE : 1" = 30'



PROFILE

HORIZ. SCALE : 1" = 30'
VERT. SCALE : 1" = 5'

URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY

APPROVED FOR THE CITY OF NEW YORK

PROJECT ENGINEER P.E.

CHIEF, DIVISION OF PLANT DESIGN P.E.

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HEAVY CONSTRUCTION
DIVISION OF PLANT DESIGN

CAPITAL PROJECT WP-283 TAAFFE PL. PUMPING STA. & FORCE MAIN

Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 55

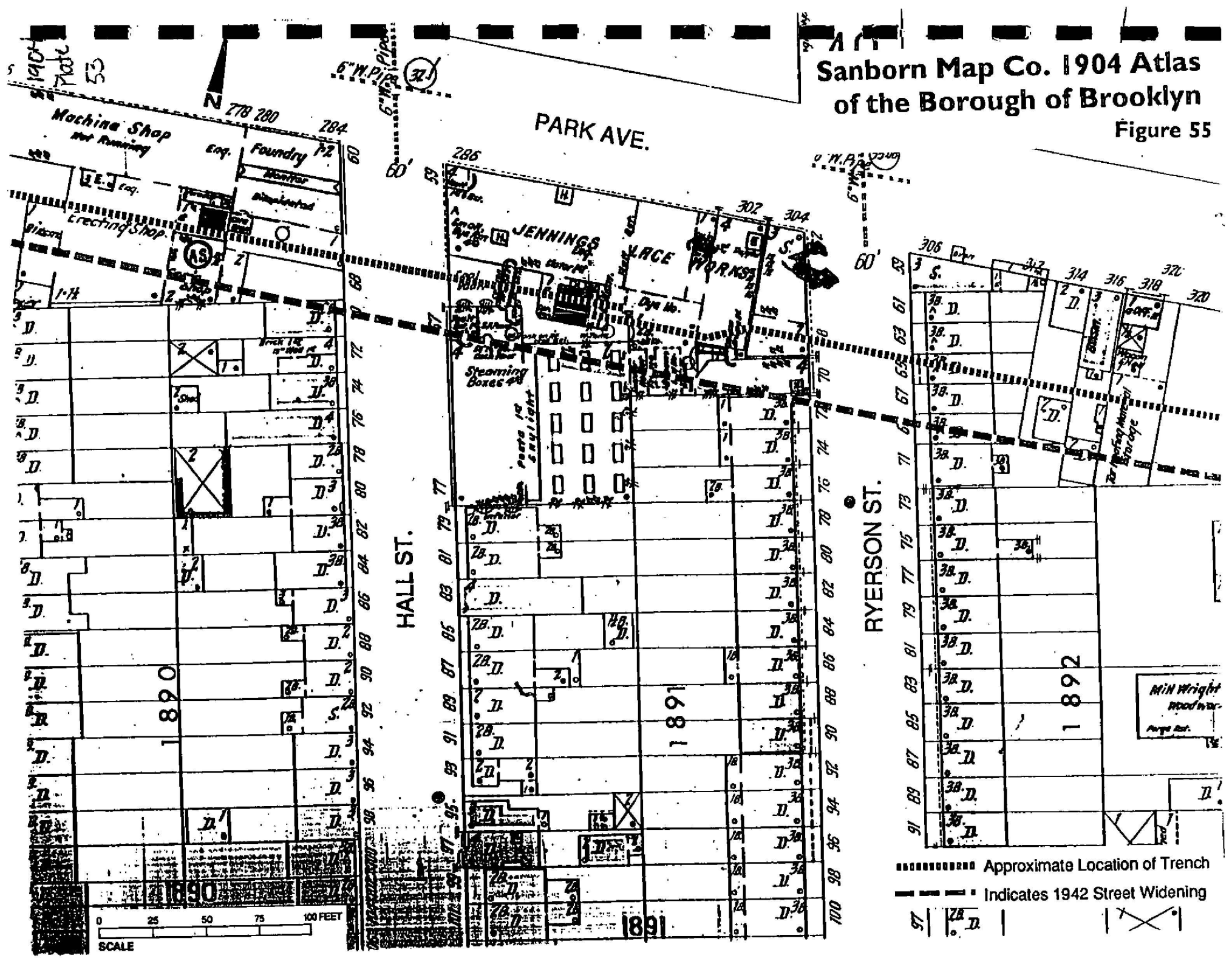
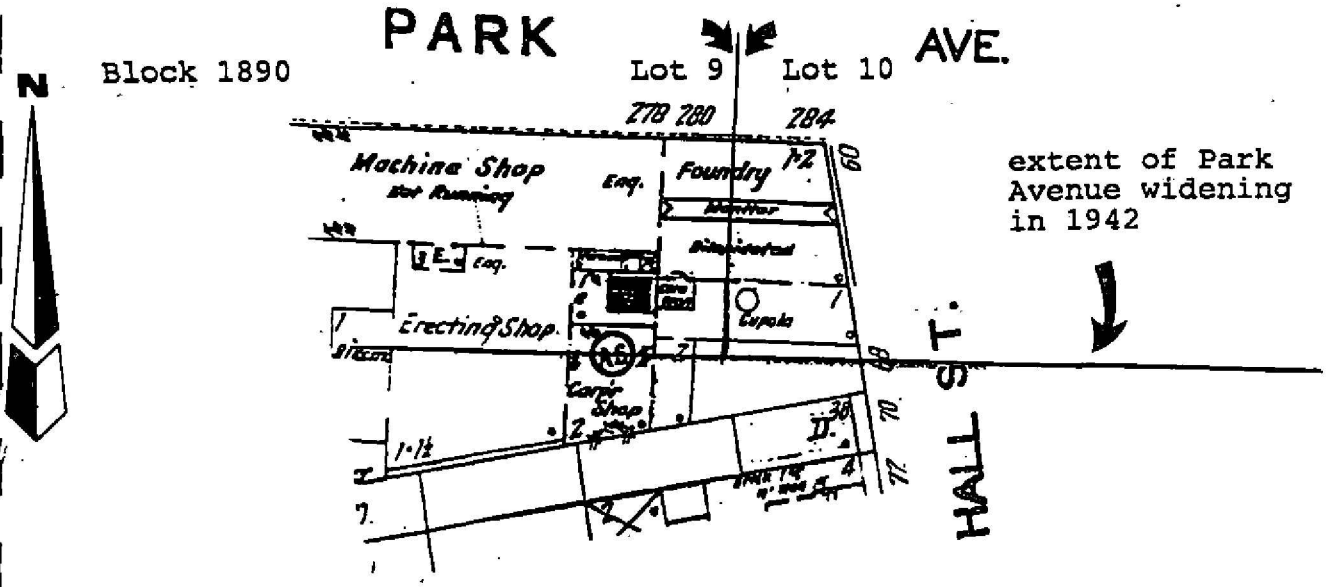


Figure 56

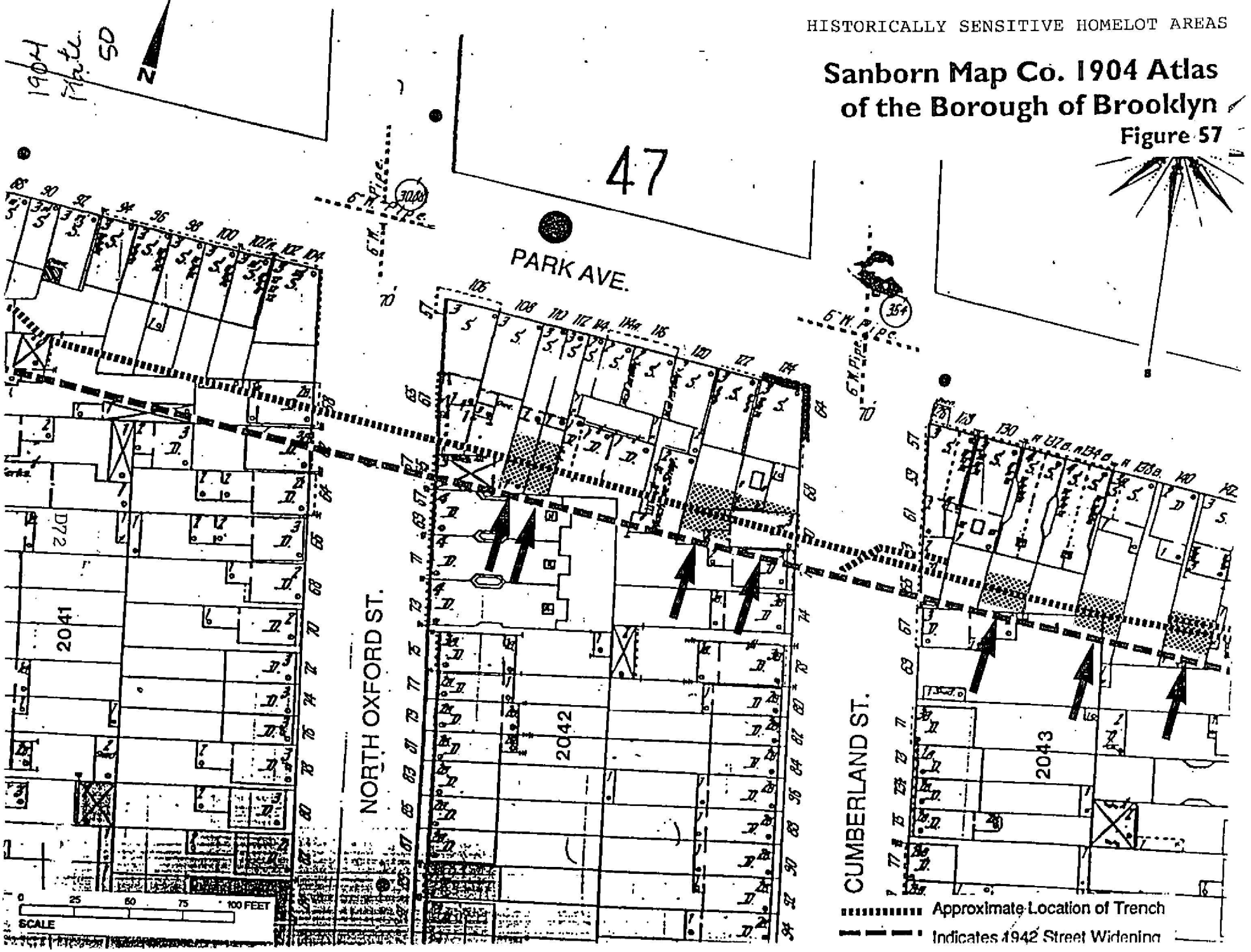
Foundry and Cupola
John Good's Cordage Machine Company.

Block 1890, Lots 9 and 10.
Between Washington and Hall Streets.



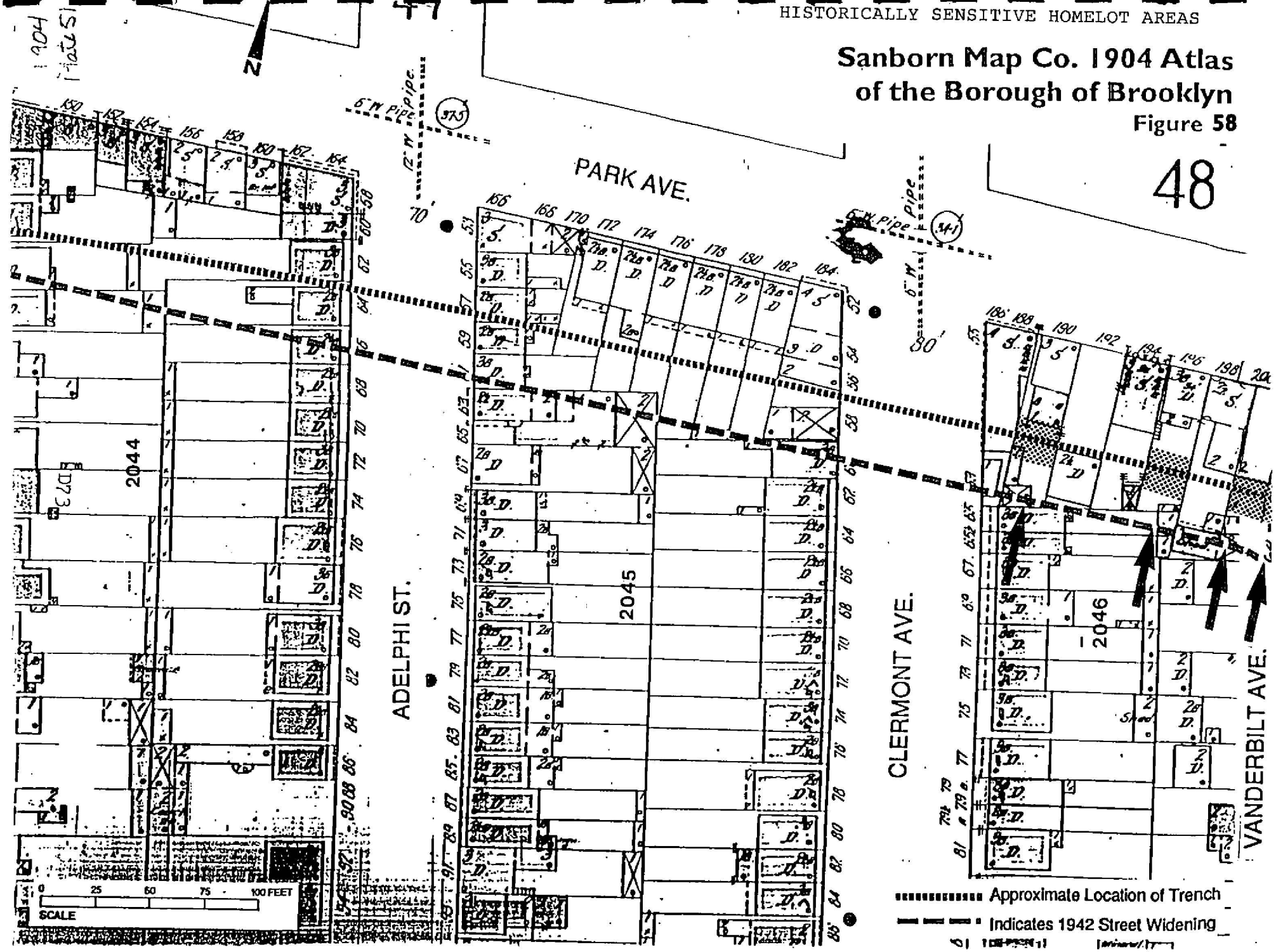
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 57



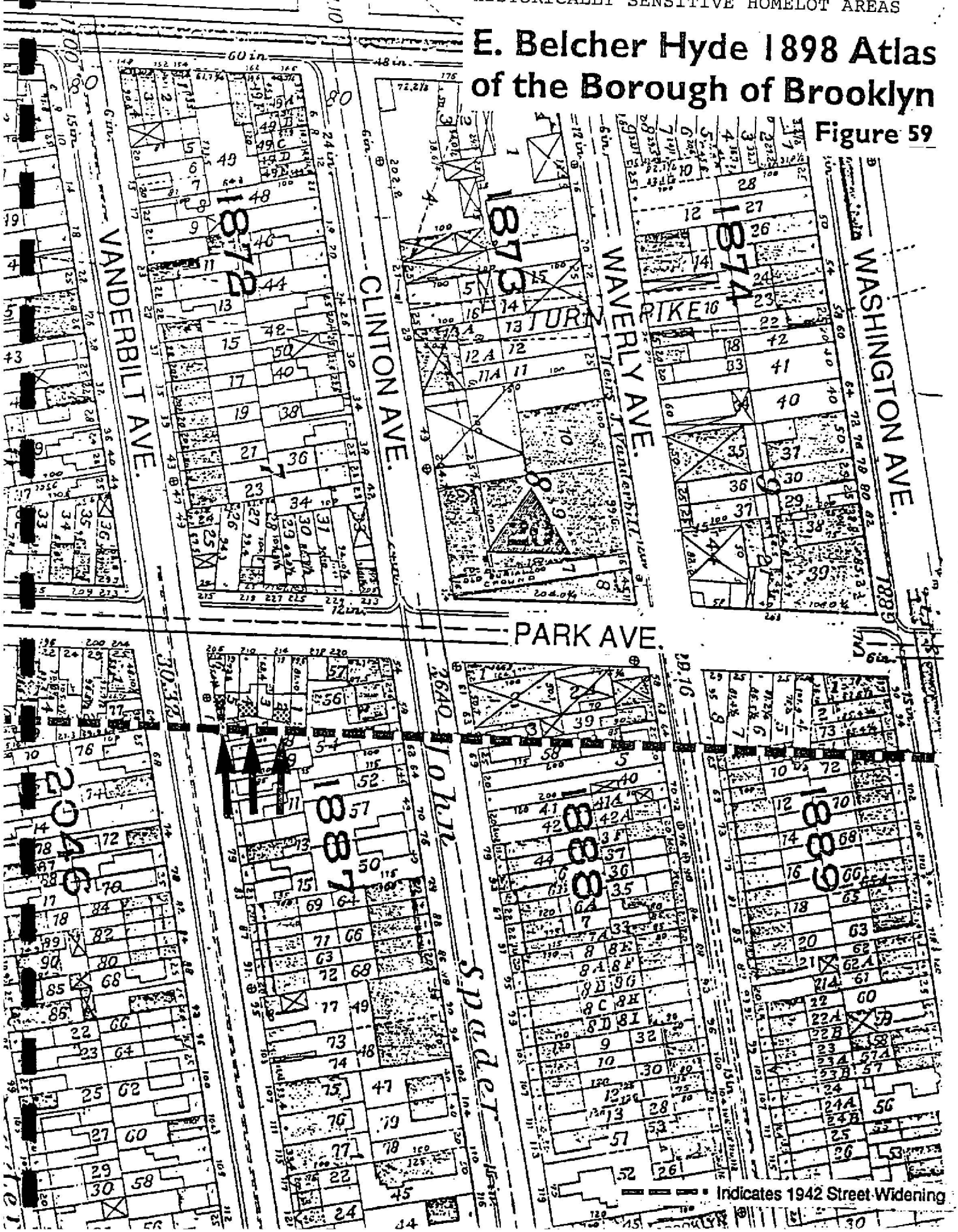
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 58



E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 59



Church

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH

CHURCH/CHURCHYARD

Resource Category: Public Use

Property Type: Church and Church Yard

First Primitive Methodist Church, or the Park Avenue Primitive ME Church.

Location: Block 2039, Lot 31.
South side of Park Avenue, between St. Edwards and N. Elliott Streets.

Introduction:

The preliminary force main corridor project assessment identified a church and church yard, on Block 2039, as a potential cultural resource. Because of the proximity of Brooklyn's "Black Belt" neighborhood to Park Avenue and the presence of a "Colored School" on the same block as the Primitive Church, research to ascertain the congregation's ethnicity and burying practices was recommended.

In 1874 a Primitive Methodist Church was constructed fronting Park Avenue between St. Edwards and N. Elliott Streets. The Church occupied the structure until 1907 when it was sold for nonsecular use. During the 33 years that it was in use, the surrounding parcel owned by the Church was small and probably did not permit space for burials. The structure was razed in 1942 for the widening of Park Avenue and only architectural remains of questionable integrity and very limited sensitivity are probably present in the route of the proposed force main corridor. The in depth research has concluded that the church and church yard do not warrant further archaeological consideration.

Background:

Primitive Methodism has its roots in Wesleyan Methodism. In Great Britain the movement grew out of the "incompatibility between conference authority and local self government, as well as between clericalism and lay initiative" (Werner 1984:53). This new sect emerged as traditional culture in England was fading, but before a new working-class culture had taken clear shape (Ibid.:185). The first Primitive Methodist Church in Brooklyn was organized in 1837, with its first house of worship built on Bridge Street in

1845 (Howard 1893:577). The congregation eventually moved to Park Avenue where a new Church was built in 1873 at a cost of $40,000, including the land and an adjoining parsonage (Stiles 1884 Vol. II:1043). The 48' by 80' brick Church was built on the south side of Park Avenue between St. Edwards Street and N. Elliott Place. In 1893 John Acornley was the pastor over its 108 members and 160 Sunday School participants. By 1910 the Church had been sold to John Thatcher, and in 1942 the lot was leveled for widening Park Avenue.

Research has indicated that the Primitive Church on Block 2039, a product of a religious movement originating in Great Britain, most likely served a white congregation. This is further indicated by the identification of an active, nineteenth century African-American church, St. Augustine's, situated only one block north of Block 2039. The variety of graveyard choices available to a white congregation argues against on site interments.

The archaeological visibility of the Church, parsonage and any associated features depends upon the initial deposition and subsequent disturbance. In order to determine these, research was conducted at a number of facilities including: the Brooklyn Department of Buildings; the Brooklyn Historical Society; The New York City Municipal Archives; and several divisions of the New York City Public Library.

Research was conducted on deed transactions to ascertain whether the Church property once supported a cemetery. The WPA abstracts at the Brooklyn City Registrars office did not contain those lots condemned by the city for the expansion of Park Avenue (including this lot). According to those conveyance records for the lot that could be found, the Church and property were sold to John and Edwin H. Thatcher on June 15, 1907 by Howard Daisley, the president of the Board of Trustees of the American Primitive Methodist Society in Brooklyn. The parcel was located on the south side of Park Avenue 40'3/4" west from N. Elliott Place, to a point 63'5 1/2" west of N. Elliott Place, and was 90' deep. At that time, Thatcher owned all of the land adjacent to the parcel. The record stated that the property was sold "together with the buildings and improvements thereon..." with no mention of a cemetery, burials, or easement on the parcel (Liber 3047, p.35).

According to the 1907 conveyance record, the parcel was approximately 23 1/2' wide and 90' deep. According to Stiles, a Brooklyn historian, the Church was 48' by 80'. This discrepancy may be explained by Stiles probably recording the width of the Church together with the adjacent parsonage. It can only be assumed that the parsonage was sold to Thatcher at an earlier date,

since he did own all land adjacent to the Church by 1907. The Church and parsonage together were probably 48' wide as stated. Most maps verify that the Church occupied a 53' wide lot (see cartographic review below), but they do not show a separate parsonage, although it is probably present. With the church and parsonage 48' wide on a lot 53' wide, this would leave only 5' undeveloped on the west side of the Church, hardly enough room for interments. The structure was indisputably 80' long on a 90' long lot, again leaving only 10' available for burials at the southern end of the lot. This southern end of the lot is south of the proposed force main corridor.

Cartographic Review:

The following cartographic review depicts the church and church yard progression chronologically (See Bibliography for references.):

1855 The lot may have a structure on its south end which does not appear to be the Church. This is slightly south of the route of the force main. (Figure 1)

1880 There is an "M.E. Church" on Block 70, Lot 5. The lot is 90' 8" deep, but the Church does not appear to cover the entire lot, leaving a small section of the south end undeveloped.

1886 The "M.E. Church" is shown at 60 Park Avenue on Block 106, Lot 1. The building fronting Park Avenue is two lots wide and there is still an undeveloped area on the south end of the lot. (Figure 2)

1893 This appears the same as in 1886. The Church is 53' 1/2" wide fronting Park Avenue, and there appears to be a small addition to the structure on the south end of the lot.

1898 The block has been renumbered and the "Church" is now on Block 2039, Lot 1. There is still an open yard south of the structure, and the building is still 53' 1/2" wide fronting Park Avenue. (Figure 3)

1904 The address now appears to be 56-58 Park Avenue, and the structure is labeled "Park Ave. Primitive Meth. Church, Heat Store, Lights, Gas." The one story structure is still two lots wide, but does not cover the entire length of the lot. (Figure 4)

1915 The structure at 56-58 Park Avenue is now labeled "John

Thatcher & Sons Contractors. Fire Proof construction except roof. Smithy, Woodworking." There is an attached office on the east side of the building, a three story addition on the south end of the building, with a bridge connecting this to a second building south of the property. It seems that Thatcher and Sons simply occupied the Church structure and added two stories since the dimensions are exactly the same. (Figure 5)

1929 There is another small addition on the south end of the Church.

1951 The block has been shortened by 90', the structure has been razed, and Park Avenue runs across the Church lot.

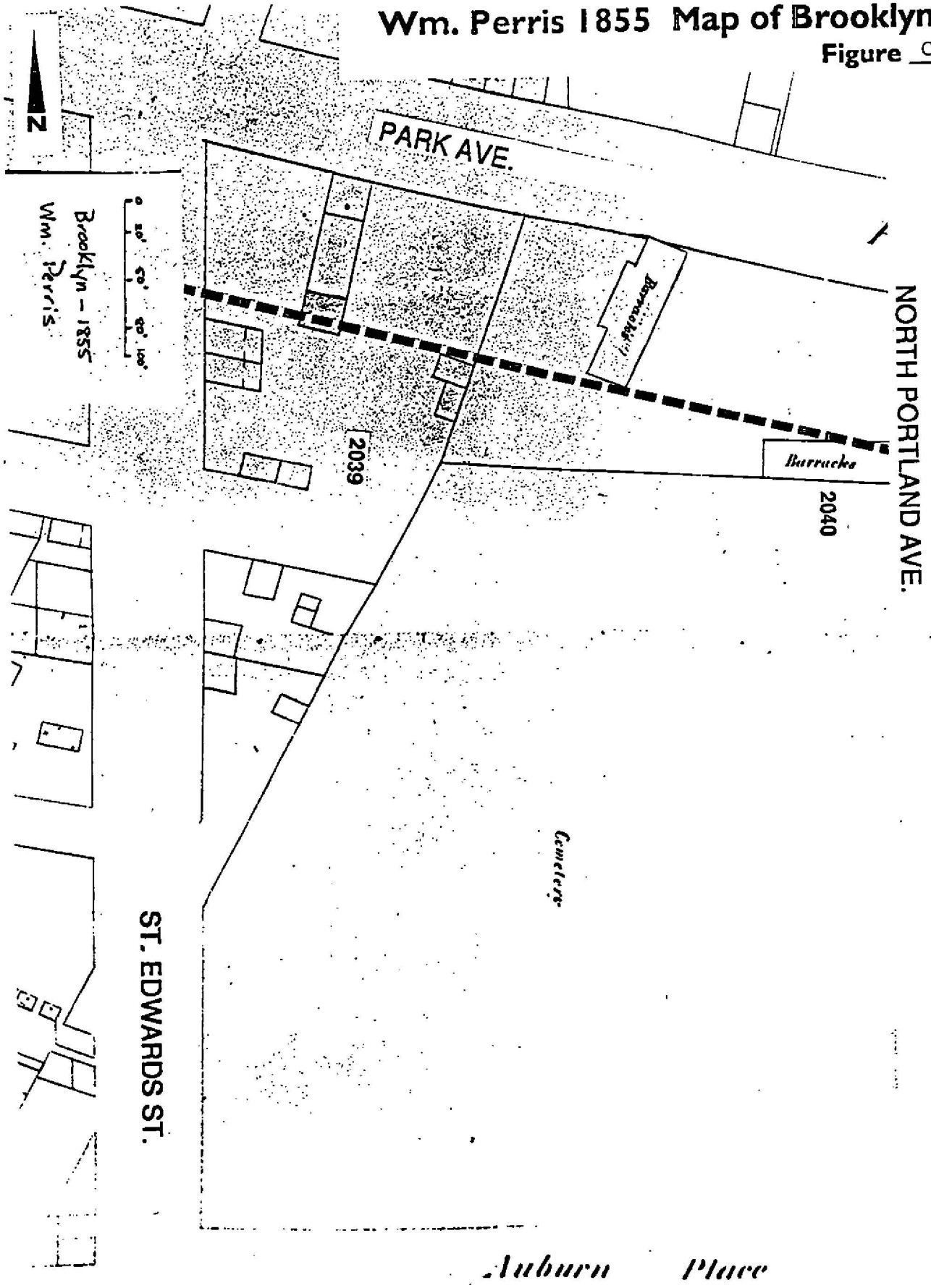
Conclusions:

By the time the Church was constructed in 1874, a number of park-like cemeteries, open to many denominations, existed in Brooklyn (e.g., Greenwood and the Cemetery of the Evergreens both in place by 1850). These large cemeteries provided space for those houses of worship that did not maintain the property to inter remains. Given the small parcel of vacant land surrounding, and owned by the Church - a 5' wide strip on the west side and a 10' wide strip on the south side - together with the availability of popular, spacious, park-like cemeteries, it is extremely doubtful and highly unlikely that this parcel ever possessed historical period burials. In addition, the southern end of the parcel that apparently remained vacant of construction is somewhat south of the route of the proposed force main corridor.

Any possible in situ architectural elements from the original structure (e.g., foundation footings) appear to be of minimal potential sensitivity. A photograph of the structure exists, documenting the architectural style and features (Stiles 1889, Vol. II:1043). The 1874 building was later occupied by Thatcher and Sons Carpenters who greatly altered the original structure, adding several stories and rear additions. Historical Perspectives, Inc., has concluded that no further consideration is warranted for this resource.

Wm. Perris 1855 Map of Brooklyn

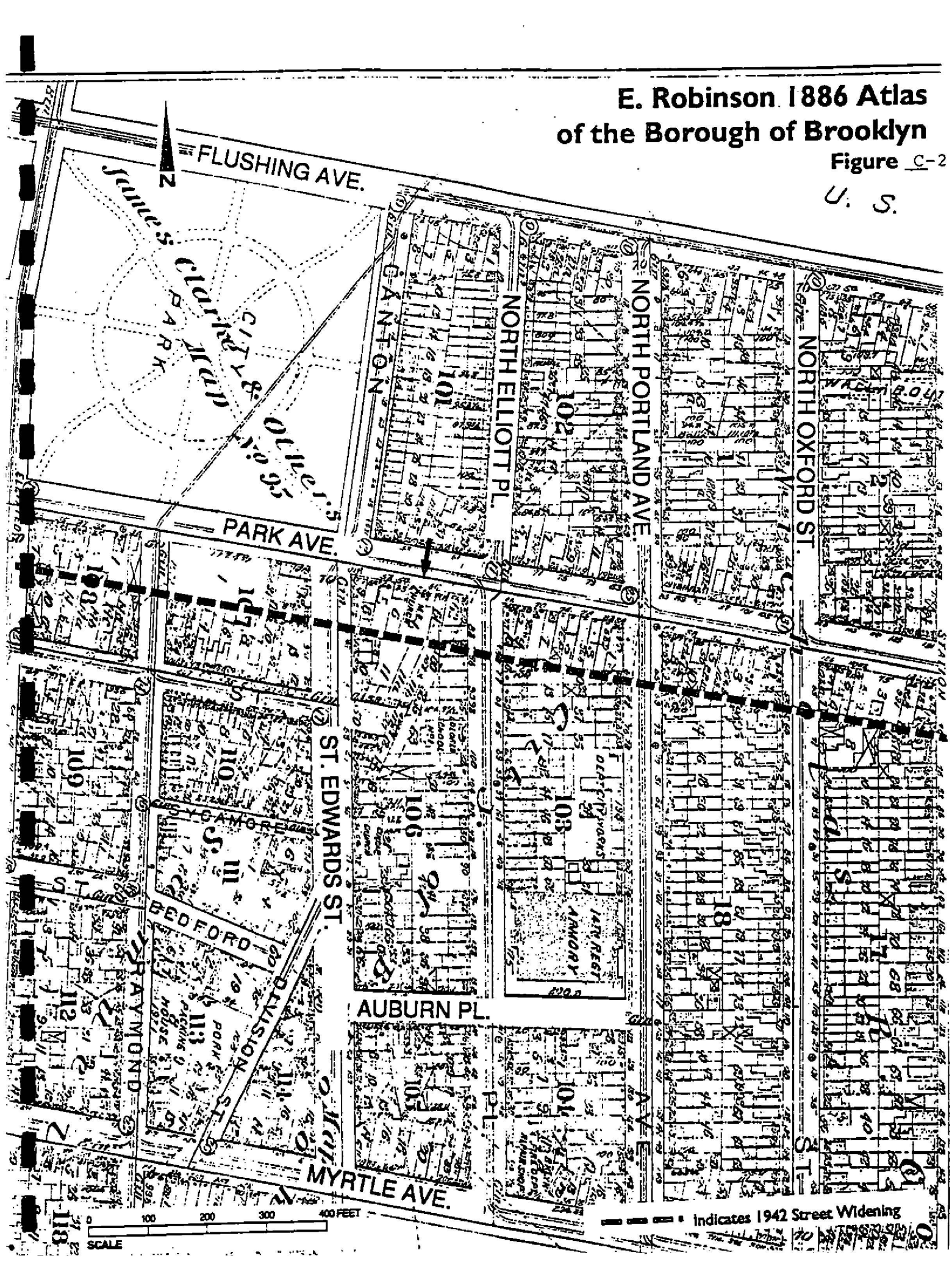
Figure C-1

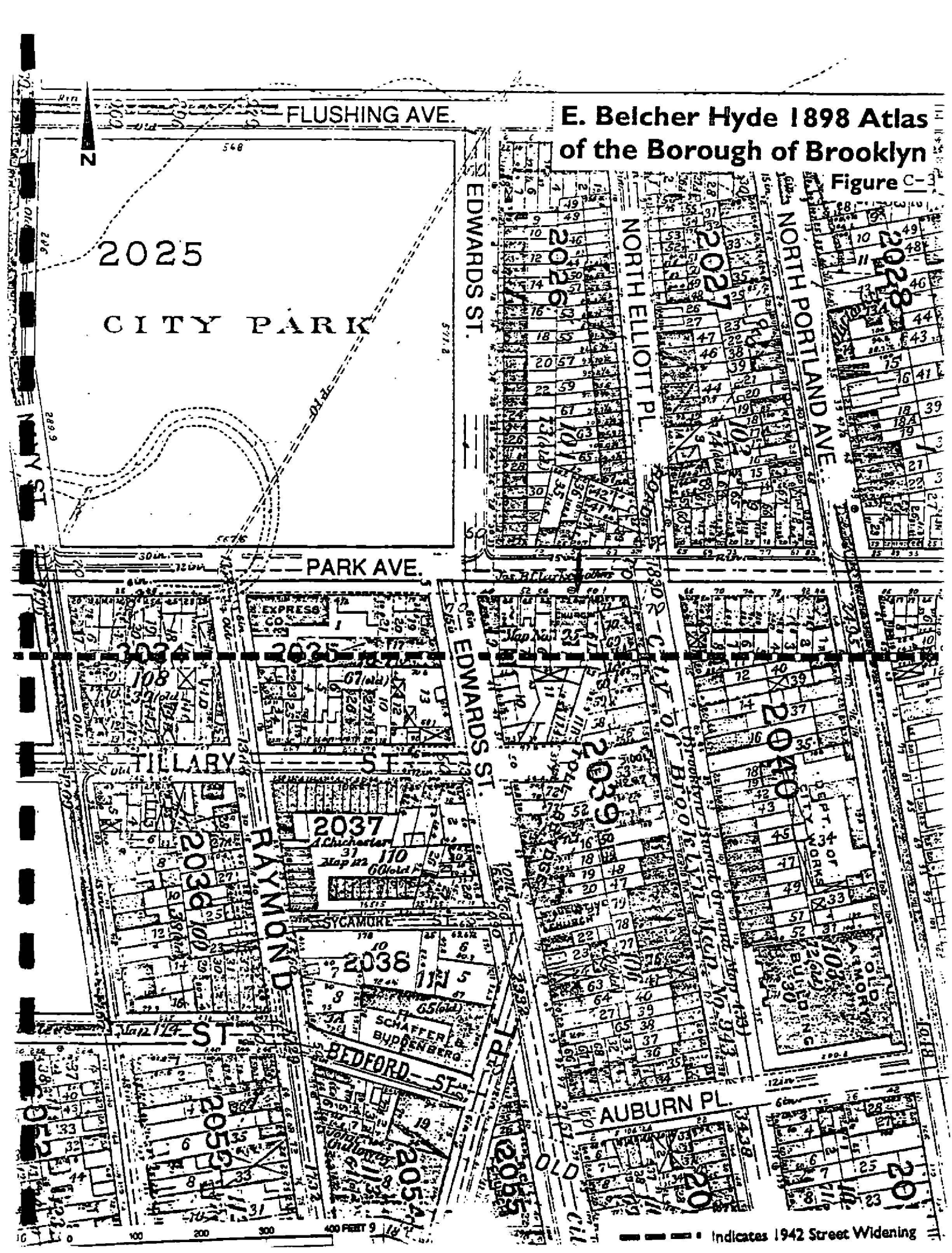


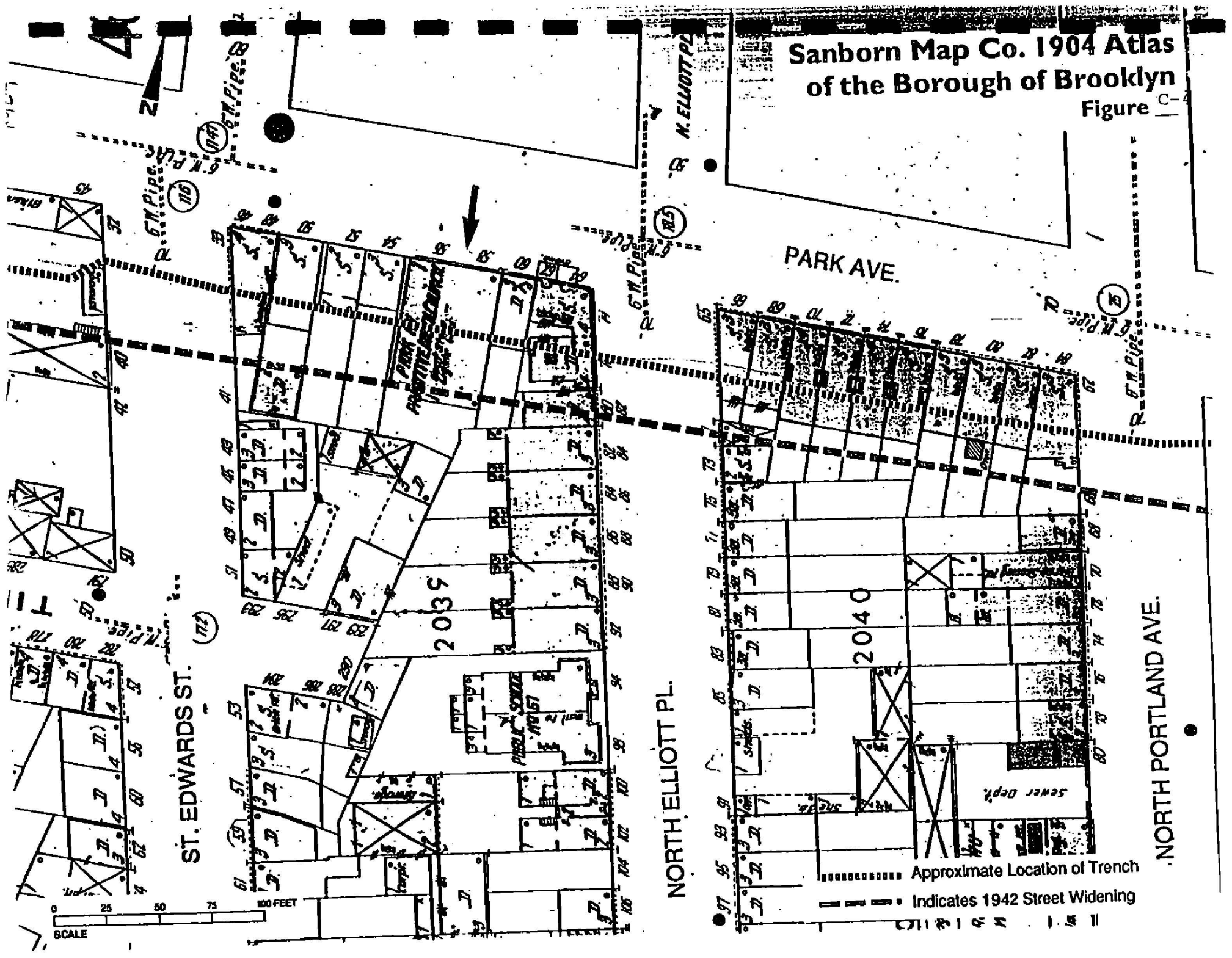
E. Robinson 1886 Atlas of the Borough of Brooklyn

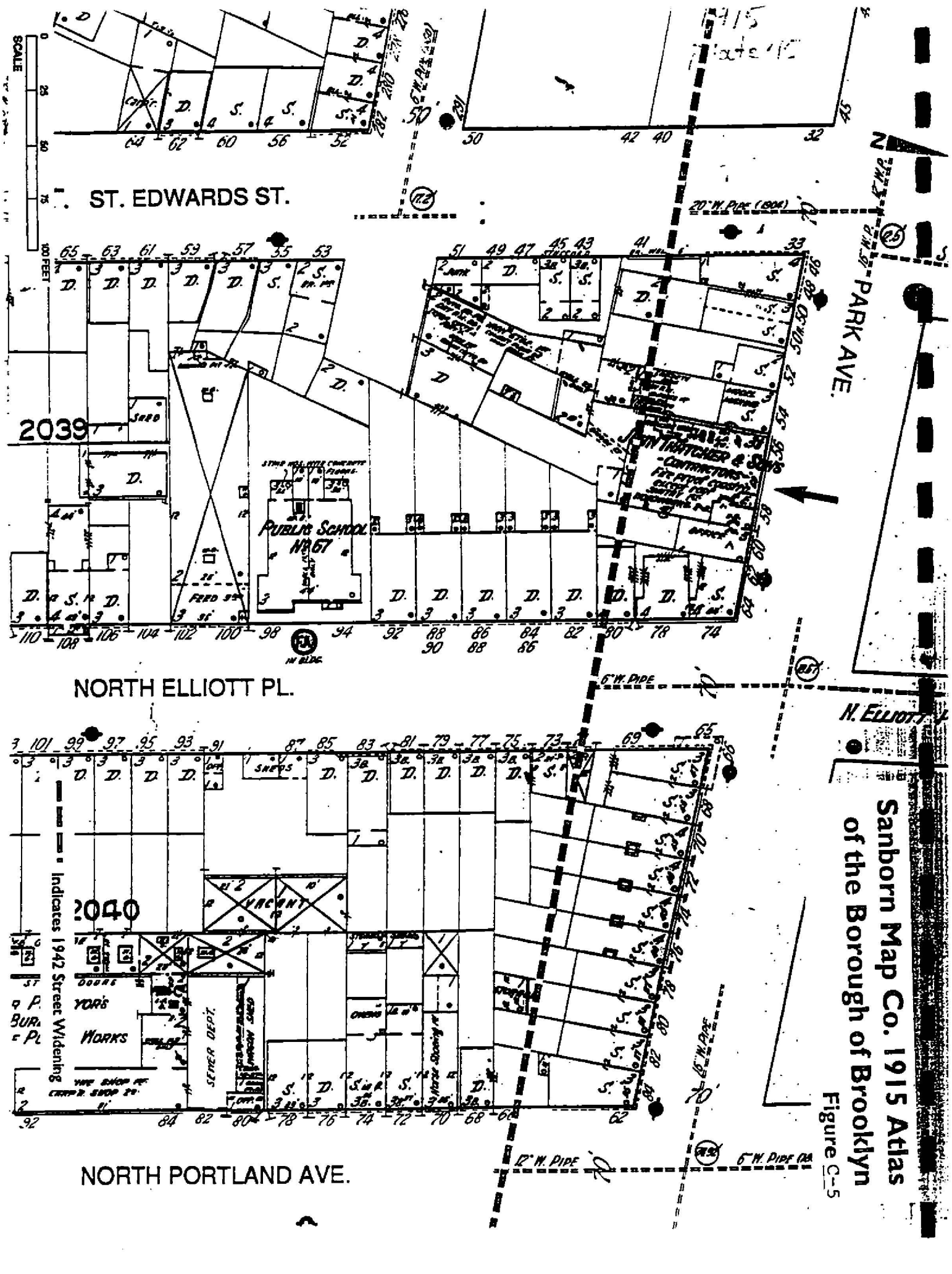
Figure C-2

U. S.




E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn
Figure C-3
FLUSHING AVE.
PARK AVE.
2025
CITY PARK
EDWARDS ST.
NORTH ELLIOTT PL.
NORTH PORTLAND AVE.
TILLARY ST
RAYMOND ST
SYCAMORE
BEDFORD ST
AUBURN PL.
OLD CITY HALL PL.
CITY OF BROOKLYN
DEPT. OF PUBLIC WORKS
OLD ARMORY BUILDING
EXPRESS CO.
SCHAEFER & BUDDENBERG
2037
A. Chichester
31
110
60 (old)
67 (old)
65 (old)
0 100 200 300 400 FEET
Indicates 1942 Street Widening


Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure C-4
PARK AVE.
ST. EDWARDS ST.
NORTH ELLIOTT PL.
NORTH PORTLAND AVE.
2035
2040
6" M. Pipe
Approximate Location of Trench
Indicates 1942 Street Widening
0 25 50 75 100 FEET
SCALE



Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure C-5

Barracks

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH:

BARRACKS

HISTORICAL PERSPECTIVES INC.

P.O. Box 231 Riverside, Connecticut 06878

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE ARCHAEOLOGICAL RESEARCH

Resource Category: Public Usage

Property Type: Hospital / Barracks

Location: Blocks 2039 and 2040.
Between N. Elliott Place and N. Portland Avenue.

Introduction:

The preliminary Force Main Project assessment identified two barracks - one originally a hospital - on Blocks 2039 and 2040 as potential cultural resources (Figure B-1). Because of the nature of the usage of the two nineteenth century buildings, in-depth research was recommended in order to assess the possiblily that significant, intact archeological remains might be present.

Map study has concluded that the barracks on Block 2040, between N. Portland and N. Elliot, was located south of the project corridor and thus requires no further discussion or research. The hospital/barracks on Block 2039 was razed in 1860 or 1861 in order to make way for the extension of Hampden Street (later N. Elliott Place) and was further disturbed in 1941 by the widening of Park Avenue. Because the severity of the disturbance must have so seriously compromised the integrity of any subsurface remains, the potential to recover significant data is too low to warrant further archaeological consideration.

Cartographic Review:

The building history of the barracks site can most clearly be traced through a series of maps. The first known structure was a "hospital" which appeared on an 1834 map (Figure B-2) at what would become in the twentieth century the intersection of Park Avenue and N. Elliott Place. By 1850 this buildling was labeled "U.S. Barracks," and a second barracks building had been built on Block 1040, closer to N. Portland Avenue and south of the project corridor. On the 1855 Perris Atlas, the two buildings are in the same positions and are labeled "Barracks" (Figure B-3). By 1860 the N. Portland Avenue barracks had been removed, and the barracks in N. Elliot Place was labeled "Straw Hat Manufactory," and was a two-and-a-half-story wood frame building (Figure B-4). The configuration of the structure appears to be the same in all cartographic representations. The hospital/barracks/straw hat factory building was gone by 1869 according to a Dripps Atlas for that year.

Fig see: P 2 P 3

The evolution of the street grid in relation to the barracks is pertinent. When the building first appeared on the 1834 map as a hospital, it fronted on Division Street and appeared to lie in the path of what would become Park Avenue as represented by dotted lines (Figure B-2). By the time the 1855 Atlas was drawn, Division Street within Block 2039 had been closed and it is evident that the position of the structure was not in the path of Park Avenue (Figure B-3). Both of these maps show the cemetery area south of Park Avenue. By 1860, the cemetery had been removed and was no longer shown and Hampden Street (Later N. Elliott Place) had been cut through its area as far as the southern line of the lot where the barracks building was occupied by a straw had manufacturing business (Figure B-4). A Dripps Atlas published in 1869 shows that Hampden Street was opened through to Park Avenue and the structure had been removed by that time. This fact is corroborated in John Dikeman's compendium of street openings published in 1870 which notes that Hampden Street was opened from Park Avenue southward to Auburn Place in 1861. The barracks stood directly in the path of Hampden Street. The resulting street grid is shown on an 1898 Atlas (Figure B-5) and the barracks would have stood where the number "70" (which is the street width) is placed directly south of the intersection of N. Elliot Place (Hampden Street) and Park Avenue.

The site was thus disturbed / but destroyed? by the removal of the barracks structure and whatever earth-moving activity was necessary to build N. Elliot Place. There was also disturbance by utility placement. For instance, an 1875 map shows sewer lines running through N. Elliott Place.

dist. not adequately documented

Further land manipulation occured when Park Avenue was widened in 1942 by 90 feet. A copy of a 1915 Atlas shows the extent of the Park Avenue widening which would have impacted almost the entire site of the original building (Figure B-6). N. Elliott Place in Block 2039 was closed in 1941 and 1942 according to records from the Brooklyn Topographic Bureau. Further impacts to the integrity of these undeveloped lots are revealed in the post-Park Avenue widening disturbance record. When Park Avenue was widened in 1942, there was undoubtedly a degree of grading. To attempt to determine the extent of grading (there are no construction plans available see letter to DOT to which there was no reply, Figure B-8), elevation levels at the intersection of the three cross roads, St. Edwards, N. Elliott, and N. Portland are presented from both Park Avenue and Auburn Place (parallelling Park Avenue about 600' to the south). Elevations prior to 1942 were as follows:

current = 1993? B3

Current
St. Edwards at Park Avenue-12.5', at Auburn Place-22.9' same
12' N. Elliott at Park Avenue- 18.67', at Auburn Place-34.4' same
26 N. Portland at Park Avenue-24.92', at Auburn Place-40.4'. same

These elevations support that both Blocks 2039 and 2040 had an upward slope ranging between 10' and 16' from Park Avenue south to Auburn Place.

The current elevations suggest that this upward slope was probably graded to the elevation of the original Park Avenue roadbed. While the elevations along Auburn Place have remained the same, the elevations along Park Avenue are now 12' at N. Elliott, and are 26' at N. Portland, not too far from their original elevations. However, since this current measurement is at an intersection approximately 90' south of the original intersection, this strongly suggests that the original upward slope to the south was leveled to the Park Avenue elevation. Therefore, the original elevation of these lots is probably somewhat higher than their current elevations.

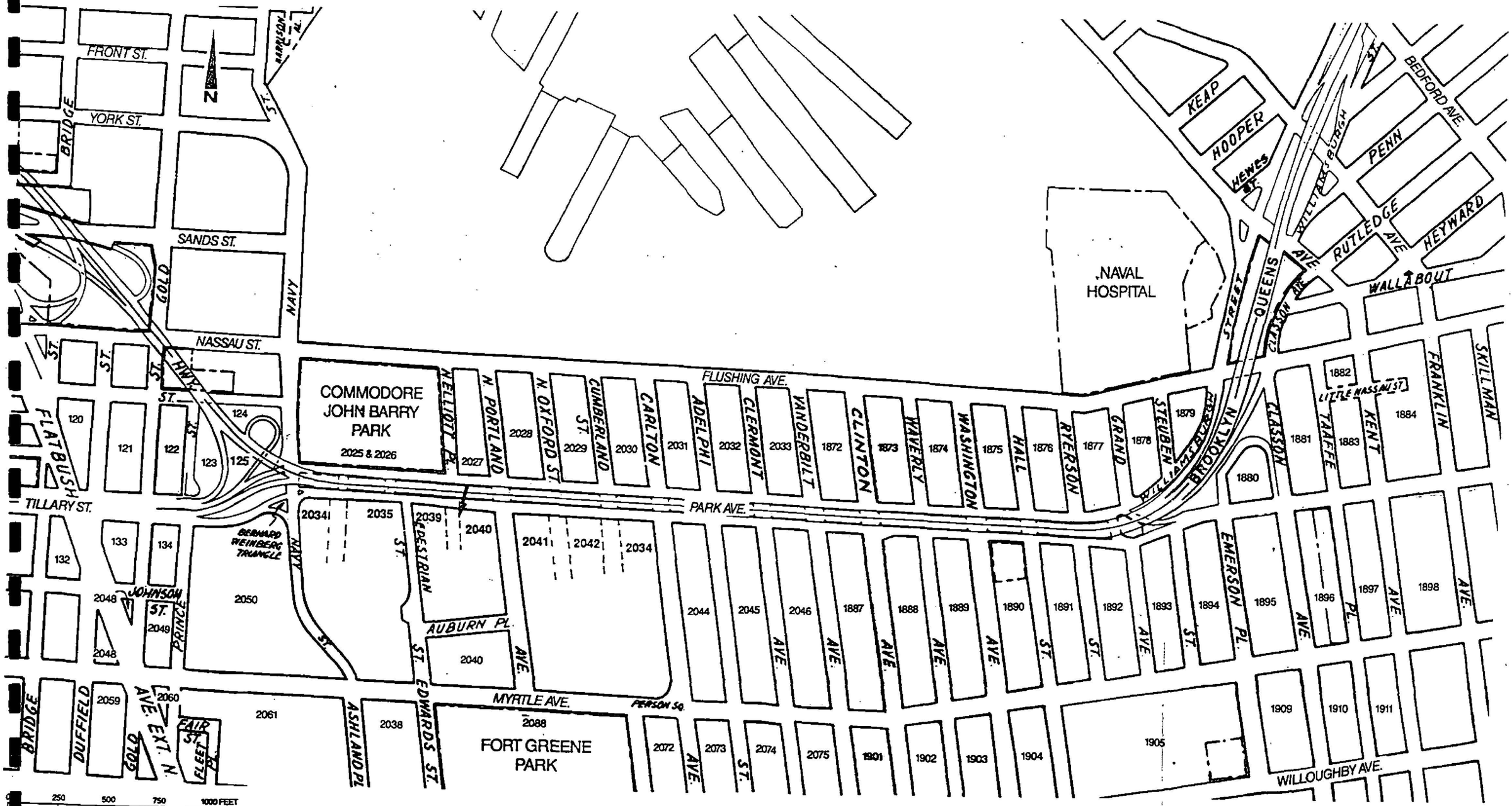
In the portion of N. Elliot Place taken when Park Avenue was widened, there are numerous utlilty lines which caused additional subsurface disturbance. Figure B-7 is a map showing utlilty placement; the intersection of Park Avenue and N. Eliott Place where the barracks would have been is crowded with gas, sewer, electric, and water lines, several of which lie below the route of the proposed force main corridor.

Recommendations:

Because of severe disturbance caused by episodes of street construction and utility placement, the probablity of recovering intact archaeological resources of significance is so low that no further consideration is recommended.

Figure B-1

Taaffe Place Pumping Station and Park Avenue Force Main



MAP of BROOKLYN

KINGS COUNTY LONG ISLAND

From an Entire New Survey

by

ALEXR. MARTIN

1834

F. Dreby's Lith.r cor. Broadway & Orilland's St.

RIVER

Navy Yard Ferry, 635 Yards

The Block

U.S. NAVY YARD

WALLABOUT BAY

N.

Wallabout Bridge

Toll Gate

WILLIAMSBURGH ROAD

Hospital

Cemetery

William & Fr. Post

Jeremiah Spader

Wm. Hunter

Pine & Van Antwerp

Wm. Hunter

Fort Green

BEDFORD ROAD

Hamilton H. Jackson

Figure B-2

Wm. Perris 1855 Map of Brooklyn

Figure B-3

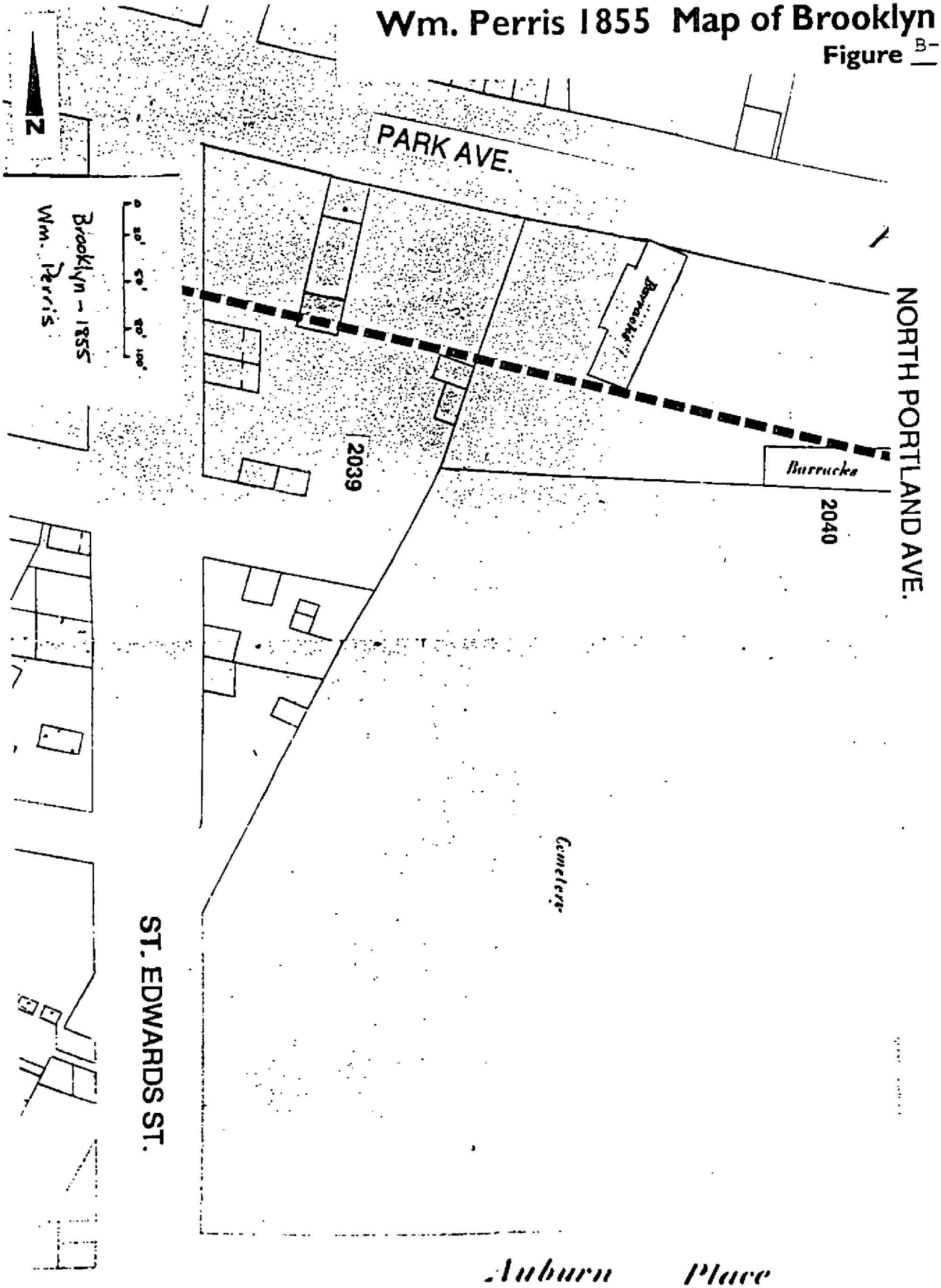
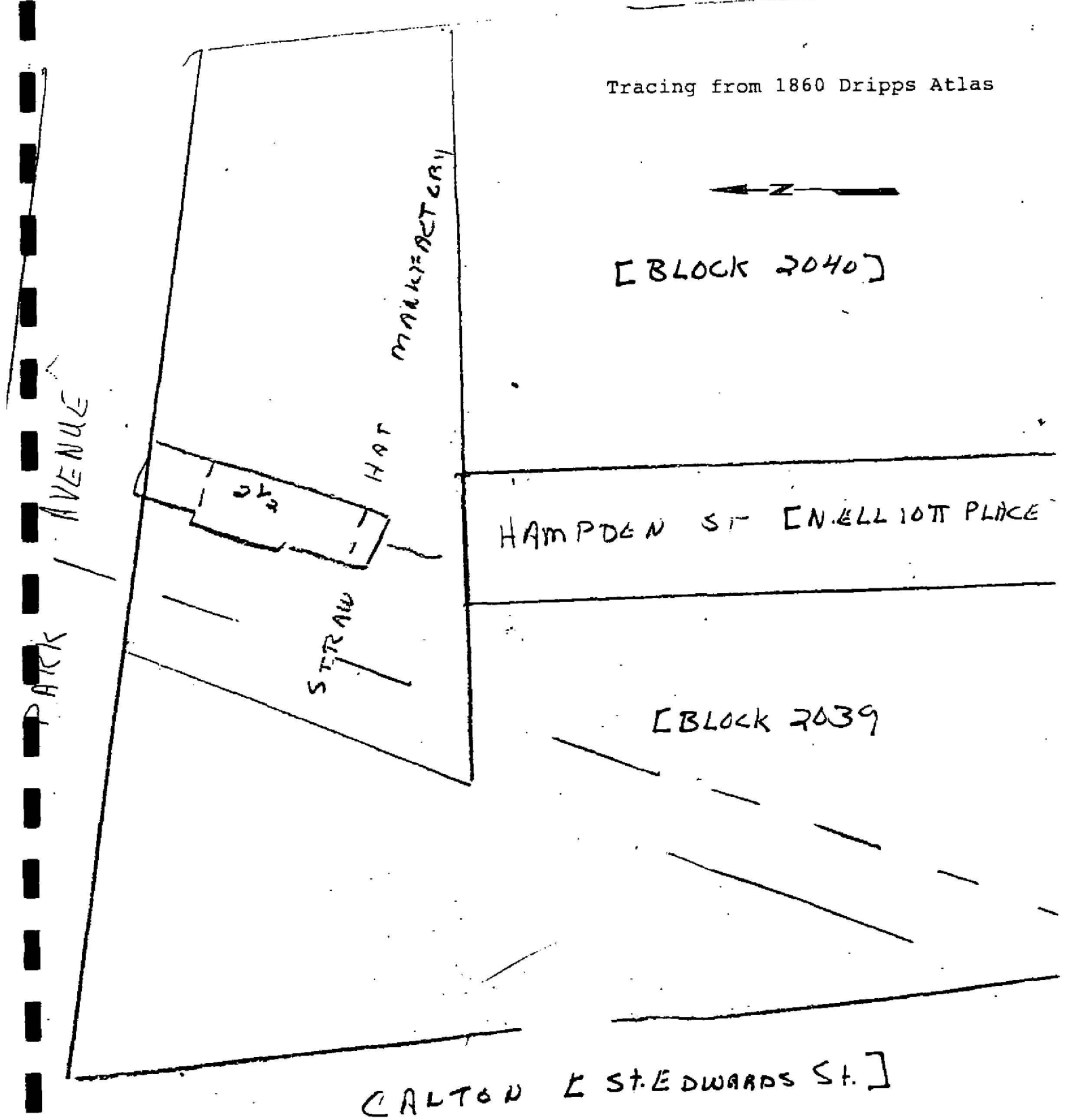
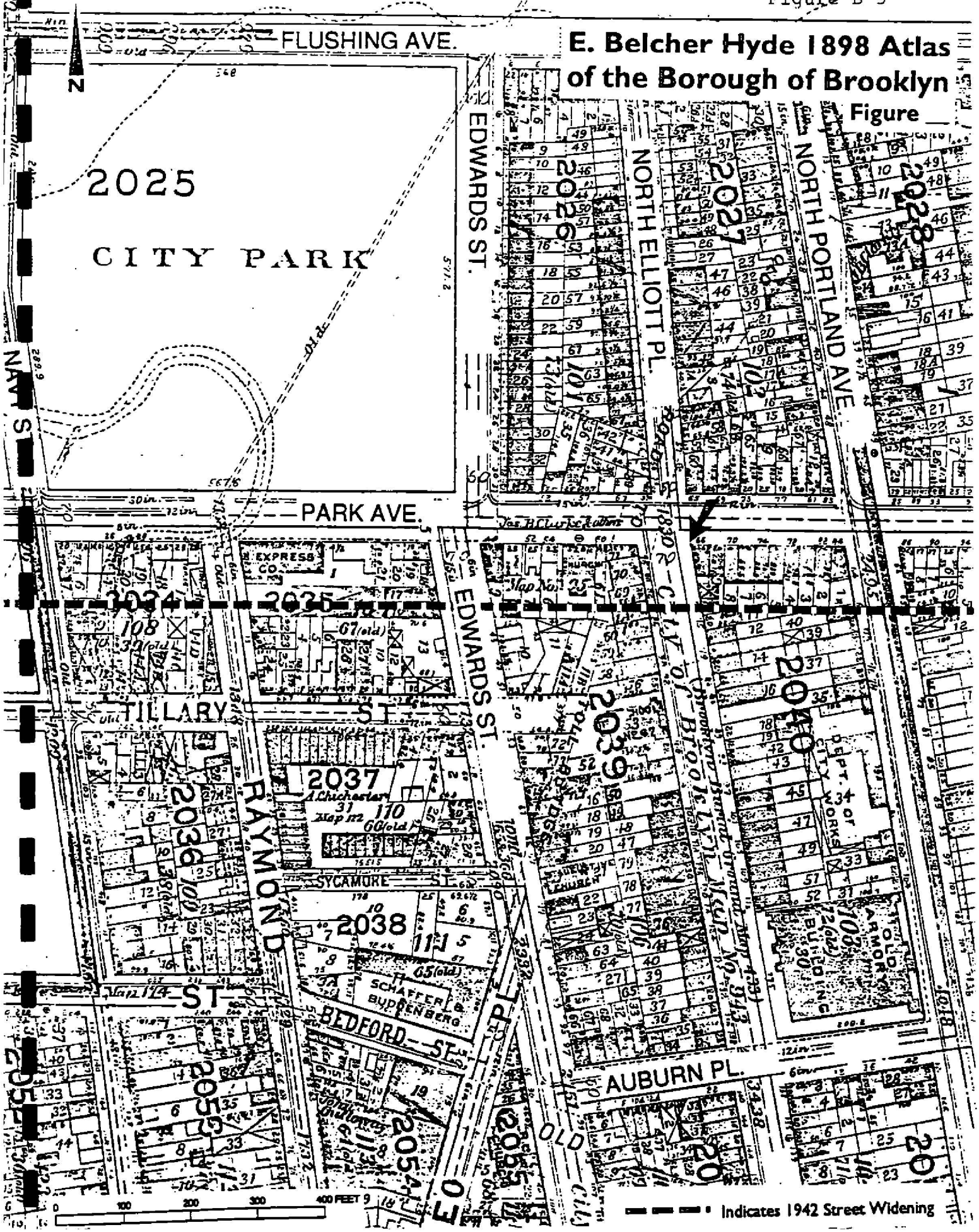


Figure B-4

Tracing from 1860 Dripps Atlas




E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn
Figure __
FLUSHING AVE.
PARK AVE.
2025
CITY PARK
EDWARDS ST.
NORTH ELLIOTT PL.
NORTH PORTLAND AVE.
TILLARY ST
RAYMOND ST
SYCAMORE ST
BEDFORD ST
AUBURN PL.
OLD CITY LINE
EXPRESS CO.
DEPT. OF PUBLIC WORKS
OLD ARMORY BUILDING
SCHAFFER & RUPPENBERG
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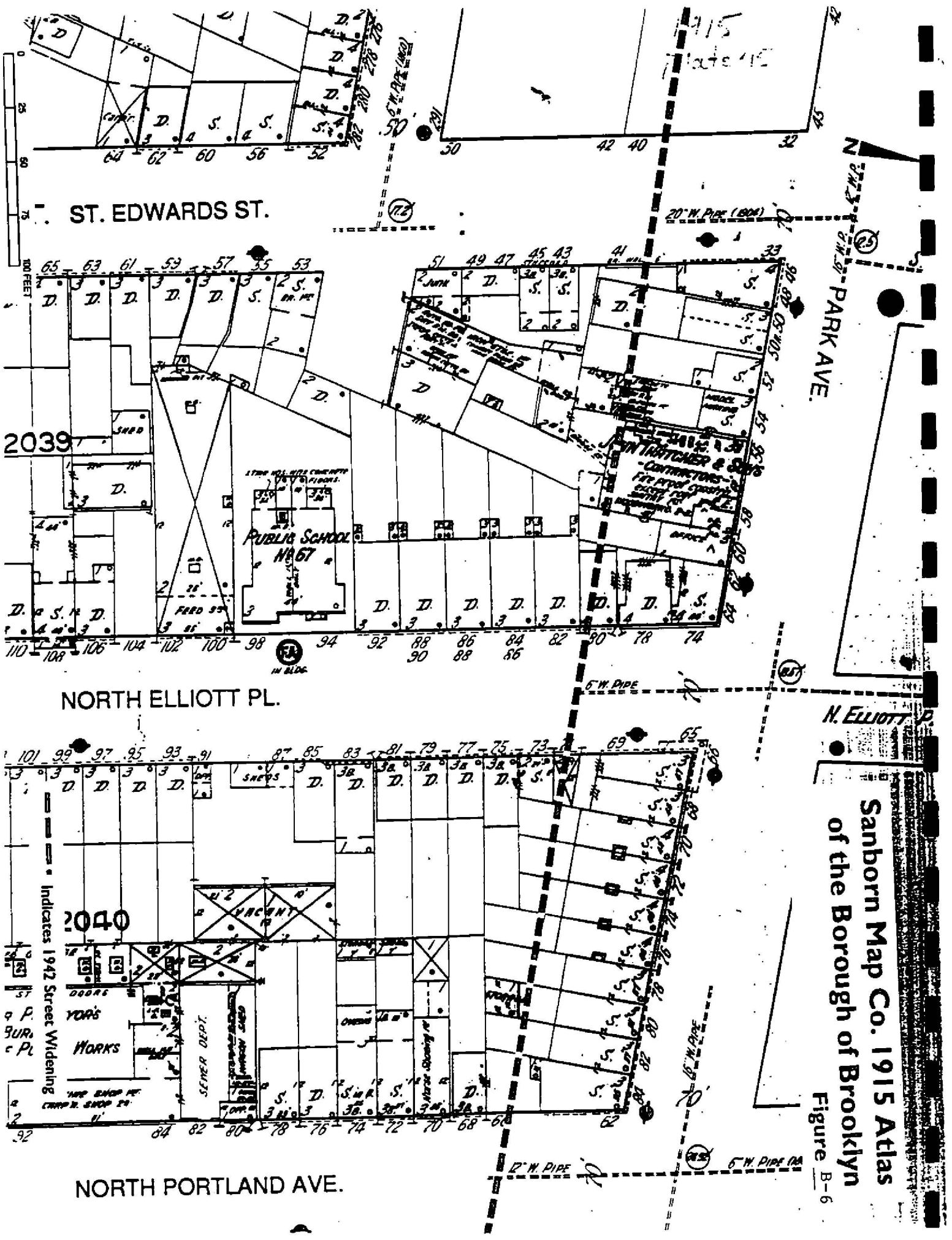
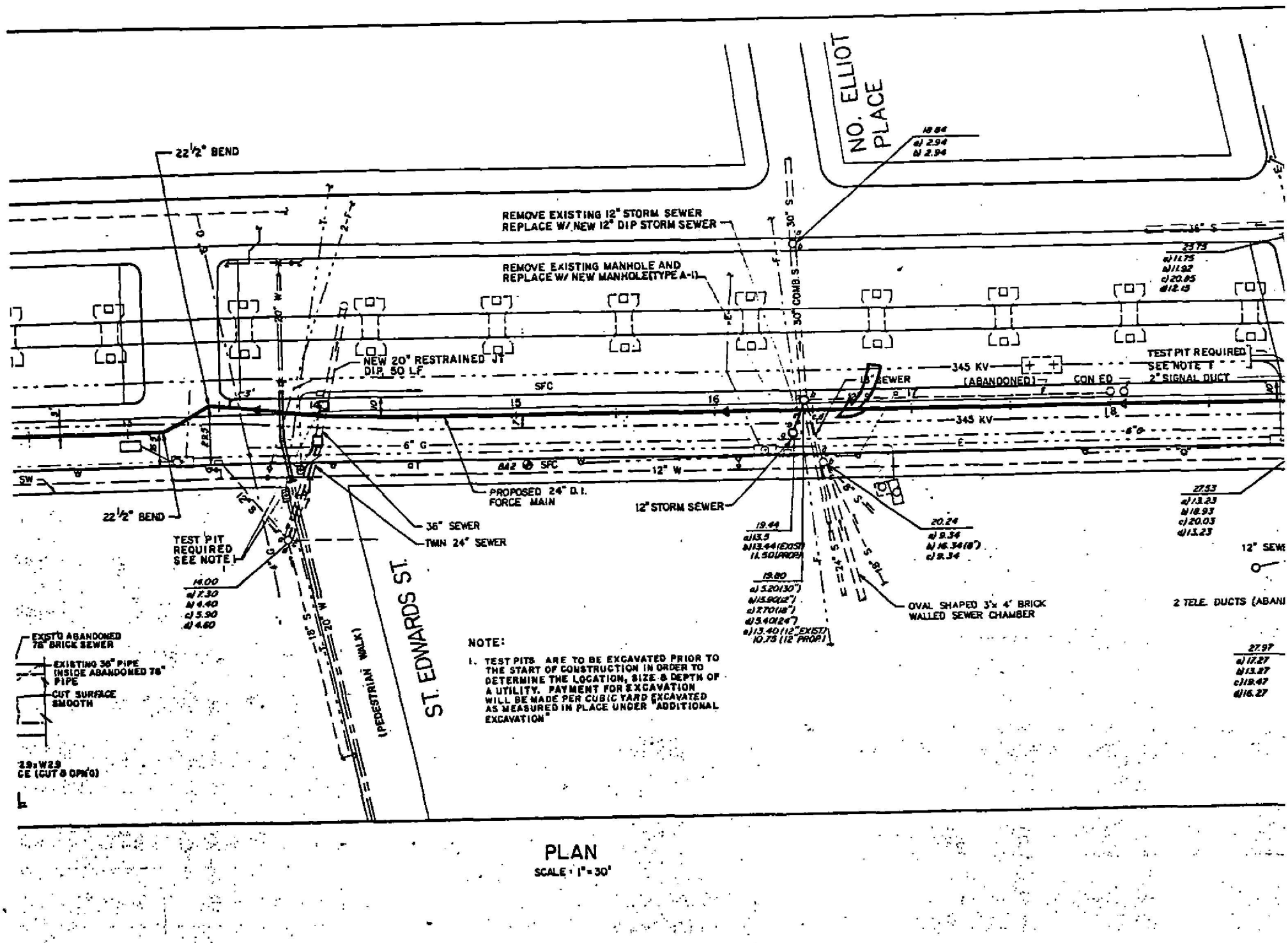
2055
Indicates 1942 Street Widening
0 100 200 300 400 FEET

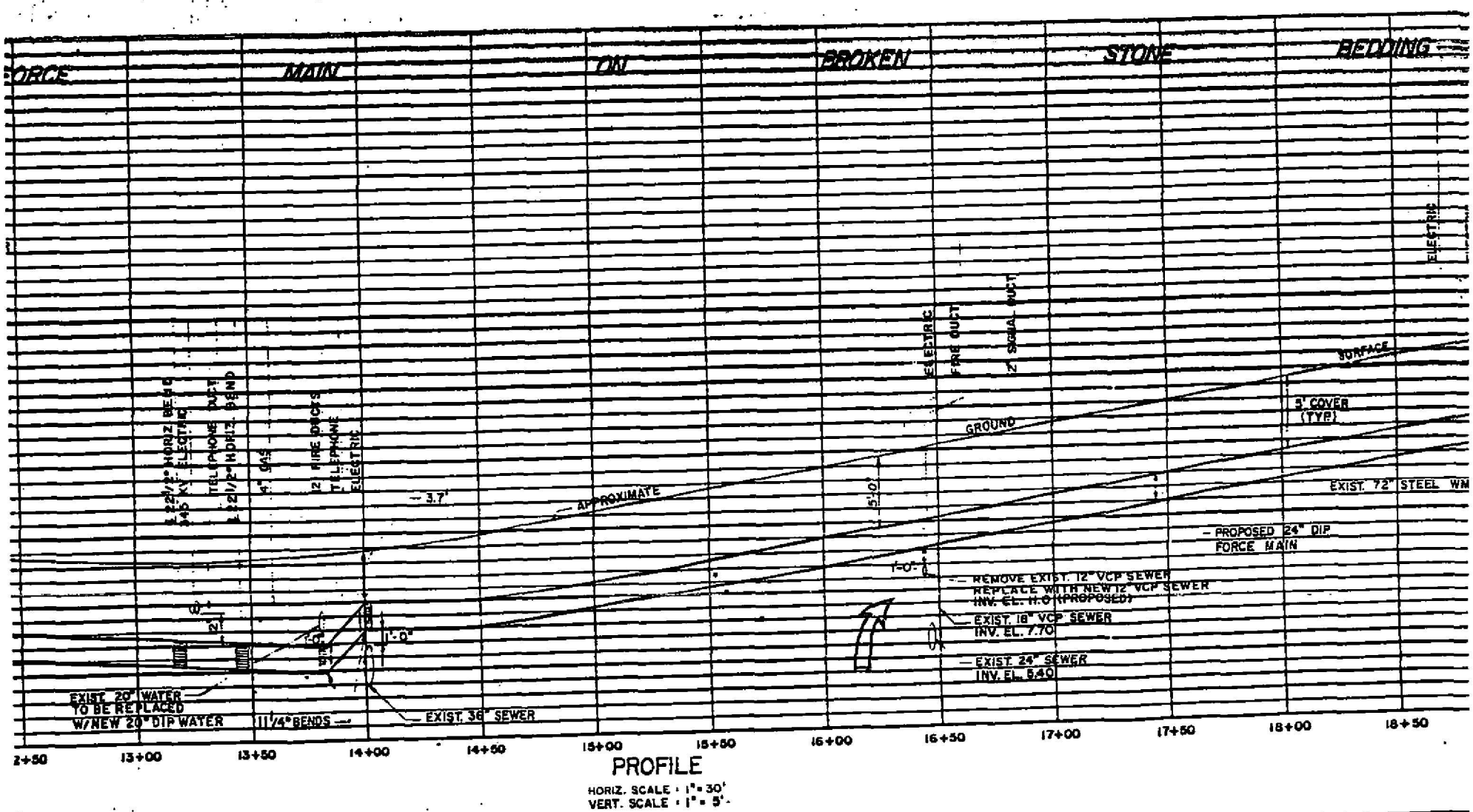


Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure B-6



PLAN

SCALE : 1" = 30'



PROFILE

HORIZ. SCALE : 1" = 30'
VERT. SCALE : 1" = 5'

SCALE AS SHOWN	URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY	APPROVED FOR THE CITY OF NEW YORK P.E. PROJECT ENGINEER P.E. CHIEF, DIVISION OF PLANT DESIGN	CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF HEAVY CONSTRUCTION DIVISION OF PLANT DESIGN CAPITAL PROJECT WP 283 TAAFFE PL. PUMPING STA. & FORCE MAIN	CON PAR PLAN AN

Figure B-7

Figure B-8

March 1, 1991

Ann Taylor, Director
New York City Department of Transportation
Office of Litigation Support
295 Lafayette Street, Room 424
New York, New York 10013

Dear Ms. Taylor:

Historical Perspectives, Inc. is currently performing documentary research under the Department of Environmental Protection (DEP) for the Newtown Creek Water Pollution Control Plant in Brooklyn. Research entails documenting twentieth century road construction along Park Avenue between Taaffe Place and Gold Street. We would like to request access to those records regarding the widening of Park Avenue in Brooklyn in 1942, and any subsequent construction within the roadbed.

The Department of Transportation's Plan Archives are an incredibly valuable resource for documenting historical development in New York. Historical Perspectives, Inc., has had the opportunity to utilize the archives in the past for projects under contract to the DOT. Ms. Colon at the Archives has been very helpful to our research efforts in the past, and we look forward to a continuing cooperative venture.

Thank you for your consideration. Any assistance to expedite research would help to ensure that the project continues to meet the DEP's tight schedule. I will call your office within the next to weeks to get the clearance for research.

Sincerely,

Faline Schneiderman-Fox
Project Director, HPI

cc. Ms. Petra Colon

Lace

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH:

LACE FACTORY

HISTORICAL PERSPECTIVES INC.

P.O. Box 331 Riverside, Connecticut 06878

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE ARCHAEOLOGICAL RESEARCH

Resource Category: Industrial

Property Type: Jennings Lace Works

Location: Block 1891, Lots 1 through 10.
South side of Park Avenue between Hall and Ryerson Streets.

Introduction:

The preliminary Force Main Project assessment identified the Jennings Lace Works on Block 1891 as a potential cultural resource (Figure 1). Because this company was long-lived and utilized extensive industrial equipment in the lace making process, in-depth research focusing on subsurface integrity, archaeological visibility, and potential significance was recommended.

Background:

Lace is openwork fabric woven of threads of material in ornamental designs. Lace as we know it developed in Italy in the fifteenth century out of the cutwork, or open pattern, in embroidery. It was originally made by hand using various methods of weaving fabric threads in patterns and was greatly prized. Paintings of the period depict its rich variety and the use of lace from personal adornment to furniture coverings.

In the latter part of the eighteenth century, lace machines were developed in England, and in 1809 John Heathcoat patented a "bobbin net" machine, which John Leavers improved in 1813 with a machine bearing his own name (Huetson 1973:77-79). In the United States, early lace was hand-made, especially by English settlers in and around Ipswich, Mass. With the development of Heathcoat's machine, many English workers in lace centers such as Nottingham were so alarmed that they fomented a great deal of trouble, and a number of them eventually immigrated to towns like Ipswich in the States. "The English government, realising the danger to British industries should these skilled emigrating workmen get machines, put an excessive export duty on the machinery, together with a 500 [pound] fine or a long term of imprisonment for the offender. Despite all this, the important parts of the machinery reached our shores, hidden ...even in tubs of Yorkshire butter!" (Eberlein and McClure 1916:326).

Nevertheless, the English retained a near monopoly on lace manufacture for several decades until the French emerged as formidable competitors toward mid-century (Wardle 1969:240). The development of the industry in the United States was slower and seemed to coincide with the machinery advances made in other countries. For example, "around 1830, the adaptation to the net machines of the Jacquard system (of perforated cards carrying the design to be worked in code) allowed the manufacture of a genuine lace - a fabric in which all the elements were executed at the same time, as in a handmade lace" (Kraatz 1989:136). "By 1862 there were few varieties of hand-made lace that the machines could not imitate. The period of frenzied mechanical invention and adaptation was drawing to a close and attention was now given to perfecting existing manufactures rather than adapting the machines to new tasks" (Wardle 1969:240).

By the end of the nineteenth century New Jersey and New York produced most of the country's laces, nets and veils (Clark 1929, Vol.III:211). One manufacturer to set up shop was A.G. Jennings who in 1867 bought a small factory in New Jersey for the manufacture of hair nets which he soon moved to Manhattan. In 1871 he established a lace works in Brooklyn on Park Avenue and Hall Street. A.G. Jennings & Sons Lace Works made silk goods. Brooklyn historian Henry Stiles, writing in 1884 stated that the firm "is the oldest and much the largest of fifteen manufacturers of silk goods in Brooklyn" (Stiles 1884, Vol.II:807). In fact, Stiles gave Jennings credit for "establishing in this country, on a sure basis, the important business of manufacturing lace goods" (Ibid:808). An 1890 publication, INDUSTRIES AND WEALTH OF BROOKLYN, was even more enthusiastic when it reported that Jennings Lace was the "largest of the kind in the country and fully equipped with the latest improved machinery and appliances and 500 skilled operators...they have been awarded gold, silver, and other medals and diplomas for their superiority at the Centennial and other expositions" (IWB 1890:118).

Even allowing for a certain amount of hyperbole prompted by civic pride in the above account, the Jennings plant was extensive and rather handsome as shown in a drawing (Figure 2) which accompanied Stiles' 1884 description which said, in part:

> ...Mr. Jennings had erected a large and commodious factory, specially adapted for the business of manufacturing silk laces in all its branches, from the raw silk to the dyeing and finishing the lace perfect for the use of the consumer.
>
> Since that time [1871] the business has been yearly extended and improved, both in the variety and quality of laces made; new machinery imported; many more persons employed, many of whom, skilled in the various branches of the art of making fine laces, were brought over from Europe at his expense.

> ...[they] give employment to some six hundred persons...A large part of the employees in this establishment are women and girls..
>
> In regard to quality, their goods greatly surpass the foreign goods, and are sold at a lower-price. One great cause of this is that they conduct all the departments of the work on their own premises...Messrs. Jennings & Sons buy their silk, ready thrown, of the throwster; but all the other processes, such as making the patterns for the laces, weaving them on the lace looms, introducing his new designs by means of the Jacquard apparatus, dyeing, making up, finishing and putting up the goods for the market, are performed in the manufactory.
>
> Lace machinery is very costly. The looms are generally imported from Europe, and cost from $6000 to $10,000 each. A single set of Jacquard card patterns for the Jacquard looms, to make one design for figured lace, costs from $60 to $500 each. And there are required for elaborate patterns from 1,500 to 10,000 perforated cards. Of the disk bobbins used on the lace looms, Messrs. Jennings & Sons use over 1000,000,

(Stiles 1884:808)

Despite this glowing account, there was a hint of economic distress when Stiles mentioned at the end of his article that "At the present time, Messrs. Jennings' works are not running at anything like their full capacity. Fashion has much to do with this" (Ibid.:808). Still, the business apparently prospered into the twentieth century. Sanborn maps of 1904 and 1915 showed that the complex consisted of 2 four-story brick structures (one containing steaming boxes), a two-story, skylighted rear structure, a coal vault, a dye house, a one story boiler room, a blacksmith shop, and a steam dry house (Figures 5 and 6). However, on the 1929 Sanborn Atlas, although the building configuration remained the same, it was no longer labled "Jennings Lace Works" as before (Figure 7).

It was also at this period in time when listing of the Jennings Lace Factory in business and telephone directories became spotty and finally ceased altogether. A 1922 mention in Polk's COPARTNERSHIP AND CORPORATION DIRECTORY was the last entry located for a business directory. 1922 was also the last telephone book entry noted, although there is a gap in the Brooklyn Library collection between that year and 1927 when there was no listing for Jennings Lace. The Jennings family apparently either sold or turned over administration of the business prior to that time because Willima C. Chace was listed as the President and a Director of the company in both the 1922 directories cited above.

There is no entry in the conveyance records as to if or when the Jennings family sold the lots they had purchased from 1872 to 1894. The only pertinent entry reads "1941 Feb.10 On file. Serial Number 5191. APPLICATION on the City of New York relative to acquiring title to Park Avenue (Order of Court). Condemnation Proceedings." The 90 foot strip of the block front taken for the 1942 widening of Park Avenue included most of what was once the Jennings Lace Company. The amount of the block that was taken and its relation to the lace works is indicated on Figures 3 through 7. The southern part of the complex which was located on Hall Street is shown as vacant on a 1951 Atlas which also shows the block post-1942 (Figure 8).

Cartographic Review:

The original three-and-a-half story brick structure of the Jennings Lace Works factory was built across the northern portions of Lots 1 through 7 (1898 map lot numbers used) by 1880, at which time it was labeled "Silk Mill Lace Works" on the Bromley Atlas of that year. By 1886 (Figure 3) there was an additional one story building with a basement on the western half of Lot 8. The brick building on Lots 4 through 7 had a one story extension with a basement extending southward. Open yards were maintained at the southern ends of lots 1,2, and 3. A two and three story brick building had been constructed covering Lot 10. In 1893 the complex was labeled Jennings Lace Factory, and the eastern half of Lot 8 and all of Lot 9 were covered by a four story brick building with a basement. An 1898 map shows that configuration (Figure 4). By 1904 a coal-vault was placed on the south ends of Lots 1 and 2 (Figure 5). In addition, a two story building with a basement was added to cover the rest of Lots 6, 7, and 8. All of these structures remained the same through at least 1929, and were presumably razed for the widening of Park Avenue in 1942.

The proposed force main trench appears to pass through the following: (See Figure 9)

Circa 1904 coal vault on Lots 1 through 3.
Circa 1886 wooden extension on the rest of Lot 3.
Circa 1886 one story brick extension with a basement on Lots 4-7
Circa 1886 one story building on the west half of Lot 8.
Circa 1893 four story brick building with a basement on the eastern half of Lot 8, and all of Lot 9.
Circa 1886 two story building covering all of Lot 10.

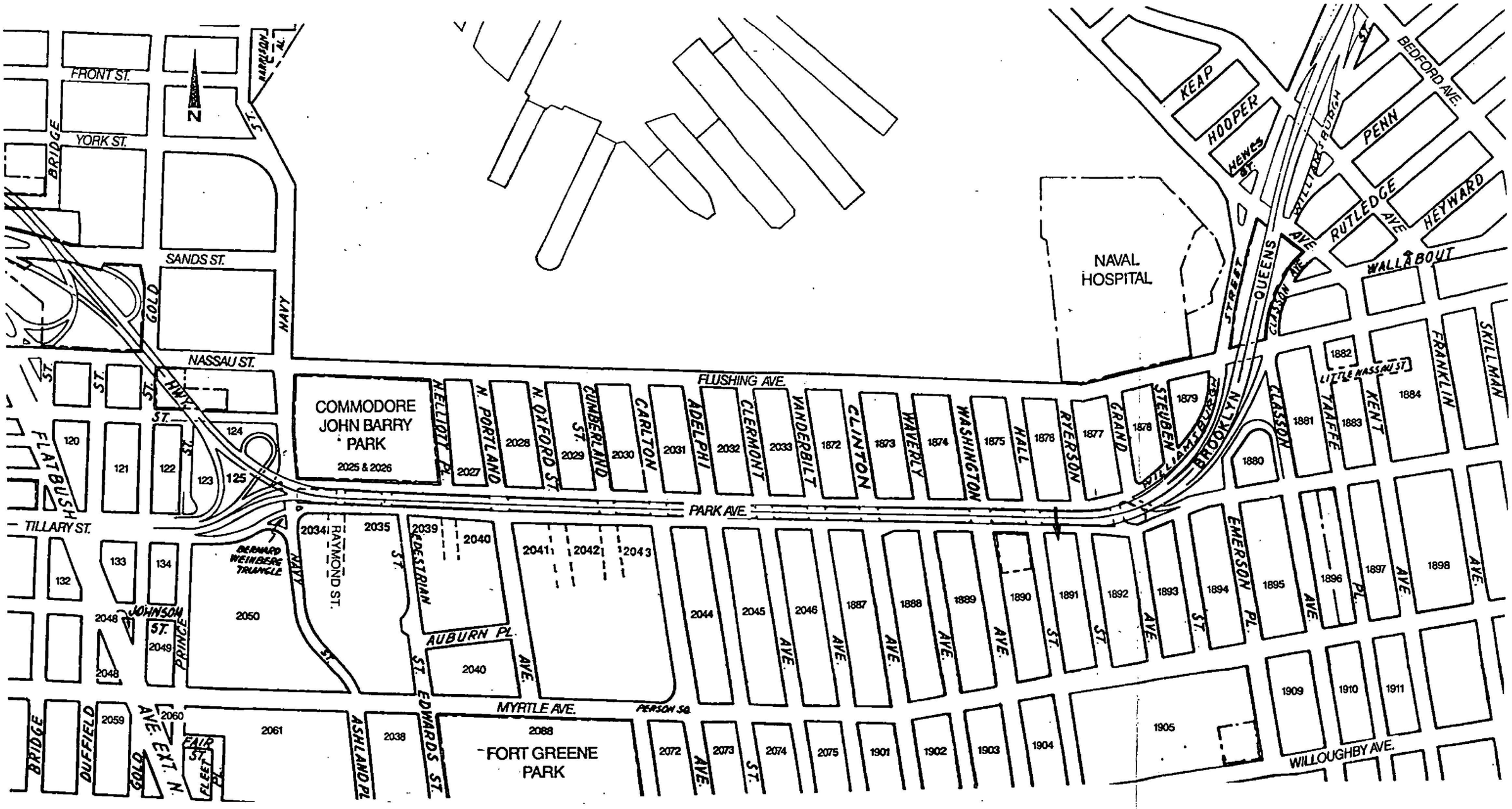
Conclusions and Recommendations:

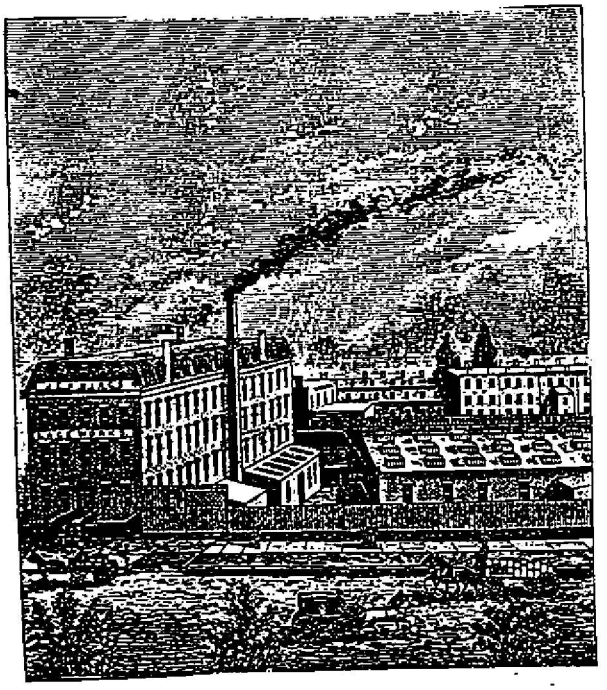
The Jennings Lace Company, built in stages between 1871 and 1904, was in business for more than 50 years. Whether or not

subsurface remains from the manufacturing complex might be relatively intact despite the Park Avenue expansion through 90 feet of the blockfront is unclear; design plans for that construction could not be located in any repository and letters to the Department of Transportation asking for assistance were unanswered (see appended copy of letter).

In this case, the integrity of sub-surface remains is not the only issue. Rather, the likelihood that any such remains would offer significant archaeological research potential is the important question. As noted in the above discussion, the company was a good example of its type of industry and was perhaps innovative in hiring practices and the consolidation of processes. However, it was not innovative in the development of machinery or actual manufacturing processes that might result in subsurface remains of importance; these developments had occurred earlier in time and are well documented in the historical record. Also, it stands to reason that the machinery, which was quite expensive, would have been removed when the company was dissolved. If not sold for re-use, it would have been dismantled and the parts sold for re-use or scrap. Other material objects such as the Jacquard card patterns - also quite expensive - would have been sold if possible; if left on site they would have decomposed since they were made of cardboard. It is also very likely that due to the nature of natural fibers the Jennings' products or manufacturing by-products would not have survived intact on the lots in question. The site layout is generally available through map study; it is unlikely that the 5 foot wide force main trench would reveal any significant data on this subject in terms of buildings remains.

Based on the indications of low visibility and research potential, no further archaeological consideration of the Jennings Lace Company is warranted.


FRONT ST.
YORK ST.
BRIDGE
SANDS ST.
GOLD
NAVY
NASSAU ST.
HWY.
FLATBUSH
TILLARY ST.
BRIDGE
DUFFIELD
GOLD
AVE. EXT. N.
FAIR ST.
FLEET PL.
COMMODORE JOHN BARRY PARK
2025 & 2026
ELLIOTT PL.
2027
N. PORTLAND
2028
N. OXFORD ST.
2029
ZUNBERLAND ST.
2030
CARLTON
2031
ADELPHI
2032
CLERMONT
2033
VANDERBILT
1872
CLINTON
1873
WAVERLY
1874
WASHINGTON
1875
HALL
1876
RYERSON
1877
GRAND
1878
STEUBEN
1879
FLUSHING AVE.
PARK AVE.
NAVAL HOSPITAL
KEAP
HOOPER
HEWES ST.
BEDFORD AVE.
PENN
RUTLEDGE AVE
HEYWARD
WALLABOUT
QUEENS
CLASSON AVE
BROOKLYN
1880
1881
1882
LITTLE NASSAU ST.
TAAFFE
1883
KENT
1884
FRANKLIN
SKILLMAN
BERNARD WEINBERG TRIANGLE
2050
RAYMOND ST.
2034
2035
2039
PEDESTRIAN
2040
2041
2042
2043
AUBURN PL.
2040
MYRTLE AVE.
PEARSON SQ.
2044
2045
2046
1887
1888
1889
1890
1891
1892
1893
1894
EMERSON PL.
1895
1896
1897
1898
2048
JOHNSON ST.
2049
BRIDGE
2059
2060
2061
ASHLAND PL.
2038
EDWARDS ST.
2088
FORT GREENE PARK
2072
2073
2074
2075
1901
1902
1903
1904
1905
1909
1910
1911
WILLOUGHBY AVE.
0 250 500 750 1000 FEET
SCALE

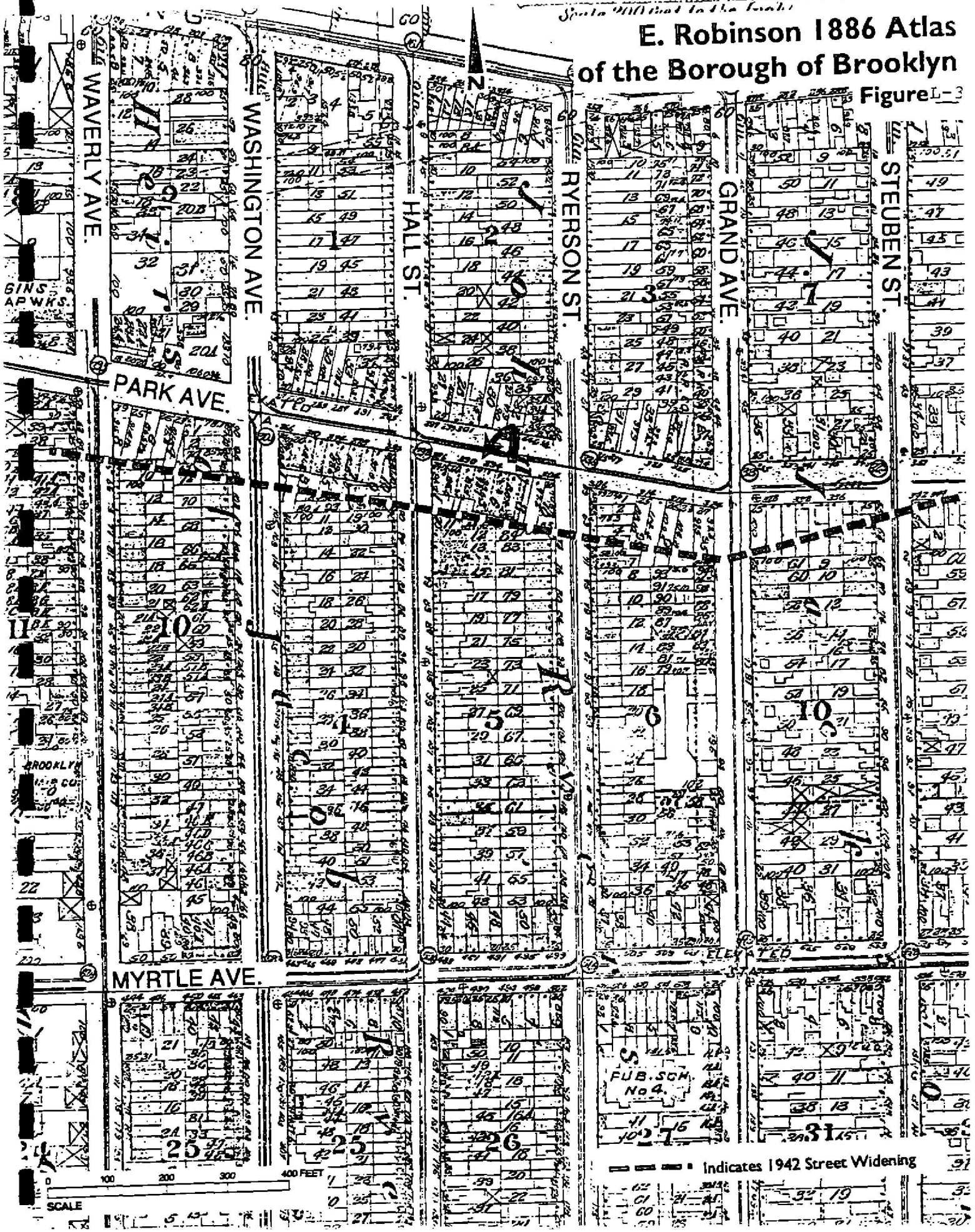


A. G. JENNINGS & SONS' LACE WORKS.*

Photocopy of an illustration in Stiles, 1884.

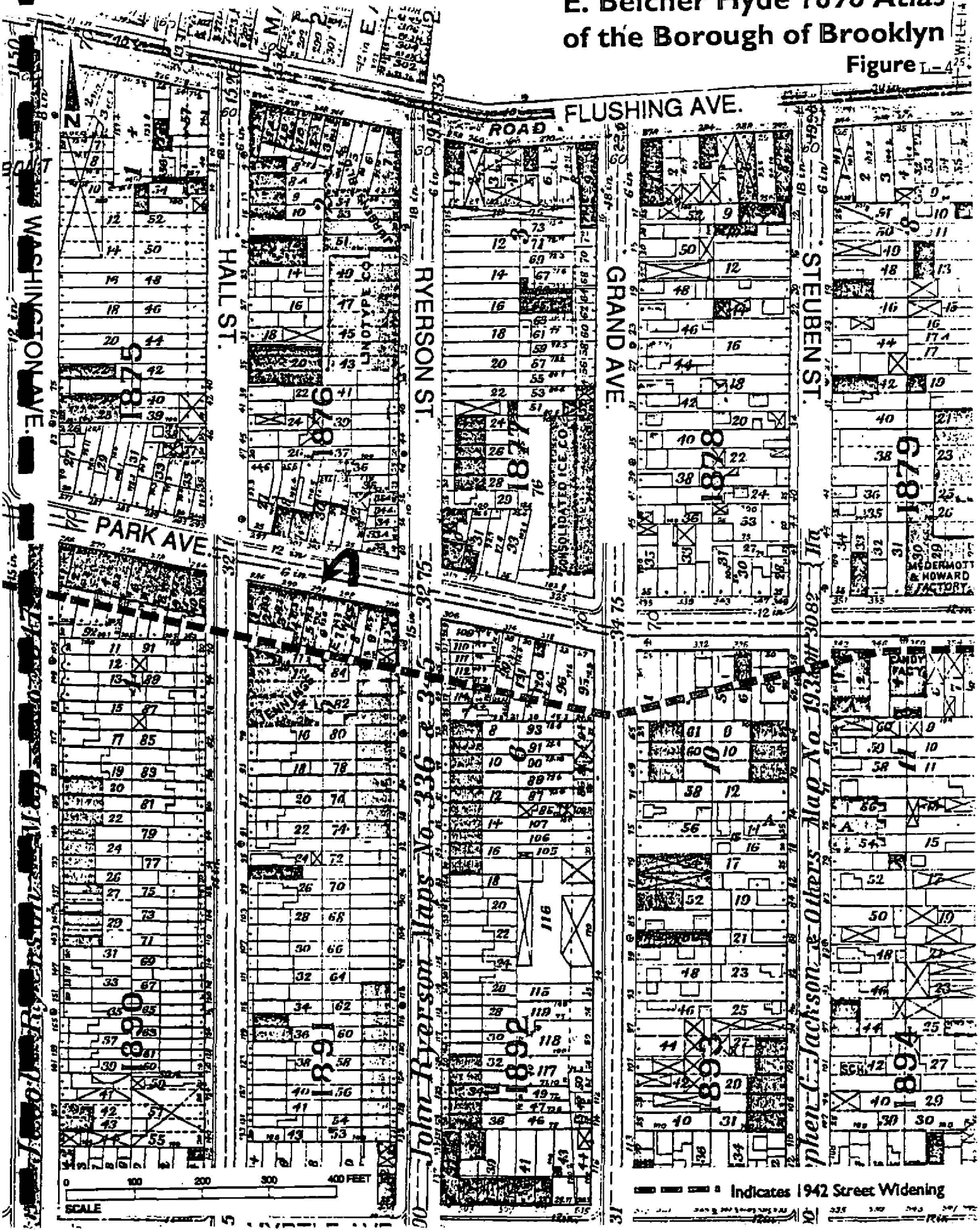
E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure L-3



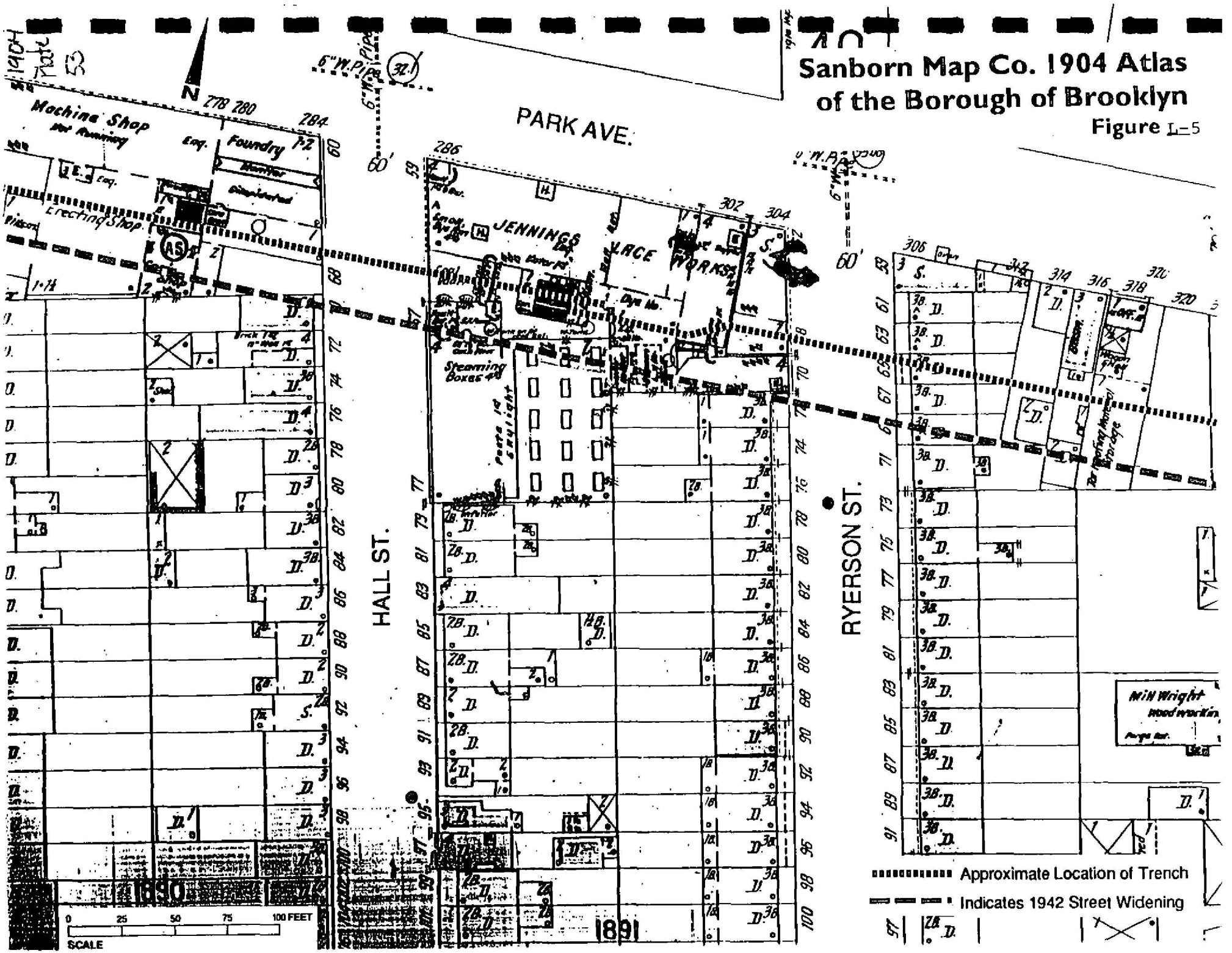
E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure L-4



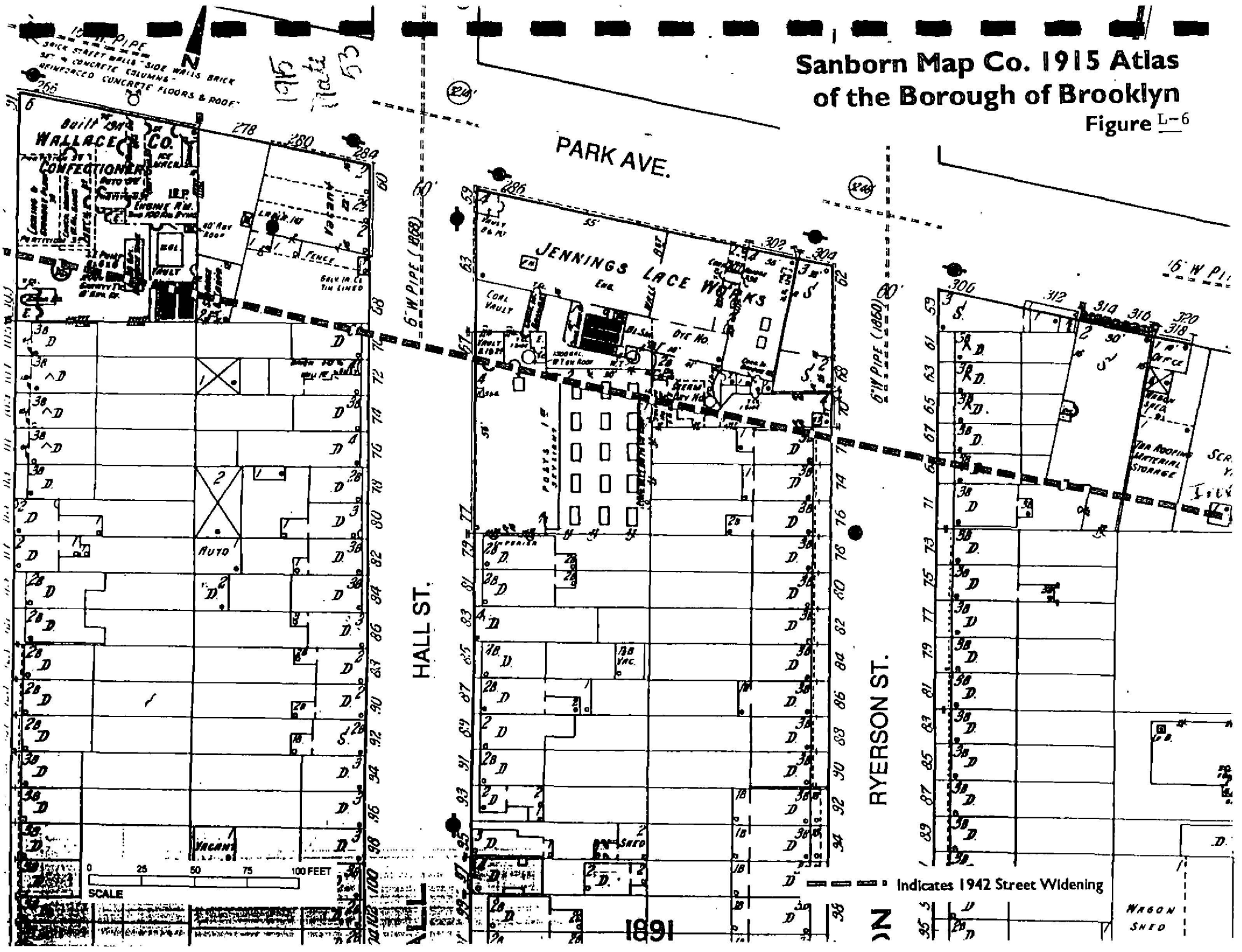
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 1-5



Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

Figure L-6

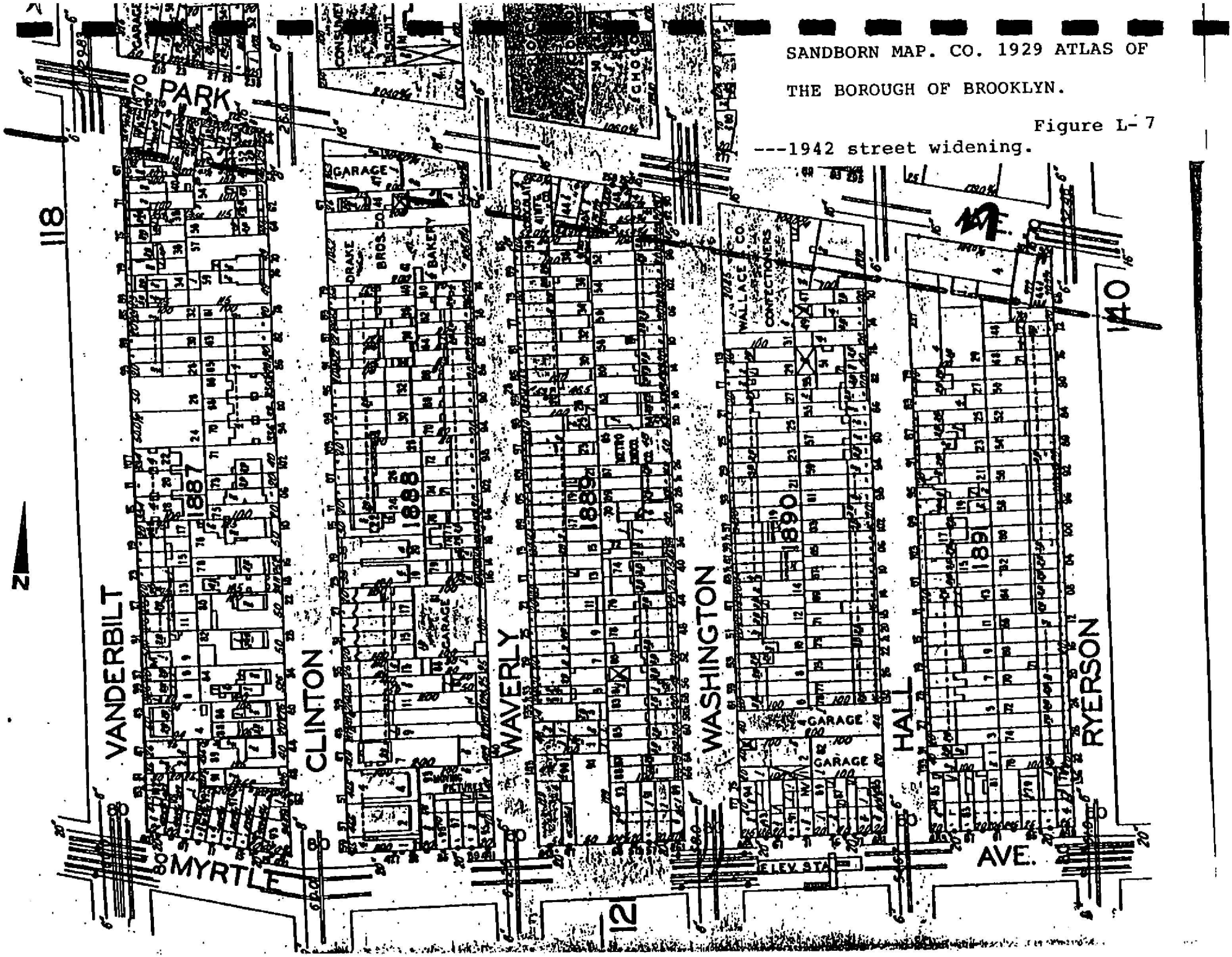


SANDBORN MAP. CO. 1929 ATLAS OF

THE BOROUGH OF BROOKLYN.

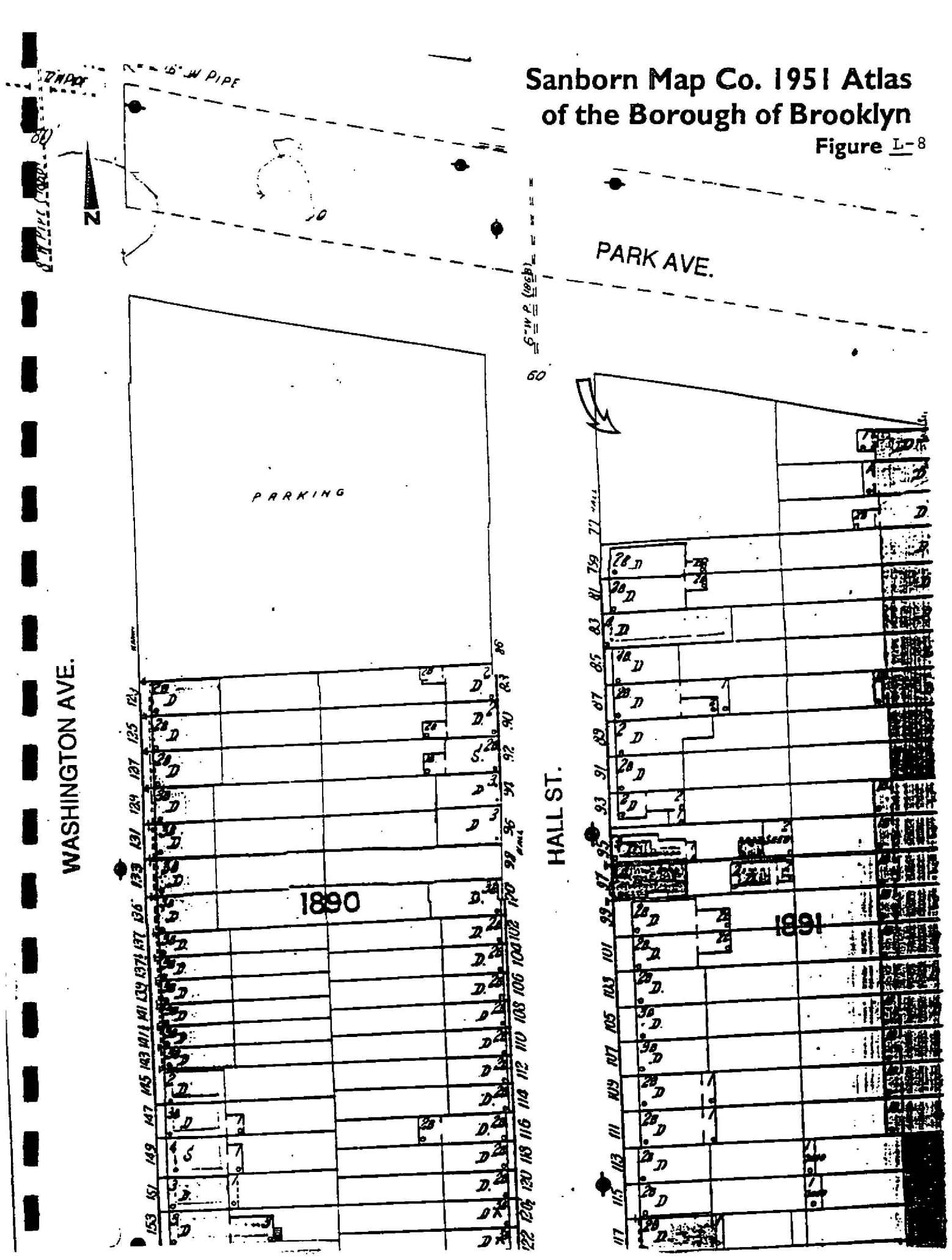
Figure L- 7

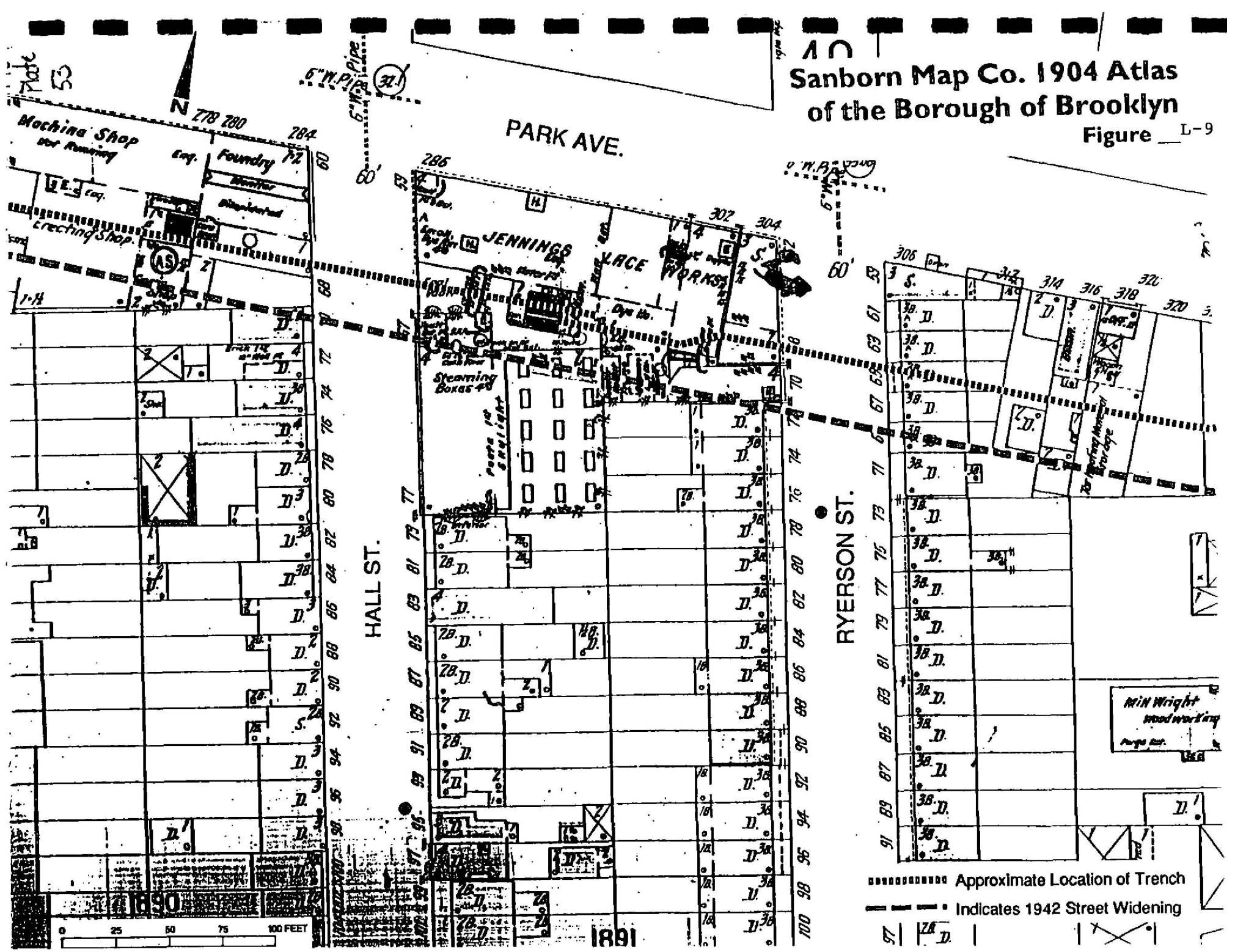
---1942 street widening.



Sanborn Map Co. 1951 Atlas of the Borough of Brooklyn

Figure L-8




Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure L-9
PARK AVE.
HALL ST.
RYERSON ST.
JENNINGS LACE WORKS
Machine Shop
Foundry
Steaming Boxes
Mill Wright woodworking
1890
1891
0 25 50 75 100 FEET
Approximate Location of Trench
Indicates 1942 Street Widening

March 1, 1991

Ann Taylor, Director
New York City Department of Transportation
Office of Litigation Support
295 Lafayette Street, Room 424
New York, New York 10013

Dear Ms. Taylor:

Historical Perspectives, Inc. is currently performing documentary research under the Department of Environmental Protection (DEP) for the Newtown Creek Water Pollution Control Plant in Brooklyn. Research entails documenting twentieth century road construction along Park Avenue between Taaffe Place and Gold Street. We would like to request access to those records regarding the widening of Park Avenue in Brooklyn in 1942, and any subsequent construction within the roadbed.

The Department of Transportation's Plan Archives are an incredibly valuable resource for documenting historical development in New York. Historical Perspectives, Inc., has had the opportunity to utilize the archives in the past for projects under contract to the DOT. Ms. Colon at the Archives has been very helpful to our research efforts in the past, and we look forward to a continuing cooperative venture.

Thank you for your consideration. Any assistance to expedite research would help to ensure that the project continues to meet the DEP's tight schedule. I will call your office within the next to weeks to get the clearance for research.

Sincerely,

Faline Schneiderman-Fox
Project Director, HPI

cc. Ms. Petra Colon

P.O. Box 331 • Riverside, Connecticut 06878 • (203) 661-0734

Ropewalk

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH:

ROPEWALK

Resource Category: Industrial

Property Type: Ropewalk

Identification:
Tucker and Carter Cordage Company / Waterbury Rope Company brick, arched ropewalk tunnel

Location: Between Classon Avenue and Taaffe Place, in the Park Avenue roadbed.

Blk. 1881

Introduction

The preliminary force main corridor project assessment identified a nineteenth century ropewalk founded by the Tucker and March Cordage Company, in the Park Avenue roadbed between Classon Avenue and Taaffe Place, as a potential cultural resource. Because this company was long-lived and had a reputation for innovation, in-depth research focusing on subsurface integrity, archaeological visibility, and potential significance was recommended.

The Tucker and March Cordage Company was established in Brooklyn in 1803 by Major Tucker but was not originally located on the project site. The business was subsequently moved (c.1835) to the project corridor and known variously as the Tucker and Carter Company (hereafter referred to as TCC) and the New York Hemp and Flax Manufacturing Company, and eventually as the Waterbury Rope Company (Industries and Wealth of Brooklyn 1890:119). By the late nineteenth century the ropewalk owners were embroiled in a national anti-trust action against the National Cordage Company, their parent company (Cordage Trade Journal 1892, V, 12:281).

By 1884, the expanded TCC complex consisted of three separate departments: a 1,200 foot long brick ropewalk which passed under Park Avenue and was used for the production of ropes and cordage (part of which would be in the project area), the Harvester Twine department; and the Jute department which produced jute cord and rope, and bagging for both Sea Island and Upland cotton. These two divisions were housed in a five story main building measuring 100 feet by 200 feet that fronted on Classon Avenue. The separate factory and storage facilities stood on blocks 1881 and 1896 adjacent to, but not within, the project area. (Stiles 1884, Vol. II:718).

Background:

People have been manufacturing cordage for well over 9,000 years, with the earliest archaeological evidence of its use in the new world dating to the tenth millennium B.C. (Andrews et al. 1986:51). In the early nineteenth century rope was hand twisted, in a fashion similar to that used for twisting which cotton or wool into threads (Hazen 1837:57). The original device used to spin yarn consisted of two upright posts with a wheel between them, connected by a belt with a number of rollers, usually twelve, called whirls, in which metal hooks were mounted. Hemp was attached to each hook, and a crank was used to turn the wheel rapidly. The mechanism was placed at the end of a shed

> "usually about a quarter of a mile long, known as a rope-walk. Sometimes the walk was not covered...As many spinners could work at once as there were hooks. Another workman, often a woman or a boy, then commenced to turn the crank, thus twisting the fibers which were held between the two middle fingers of the right hand of the spinner....with his left hand the latter kept feeding more fibers evenly into the twisting yarn, at the same time stepping backward at the rate of about two miles an hour. Within his reach, overhead, were hooks fixed in wooden cross pieces about thirty feet apart, and, as he passed these hooks, he tossed the spun yarn over them to prevent it from sagging to the ground...Sometimes there was a spinning machine at each end of the walk (Sprague, 1940:97,100).

The oldest ropewalk in Brooklyn, dating to Revolutionary War times, was started by the Sands family, a well-known and long-established Brooklyn family. It was located in the Sands and Tillary Streets area (not in the force main corridor neighborhood). In 1803 Major Fanning C. Tucker, who had married a daughter of Joshua Sands, started another ropewalk, taking on a Mr. March as a partner. Several years later, Mr. R. Sands Tucker, the son of Major Tucker and grandson of Joshua Sands, came into the firm, together with other partners. Upon his death, Mr. R. Sands Tucker, his son, took elder Sands' place in the firm (Stiles 1884, Vol. II:716). We have been unable to determine the exact location of Tucker's initial enterprise, although it may have been in the Sands Street area.

The historian Stiles states that the manufacturing complex built on the project corridor blocks, bounded by Taaffe Place, and Classon, Myrtle, and Flushing Avenues, which was to become the home

of the TCC enterprise was built by a J. F. Delaplaine. Delaplaine first appears in the conveyance records (Liber 29 Page 366) in 1830 when he buys the unimproved land from James Post. Delaplaine was the owner during the construction of the ropewalk because when the Delaplaine estate trustees sold the property in 1834 it was listed as a ropewalk and sold for almost three times the original purchase price. (For a detailed listing of the property conveyances see the Appendix.) It is in 1834 that F. C. and Richard Tucker and Robert and William Carter are listed as the actual owners of the ropewalk property (Liber 43 Page 58), although this does not preclude a possibly earlier, unrecorded lease by the TCC group.[1]

In 1838 Robert Carter apparently sold his interest in the ropewalk to William B. Cooper (Liber 76 Page 123) and all other interest in the property seems to have been consolidated under Richard Tucker's name by 1839 (Liber 82 Page 312). By 1839 Tucker, Cooper & Co. was listed as a ropewalk at Wallabout Road and Kent Avenue [the project corridor] and by 1846 the same Tucker Cooper & Co. was advertised as a bagging factory at Myrtle and Graham (Taaffe Place) (Brooklyn Directory). The complex, including two ropewalk buildings in the Park Avenue roadbed, can be seen on Dripps' 1850 atlas (Figure 1). The 1860 Perris Map of the City of Brooklyn illustrates in great detail two Tucker, Cooper & Co. Bagging & Cordage Mfg. ropewalks (one frame, one brick with shingle roof) crossing Park Avenue. This 1860 atlas also includes "E. Wheeler & Bros. Rope Manufactory" on the block between Bedford and Flushing Avenues and River Street, removed from the project area. The 1869 Dripps atlas reflects the same configuration shown in 1850 and 1860 - two TCC buildings crossing the route of Park Avenue (Figure 2).

Another Brooklyn ropewalk company was started by Noah Waterbury in 1816 on land east of city hall near Bridge Street. And William Wall, who worked as a journeyman with Tucker and Cooper, later purchased an old ropewalk facility in Washington Street. Wall moved his company to Bushwick Avenue, between Siegel and McKibben Streets, in 1836. The William Wall & Sons' two frame ropewalks extended across the White Street roadbed until at least 1850 and, according to insurance atlases, one of the ropewalks impeded street traffic until c.1898. Although Sag Harbor had a ropewalk prior to 1850 and Long Island hosted other ropewalks, Brooklyn clearly led the field in this industry (Riverhead News Review 1961:140).

The TCC was very possibly the first ropewalk to introduce an adapted spinning jenny for spinning hemp in place of hand spinning.

---

[1]Tax records for this ward of Brooklyn prior to 1846 were unavailable.

Between 1818 and 1825 the mule jenny had evolved into a completely automatic self-acting machine, vastly reducing the number and required skills of laborers (Daumas 1979: 596). Current research at Massachusetts' Charlestown Navy Yard ropewalk by the National Park Service has documented c.1835 local inventions for various mechanisms to streamline the cordage process but they do not appear to predate the TCC effort (Diana Waite, Mount Ida Press, personal communication, 1/21/91).

The introduction of machinery into the local business was met with opposition by the Brooklyn hand spinners. TCC's first attempt to install the jenny in 1833 was met with an uprising of workers who tarred and feathered the installer; "they then seized the hemp he had spun, paid the company for it, took it to a hill near by and burned it publicly" (Stiles 1884, Vol. II:717). The anti-machinery laborers from New York City attempted to halt the introduction of mechanized spinning in at least one other east coast ropewalk (Diana Waite, Mount Ida Press, personal communication, 1/21/91). Regardless, the spinning jenny remained in operation at TCC and for many years the company was known as "the steamer" (Stiles 1884, Vol. II:717). "The steamer" reputation probably derives from the numerous jets of steam, necessary in the spinning process to keep the fibers soft, that were released in the ropewalk. During the nineteenth century it was common for each ropewalk to manufacture these powered machines in their own machine shop (Ryder 1954:31).

By the late 1800s, TCC employed 600 skilled operatives, and used two steam engines to power their machines, a Corliss engine of 500 horsepower and a Harris engine of 300 horsepower. By 1884 the factory was one of fourteen in Kings county, and had been greatly enlarged to become one of the "best appointed and conducted ropewalks in the country" (Stiles 1884, Vol. II:717). Approximately 35 tons of manilla and sisal cordage, harvester twine, and other variations of cordage were produced daily, sometimes not even meeting the heavy demand (Industries and Wealth of Brooklyn 1890: 119).

The largest ropewalk in the world during the late nineteenth century was that of William Wall & Sons established in 1830 (Riverhead News Review 1961:140). Wall's 1700 foot ropewalk, located in a second factory in Beverly, New Jersey, was reported to be "like other walks, enclosed in a tunnel that extended under adjoining property, owned by others" (Ibid.) but map research has indicated that many of the Brooklyn ropewalks were probably built over the streetbed. Apparently Brooklyn led the field in this industry, with weekly shipments of sisal from Mexico, manila hemp from the Philippines, and jute from India arriving at the waterfront (Brooklyn Daily Eagle 1934:98).

This concentration of cordage manufacturers culminated in the 1887 organization of the National Cordage Company by the four largest manufacturers in New York City: L. Waterbury & Co., Elizabethport Steam Cordage Co., William Wall's Sons, and the project area's Tucker & Carter Co. "The united manufacturers attempted to control the business through a control of the raw material, but the task was found to be impossible of accomplishment. When the company had run the prices of all Fibres then used for Rope and Binder Twine to the highest point touched for many years, it and its associates were unable to utilize all the Fibre that they had been compelled to purchase in their endeavors to control the Fibre market of the world. When the associated manufacturers stopped buying the market receded, thus permitting the manufacturers not in the cabal to purchase material and sell Twine and Rope profitably at less than they could. The operations in Fibre instituted and carried out by the National Cordage Company during the early period of its existence had the same disastrous effect upon its business, and on that of those associated with it, that the precious actions of the original manufacturers in trying to get the last cent possible from their customers; competition increased and some of the remaining buyers of Twine started mills" (Cordage Trade Journal, 1892, Vol. V, 12: 281). The unsuccessful practices of the National Cordage Company resulted in a disastrous price war of 1891 and numerous suits and counter suits brought before the U. S. courts. The industry's problems did affect the entire country and the mechanizations of the National Cordage Company became so well known that even theatrical skits about the attempted monopoly were performed in San Francisco (Cordage Trade Journal, 1892, Vol. V, 8:166 and 1896, Vol. XIII, 5:65-66).

Despite the difficulties of being a part of the National Cordage Company, TCC, listing a Pine Street sales office, advertised in the 1892 Cordage Trade Journal, touting their "cordage and binder twine, jute rope and jute cords a specialty" (Vol. V, 1:19). However, the establishment was realizing a difficult period soon after because an 1896 issue of the Journal describes the TCC preparation to "put into operation the Jute works ...They have not been run for several years" (Vol. XIII, 1:4).

By 1899 the TCC complex had been taken over by the Waterbury Rope Company, best known for their Manila transmission rope (Figure 3). The company also produced manila and sisal rope for fishing, whaling, lobstering, towing, yachting, as well as for clothes lines, agricultural equipment, and drilling cables. They also made spun and tarred yarns (Waterbury Rope Company 1899:10). During the early twentieth century, the process of rope making at the Waterbury company entailed the following:

> The bales of Manila hemp...are opened in the basement, and after the material has been lightly shaken apart, it is placed in layers, which are sprinkled lightly with oil...it is then hoisted on elevators to the top stories of the building. The first mechanical operation is called Scutching, which consists of passing the hemp over revolving cylinders bristling with sharp steel prongs or teeth which straighten out the fibers...It is then passed on to the Breakers which are large frames each about twenty-five feet long consisting of two endless chains covered with long steel pins...the effect being to comb or straighten out the fibers and then draw them into a continuous sliver or ribbon (Waterbury Rope Company 1901:23).

After this process was performed again on spreaders and drawing frames, the slivers or small soft ribbons were ready "for the spinning frames housed on the floor below" (Waterbury Rope Company 1901:23). The slivers were then turned into yarn on spinning jennies. After being spun the yarn was placed in small cars on a railway and carried to the various rope making departments. The large rope, over one and one-half inches in circumference, was formed and laid on the ropewalk.

> For this process it is necessary to rewind the yarn on larger bobbins; the number used of these bobbins containing the yarn depends on the size of the rope. These bobbins are put in a framework of wood located near one end of the rope-walk, and the ends of the yarns are passed through holes in an iron gauge-plate, known as the face-plate, and then through cast-iron tubes, the diameter of which is graduated to conform with the size to form a strand of the rope required. These yarns after being passed through the tubes are fastened on a hook of the forming machine, which runs on a track the entire length of the walk, and which at the same time twists these yarns left-handed into a strand.
>
> To lay these strands into rope, two laying machines are required, one at each end of the walk, and are known as the upper and lower machine...The upper machine has but one hook, to which all the strands are fastened and operates in one direction; while the lower machine has as many hooks as there are strands, and operates in the opposite direction (Figures 4 and 5). When the length of rope is completed it is compactly coiled by a reeling machine, covered with burlap and shipped to its destination.

> Longer cables are made on machines and not in the rope-walk. Due to the size and weight of these machines only a few mills in the country are constructed to make them. (Waterbury Rope Company 1901:25-27).

In the late nineteenth century TCC was considered to be the only survivor of Brooklyn's early nineteenth century manufacturing companies (Stiles 1884, Vol.II:716). It was still operating into the twentieth century and building documents from this later period exist. A review of Block and Lot files at the Brooklyn Building's Department revealed a few plans and permits for the Waterbury Company. In 1918 the company was still operating under the ownership of Jas. Waterbury (Applic. 1023:1918). According to a 1919 Plot plan of the Waterbury Rope Company, there was a "one-story brick rope" running north-south on Block 1881 south of Park Avenue and the force main corridor (Plan 8745:1919). However, since these files dealt with that part of the factory that stood on city blocks 1881 and 1896, no mention was made of the tunnel connecting the two.

The factory remained in operation until at least 1927 when an advertising permit was filed (Block and Lot Files). But, in 1932 the east half of Block 1881, south of Park Avenue, was leveled and by 1935 turned into a city park (Block and Lot Files/Dem. #41). The half of the factory which was built north of Park Avenue on Block 1896 has changed hands several times, hosting the Original Studio Iron Works, Inc. in the mid 1940s. An Iron Works alterations permit (Block and Lot Files: ALT. #2966) includes information on the 16 inch retaining wall and "deepway" (or horizontal air shaft) running along the north and south sides of the 30'2" wide below grade ropewalk. The retaining wall and deepway, seen on a 1915 atlas (Figure 6), allowed for a series of windows to stretch the length of the ropewalk. These windows introduced light, essential for the mechanized cordage process, to the sub-grade processing complex.

Field Inspection:

One Stop Manufacturing, Inc., a knitwear business, now occupies Block 1896 or part of the original TCC complex. Through the cooperation of One Stop executives an examination of the ropewalk building north of the force main corridor was conducted (3/6/91). The tunnel opening to Park Avenue has been blocked by mortared cinder blocks, in part to avoid rental charges for "sidewalk vault use" by the city. Also, the tunnel at the north end of this basement level, leading to another building of the TCC complex, has been filled with sand by One Stop Manufacturing in an effort to reduce burglaries. Iron tracks for the rope making machinery, measuring approximately 40.5 inches in total outside width, still exist the length of the basement ropewalk - disappearing into the blocked tunnel space at both the north and south walls. Figure 7 is a 1923 illustration from the Wall Rope Works, Inc. brochure that clearly depicts such metal tracks.

The vault or tunnel is still intact, it was encountered only two or three years ago when One Stop installed a high pressure gas line. However, it was impossible to definitively measure or calculate the exact size or shape of the tunnel from the extant ropewalk building. We were unable to locate any plans for the tunnel and only the twentieth century atlases lend a slight description by labeling it as brick and arched but do not render it with precise measurements.

Alterations in the original ropewalk building were noted: (1) metal I-beams have been added to the ceiling for load-bearing support; (2) concrete flooring has been poured to level the floor to the height of the metal tracks; and, (3) certain of the sub-grade windows have been filled with masonry and metal shutters.

Archaeological Sensitivity:

The status of the company and its important place in the history of rope making has been established. The Tucker and Carter Cordage Company was very possibly the first cordage manufacturer to adapt the spinning jenny to the rope making process, adopted despite employees' opposition to progress. The ropewalk possibly represents one of the longest standing structures of its kind in the metropolitan New York area and perhaps the country. The actual brick arched tunnel section of the ropewalk that is in the force main corridor was built beneath Park Avenue, connecting the two ropewalk building complexes on blocks bounded by Taaffe Place, Classon, Myrtle and Flushing Avenues. This connecting tunnel is apparently extant. And, due to the fact that the tunnel was in place prior to the initial installation of municipal utilities and was still functioning during many episodes of utility improvements, it has apparently remained relatively undisturbed.

The potential archaeological value of a small section of a tunnel of this vast complex depends upon its visibility, integrity, and ability to contribute significantly to our understanding of the ropewalk industry. The ropewalk was founded in 1803 and was established at the Taaffe Place location by the mid 1830s. The connecting tunnel is seen on insurance maps as late as 1951. Similar tunnels have been constructed at other ropewalks throughout the country, although few have been known to extend under roads, as many were constructed on larger parcels in areas where surrounding roads were not a limiting factor. The earliest ropewalks were not necessarily structures, but were often just paths shaded by trees planted for that purpose (Sprague 1940:97). Later factories constructed walks with windows at set intervals which the walkers could count to determine the length of the walk they had covered as they moved backwards. As can be seen in a picture of the construction of McCormick Twine Mills in Chicago, much of the lower level of the ropewalk and surrounding buildings were built below surface level, with upper levels flush with the surrounding surface to accommodate shipping and receiving (Figure 8).

We have been unable to identify the actual construction year of the original project corridor ropewalk but it was between 1830 and 1834. In 1830 John F. Delaplaine and Elijah P. Delaplaine purchased the two project corridor blocks from James Post for $9,250 (Liber 29 Page 366). By 1834 when a Delaplaine widow sells the parcel to Tucker, et al. for $25,000 it is listed as land and a ropewalk (Liber 43 Page 58). The earliest available map of the ropewalk is from c.1850 and is problematical in that it clearly depicts a ropewalk and a secondary building and the Park Avenue roadbed, laid by 1839 according to Dikeman's Compendium (1870:35),

in existence simultaneously (Figure 1). If TCC did move into an established Delaplaine ropewalk built prior to the creation of Park Avenue then a reconstruction phase was undertaken almost immediately by TCC to build the tunnel ropewalk as the Park Avenue roadbed was being laid or else the excavation of the tunnel was in a subsequent, post-Park Avenue development phase. Records indicate that in c.1880 the ropewalk complex underwent a major reconstruction project and, although there is no documentary evidence, it was perhaps at this time that the tunnel was first installed. The 1886, 1898, and 1904 atlases clearly show the Park Avenue roadbed unimpeded by a ropewalk (Figures 9, 10, and 11).

Conclusions:

The ropewalk tunnel has the potential to yield significant information on construction and design techniques, and technological adaptations. The ropewalk was used for approximately 100 years, spanning many eras of mechanical progress. The company not only adapted to progress, but forged the way with other companies following in their footsteps. Even after the factory no longer produced fiber rope, many of the original buildings on Block 1881 were later adapted for use as a wire and iron works and subsequently a knitting mill.

Research on the TCC complex has been possible through available histories, directories, and company publications but the written record has been unable to fully document the subsurface ropewalk tunnel that may be impacted by the force main project corridor (Figure 11). Real questions exist concerning the construction period, size, and function of the brick, arched tunnel. The integration of the tunnel with the ropewalk buildings is unknown. It is assumed that existing utilities were placed beneath the ropewalk and current engineering drawings agree (Figure 12).

In order to address these research questions we recommend that photo documentation of the brick ropewalk tunnel be undertaken when the Park Avenue streetbed is opened for the laying of the force main if the trench will impact the tunnel, whose depth is to approximately 9 feet below grade as shown on the profile view on Figure 12. As currently planned, the force main will be placed in a trench dug under the tunnel in order to avoid it (Figure 12).

However, in a telephone conversation with Nick Marifini of URS Consulting Engineers, Mr Marifini stated that a decision might be made to cut through the ropewalk tunnel. If that is the procedure, we recommend that a Society of Professional Archaeologists (SOPA) certified archaeologist be on site when the cut through the tunnel area is anticipated. Photography, measuring, and map work should be done according to Historic American Engineering Record (HAER) standards. Three days is the estimated time the work would take.

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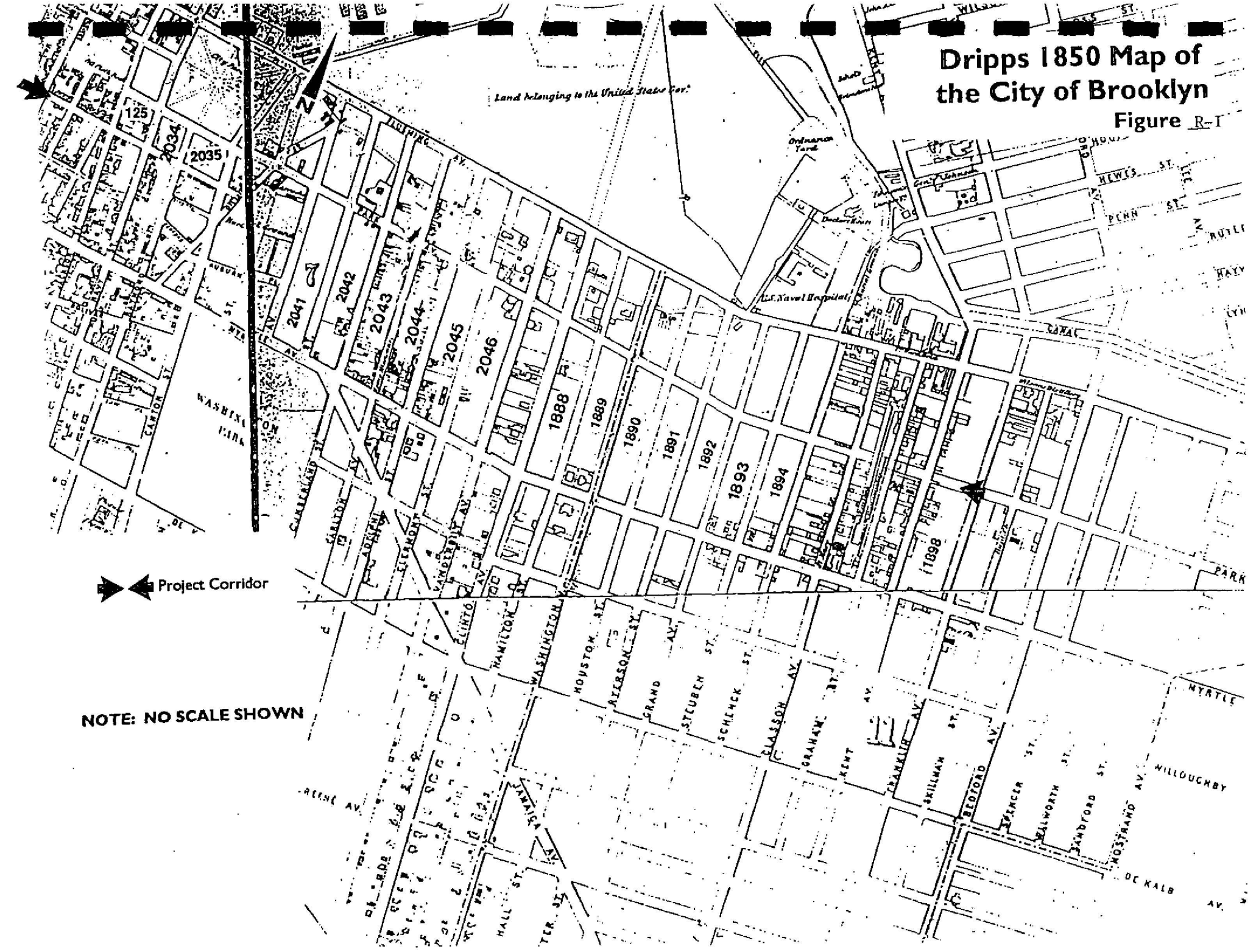
Dripps 1850 Map of the City of Brooklyn

Figure R-1



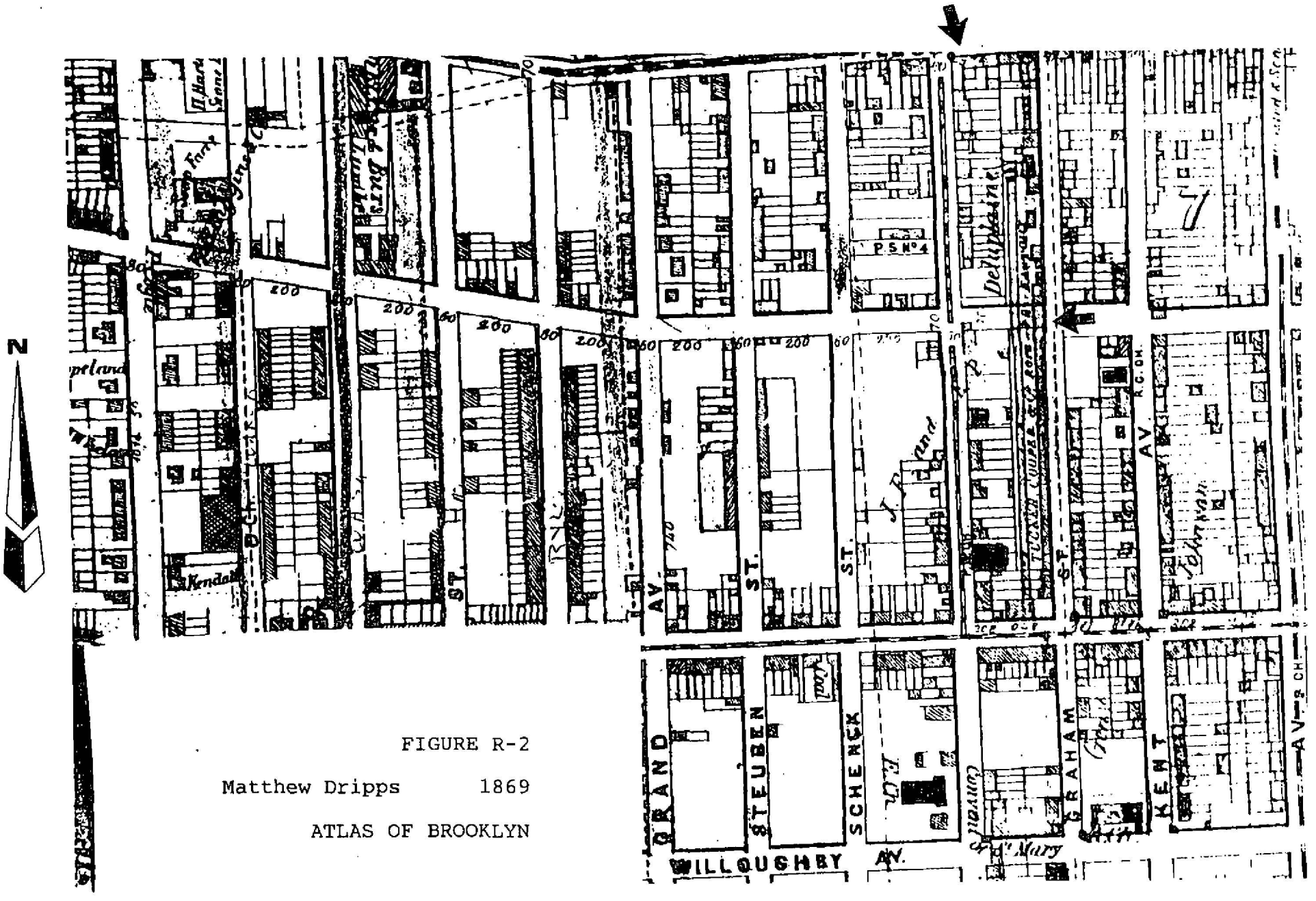
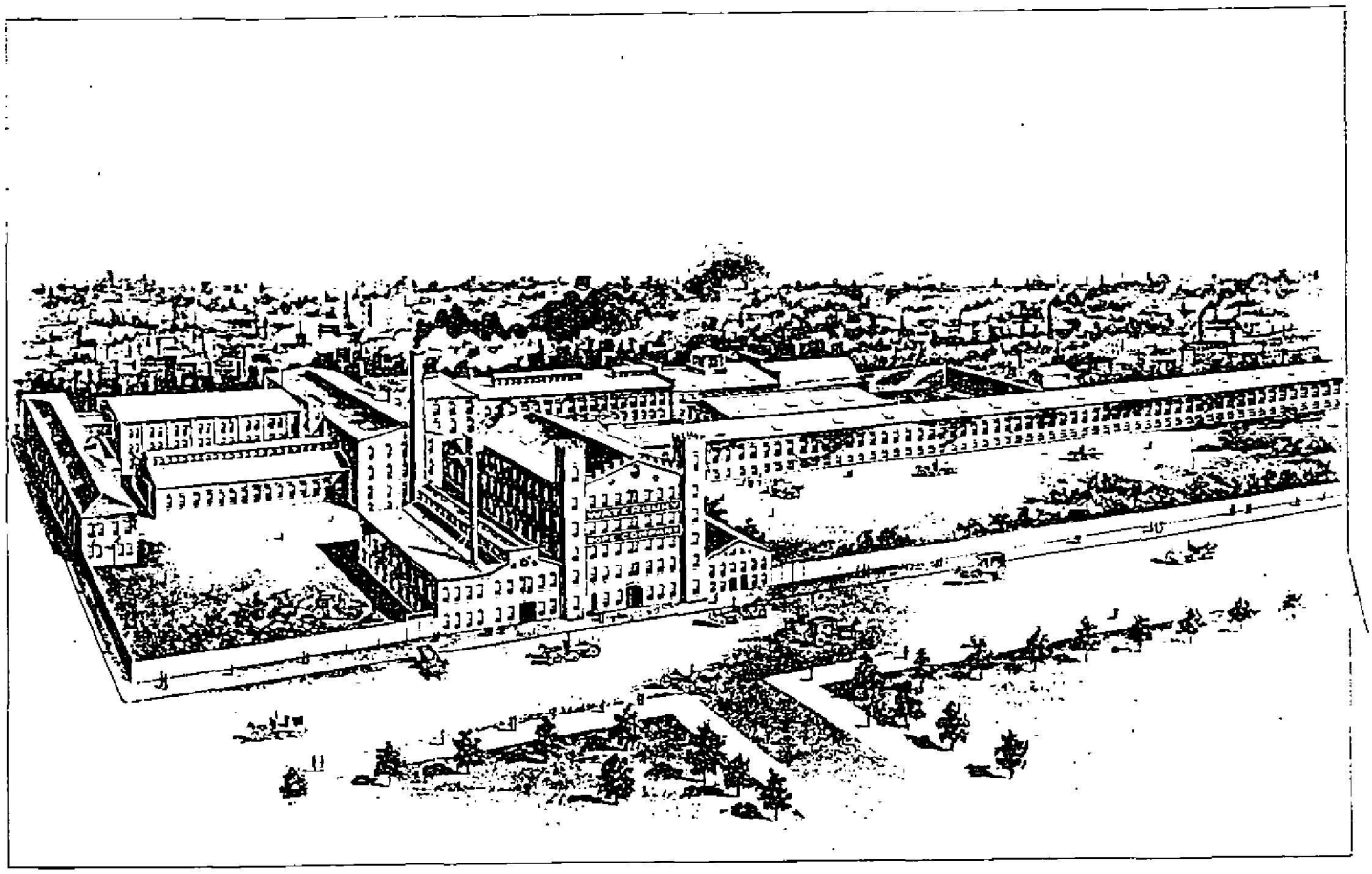


FIGURE R-2

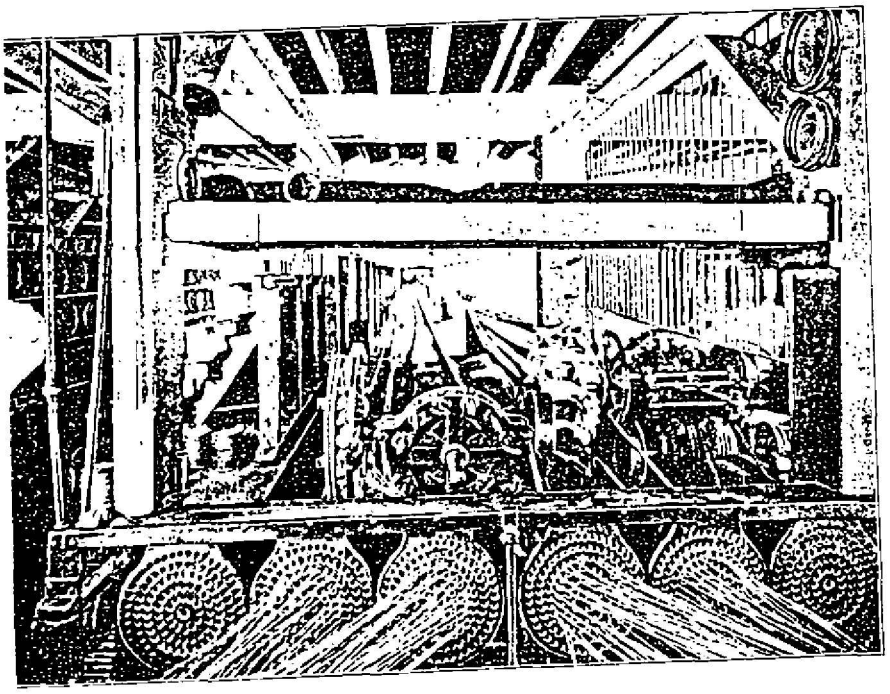
Matthew Dripps 1869

ATLAS OF BROOKLYN

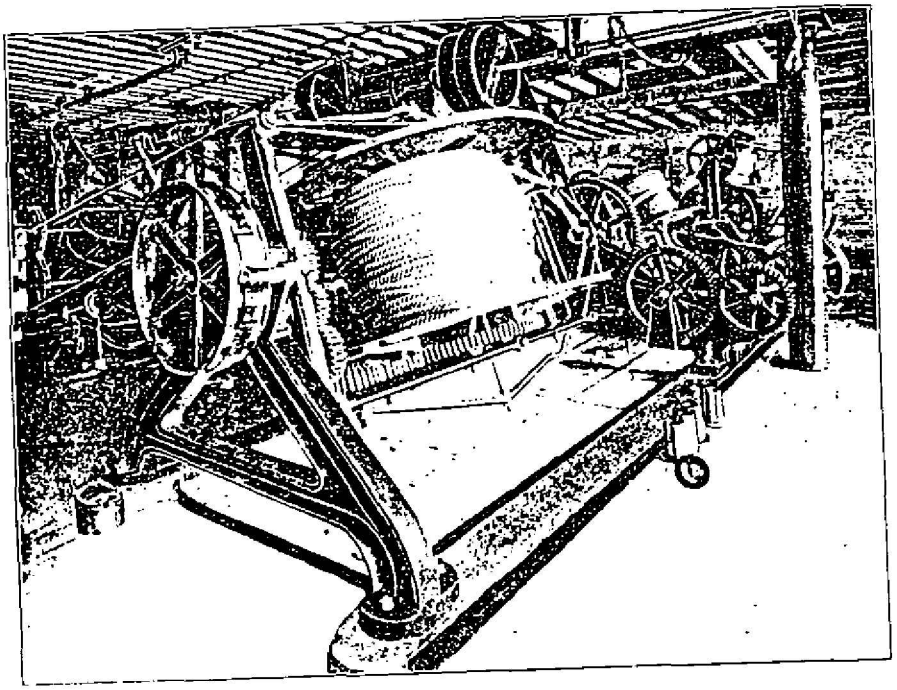
Waterbury Rope Company
(Waterbury Rope Company 1901:n.p.)

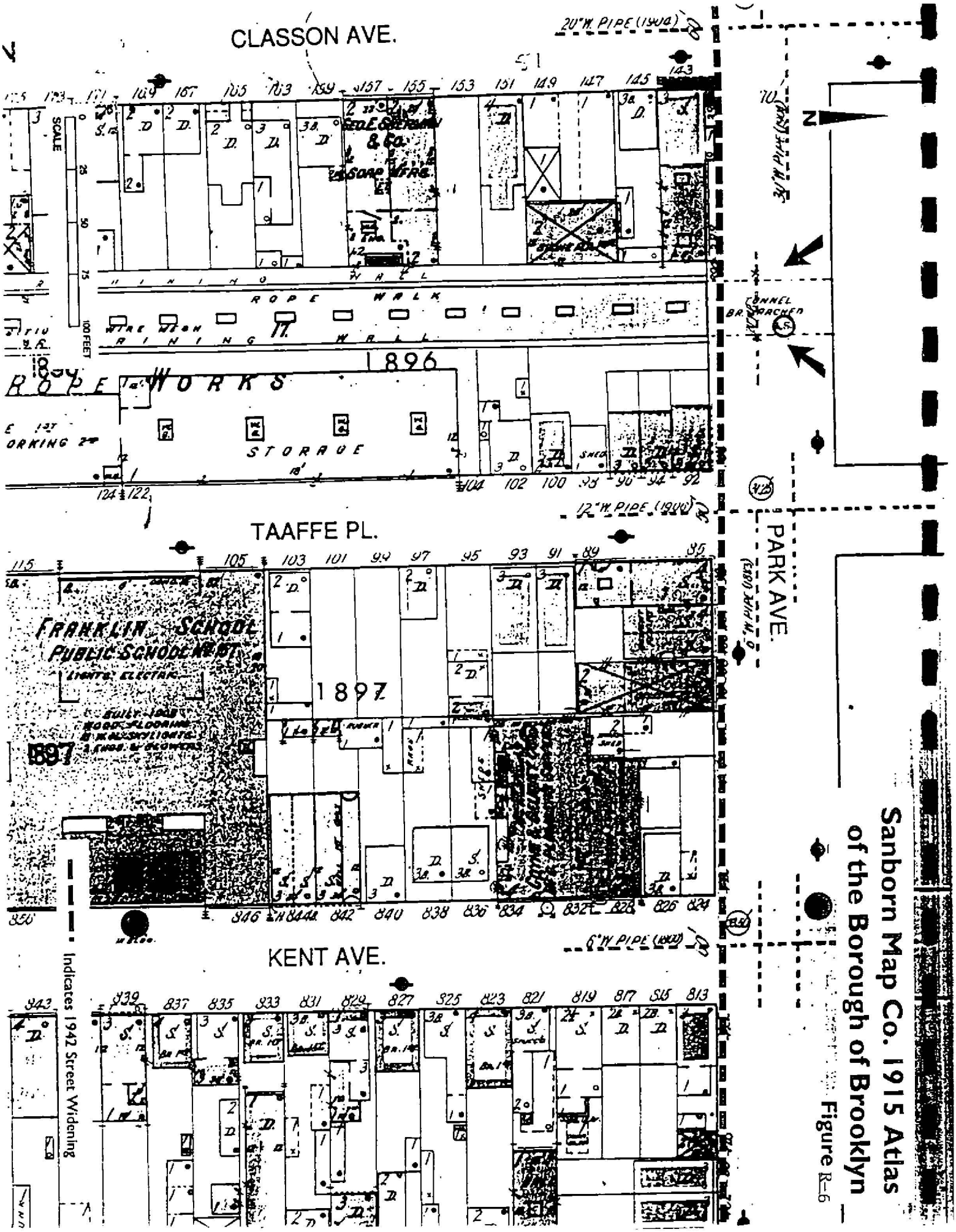


Interior view of the Waterbury Rope Company ropewalk and machinery. Note the metal tracks. (Waterbury Rope Company 1901:26)



Rope Walk

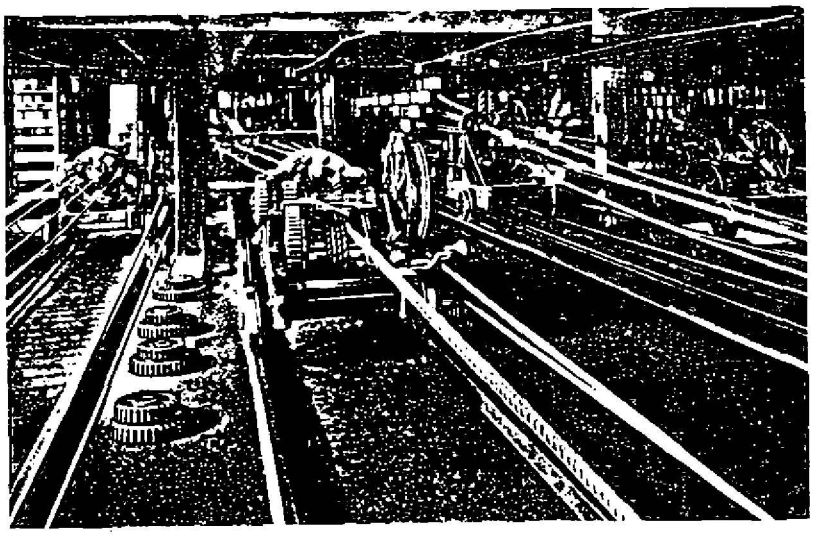




Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

Figure R-6

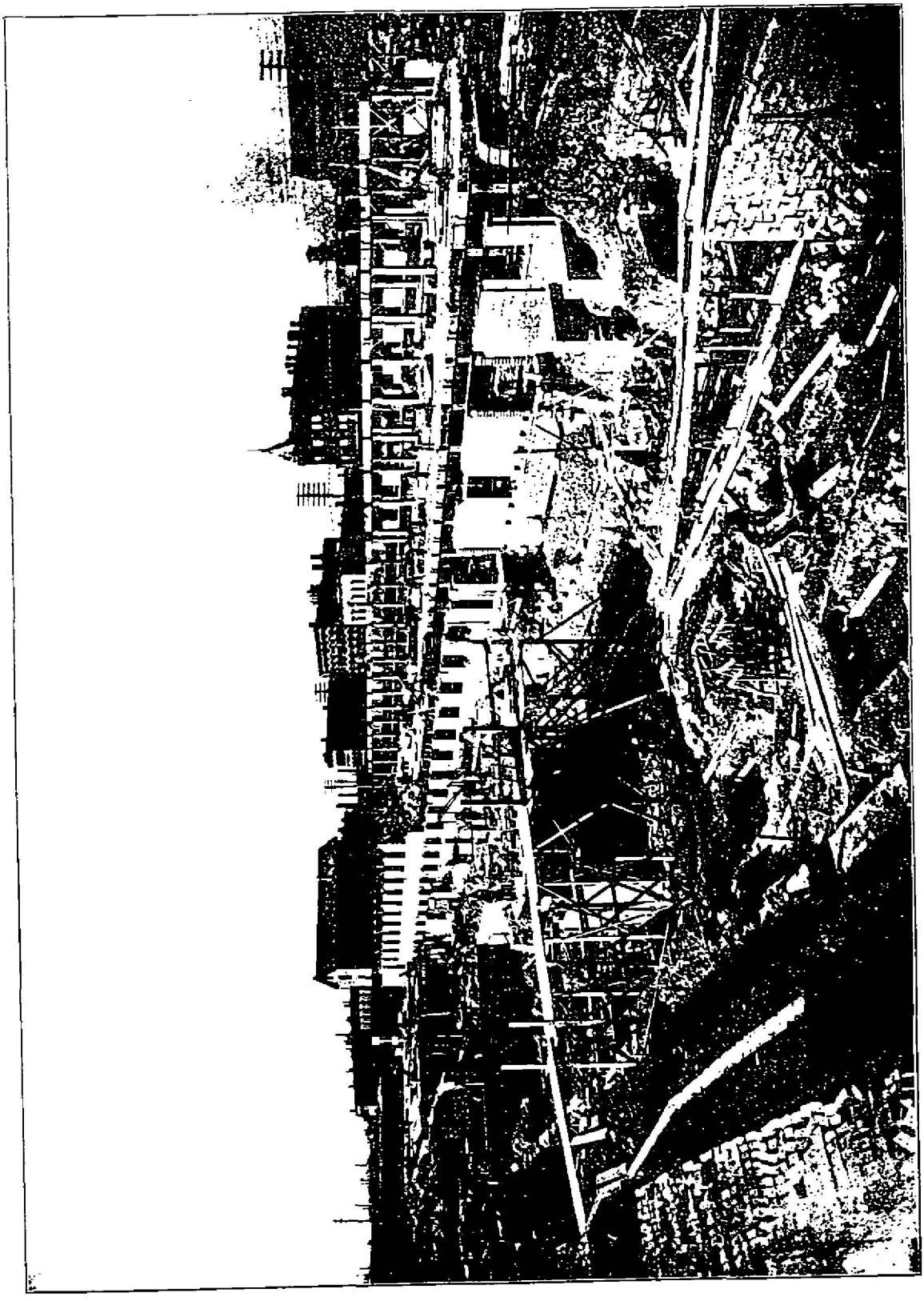
Photocopied from Wall Rope Works, Inc., p. 27.



ROPE WALK SHOWING THE PROCESS OF FORMING THE STRANDS AND LAYING THE ROPE

Note the metal floor tracks.

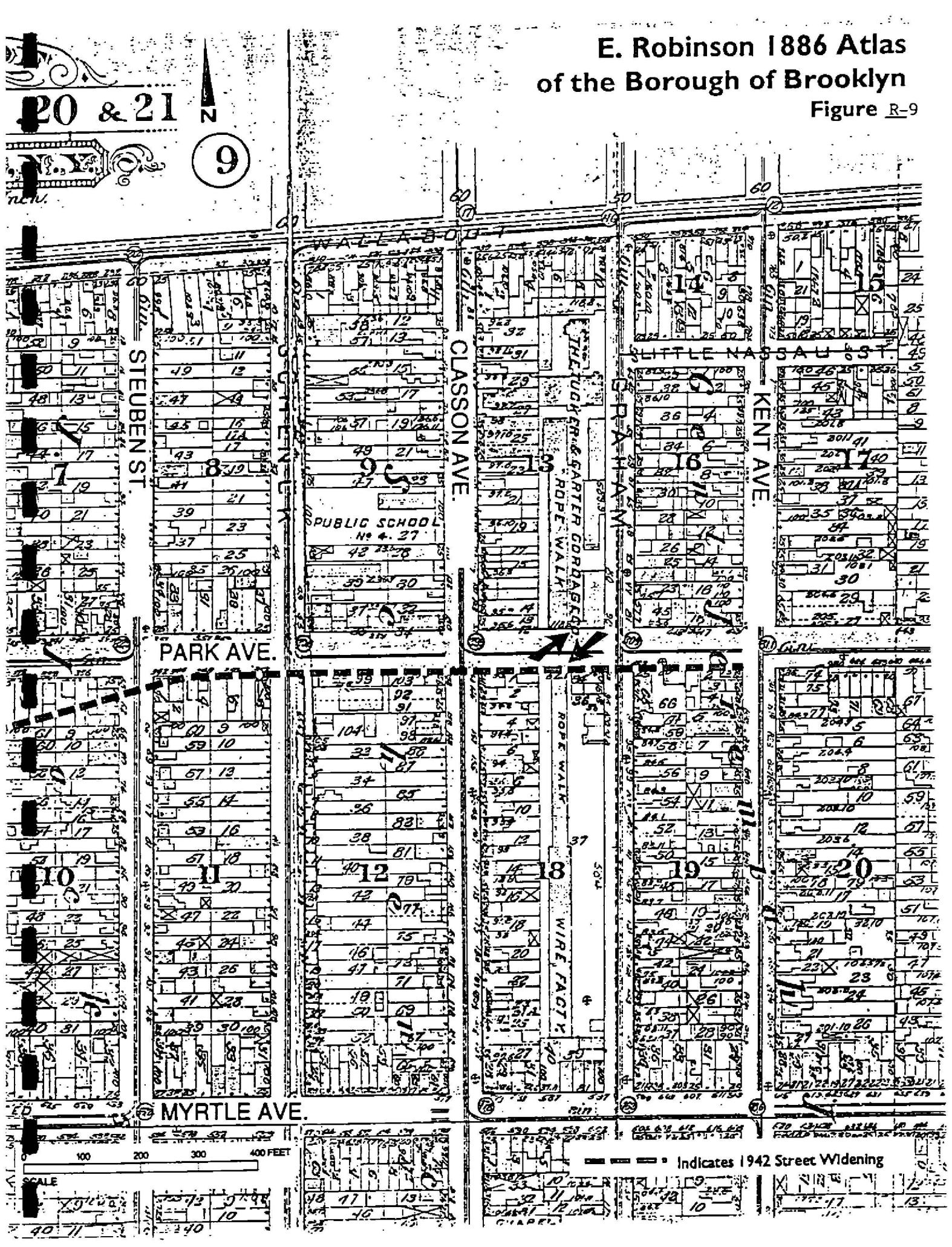
Foundations for the McCormick Twine Mills
(McCormick Harvesting Machine Co. n.d.:n.p.)



LAYING THE FOUNDATIONS FOR THE McCORMICK TWINE MILLS

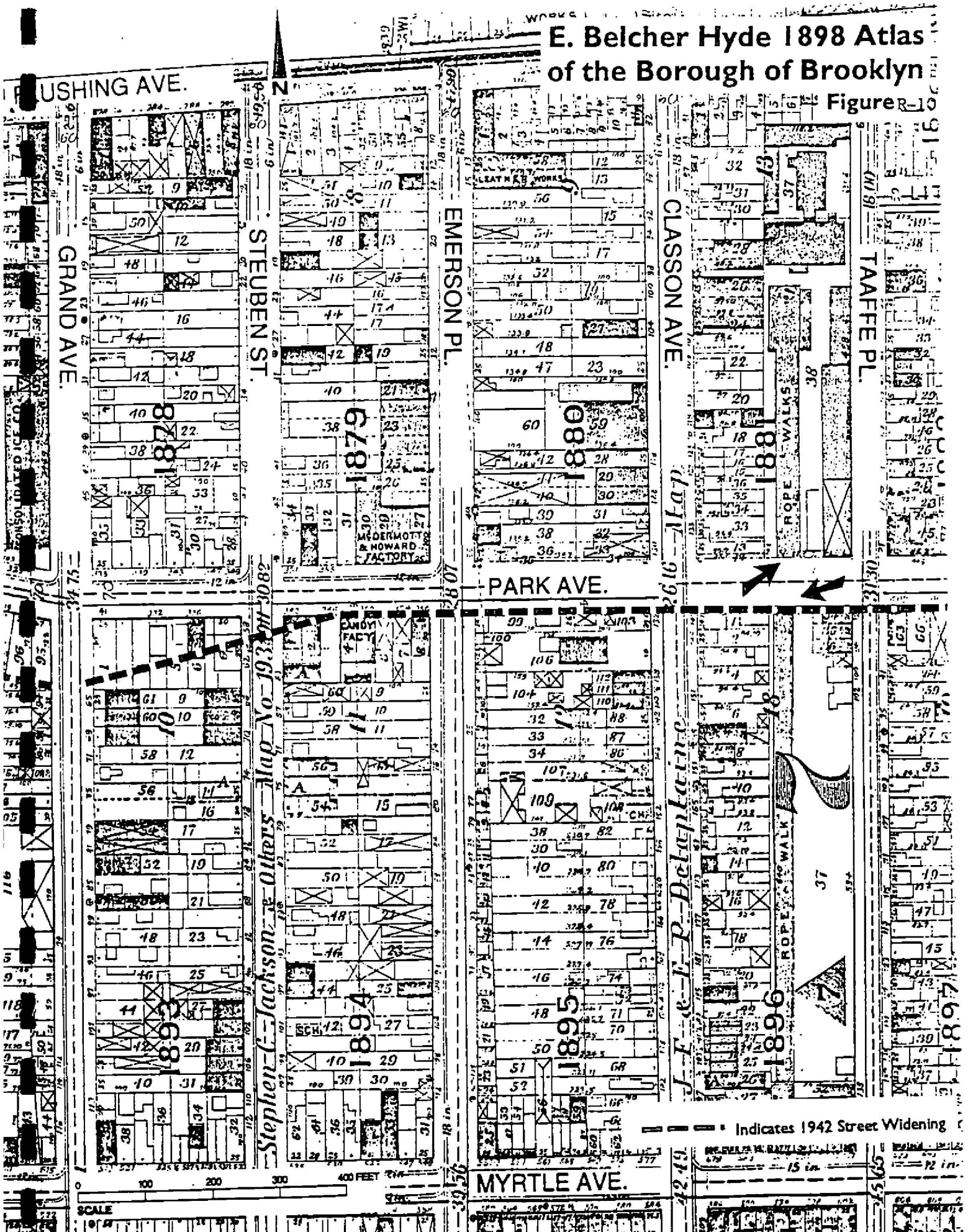
E. Robinson 1886 Atlas of the Borough of Brooklyn

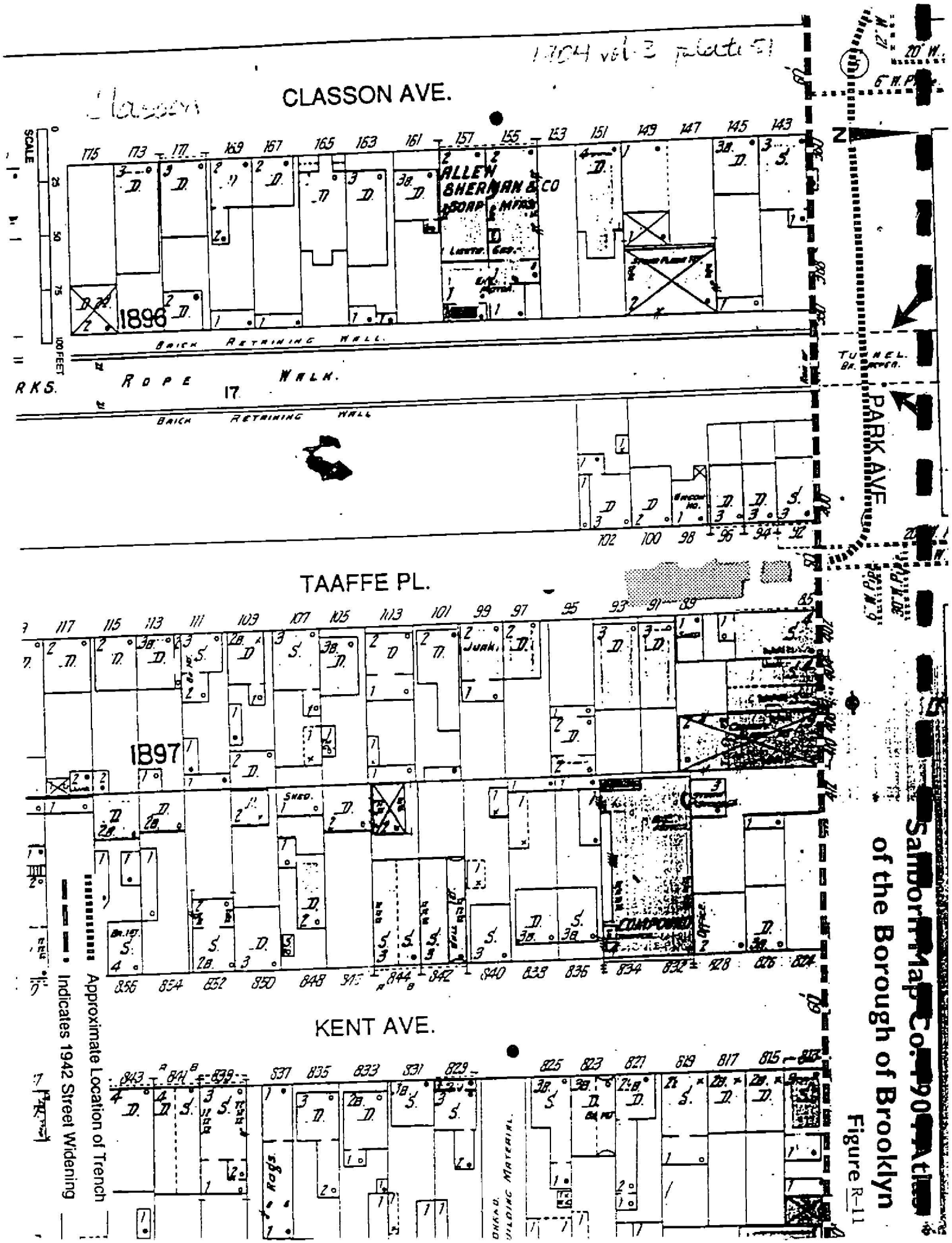
Figure R-9



E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure R-10

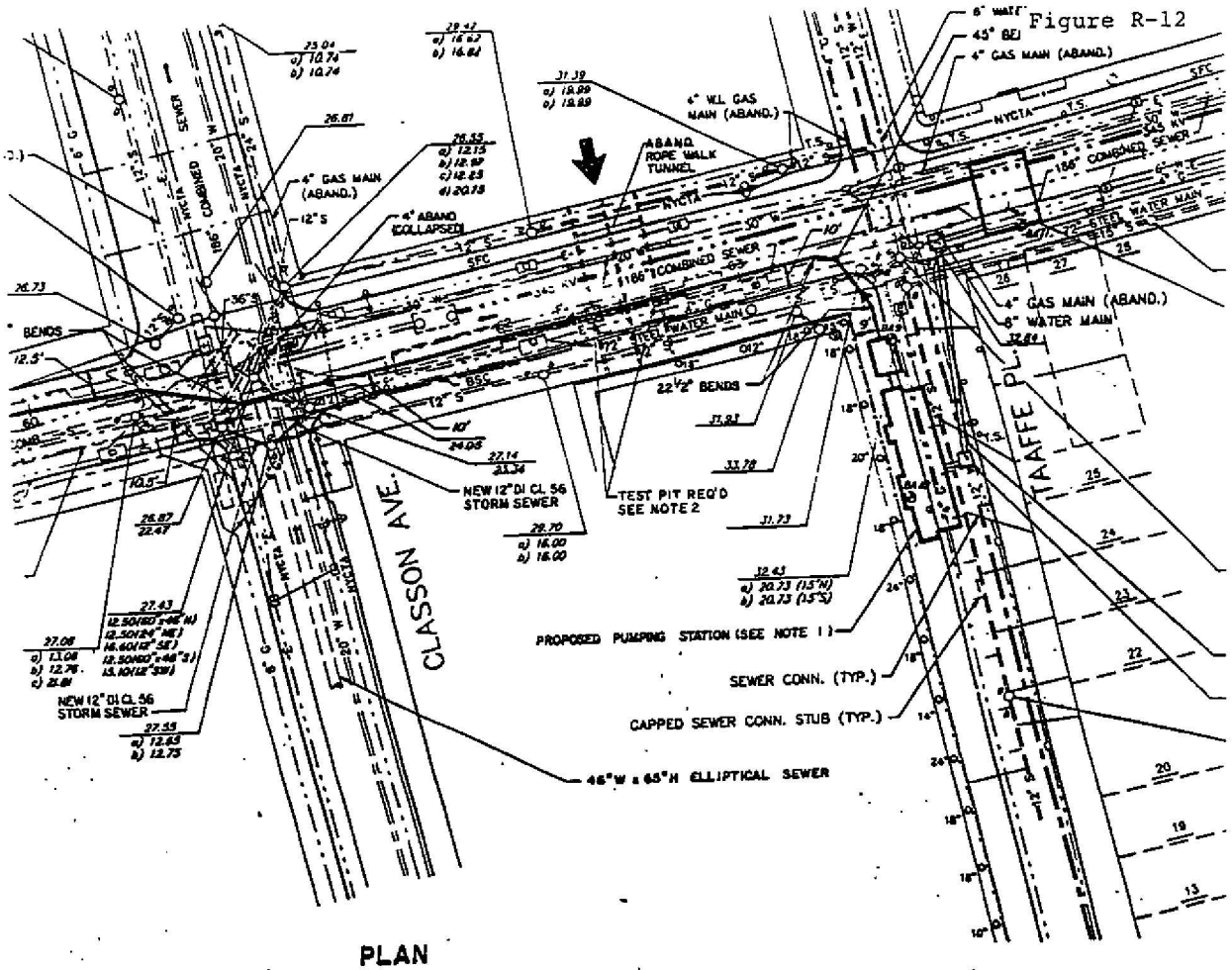




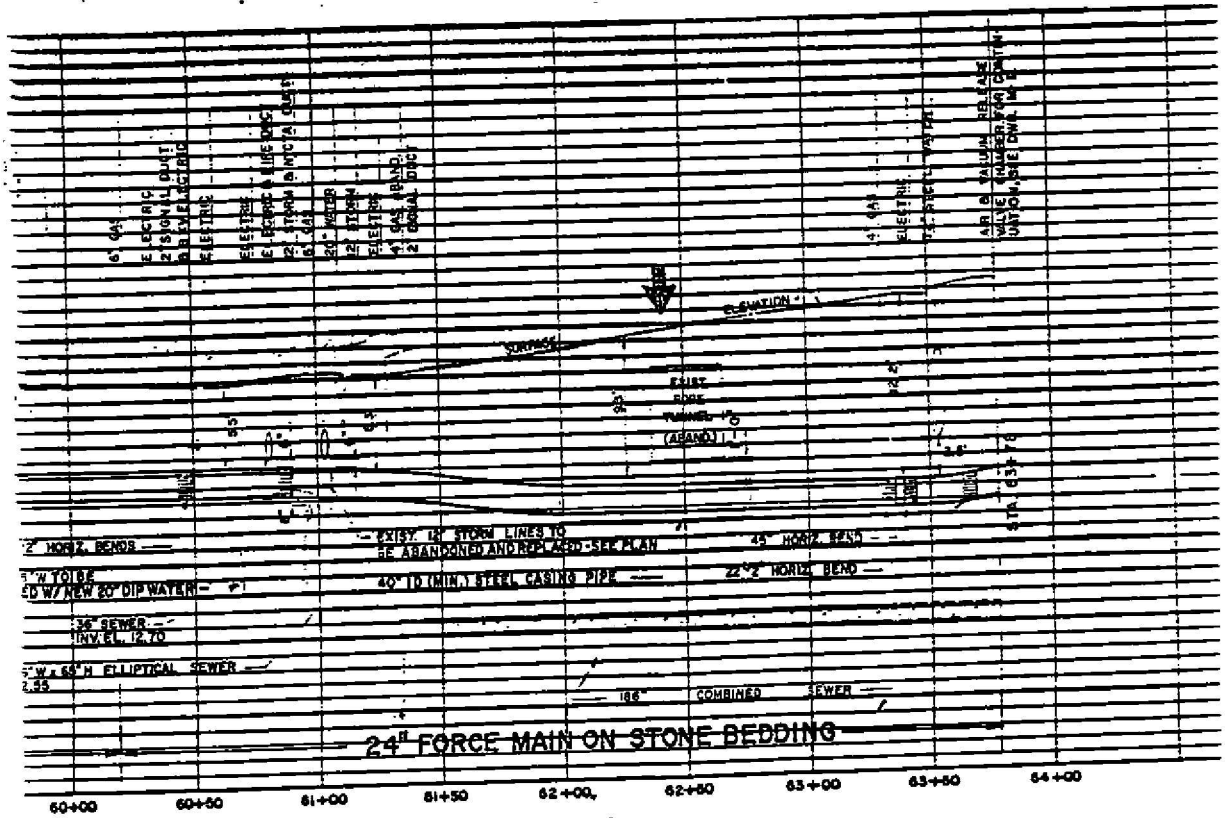
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure R-11

Figure R-12



PLAN
SCALE: 1" = 30'



PROFILE
HORIZ. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'

URS CONSULTANTS, INC. CONSULTING ENGINEERS

APPROVED FOR THE CITY OF NEW YORK
PROJECT ENGINEER

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HEAVY CONSTRUCTION
DIVISION OF PLANT DESIGN

Conveyance records for Block 1896. The same pattern of transactions also occurs for Block 1881, directly north of Block 1896.

GRANTOR	GRANTEE	DATE	LIBER	PAGE
J. Rappelje	J. Rappelje, Jr.	1760	6	42
M. Schenck	T. Tiebout	1807	9	65
S. Schenck (widow)	M. & L. Schenck	1815	11	340
S. Schenck	J. Harris (trustee)	1821	12	638
S. Schenck	M. Harris-Schenck	1824	14	234
Schenck & Harris	H. Post, Jr.	1824	15	138
H. Post, Jr.	J. Post	1827	22	188
J. Post	J. & E. Delaplaine	1830	29	366
J. Delaplaine	Graham & Varnum	1834	39	401
T. Cowenhoven	J. & E. Delaplaine	1834	39	416
Cowenhoven & Delaplaine	Agreement	1834	39	418
Graham & Varnum	F. & R. Tucker/ R. & W. Carter	1834	43	58
R. Carter	W. Cooper	1838	76	123
Carter & Tucker	R. Tucker	1839	82	312
R. Tucker	F. Connor	1839	83	449
New York Hemp Co.	N.Y. Hemp & Flax Co.	1855	396	399
Widow of W. Cooper	Cooper family heirs	1865	657	48
Exrs. of W. & R. Carter	R. S. Tucker	1869		
Tucker, Cooper & Carter	New York Hemp Co.	1874	1157	215
Tucker & Carter	The Tucker & Carter Cordage Co.	1880	1383	226

All survey deeds referenced in the above property transfers were missing from the Borough Registrar's files.

Foundry

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH:

FOUNDRY

Resource Category: Industrial

Property Type: Foundry and Cupola
John Good's Cordage Machine Company.

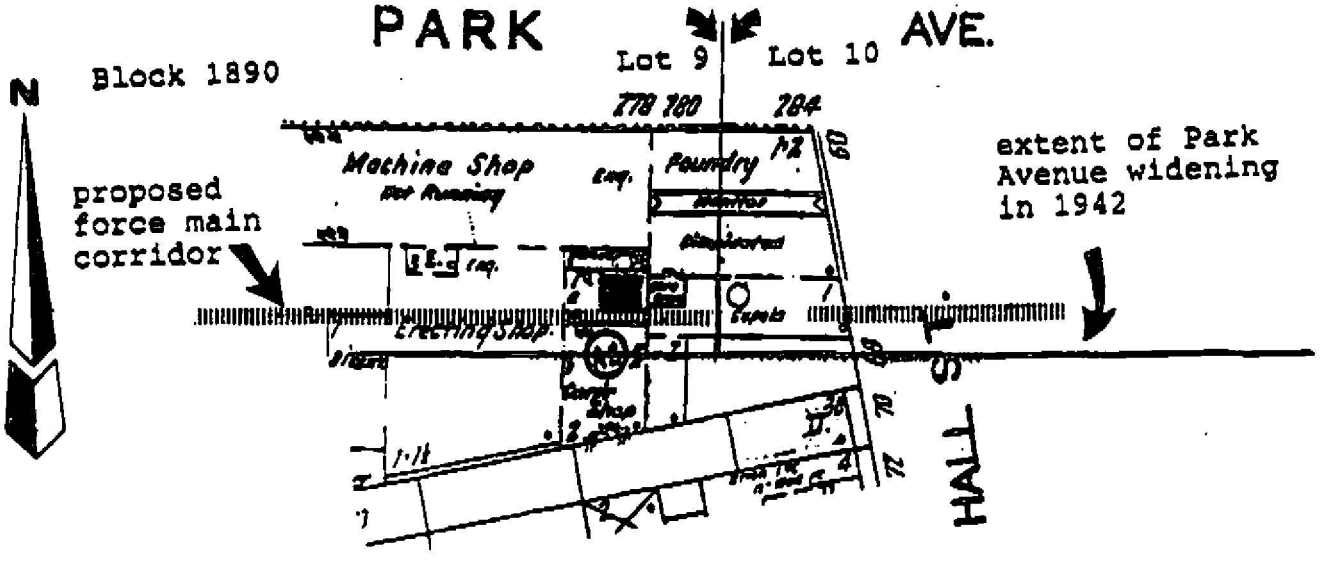
Location: Block 1890, Lots 9 and 10.
Between Washington and Hall Streets.

Introduction

John Good, inventor of the cordage spreading machine, established his machine shop in the project area in 1878. An Irish immigrant, he had apprenticed in a ropewalk in Brooklyn for years before devising his machines used to break, comb, and align fibers, and spin cord. His machine was able to solve the problem of binding twine using sisal fibers rather than metal wire, a poorer quality product, and soon dominated the industry. Mr. Good's invention threatened traditional methods of spreading fibers and thus he found it easy to sell his invention to established rope makers fearful of losing business. He received international honors for his inventions.

In the late 1880s Mr. Good's business became embroiled in the questionable practices of the National Cordage Company (NCC). Although he had entered into an agreement, in 1887, with the NCC to restrain from producing cordage, Good returned to the independent manufacturing of cordage in 1892 (Brooklyn Daily Eagle, file #1078).

His shop remained in business until c.1897 and the majority of the complex was replaced in 1911 by a much larger building with a basement. Lots 9 and 10, that hosted a cupola and foundry associated with Good's machine shop, were apparently not impacted by this subsequent construction. (See the following lot layout.) The proposed force main crosses lots 9 and 10, apparently impacting the cupola location (Figure 3).



The foundry/cupola site of an inventor and leader in machinery production for such an important industry in nineteenth century America as cordage manufacturing would be considered archaeologically sensitive. The cupola has been dismantled and is no longer on Block 1890 but it is very possible that detritus from the foundry process is in the project corridor.[1] "Studies of the waste products of industry, especially slag and raw materials, have revealed a wealth of information about process sequencing, technical operating standards, efficiency of operations, and value of the end product" (Teague 1987:177). We recommend that the foundry/cupola site be archaeologically investigated prior to the installation of the force main.

// Recommend Archaeological Test

Background:

In the early nineteenth century rope was hand twisted, in a similar fashion to that which cotton or wool was twisted into threads (Hazen 1837:57). The original device used to spin yarn consisted of two upright posts with a wheel between them, connected by a belt with a number of rollers, usually twelve, called whirls, in which metal hooks were mounted. Hemp was attached to each hook, and a crank was used to turn the wheel rapidly for spinning the yarn. However, by the 1830s the spinning jenny for spinning hemp took the place of hand spinning. The introduction of machinery into the business was met with opposition by workers, but was adopted nonetheless. During the nineteenth century it was common for each rope company to manufacture powered machines in their own machine shop (Ryder 1954:31).

Apparently Brooklyn led the field in the rope manufacturing industry, with weekly shipments of sisal from Mexico, manila hemp from the Philippines, and jute from India arriving at the waterfront (Brooklyn Daily Eagle 1934:98). A typical company manufactured their rope as follows:

> The bales of Manila hemp...are opened in the basement, and after the material has been lightly shaken apart, it is placed in layers, which are sprinkled lightly with oil...it is then hoisted on elevators to the top stories of the building. The first mechanical operation is called Scutching, which consists of passing the hemp over revolving cylinders bristling with sharp steel prongs or teeth which straighten out the fibers...It is then passed on to the Breakers which are large frames each about twenty-five feet long consisting of two endless chains covered with long steel pins...the effect being to comb or straighten out the fibers and then draw them into a continuous sliver or ribbon (Waterbury Rope Company 1901:23).

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[1] See Figure F-6 for a rendering of a c.1900 cupola.

After this process was performed again on spreaders and drawing frames, the slivers or small soft ribbons were ready "for the spinning frames housed on the floor below" (Waterbury Rope Company 1901:23). The slivers were then turned into yarn on spinning jennies. After being spun the yarn was placed in small cars on a railway and carried to the various rope making departments. The large rope, over one and one-half inches in circumference, was formed and laid on the rope-walk.

Prior to the 1860s there were few mechanized processes in the ropewalk industry. "The spinning jenny was in very general use and there were some twisting and laying machines. But the manufacture of rope and cordage has almost indefinitely increased by the machines introduced and invented by Mr. John Good" (Stiles 1884, Vol. II:723). Emigrating from Ireland in 1840, Good had settled in Brooklyn by 1847 and was serving as an apprentice at William Walls and Sons, a ropemaker. (Figure 1) Subsequently he became the superintendent of the ropewalk of Henry Lawrence & Sons. Here he developed the machine to straighten fibers so they would spin more rapidly (Ibid.:724). Eventually he designed machines to draw the hemp into slivers and to spin it into fine cord.

Receiving his first patent in 1869, Good's machines received a medal at the Fair of the American Institute in 1870. By 1871 he had established a factory at 590 Grand Street, not in the project corridor. His inventions also won honors at the Paris expositions of 1874 and 1878. It was in 1879 that Good built a ten lot complex in the project area. By the mid-1880s he was reputed to be the leading (and only) "considerable manufacturer" of ropemaking machinery in America (Ibid.:724).

Good's machine for spreading fibers was so popular that he had little difficulty marketing it. In a letter dated February 7, 1887, Mr Good, who at the time maintained his office in the Stewart Building at the corner of Broadway and Chambers Street in Manhattan and a warehouse in London, addressed Alfred Tubbs, owner of the San Francisco Cordage Company, stating that

> By the time this letter reaches you I shall be on the way to London to start my new Mill to manufacture New Process Twine and Cordage on the banks of the River Thames; this is the first of a series of factories to be started in the United States, Great Britain and Ireland, Russia, Germany, France, Belgium, Austria, Italy, Sweden, Norway, Spain and Cuba, New South Wales, New Zealand, Canada and Victoria (Ryder 1954:41).

Mr. Tubbs, fearful of losing the west coast market, quickly replied by offering to purchase the patent rights to Good's new machine in the states of California, Oregon, Nevada, Washington, Utah, and Arizona for an undisclosed amount. Mr. Tubbs was successful in his offer and retained his position in the Pacific northwest.

In 1885 Good erected a factory in Ravenswood, New Jersey for cordage making. Labeled as the "Leading Manufacturer of Rope-Making Machinery in the World (Ibid.)," in 1887 Good was the first United States citizen to be made a "Count of the Holy Roman Empire" by Pope Leo XIII (Brooklyn Daily Eagle, file #1077).

Project Corridor

It was in 1878 that Good purchased the Park Avenue frontage between Hall and Washington from H. T. McCoun (Liber 1319, p15). (The pertinent conveyance records for Block 1890 are listed in the Appendix.) According to tax records, by 1879 Good had built his new complex and the "machine shop" was on lots 9 and 10 - creating a tax assessment three times the 1878 evaluation (Brooklyn Tax Records). As described by the Brooklyn historian Henry R. Stiles:

> ...having purchased an acre of land...bounded by Washington and Park Avenues and Hall Street, [Good] preceded to erect on it his present extensive and beautiful machine works. The buildings, a part of them three stores in height, extended along the whole Park Avenue front, of 200 feet, and from 50 to 100 feet on Washington Avenue and Hall Street. We doubt if they are surpassed anywhere else in the country (Stiles 1884, Vol. II:724).

A lithograph of the Park Avenue complex is reproduced in one of Stiles' volumes on the history of Brooklyn (Figure 2). The complex survived into the twentieth century with the same floor plan: the foundry with a monitor on the northern half and the cupola smokestack in the southern half of Lots 9 and 10 (Figure 3).[2]

According to an announcement in the Cordage Trade Journal, Good's Brooklyn machine shop, the Ravenswood ropewalk, and the Manhattan sales office were planning expansion in the early 1890s (Vol. V, 8:56). These plans included a new board of directors, stock issues, the production of cordage machinery and cordage, and a transfer of the project corridor property from Good and his wife's private hands to The John Good Cordage and Machine Company (Liber 2177, p441). These expansion and production plans contradict an 1887 agreement Good had made with the NCC - for a specified payment Good was not to manufacture cordage (Brooklyn Daily Eagle n.d.:#1078). By the early 1890s NCC was in financial and legal battles over their attempted monopolization of the

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[2]The E. Robinson 1886 Atlas of the Borough of Brooklyn and the E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn, used extensively in other sections of this report, were not particularly helpful in the evaluation of the John Good foundry/cupola site. The 1886 and 1898 atlases do not contain the detailed information and site layouts on industrial sites that insurance maps, due to their intent, contain (Wright 1983:1-18).

cordage industry and it appears that Good was attempting to distance himself from NCC. A Good advertisement in the Cordage Trade Journal clearly states that "we have no connection with any so-called Trust" (Vol. V, 2:33; Figure 4). Tax evaluations of $30,000 each year between 1891 and 1895 indicate a working factory on lots 9 and 10 (Brooklyn Tax Records).

However, Good's attempt to regain his trade was unsuccessful. Creditors started actions against the Good Cordage Company in 1897, winning various monetary judgments. Good was unable to meet the demands on the project area property and, in 1904, "the sheriff seized the property and all on it and sold it at auction" (Liber 3332, p319). At the time of the seizure the large brick, three story machine shop (lots 1 - 8) was "not running" and a portion of lots 9 and 10, an area between the foundry and the cupola, was labeled dilapidated but the cupola smokestack was apparently extant (Figure 3).

John Good did not leave the neighborhood nor did he leave the patent machinery business. By 1909 John Good was in business with his neighbor, the Jennings Lace Works. East of his repossessed property and north of the Jennings Lace Works (Block 1891), Good helped establish the John Good Jennings Patent Machine Cordage Company. It was still included on the land atlases of 1912 (E. Belcher Hyde, Atlas of the Borough of Brooklyn, 1909, updated to 1912, NYPL).

In 1911 the Wallace & Co. Confectioners built a six story plant, with a basement level, on the western one-half of the Park Avenue frontage of Block 1890. The new construction, out of stone, did not impact lots 9 and 10. The one/two story foundry building on the corner of Park and Hall Avenues remained intact, possibly until the 1942 expansion of Park Avenue. (Figure 5) The rear lot area where the cupola once stood was covered by one story buildings between c.1920 and c.1942. However, neither of these post-cupola buildings had basement foundations.

Archaeological Sensitivity:

John Good's cordage machinery works was constructed on ten adjacent lots by 1879, but lots 1 - 8 are not archaeologically sensitive due to extensive subsequent disturbance. The lots in question, numbers 9 and 10 on the corner of Park Avenue and Hall Street, were vacant until the 1879 construction when a one/two story brick foundry, with a monitor, was built across the northern ends of both Lots 9 and 10. The cupola or furnace area was in the southern half of the lots, associated with a wooden building constructed adjacent to the south end of the brick building, also covering each lot. The extreme southern ends of each lot remained vacant. By 1893 the wooden building had been removed but the brick building remained unchanged. In 1904 the southern half of lots 9 and 10 is labeled "Cupola," with a symbol designating the presence of a furnace. Also, the southern portion of the still-standing brick foundry building is labeled as dilapidated, while the rest of the building is labeled "foundry." Subsequent construction in the cupola section of the lots, where the force main trench will be excavated, does not appear to have involved deep foundation excavations.

Central to the industrial expansion of mid-nineteenth century America was the iron industry of which John Good was a prominent player. Early nineteenth-century improvements in the production of iron revolutionized the industry in America, making possible an immense increase in the amount of iron produced and a decrease in its cost. Iron became a practical and economical material for many new industrial and commercial purposes (Ment 1980:55). Pig iron was shipped from the blast furnaces to foundries where it was used as the raw material for both wrought iron and cast iron. Wrought-iron, made in workshops called forges, was produced by reducing the carbon content of pig iron through heating and hammering, or "working." Cast-iron products were made at a foundry by remelting pig iron and pouring it into a mold. By 1880 there were 121 cast-iron foundries in Brooklyn, several of the most important foundries specializing in architectural cast iron (Ibid.:56).

> Basic Foundry technology has not varied greatly through the centuries. Every foundry...will contain the same components: a furnace or cupola; wooden boxes filled with sand to contain molds; a pattern shop; brick drying ovens; metal ladles or crucibles for pouring molten metal; overhead metal or wood cranes with hoists and pulleys; forges, anvils, and sledgehammers and their mounts (hand and steam-powered depending on the period) and a great variety of hand tools. Raw materials include wood, sand, iron or brass, and a by-product is slag (Carolan 1987:B-1).
>
> A typical foundry was a complex of structures generally situated around an open yard. Fire considerations dictated brick structures for the furnace, pouring, and molding areas. Depending on the size of the

foundry, there could be more than one cupola or air furnace, which would dictate the size of the structure they were housed in and the number of brick chimneys. All buildings would have skylights, air vents and, later, monitors. Large wooden doors for moving materials would most certainly have been typical (Carolan 1987:B-4).

For archaeological consideration the material remains of a foundry complex should consist mainly of raw materials, tools and machinery, by-products, finished products, and structure-related materials. As detailed by Carolan's study (page B-5, B-6):

Raw material could include:
- sand, for casting
- wood, for patterns, mold boxes, and product parts
- clay, for binding sand
- iron ingots
- coke, for cupola.

Tools and machinery could consist of:
- wooden and/or metal crane with hoists, pulleys and chains
- metal ladles
- forges (hand and/or steam powered)
- anvils (hand and/or steam powered)
- sledgehammers (hand and/or steam powered)
- brick and/or metal machine mounts
- variety of hand tools for wood and metal work
- wooden patterns
- brick and metal cooling ovens.

By-products could consist of:
- slag
- furnace waste pile of slag and cinders
- broken metal castings
- broken wooden patterns.

Finished products could consist of:
- iron and brass castings that were either not used or miss-cast for ropemaking machinery
- misc. machine and engine parts

Structure related artifacts could consist of:
- brick
- clapboard
- plaster
- glass/wire glass
- wooden roof trusses
- foundations of stone or brick relating to the cupola

Although much is known of the smelting and casting process and a list of anticipated artifacts and features can be compiled, we do not fully understand the experimentation processes that innovative machine manufacturers went through. And, although there

are "vanity press" accounts of John Good's inventions and Good's own advertisements and printed interviews, we are not privy to how Good's cordage machinery evolved over time and how Good's practices were responding to the economics of the business community. "The innovators of the workplace are paragons of pragmatism. The impulse from the very start, and continuing to the present, has been to get on with the job, and to do so with a minimum of record keeping. The zealous guarding of proprietary information has also kept the documentary record slim, as has the notion that the workaday life is not worth analytical examination. Paradoxically, it would seem that the records of the very recent past can also be expected to be very poor, or non-existent" (Teague 1987:16).

Conclusions:

The foundry/cupola site of an inventor and leader in machinery production for such an important industry in nineteenth century America as cordage manufacturing is archaeologically sensitive. The foundry and cupola were dismantled and are no longer on Block 1890. The court records indicate that all of the machine works were auctioned off. However, it is very possible that detritus from the foundry process is in the project corridor. There is no way to estimate what amount of material remains related to John Good's cordage machine works rests beneath the surface of Block 1890. And, there is no way to estimate which of Carolan's itemized resources, or types of foundry materials, were left behind by John Good and his laborers. But the possible remains of the Good machine works would be very instructive. "Studies of the waste products of industry, especially slag and raw materials, have revealed a wealth of information about process sequencing, technical operating standards, efficiency of operations, and value of the end product" (Teague 1987:177). Site fieldwork and metallurgical studies of the Good site resources could assist us in understanding the inventor's development phases by approaching such research questions as:

historic record

frames - sand casting — from iron to steel is significant change

shafts from pigs

(1) Was casting or forging the process used by Good? Massive drop hammer foundations of a forge would be detectible if present in the force main corridor.

Rech? National Archives Wash DC.

(2) What per cent of the process was cast then machined? ← how do you expect to answer this? from Ag

(3) Did Good experiment with early steel machine works?

(4) Patent applications detail the ideal product and not the actual process and adaptations over time, such as the 20 years of Good's production on Block 1890. An analysis could be made of the variation in reality to the ideal patent application design.

historic records

1 to 10 ton - look at production records

(5) Was Good's cupola of the sheet metal cylindrical style popular c.1900 (Figure 6) after the Bessemer process for steel making was widespread or was the project area cupola an earlier vernacular adaption to a technology in the process of change?

(6) Good's business decline was due in large part to NCC practices. NCC's manipulation of the cordage industry was the focus of national attention for many years at the close of the nineteenth century. Good was a player in this interesting chapter of American economic growth. Did Good attempt an expansion of his product line or an alteration in product quality to off-set his slackening business?

We recommend that the foundry/cupola site be archaeologically investigated prior to the installation of the force main. Subsurface fieldwork should be conducted along the force main path as it extends through the areas identified as lots 9 and 10.

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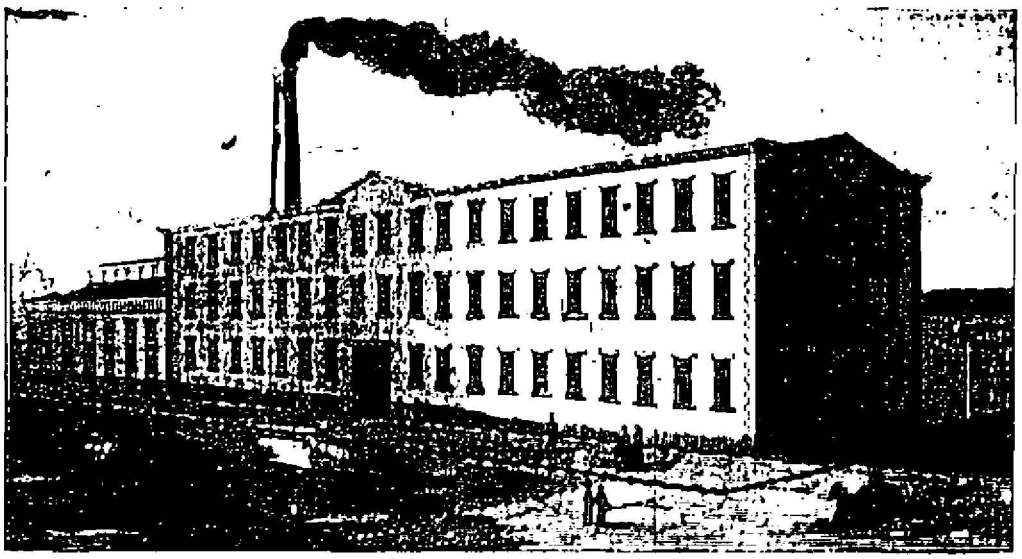
John Good

Photocopied from Stiles 1884: n.p., opposite p. 723

John Good

John Good's ropemaking machinery establishment, view: west to east along the Park Avenue frontage

Photocopied from Stiles 1884: 723.



JOHN GOOD'S ROPEMAKING MACHINERY ESTABLISHMENT

Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure F-3

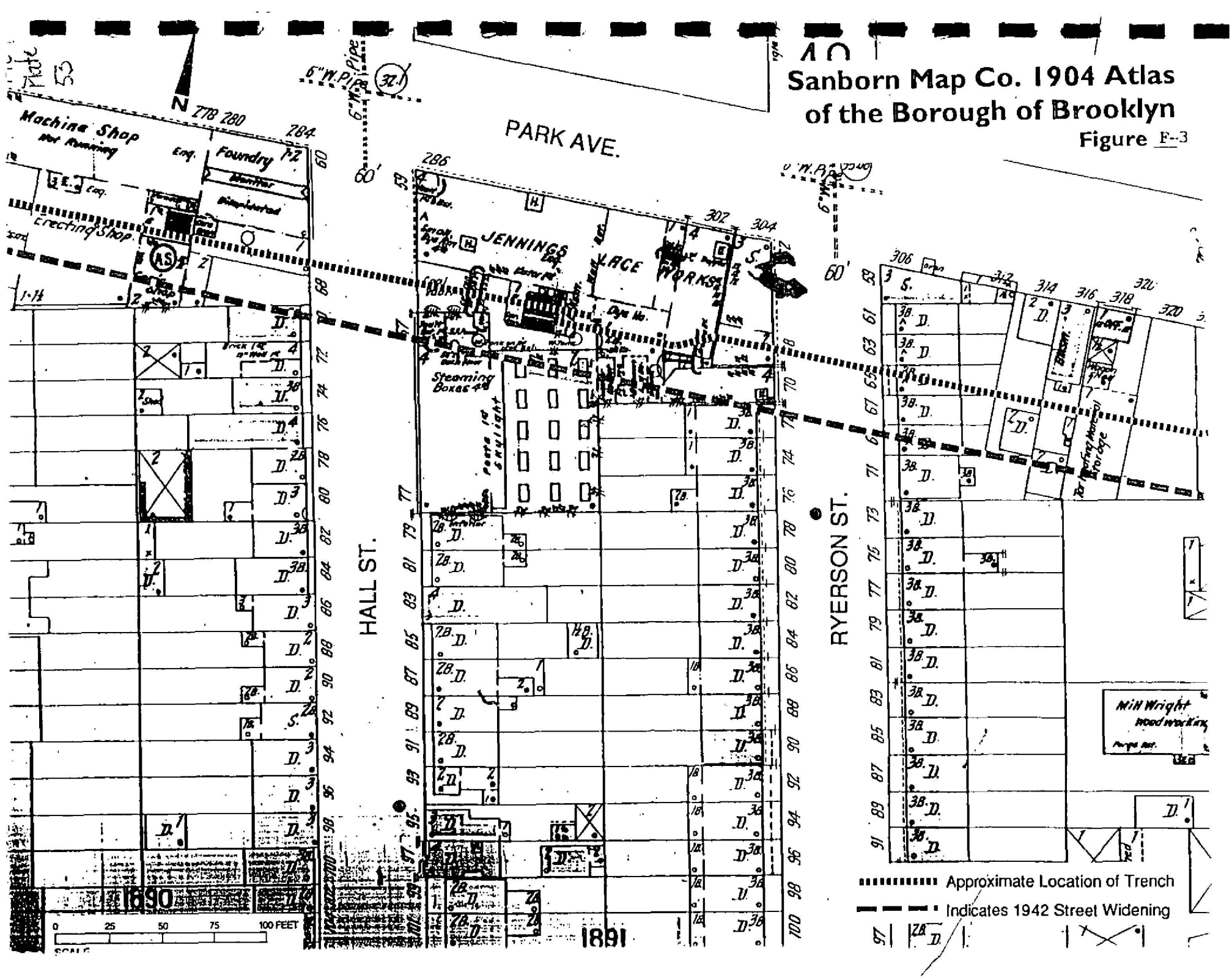


Figure F-4

Photocopied from the Cordage Trade Journal Vol. V, 2:33.
July 15, 1892

JOHN GOOD,

286 BROADWAY,

NEW YORK, U. S. A.

Cordage Machinery,

CORDAGE AND BINDER TWINE.

Long Fibre Cordage Machinery, ❋ **Manila and Sisal Rope,**

Of All Kinds. Both Old Style and New Process.

PATENT RIGHTS IN

United States, Great Britain, Ireland, Russia, Germany, France, Belgium, Austria, Italy, Sweden, Norway, Spain, Cuba, New South Wales, New Zealand, Canada, Victoria.

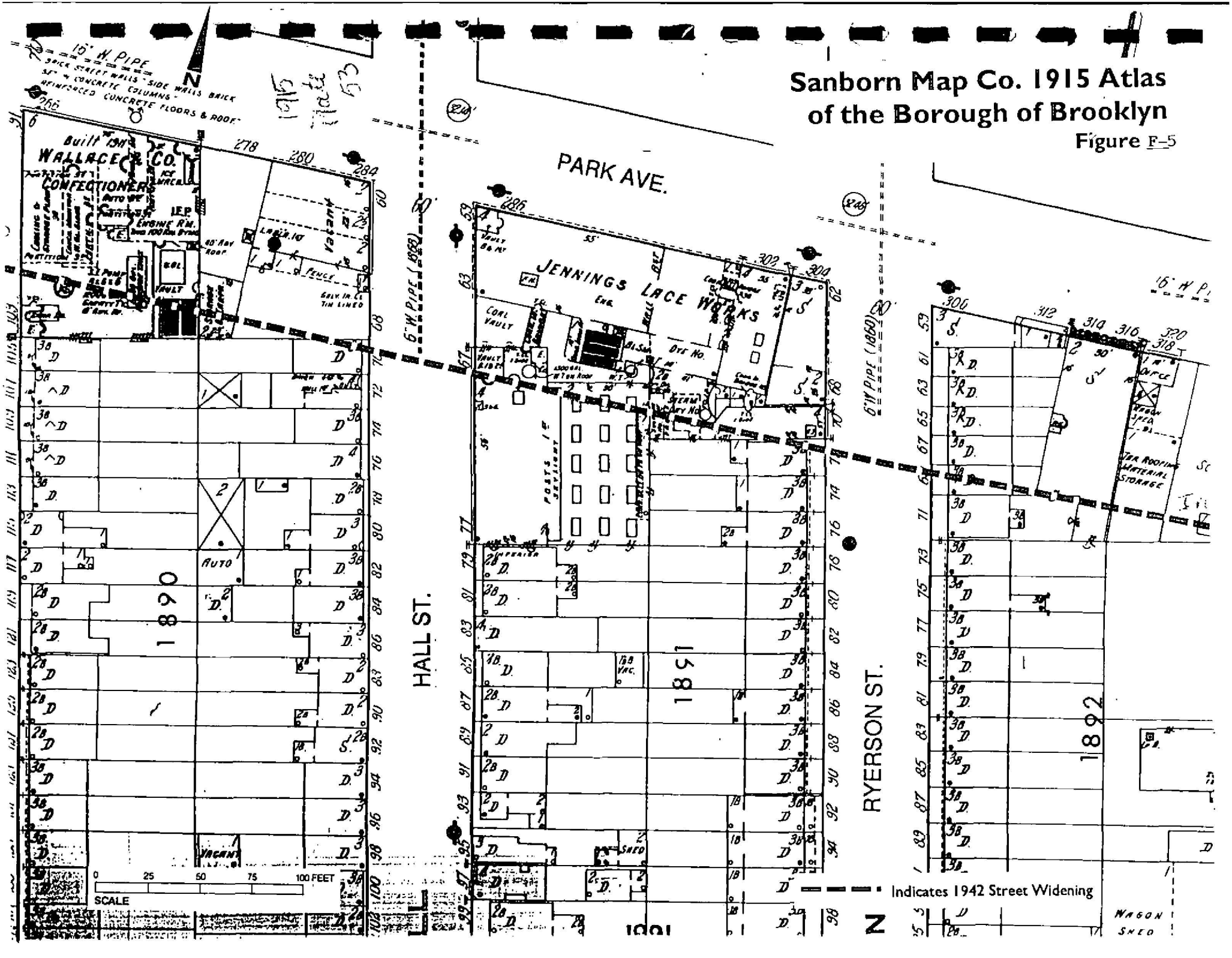
We believe that the trade at last understands that we have no connection with any so-called "Trust."

No opportunity could be better than that which exists to-day in the Cordage business for the investment of NEW capital in the manufacture of Rope and Binder Twine. The delusion that there are too many spindles already at work is no longer considered by well-informed men. We shall be glad to correspond with any one who is not sufficiently posted in regard to the situation and is seeking profitable investments.

READ THIS ANNOUNCEMENT EVERY ISSUE.

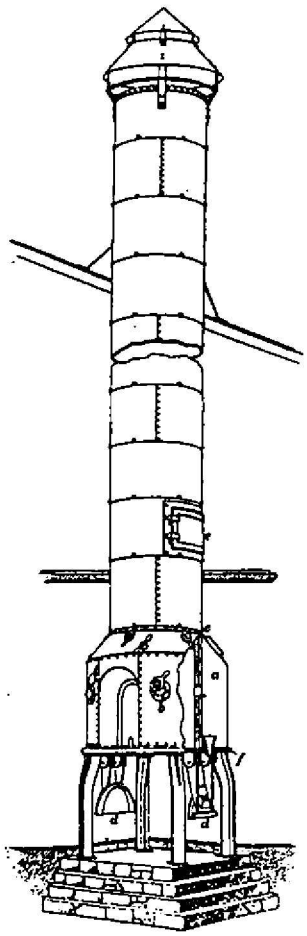
Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

Figure F-5



Photocopied from Weitzman 1980:165.

An illustration of a cupola, or type of iron furnace, "found in old foundries, where it was used to melt pig and scrap iron for casting; it was built around 1900."



Conveyance records for Block 1890.

GRANTOR	GRANTEE	DATE	LIBER	PAGE
J. Lee H. Lane W. Braman D. T. Vail	H. T. McCoun	1878	1319	15
H. & E. McCoun	J. Good	1878	1319	19
J. & J. Good	The John Good Cordage & Machine Company	1893	2177	441
W. Buttling (Sheriff) John Good Cordage & Machine Company	North Side Bank	1911	3332	319

Prehistoric

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARHCAEOLOGICAL RESEARCH:

PREHISTORIC

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PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE ARCHAEOLOGICAL RESEARCH

Resource Category: Prehistoric

Location: Block 2039, between St. Edwards Street and North Elliott Place.
Block 2040, between North Elliott Place and North Portland Avenue.

Introduction:

The preliminary archaeological assessment of the Park Avenue force main corridor in Brooklyn, New York identified areas possessing potential sensitivity for prehistoric remains (See Preliminary Report). This assessment concluded that based on extensive cartographic research, only few areas would have once possessed the topographic features preferable for prehistoric utilization. Since Blocks 2039 and 2040 represent the highest elevation for the project corridor, and appear to be near a stream bordering an extensive wetland, they were identified as potentially sensitive for prehistoric resources (Figure P-1). These areas have been selected for further investigation in the form of establishing a land use record and assessing prior disturbances.

Map research has concluded that the narrow project corridor, which constitutes the impact zone of the proposed force main (approximately 5 feet wide as portrayed on URS Consulting Engineer's design plan), has already experienced a sufficient degree of intrusion to render any prehistoric archaeological resources disturbed. Nineteenth century construction as well as twentieth century roadbed creation and utility line installation has disturbed all areas previously identified as potentially sensitive. The following cartographic review is provided to demonstrate the degree of prior disturbances for all lots within these two blocks.

Cartographic Review:

Early cartographic sources of this section of Brooklyn depict the original topography such that Blocks 2039 and 2040, between St. Edwards Street and N. Portland Avenue, are on a northwestern slope within close proximity to a stream (See Preliminary Report Figure 8). By 1855, a barrack had been built at what is now the intersection of Park Avenue and N. Elliott Place, and two structures had been built on a lot on Block 2039 where Lot 7 will eventually be (Figures P-2, P-3). These represent the only structures present on either Block 2039 or 2040 within the impact corridor at that time. By 1869, the barrack had been removed, and

two additional structures had been built on Block 2039, Lot 9 (Figure P-4). The structures on Lot 7 were still present, but no other buildings stood on either block within the impact corridor. Division Street ran diagonally through Block 2039 crossing what will eventually become Lots 1, 2, and 3.

By 1880, Block 2039 had additional structures present. A brick structure of unknown size stood fronting Park Avenue on Lots 8 and 9, and a wooden structure had been built fronting Park Avenue on Lot 6. The southern building had been removed from Lot 7 (Figure P-5). Lots 4 and 5 had a brick church built across them, with a small brick addition extending onto Lot 3. On Block 2040, Lots 1 through 4 and 10 each had a brick building fronting Park Avenue. Lot 10 also had a second brick building on the southern end of the lot, extending across Lot 11, a diagonal lot. The route of Division Street across Lots 1 through 3 on Block 2039 is still depicted, although the street had been officially closed and these three lots had been formed.

By 1886, Lot 1 on Block 2039, old Block 106, had a building on its southern end. An additional building had been built on the southern end of Lot 8, and all the remaining lots were unchanged. On Block 2040, old Block 103, a structure was present on the northern end of Lot 5, and a shed was present on the southern end of Lot 6. Another shed had been built on both the northern ends of Lots 7 and 8, and the remainder of the lots were unchanged (Figure P-6). By 1898, Block 2039 Lots 1 and 2 were covered by structures, as were Lots 69 and 70. On Block 2040, Lots 1 through 10 had buildings on their northern ends fronting Park Avenue. Lots 9 and 10 had sheds on the southern ends of the lots, and Lot 11 had a structure covering the western half of the lot. Nothing had changed by 1904, although the structures' configurations are clearer. On Block 2040 it is clear that an addition on the building on Lot 3, and the southern foundations of buildings on Lots 5 through 8, are in the route of the proposed force main corridor (Figure P-7).

By 1920, an additional building was on the southern remainder of Lot 9 on Block 2039, and a brick structure had been placed on the southern end of Lot 6. Lots 1 through 3 were all covered by brick buildings, as were Lots 69 and 70 (Figure P-8). The only changes to Block 2040 were the addition of a brick building on the southern end of Lot 3, and a wooden shed built on the southern end of Lot 10. By 1939, many of the buildings had been removed on Block 2039, however a second structure had been built on the southern half of Lot 6. Block 2040 remained virtually unchanged with the exception of an Auto building which was built on the southern half of Lot 1 (Figure P-9).

The cartographic review, while difficult to follow, is easily summed up: In the route of the proposed force main, on Block 2039 only the middle section of Lot 7 was not subjected to episodes of

construction or reconstruction. The remainder of the lots were occupied by a succession of structures. On Block 2040, Lot 2, was the only lot that had an area which remained vacant and did not experience episodes of construction and reconstruction. However, each of these 25 foot wide lots, Lot 7 and Lot 2, probably experienced impacts from adjacent construction activities as well as unknown disturbances associated with normal backyard use.

Further impacts to the integrity of these undeveloped lots are revealed in the post-Park Avenue widening disturbance record. When Park Avenue was widened in 1942, there was undoubtedly a degree of grading. To attempt to determine the extent of grading, elevation levels at the intersection of the three cross roads, St. Edwards, N. Elliott, and N. Portland are presented from both Park Avenue and Auburn Place (parallelling Park Avenue about 600' to the south). Elevations prior to 1942 were as follows:

St. Edwards at Park Avenue-12.5', at Auburn Place-22.9'
N. Elliott at Park Avenue- 18.67', at Auburn Place-34.4'
N. Portland at Park Avenue-24.92', at Auburn Place-40.4'.

These elevations support that both Blocks 2039 and 2040 had an upward slope ranging between 10' and 16' from Park Avenue south to Auburn Place.

The current elevations suggest that this upward slope was probably graded to the elevation of the original Park Avenue roadbed. While the elevations along Auburn Place have remained the same, the elevations along Park Avenue are now 12' at N. Elliott, and are 26' at N. Portland, not too far from their original elevations. However, since this current measurement is at an intersection approximately 90' south of the original intersection, this strongly suggests that the original upward slope to the south was leveled to the Park Avenue elevation. Therefore, the original elevation of these lots is probably somewhat higher than their current elevations.

In addition to the grading that occurred with the construction of Park Avenue, utility line installation appears to have also disturbed the proposed force main corridor. According to a plan and profile map of the proposed route of the force main, utility lines have been installed both to the north and south of it (Figure P-10). About 7' to the south, electrical lines were installed. Sewer lines exist at each cross street intersection, and within 30' of either side of the project corridor, sewer, water and other utility lines exist. In addition, an 1875 map of existing sewer lines shows that Block 2039 has a sewer line running through it where Division Street was, now Lots 1 through 3. Also, installing pylons for the Brooklyn-Queens Expressway above Park Avenue, about 30' north of the force main corridor, may have caused impacts.

Conclusions:

The cartographic research has lead to several conclusions regarding the prehistoric sensitivity of Blocks 2039 and 2040. First, the original topography of these blocks was a downslope north toward a stream and the marshlands adjacent to Wallabout Bay. Archaeological references to prehistoric land use patterns in the area suggests that this type of terrain is not the most sensitive for occupation. The knoll at which this rise terminates, several blocks south of the project area, is a much more likely candidate for prehistoric remains, not this northern relatively low-lying parcel. The predominant southerly winds would have deterred prehistoric inhabitants from such a site, as a more sheltered area would have been desireable.

Second, the nineteenth and twentieth century disturbance record supports that any prehistoric cultural remains that may have once been present, are disturbed. Contextual information has been lost by episodes of construction and reconstruction, grading, and utility line installation. Because of the low sensitivity and extensive impacts, none of the lots are deemed sensitive on either Block 2039 or 2040, and no further research is recommended.

MAPS AND ATLASES

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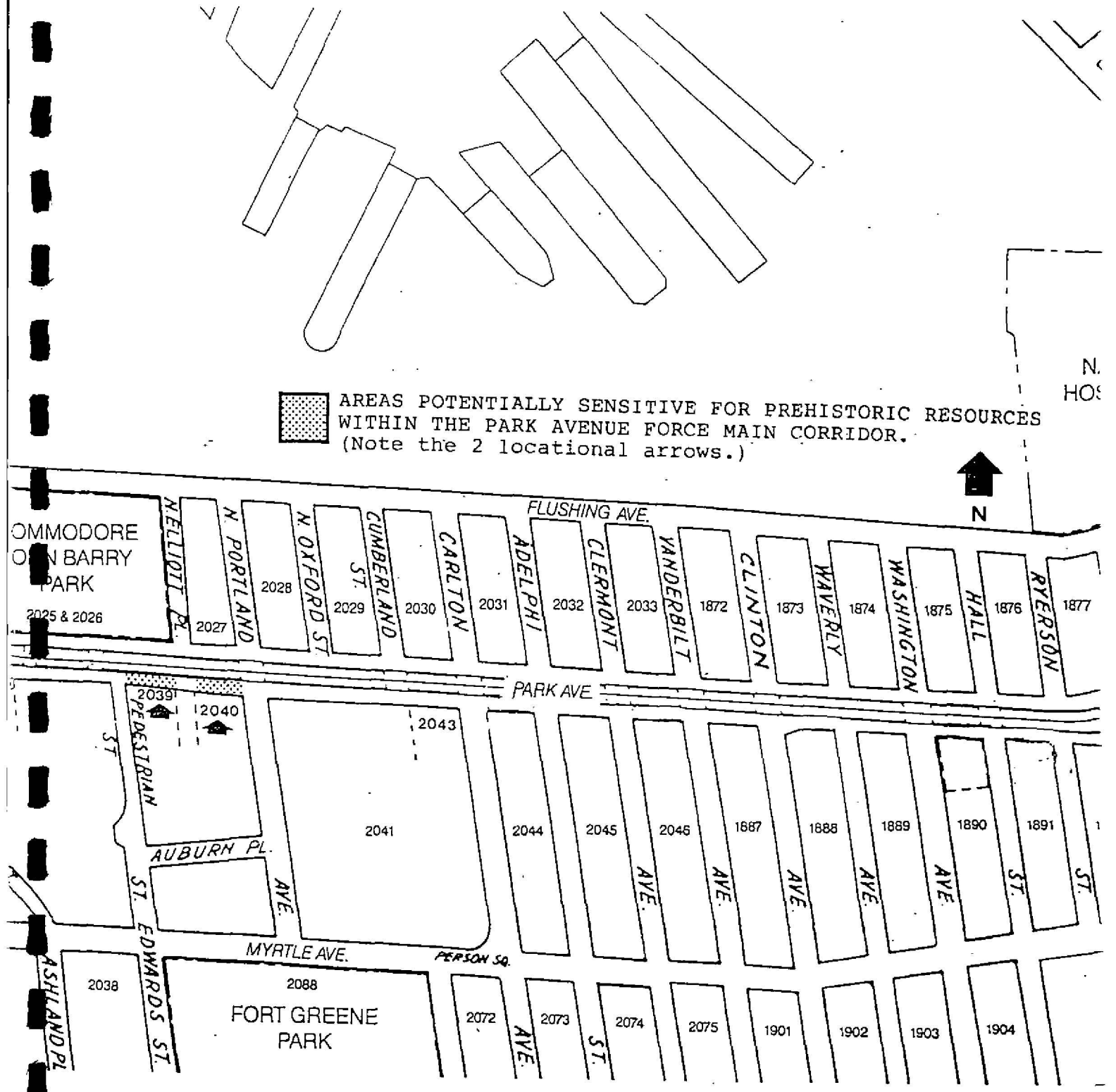
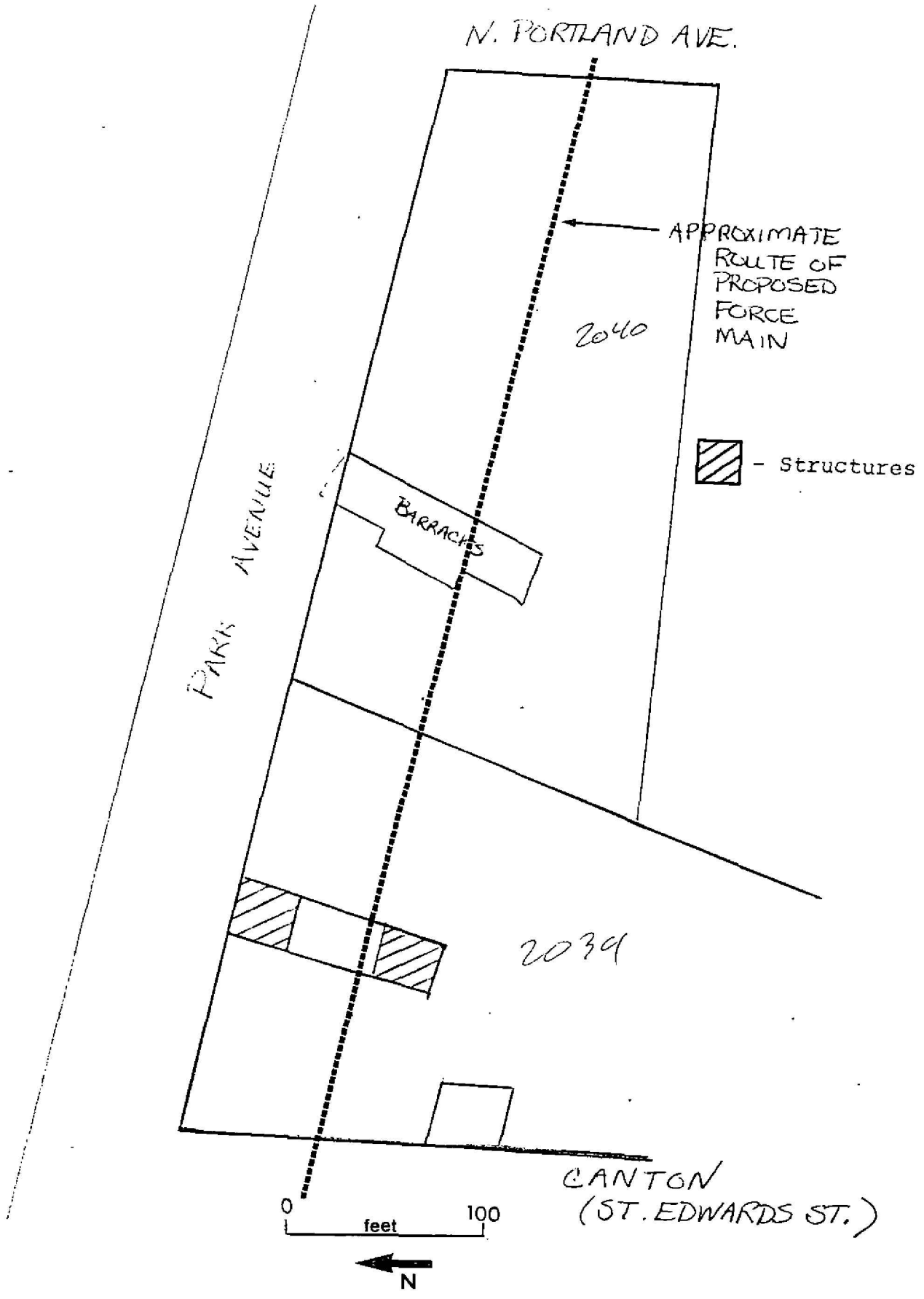


FIGURE P-1

Base map provided by URS Consultants.

FIGURE P-2

1855 Tracing of Perris
Atlas of the City of New York.



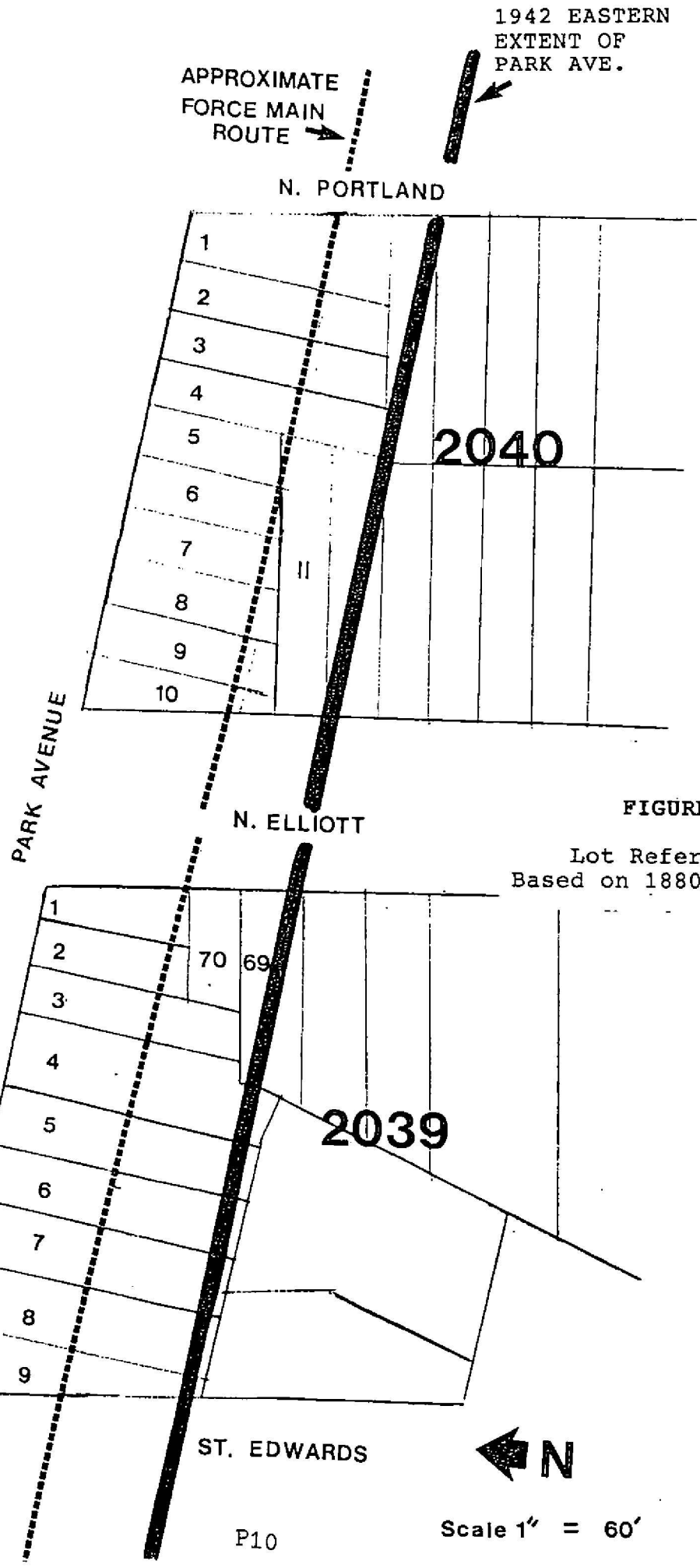
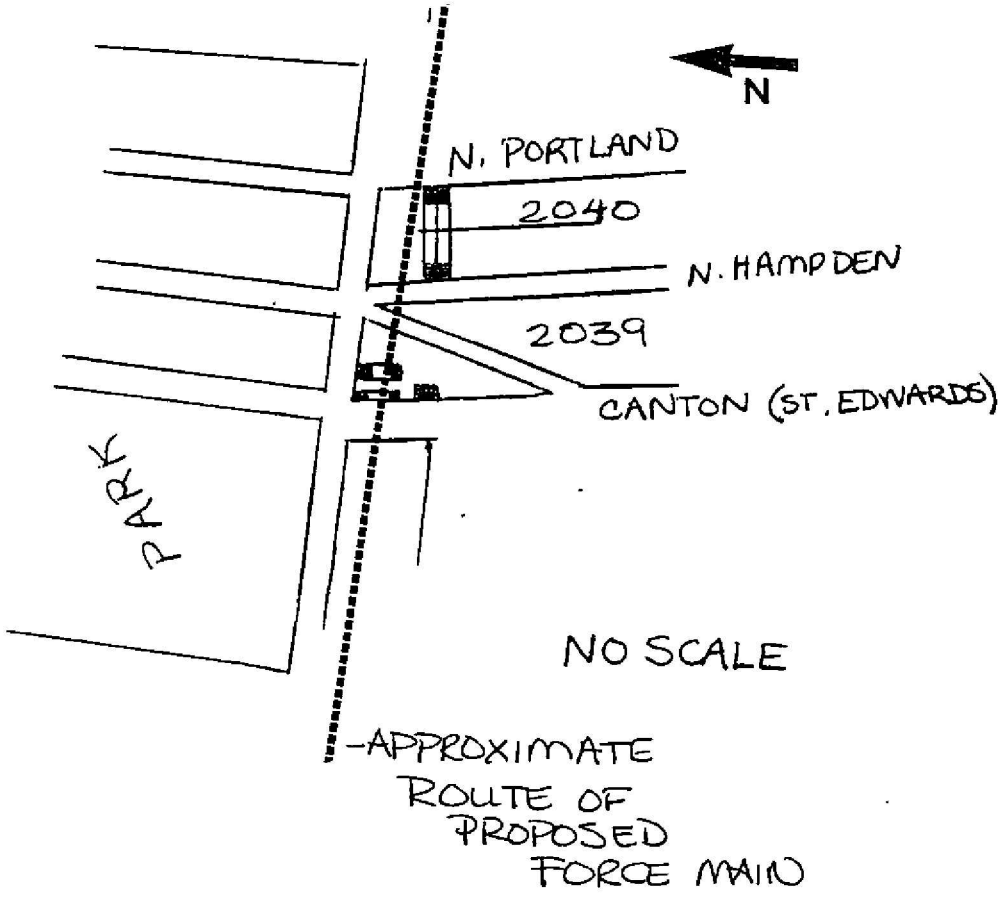


FIGURE P-3

Lot Reference Key
Based on 1880 Hyde Atlas.

FIGURE P-4

1869 Dripps Map of the Cities of Brooklyn and New York.



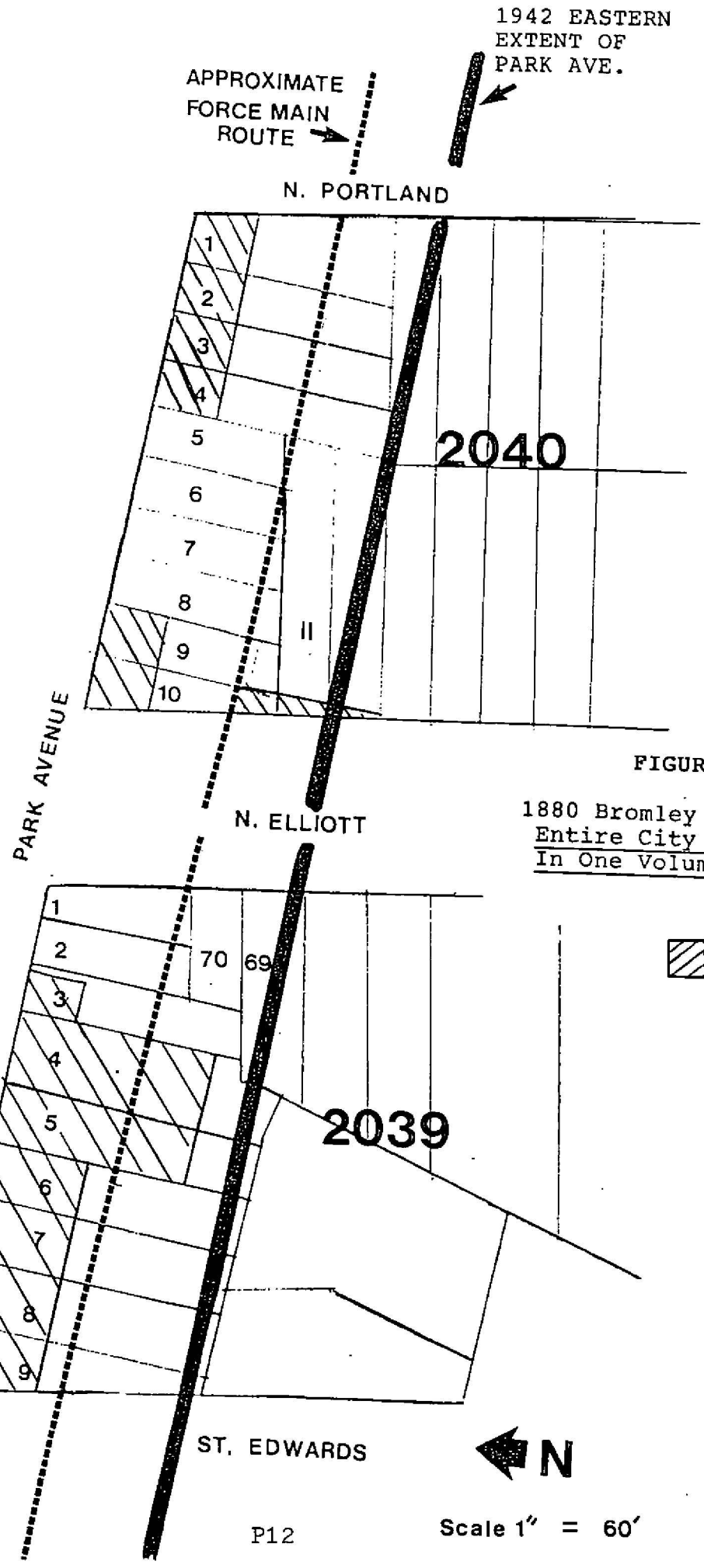


FIGURE P-5

1880 Bromley Atlas of the Entire City of Brooklyn In One Volume. Plate 6.

▨ - Structures

Scale 1" = 60'

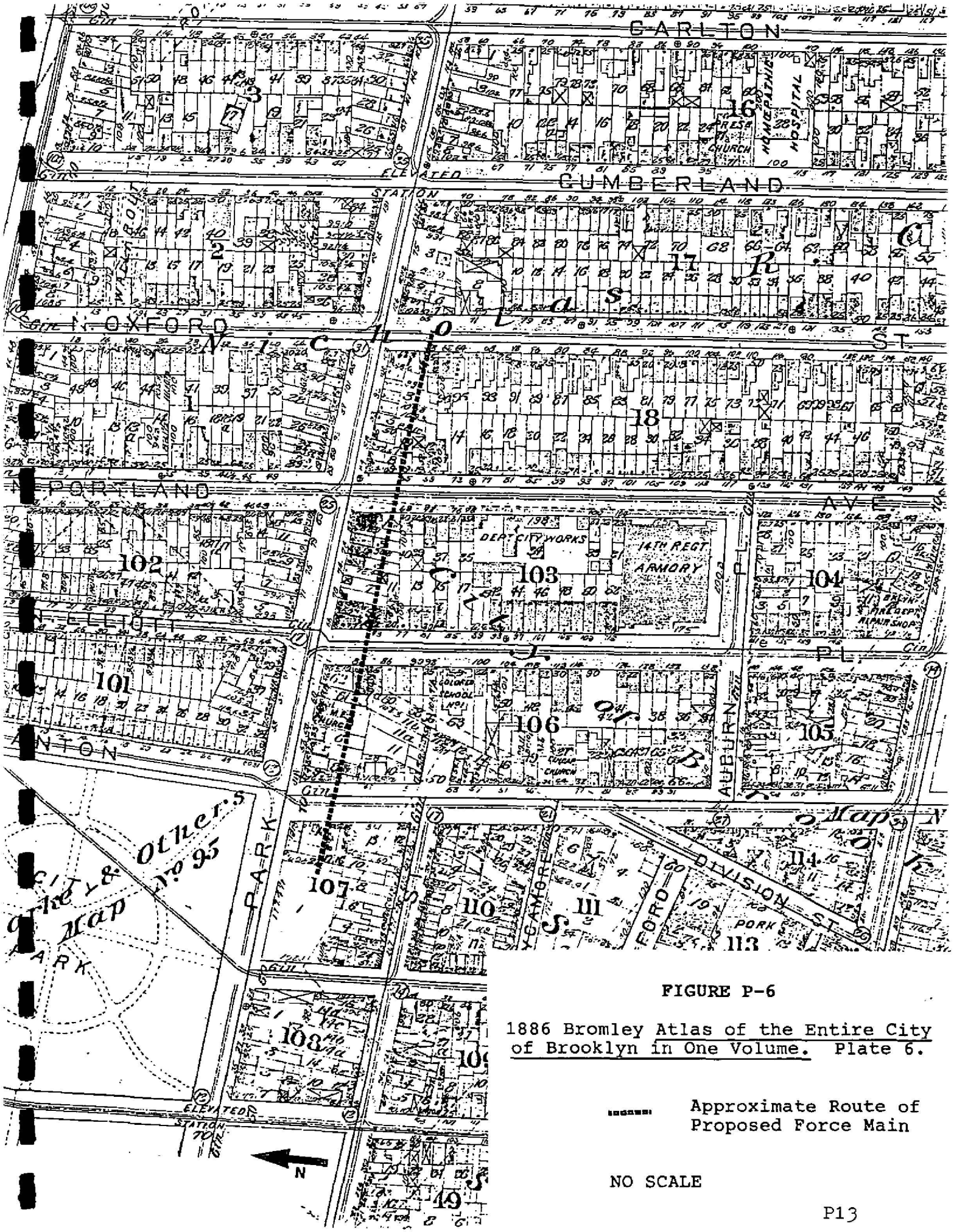


FIGURE P-6

1886 Bromley Atlas of the Entire City of Brooklyn in One Volume. Plate 6.

Approximate Route of Proposed Force Main

NO SCALE

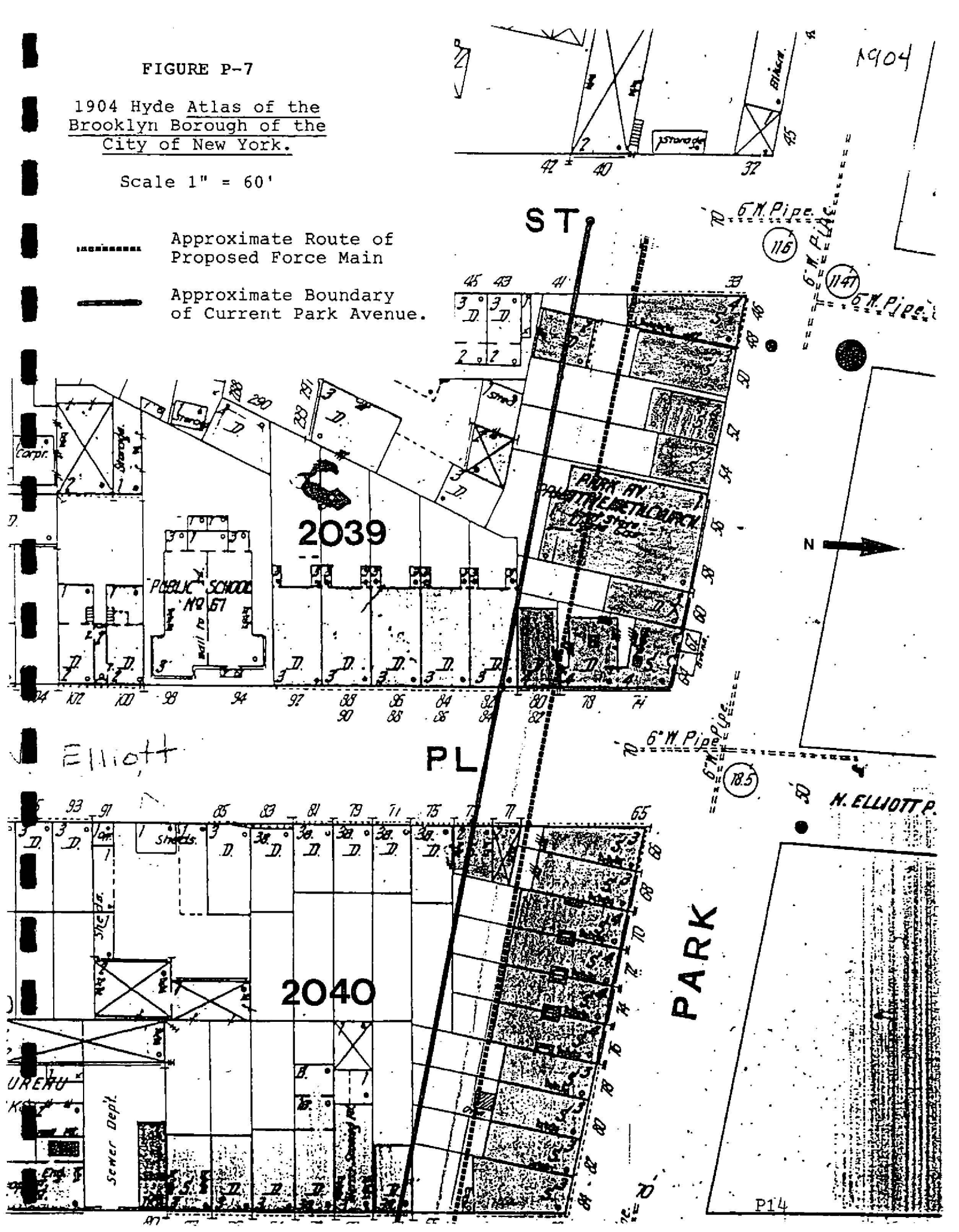
FIGURE P-7

1904 Hyde Atlas of the Brooklyn Borough of the City of New York.

Scale 1" = 60'

Approximate Route of Proposed Force Main

Approximate Boundary of Current Park Avenue.



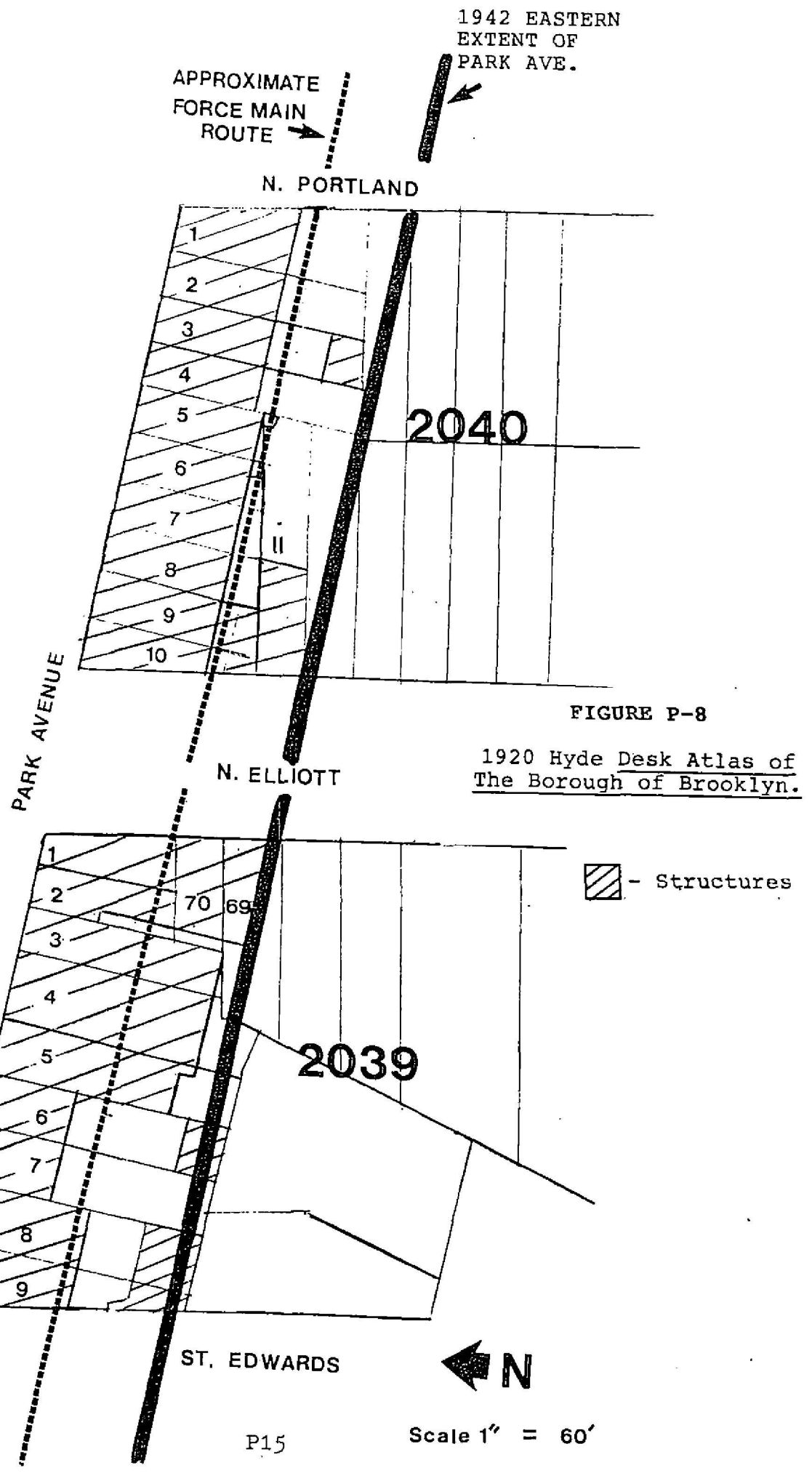


FIGURE P-8

1920 Hyde Desk Atlas of The Borough of Brooklyn.

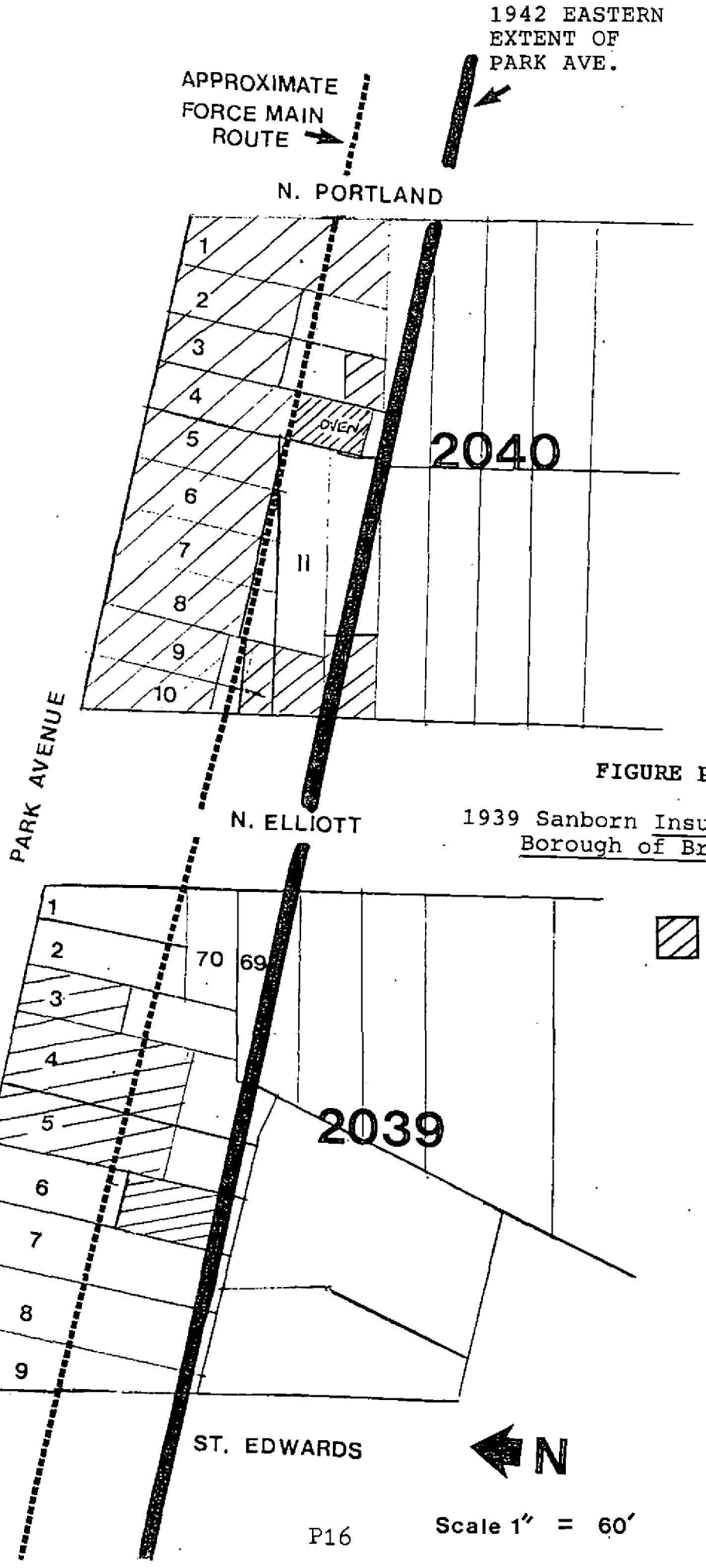


FIGURE P-9

1939 Sanborn Insurance Maps, Borough of Brooklyn.

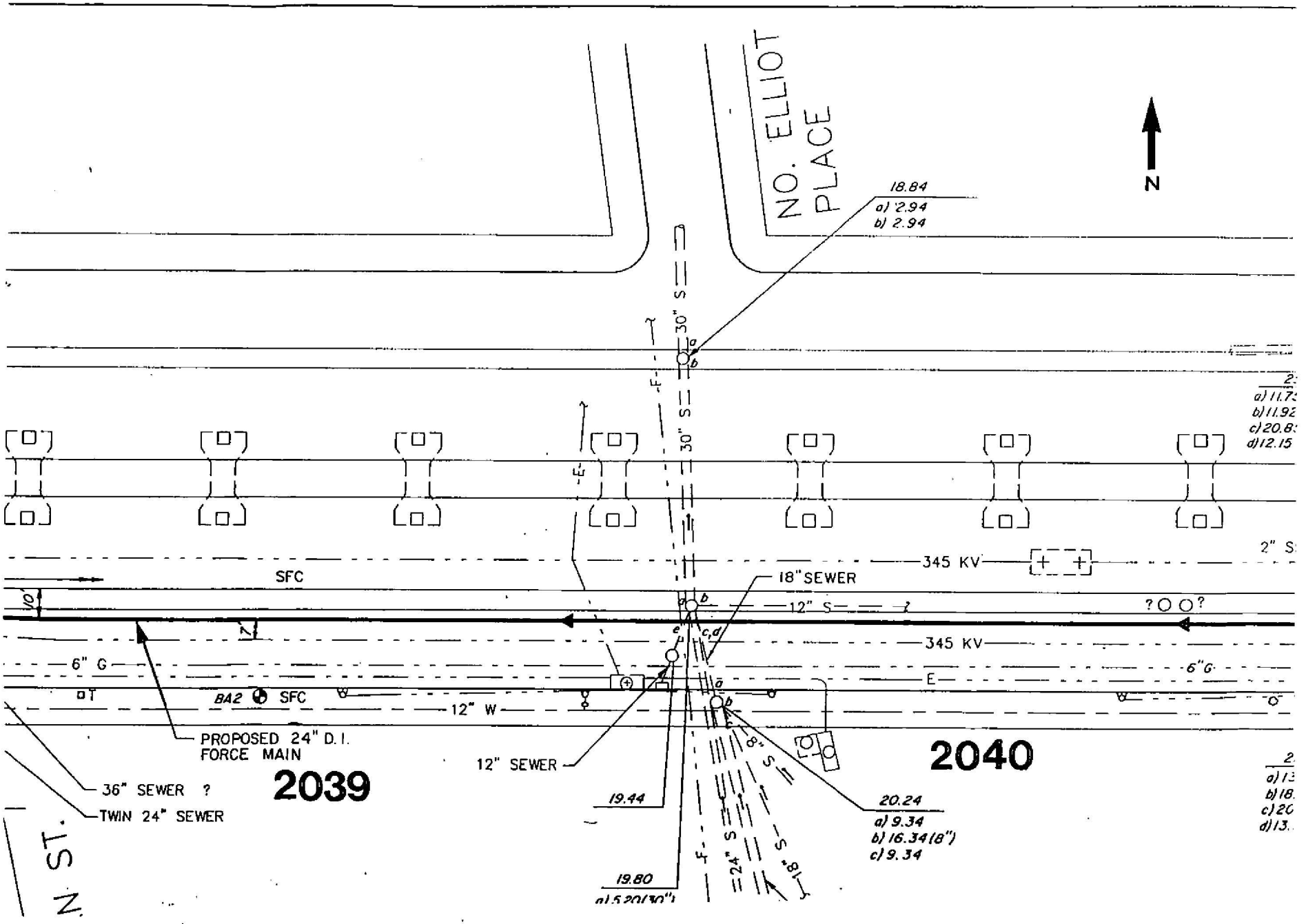


FIGURE P-10

1991 URS Consultants Park Avenue Force Main Plan and Profile.

Scale 1" = 42'

Dwellings

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN

TOPIC-INTENSIVE

ARCHAEOLOGICAL RESEARCH:

DWELLINGS

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Resource Category: Residential

Property Type: Dwellings

Location:
26 Park Avenue, Block 2034, Lot 4
48 and 52 Park Avenue, Block 2039, Lots 7, 9
86, 88, and 90 Park Avenue, Block 2041, Lots 7-9
106, 110, 122 and 124 Park Avenue, Block 2042, Lots 1, 2, 4, 5, 90
126 and 130-144 (even) Park Avenue, Block 2043, Lots 1-8
63 and 65 Carlton Avenue, Block 2044, Lots 7, 8
62 and 64 Adelphi Street, Block 2044, Lots 87, 88
172-182 (even) Park Avenue, Block 2045, Lots 2-7
57 and 59 Adelphi Street, Block 2045, Lots 10, 11
186-192 (even) and 196-200 (even) Park Avenue, Block 2046, Lots 2-4, 6-8
64 Vanderbilt Avenue, Block 2046, Lot 77
206-220 (even) Park Avenue, Block 1887, Lots 1-6, 57
56 and 58 Clinton Avenue, Block 1887, Lots 3, 56
62 Waverly Avenue, Block 1888, Lot 39
67 Clinton Avenue, Block 1888, Lot 3
322 Park Avenue, Block 1892, Lot 95
58 Steuben Street/340 Park Avenue, Block 1893, Lot 62
334 Park Avenue, Block 1893, Lot 5

Introduction:

The preliminary force main corridor project assessment performed by Historical Perspectives Inc., (HPI) identified seventeen nineteenth century dwellings, and associated yards, which are now in the Park Avenue roadbed and the route of the corridor (Figure 1). Because these dwellings were built in the mid-nineteenth century and appear to predate the installation of sewer and water lines in Park Avenue and traversing cross roads, the structures and yards were identified as sensitive for home-lot features. In-depth research focusing on subsurface integrity, archaeological visibility, and potential significance was recommended, and conducted. However, since that initial assessment, recent changes in dwelling sensitivity criteria by the New York City Landmarks Preservation Commission (NYCLPC) necessitated the addition of 43 homelots to this in-depth stage of research. The following is an in-depth analysis of 53 of those 60 homelots. As the project area was more narrowly defined, the remaining seven were determined to be out of the impact corridor.

43
17
60

Archaeological Sensitivity:

During the initial archaeological assessment performed by HPI, specific parcels with dwellings were eliminated for further review based on certain criteria (Kearns and Kirkorian 1991:2). In some cases, subsurface disturbance obliterated sensitivity. Recently, the NYCLPC revised their sensitivity criteria for homelots based on archaeological investigations presented in the Sullivan Street report (Salwen and Yamin 1990). Homelots which hosted multiple families, transient residents, or mixed residential and commercial usage, which were previously excluded from further research, are now considered potentially sensitive. The Sullivan Street report found that dwellings hosting multiple occupants yielded artifactual materials from features, fill, and the pre-fill surface. The criterion that homes must have been constructed prior to the introduction of city water and sewer lines in order to be considered archaeologically sensitive remains in effect. Portions of shaft features once used as privies, wells, or cisterns, are often encountered on lots where their lower (i.e. earlier) layers remained undisturbed by later construction.

Historical Background:

The project corridor is in Park Avenue which runs east-west about two blocks south of what was Wallabout Bay and is now the Navy Yard area. Early Dutch land grants date to 1635, with the Rapalje family obtaining this tract of land shortly thereafter. After passing through Rapelje's descendants, the area transferred through several hands, largely as farmland. This remained unchanged until the nineteenth century when land was further subdivided and developed (Stiles 1869:87). In 1834 Brooklyn received its city charter from the New York State legislature, prompting its transition to an urban center (Ment 1979:37). Increased European immigration, transportation networks, and industrialization fostered the development of East Brooklyn including the project corridor neighborhood.

The current street grid was implemented in 1839, when a state-appointed commission had produced a map indicating the location and widths of new city streets. Although many streets existed only on paper for quite some time, the majority of those within the project area were completed shortly thereafter. Park Avenue, 70 feet in width, was opened by 1839 (Dikeman 1870:35). By 1850, most of the cross roads in the project corridor had also been established. Neighborhood development along Park Avenue was further fostered by the establishment of the Navy Yard and nearby manufacturers, including a rope-walk, distillery, oil cloth factory, iron foundry, and tannery/slaughterhouse among others. According to the 1850 Dripps map, several dwellings had been built within the project area, and by 1860 even more were established (Perris). These houses, built fronting Park Avenue or adjacent side streets, stood

for several decades. The majority were removed during the early 1940s for the widening of Park Avenue.

Many of these dwellings were built prior to the installation of a sewer line along Park Avenue, the earliest record of which dates to 1860 (Inspectors Tracing #3065, 1860, Sewer Records and Permit Office, Brooklyn). Ms. Lokshina of the Sewer Records and Permit Office in Brooklyn stated that the sewers in Park Avenue predate annexation, but that the specific date is unclear (Personal Communication to Mary Dieter, March 1991). An 1875 map of the sewer system of Brooklyn shows one or more pipeline in every street in the study area. City water had been introduced in 1859, but the date of availability for these dwellings is in question since early records are vague and incomplete. Many of the water lines were virtually completed by 1862 in the city of Brooklyn, however availability did not ensure actual household hookup (Stiles, Vol. I 1884:587). Unfortunately, the Map Division of the Department of Environmental Protection, Water Division, is in the process moving to a new address, leaving all of these water line maps unavailable at the time this report was prepared.

In order to identify dwellings with potentially sensitive home-lot features, building and alteration records were sought, with few actually found at the Buildings Department in Brooklyn. The department asserted that records from structures demolished in the 1940s, including these lots, were not retained. Inquires into the whereabouts of these records received no response (See Appendix 1). Furthermore, even if located, block and lot files were not maintained by the Buildings Department prior to 1868 which is much of the period in question. Conveyance records, city directories, and census records were reviewed to establish long-term residencies and neighborhood demographic patterns.

The earliest available census to list specific street addresses in this section of Brooklyn dated to 1875. Earlier censuses simply listed the block, not the address. Brooklyn's earlier and later directories were presented in alphabetical order by resident, with the address following. The only way to determine length of residency was to ascertain residents at a dwelling in 1875, and search backward and forward in time in the directories for the same name. In most cases the individuals were listed at different addresses.

Conveyance records were equally difficult to track. Deed abstracts were reviewed at the Brooklyn Historical Society, and the Brooklyn Department of Taxation. While owners' names were found, establishing their actual residence in the corridor-area structures was accomplished in the same manner described above. Once an owner was identified, directories were reviewed to establish where they actually resided. In most cases the owners of these structures lived elsewhere probably acting as absentee landlords.

Block Histories

Based on the research conducted, a block by block description of each of those structures identified as potentially sensitive for home-lot features, from the western end of the project corridor to the eastern end, is presented below (See Bibliography for map and atlas references). All lot and street numbers referenced are per the 1898 Hyde Atlas of the Borough of Brooklyn (Figure 6).

Block 2034, Between Navy and Raymond Street.
26 Park Avenue, Lot 4

The first structure was built on this lot between 1850 and 1855, when a frame dwelling first appeared (Figure 2, 3). The lot, 18'2" wide by 75' long, had a dwelling 18'2" wide and 32' long, leaving the southern 43' of the lot vacant. None of the maps reviewed indicated that the structure had a basement. In 1860 it was depicted as a two story wood structure, and the lot appeared the same on maps and atlases through the early twentieth century. In 1904 the dwelling was two stories tall and a shed had been built on the southern end of the lot, south of the route of the proposed force main corridor. The yards between the dwelling and the shed remained vacant. In 1915 the dwelling was vacant, and by 1916 it was razed and covered by a one-story brick building without a basement. This brick building was razed in 1942 for the construction of Park Avenue.

The potential archaeological resources deposited in the dwelling's back yard did not appear to be disturbed by later construction, and may have actually been protected by the slab foundation of the subsequent building. Therefore this lot may be sensitive for historical period archaeological deposits. The dwelling was present by at least 1855 and was razed in 1916.

The precise date of sewer line installation for this block is unknown. The docket book containing all installations prior to 1868, and the dates for these lot, is no longer in the possession of the Sewer Records and Permit Office in Brooklyn. However, since sewer lines are known to date to 1860 on Park Avenue between Raymond and Canton Streets (Inspectors Tracing 3065, 1860, Sewer Records and Permit Office, Brooklyn), it was probably in place on this block by that time or shortly thereafter.

The earliest conveyance record found for this lot dated to 1823 when John Johnson sold this property to Samuel Fleet. In 1832 Fleet then sold the property to Clarence Sackett. By 1839 Sackett had sold off each of these lots and within the next ten years the lot passed through the hands of people by the names of Titus, Smith, Barr, Gascione, Gowanus, Stallknecht, Cortelyou, and Thomas. A directory search found that none of these owners actually lived at 26 Park Avenue. In the 1860s, the lot passed through owners by

the names of Giles, Addington, Colver, and Fowler, also non-residents.

The structure, built between 1850 and 1855, had a sewer line connected to it sometime prior to 1868 (the exact date is unknown since the record books, predating 1868, were lost). The 26 Park Avenue dwelling was occupied by four members of the Kennedy family and three members of the Ryan family in 1875, both renters of Irish descent. A directory search found that the Ryans were short term occupants, not listed for this address in earlier or later years. However, Anthony Kennedy, morocco dresser/tanner, first appeared at this address on the 1868-69 directory. Earlier directories listed him at a Clermont Street address. Kennedy remained at this address until 1882-83, after which he is no longer found in the directories.

Although the Kennedy family of Anthony, Frances, and their two sons, John and Eugene, lived at this address between 1868 and 1883, they were not the first occupants -the house had been built by c.1855- nor were they the only occupants during this period, with the Ryan family present for at least part of the time. Undoubtedly, other families were also present before and after the Ryans. The occupants between c.1855, when the structure was built, and c.1868, when a sewer line was available, remain unknown.

Block 2039 Between St. Edwards Street and N. Elliott Place.
48 Park Avenue, Lot 9
52 Park Avenue, Lot 7

The first dwelling which appears on this block was built on Lot 7, at 52 Park Avenue between 1850 and 1855 (Figure 2, 3). By 1855, a structure had been built on the northern end of the lot fronting Park Avenue, and a second structure was present on the southern end of the lot. A vacant yard remained between the two structures. By 1860, two buildings had been constructed on the north and south ends of Lot 9 at 48 Park Avenue. A wooden two story structure stood at the intersection of Park Avenue and St. Edwards Street, while a second brick one story building was at the southern end of the lot. The two structures on Lot 7 were still present, the northern one shown as a three story building and the southern one shown as a one story building. The two structures on the southern ends of Lots 7 and 9 appear to be south of the force main corridor. The structures appeared the same in 1869 (Figure 4).

? what evidence for?

By 1880, the structures on the southern ends of both lots had been removed, while the structures on the northern ends of Lots 7 and 9 were still present. In 1904 the 48 Park Avenue building on Lot 9 was shown as a four-story structure with a store, and the 52 Park Avenue structure on Lot 7 was shown as a two story building with a store (Figure 7). These stood through at least 1920, but

were razed by 1939. The backyards behind these two structures remained vacant. The 48 Park Avenue structure, built by c.1860, stood through c.1930s, while the 52 Park Avenue structure, built by c.1855, also stood through the c.1830s. The route of the force main corridor, through both of these back yards, appears to have not been impacted by historical development.

There were no sewer connection records available for either the 48 or 52 Park Avenue structures. Census and directory research produced the following. At 48 Park Avenue, Charles Mimitrz, a German grocer, and Theodor Myer, a boarder and clerk, lived at this address in 1875. Neither of these occupants were listed at this address on earlier directories. At 52 Park Avenue, Peter Genzarie, and Italian musician, and his Irish wife, lived in the dwelling in 1875. Patrick Ganley, an Irish carpenter, and his five children also lived at this address. Neither family lived here just five years earlier in 1870.

A search of conveyance records four these two lots found that between the 1840s and the 1880s, these parcels passed through the hands of Murphy, Paddock, Hall, Davis, Clark, Lyndr, and Clarke. None of these people were listed as occupants of these dwellings on directories dating every four to five years between the years 1857 and 1883. The only occupants that could be established date to 1875, fifteen and twenty years after the structures were built. Earlier residences are unknown, and the date of sewer line installation is also unknown. The 1875 occupants at 142 Park Avenue were German blue-collar workers, while the 52 Park Avenue house had a mix of an Italian musician and Irish carpenter.

Block 2041 Between N. Portland and N. Oxford Streets.
86 Park Avenue, Lot 9
88 Park Avenue, Lot 8
90 Park Avenue, Lot 7

The first structures appeared on these lots between 1850 and 1855, when three structures were present, one each on Lots 7 through 9, at 86, 88, and 90 Park Avenue. The structures remained unchanged through at least 1915 (Figure 8). In 1904 they are shown as three story buildings with stores (Figure 7), and nothing appeared to have changed through at least 1929. These structures were presumably razed for the 1942 widening of Park Avenue.

The exact date of sewer installation for 86 Park Avenue is unknown, although it does predate 1868. This lot had a reference number to a docket book missing from the Sewer Records and Permit Office in Brooklyn. Both the 88 and 90 Park Avenue dwellings had their sewers connected in 1868. At that time, H.I. Kellman owned the 88 Park Avenue structure, and E. Welsh owned the 90 Park Avenue structure.

The 86 Park Avenue structure, built in c.1855, had a sewer line installed prior to 1868. In 1875 it was occupied by James Keegan, and unemployed Irishman, with his wife and son. No other occupants were listed for the dwelling, nor were the Keegans listed as residents on the 1857/58 or 1870/71 directories. Conveyance records showed that between the years 1855 and 1868, the property was owned by Morris, Ehlers, Wilson, and Moore. None of these people were listed at this address on directories dating between 1857 and 1882. The occupants during the period between c.1875 and c.1868 remain undetermined.

Several families resided at 88 Park Avenue, built in c.1855 and connected to a sewer by 1868. In 1875 George Strieb, a German shoemaker, together with his wife and son, lived at this address. James H. Morton, a native printer, and his Irish wife and three children, also lived here. Unrelated occupants included Sarah Rowland, a native-born nurse, Georgianna Brooks, a washer and ironer, and Nina Barley, an Irish washerwoman. None of these eleven people lived here in either 1857/58 or 1870/71. When the sewer line was installed in 1868, H. Kellman owned the property, although he was never listed as a resident at this address. The parcel passed through the hands of Killon, Cavanagh, Stallknecht, Hunt, Gravelet, and Moore between the years 1853 and 1879. None of these people were ever listed as residents although Thomas Killon, who did not acquire the property until 1874, operated a grocery store at the corner of Park Avenue and North Portland Street in 1861/62. The directory did not indicate which corner, and Lot 8 is not directly on the corner, leaving it unclear whether this was the lot used for this purpose. Regardless, the occupants of this property between c.1855 when it was built, and 1868, when a sewer line had definitely been installed by, remain unknown.

The 90 Park Avenue structure was built in c.1855 and was connected to a sewer by 1868. At that time, E. Welsh owned the property, although he did not appear to live here in either 1857/58 or 1870/71. However, in 1875 three couples resided here, including two belonging to the Welsh family. George Haughton, an English ornamental glass cutter, John Peleis, an Irish blacksmith, and John Welsh, an Irish gas worker, all lived together with their respective wives. None of these families lived at this address in either 1857/58 or 1870/71. Between the years 1855 and 1868, the parcel was owned by John Welsh, who acquired it in 1866, F. Stallknecht, R. Hunt, and S. Moore. John Welsh lived at 57 Park Avenue, out of the project area, in 1866/67, and as was the case with the other owners, was never listed as a resident of this address. Therefore, the occupants for the dwellings during the years c.1855 and 1868 remain unknown.

Block 2042 Between N. Oxford Street and Cumberland St.
106 Park Avenue, Lot 90
110 Park Avenue, Lot 5
112 Park Avenue, Lot 4
122 Park Avenue, Lot 2
124 Park Avenue, Lot 1

Two structures were built on this block by 1850, one in the middle of Lot 2 at 122 Park Avenue, and a second in the middle of Lot 3 at 114-120 Park Avenue (Figure 2). Both structures had been removed by 1855, and the 114-120 structure was replaced by a cooperage. Therefore the 1850 structure on Lot 3 is not considered sensitive. By 1855 there were structures on Lots 1, 2, 4 and 5. Lot 1 at 124 Park Avenue had a structure at the intersection of Park Avenue and Cumberland Street. The original structure on Lot 2 at 122 Park Avenue had been removed and the lot now had a structure on the southern end, slightly south of the force main corridor. Lots 4 and 5 at 110 and 112 Park Avenue each had a structure on the northern end of the lot fronting Park Avenue (Figure 3).

By 1860 two structures had been built on Lot 90 at 106 Park Avenue. At the intersection of N. Oxford Street and Park Avenue a three story wooden building was built on the northern end of the lot, and a two story brick building was built on the southern end of the lot. The remaining structures were unchanged. The lots all appeared the same through 1898 (Figure 6), and by 1904 the structures were labeled as two and three story buildings with stores (Figure 7). These remained unchanged through 1915 (Figure 8), and at least through 1929. They were presumably razed for the 1942 widening of Park Avenue.

The structure at 106 Park Avenue on Lot 90 was built between 1855 and 1860, and had a sewer line connected prior to 1868, although the exact date remains unknown since the record book was missing. In 1875, Edward Veichmann, a German butcher, together with his wife, mother, four children, and brother lived at this address. Rebecca Peacock and her son George, who was a cooper and owned this property, also lived here. None of these people were listed on either the 1858/59, 1861/62 or 1870/71 directories for this address. Between the years of 1852 and 1872 the lot passed through the hands of Delaplaine, Alpers, Brown, Anderson, Kingsley, Anderson, and Viechmann. Viechmann owned the property in 1872, and lived in the dwelling in 1875 when the census records indicate George Peacock owned the parcel. The residents between 1860 and 1868 remain unknown.

The building at 110 Park Avenue was connected to a sewer prior to 1868, but the exact date is unknown. The structure, built in c.1855, was occupied by William McMullin in 1875, a native born store clerk, and his wife, mother, and four children. The McMullins did not live at this address in either 1857/58 or

1870/71. Between the years 1855 and 1868, this lot was conveyed almost every year, and passed through the hands of Delaplaine, Hovey, Smith, Alden, Parmalee, Fargo, Mendum, Thurber, Allen, Beardsley, Titus, and Darius. In 1860/61, Martin Fargo was listed on Park Avenue near North Oxford Street, but no specific address was given. Fargo acquired the parcel in 1858 and sold it in 1863. At best, he was an occupant for five years. Other landowners never lived here.

The dwelling at 112 Park Avenue, was owned by H.I. Kellman in 1868 when the sewer line was connected, although according to a directory search, no one named Kellman lived at this address. In 1875, F. Rickers, a native born engineer, and his wife and daughter, resided at this address. Columbia Hail also lived here. None of these residents were found in earlier directories for this address. The occupants between the years c.1855 and c.1868 remain unknown. According to conveyance records, between the years 1862 and 1876, the lot passed through the hands of Columbus Hart (possibly the "Columbia Hail" shown on the 1875 directory), Fargo, Jowitt, Mervin, and Allen. As described above at 110 Park Avenue, Fargo was listed on Park Avenue near North Oxford Street in 1860/61. Fargo acquired this parcel in 1860, and by 1862 Columbus Hart owned the parcel. Hart, according to the 1870/71 directory, was in business with Jowitt at 75 1/2 Park Avenue, both engineers. They conveyed the parcel back and fourth to each other, probably as part of a business venture, four times between 1862 and 1876. The occupants between the years c.1855 and 1868 remain undetermined.

In 1868 a sewer line was connected to the building at 122 Park Avenue, then owned by Mrs. Holmes. There were no residents at this address with that last name in either 1857/58 or 1870/71. In 1870 there was a listing for Gildersleeve at this address, but it was not in earlier or later directories. In 1875, eighteen people lived here belonging to four separate families. Thomas Bloomfield, a New Foundland sailmaker, and his english wife, four children, and mother lived here. So did John Wrinkle, an Irish sailmaker, his wife, and mother-in-law. Francis Mahan, and Irish bankkeeper, his wife, son, and sister-in-law also resided here as did James Nolan, a native born boilermaker, his wife, and their two children. Of these eighteen occupants, none lived at this address in either 1857/58 or 1870/71.

According to conveyance records, the 122 Park Avenue structure passed through the hands of Benton, Morrison, Hohn, Roberts, Long and Barnes between the years 1851 and 1885. These names appeared often in the conveyance records of other lots, probably indicating that they were speculators or investors, and most probably absentee landlords. Of the owners, only John Hohn, who acquired the property in 1852, appeared to live either here or nearby. In 1860/61 he is listed at a house on Park Avenue near Cumberland Street. This parcel is only one lot away from Cumberland Street

and may be the house he resided at. It is unclear when Hohn left the residence, and when it was sold. By 1868 Mrs. Holmes owned the lot. Therefore, the only known possible occupant between c.1855 and 1868 was John Hohn and his wife Catherine, who lived here in the 1860s.

The dwelling at 124 Park Avenue, built c.1855, was owned by Mr. Furman in 1873 when a sewer line was installed, although he did not reside here in either 1857/58 or 1870/71. In 1875, three members of the Meyer family, of German descent, and two members of the Rinaldo family, of Italian descent, and a German border named Henry Stebbges, lived at this address. In 1870 the Rinaldo family lived on Cumberland Street, and the Meyer family lived elsewhere on Park Avenue. In 1860/61, Lewis Meyer is listed at a house on Park Avenue near Cumberland Street. The border could not be located on earlier directories. According to conveyance records, the lot was sold to Christian Morrison by Samuel Benton in 1851. The next year, it was sold to John Hohn, who sold it to Lewis Meyer in 1859. By 1874 it had passed through the hands of Christian Morrison again, and was owned by William Horn. No records were found showing Furman as the owner, and as described above, Hohn was a resident somewhere on Park Avenue near Cumberland Street in 1860/61. In summary, between c.1855 and 1873, the only possible residents that could be established were John Hohn and Lewis Meyer, both in the early 1860s.

Block 2043 Between Cumberland St. and Carlton Ave.
126 Park Avenue, Lot 8
130 Park Avenue, Lot 7
132 Park Avenue, Lot 6
134/136 Park Avenue, Lot 5
138 Park Avenue, Lot 4
140 Park Avenue, Lot 3
142 Park Avenue, Lot 2
144 Park Avenue, Lot 1

The first structures appeared on several of these lots by 1850 (Figure 2). In Lot 1 at 144 Park Avenue, a small building was present fronting Carlton Avenue. In addition, a small unidentifiable structure straddled the middle of Lots 2 and 3 at 140 and 142 Park Avenue, near the route of the force main corridor. There was also a structure at the intersection of Cumberland Street and Park Avenue on Lot 8. By 1855 the 140/142 Park Avenue building on Lots 2 and 3 had been removed and there were two additional structures on Lot 1 at 144 Park Avenue. Each of Lots 2 through 4, at 138 through 142 Park Avenue, had a structure on its northern portion. A small building stood on the southern end of Lot 5 at 134/136 Park Avenue, and three structures were built on Lot 6 at 132 Park Avenue. The structure was still present on the northern portion of Lot 8 at 126 Park Avenue (Figure 3).

By 1860, a three story wooden building was present on the northern end of Lot 7 at 130 Park Avenue, and two additional brick buildings were on the southern end of Lot 8. The building on the northern portion of Lot 6 at 132 Park Avenue had been replaced by a larger structure which was adjacent to a new structure on Lot 5 at 134/136 Park Avenue. The remainder of the structures were shown as two and two-and-a-half story wood buildings, with the exception of the northern building on Lot 8 which was three stories tall. yB 1869, the buildings on the southern end of Lot 8 had been removed, and a structure had been built on the southern end of Lot 7 (Figure 4). These remained unchanged through 1886, with the exception of the structure on the southern end of Lot 7 which had been removed (Figure 5).

In 1904 these dwellings are all shown to have stores, with the exception of the one at 140 Park Avenue on Lot 3 which was labeled as a two story dwelling (Figure 7). The remainder of the structures are all depicted as three and four stories tall through 1915 (Figure 8). The lots remained unchanged through at least 1929, and were presumably razed for the 1942 widening of Park Avenue.

Not much is known about the 1850 structure straddling Lots 2 and 3 other than its presence near the route of the force main corridor. The small size (Figure 2) and unknown use yield no contextual information, rendering it questionable for archaeological sensitivity.

The structure at 126 Park Avenue on Lot 8, built prior to 1850, had a sewer line installed in 1869 when Kingsley owned the property. Kingsley was not an resident at this address in either 1857/58 or 1870/71. No census records were available for this address, nor were any residents found in the Elite directory. The occupants of this address remain unknown for the time period between c.1850 and 1869. According to conveyance records, this lot passed through the hands of Vandeverg, Stallknecht, Kingsley, Pimlott, Adamski, and Herbert between the years 1856 and 1887. Of these, only Henry Pimlott was listed as a resident on Park Avenue near Cumberland Street in 1870/71. At that time he was a baker, and had just acquired the property. Residents between c.1850 and 1869 remain unknown.

The dwelling at 130 Park Avenue on Lot 7, was built between 1855 and 1860. A sewer line was installed at this address in 1871, when Mr. Rule owned the property. Henry Rule was listed on the 1858/59 and 1861/62 directories as living in a house on Park Avenue near Cumberland Street. In 1868/69 he is listed as a confectioner living at 142 Park Avenue, a house near Carlton Avenue, and in 1870/71 he is listed as living at 149 Park Avenue, together with his wife and brother. He is listed at the 130 Park Avenue address on both the 1875 census, and the 1882/83 directory, both post-dating the installation of a sewer line. On the 1875 census, Rule

is listed as a Scottish baker, living together with his wife, son, and brother-in-law James Richardson who was the property owner. At that time they had a servant and a border also living with them. A second family named Thompson also lived here, composed of a mother and her three children. None of these other occupants, including James Richardson, were listed at this address on earlier directories.

It appears that although Henry Rule owned this parcel in 1871, he lived elsewhere at that time. By 1875 his brother-in-law had purchased the house from him, and they had all moved in together at this address. The occupants between c.1855 and 1871 remain unknown. According to conveyance records, the parcel was passed through the hands of people by the names of Long and Barnes, although neither were residents. Therefore, the occupants of this structure between c.1860, when it was built, and 1871, when a sewer line was installed, remain unknown.

At 132 Park Avenue, on Lot 6, the structure built in c.1860 had a sewer line installed in 1890 when L. Barnes was the owner. Barnes was not listed at this address on either the 1860/61, 1870/71 or 1878/79 directories. In 1875, Hugh Skillman, an Irish tinsmith, and his wife, daughter, and sister-in-law lived at this address. Alex Prinkle, a Scottish gas filter, his wife and two children, also lived at this address. None of these people were listed at this address on earlier or later directories dating to 1857/58, 1878/79, and 1884/85. According to conveyance records, this parcel passed through the hands of Bouton, Brush, Jackson, Wilhelm, Gotkind, and Lureau between 1863 and 1877. None of these people were ever residents, and the directories listed Brush as a bank president, probably acquiring much of the rental property in the area as income. In 1868/69, Henry Rule was listed as a baker at 142 Park Avenue, although since prior to 1870 house numbers appeared to be ten digits higher on Park Avenue, he was probably at this address.

does all rsch reflect this calibration?

The dwelling at 134/136 Park Avenue was built by c.1860. A sewer line was installed at this address prior to 1868, although the exact date is unknown since the Sewer Records and Permit Office in Brooklyn no longer has the docket book with this information. Inn 1875, Harry Hyams, an English cigar maker, his wife, and two children, lived at this address. They did not live here in 1860/61 or 1870/71. According to conveyance records, this parcel passed through the hands of Brush, Kolscherd, Bouton, Gotkind, Brumberg, and Lowitz between the years 1856 and 1869. None of these people were ever listed as residents. Therefore, the occupants of this dwelling between c.1860, when the structure was built, and 1868, when a sewer line had been installed, remain unknown.

The structure at 138 Park Avenue was built between 1850 and 1855. In 1872 when a sewer line was installed at 138 Park Avenue on Lot 4, C. Douglas was the owner. In 1875 the structure was

occupied by Catherine Douglas, 65, four members of her daughter and son-in-law's family, named O'Keefe, and four members of the Snydam family, originally from elsewhere in Brooklyn. Five years prior to this the Snydam family did not occupy this address. However, according to an 1871 directory, Daniel O'Keefe lived at 148 Park Avenue.

Initially, the length of Catherine Douglas's occupation for this address was not clear. An 1857 directory placed her husband Andrew Douglas, a laborer, in a house on Park Avenue at Carlton Street. In 1860, Catherine Douglas, widow, was listed in a house also on Park Avenue at Carlton Street. The 1862, 1864, and 1867 directories placed her at 148 Park Avenue. By present numbers this would be a house at the intersection of Park and Carlton Avenues. However, given that house numbers have changed, it is quite possibly the same dwelling. This is supported by data on the 142 Park Avenue *dwelling (see below)*, although it can not be substantiated since pre-1880 maps reviewed had no street addresses. The 1870 directory placed her simply in a house on Park and Carlton Avenues. It is not until 1871 that a directory places Catherine Douglas at 138 Park Avenue, by which time the street numbers may have been reduced by ten. She remained at this address through at least 1882.

Conveyance records showed that in 1837 Daniel Nicharas sold this lot to Conklin Brush, a merchant. In 1846 Brush conveyed the lot to Andrew Douglas. Three years later in 1858, Andrew Douglas and his wife Catherine conveyed this lot to James Lyman, and in 1863 Lyman conveyed it back to Catherine. As stated above, the first directory to list Douglas on Park near Clinton Avenue is 1857. It appears that the Douglas family, consisting of Andrew and Catherine, their son, daughter, son-in-law and grandchildren, lived at this dwelling between at least 1857 and 1872, and quite possibly through all of the time the house remained without a sewer.

A sewer line was installed at the dwelling at 140 Park Avenue on Lot 3 in 1875, owned by Mr. McElroy. According to the census records, in 1875 the dwelling was occupied by four members of the McElroy family, Irish immigrants, Edmond Herman, a New York born carpenter, and three members of the Goater family from elsewhere in Brooklyn. As early as five years prior to this, none of these people lived at this address. In 1846 William McMurray sold this lot to Conklin Brush, a merchant, who then sold the parcel to Peter Dearborn the following year. In 1851 this lot was conveyed by Dearborn to Thomas Richardson, a mason who was not a resident of the parcel in either 1846 or 1864. Two years later, Richardson conveyed the parcel to William Wetherill, also a non-resident. Over the next several years, the lot was conveyed several times with none of the owners appearing as residents. Not until 1875 does the owner Mr. McElroy, appear as a resident.

The structure, built in c.1855, remained without a sewer connection for twenty years. The occupants for that time period could not be established through census, directory or conveyance records. The first known resident, who was also the owner, dates to 1875 when the sewer line was installed.

The dwelling at 142 Park Avenue on Lot 2 had a sewer line installed in 1870, when G. W. McKee owned the property. In 1875 the dwelling had seventeen residents of the Keeler, Portingal, Watson, and Fitzpatrick families originally from Germany, New Jersey, Pennsylvania, and elsewhere in Brooklyn. Five years earlier, none of these people occupied this address, however W. Alexander, a plumber did reside here. In 1875 Alexander lived at 212 Park Avenue (See Block 1887). In 1849 David Marple sold this lot to Jonas Dibble, previously a resident of Navy Street. Dibble sold the parcel the same year to Elias Cole, who then resold the parcel to the Dibbles. In 1853 the Dibbles again sold the parcel, this time to Charles Thatcher, a non-resident shipmaster. Thatcher sold the property to George Marman four years later, and Marman sold the property in 1868 to George McKee.

McKee, an iron worker, sold the parcel to Ellen Higgins in 1876. In 1860/61, George McKee was listed as a resident at 152 Park Avenue, although this was probably this dwelling since house numbers changed (See 138 Park Avenue above). In 1863/64 he was listed as an iron worker living elsewhere. Therefore, the only resident that could be established between the years c.1855, when the structure was built, and 1870, when the sewer line was installed, was George McKee, an iron worker who lived here briefly in the early 1860s, and William Alexander, a plumber who lived here in 1865.

Two structures were present at 144 Park Avenue on Lot 1, one built prior to 1850, and the other built between 1850 and 1855. A sewer line was connected to this property prior to 1868, although the exact date is unknown since the Sewer Records and Permit Office in building no longer has the docket with this information. In 1875, Jacob Debus, a German Baker, his wife and three children lived at this address. Five years earlier, in 1870, he lived and owned a structure elsewhere on Park Avenue. According to conveyance records, between the years 1852 and 1859 the lot passed through the hands of Conklin Brush, William Dollscheidt, Carmelo Lolumia and Frederick Dollscheidt. None of these owners were ever listed as residents at this address. Therefore, no residents could be established for this address between c.1850/55, when the two structures were built, and 1868, when a sewer line had definitely been installed.

Block 2044 Between Carlton Ave. and Adelphi St.
63 Carlton Avenue, Lot 7
65 Carlton Avenue, Lot 8
62 Adelphi Street, Lot 88
64 Adelphi Street, Lot 87

The first structures on this block date to 1855 when a building first appeared on the western end of Lot 7 at 63 Carlton Avenue. There was also a structure on the western end of Lot 8 at 65 Carlton Avenue, and two structures were on the eastern ends of Lots 87 and 88 at 64 and 62 Adelphi Street (Figure 3).

By 1860 a small rear two story addition was built on the northeast corner of the three story dwelling at 63 Carlton Avenue. The lot was not rectangular, measuring 92' on the southern border and 25' on the western border. Along the northern border, the lot extended east for 60', then jogged north for several feet, continued east for another 32', and then headed south for 30'. The dwelling was also 25' wide, and was approximately 30 deep before the extension was built. The 65 Carlton Avenue building was shown as a two-and-a-half story wooden building, and the structure at 62 Adelphi Street was a three-and-a-half story wooden building. The 64 Adelphi Street structure was also wooden and two stories tall.

No changes to these structures were noted through at least 1929, and presumably until the lots were vacated for the widening of Park Avenue in 1942.

The structure at 63 Carlton Avenue on Lot 7 was built by c.1855. No sewer connection records were available for this lot, although a sewer line was installed and inspected along Park Avenue between Carlton Avenue and Adelphi Street by 1863 (Tracing #3080, 1863, Sewer Records and Permit Office, Brooklyn). According to the 1875 census records, there were thirteen residents at this one address, belonging to the Reeves, Welch, and Dayton families, previous residents of Brooklyn, Suffolk County, and England. Five years prior to this, only Warren Dayton could be found in a directory, living elsewhere on Carlton Avenue. John Denham lived at this address in 1881, but lived elsewhere in the 1870s. No residents could be tracked for this address between c.1855 and the 1860s, when a sewer line would have been available.

The dwelling at 65 Carlton Avenue on Lot 8 was also built by c.1855. In 1874 the owner, Mr. Lewis, had a sewer line installed. In 1875, nine people lived at this address, none of them in the Lewis family. Isaac Nevins, a native born sash and blind maker, together with his wife lived at this address. Mary Baker and her son also lived here, as did John Denham, a watchman, and his wife and mother (Denham lived next door at the 63 Carlton Avenue address in 1881). Lawrence Brooke, a blacksmith, and his wife also lived here. None of these people lived at this address in either 1857/58 or 1870/71. Although there was no Lewis family present here in

either 1860/61 or 1870/71, after a sewer line was installed, Caroline A. Lewis, a widow, lived here in 1878/79.

The only conveyance record for the lot lists William Hunter as the owner in 1842, although Hunter was never a resident of this address. Occupants for the period between c.1855, when the structure was built, and 1874, when a sewer line was installed, could not be determined.

At 62 Adelphi Street on Lot 88, built in c.1855, a sewer line was installed prior to 1868, although the exact date remains unknown. In 1875, James Comstick, a native of Delaware, and his wife and five children, resided at this address. The Comstick's employed a Black servant, also from delaware. Neither the Comsticks nor the servant were listed at this address in either 1857/58 or 1870/71. In the 1860s the lot passed through the hands of Bedell, Burns, Mills, and Samenfeld. None of these owners were ever listed as residents at this address. The occupants between the years c.1855, when the structure was built, and 1868, a definite date of sewer line installation, remain unknown.

At 64 Adelphi Street on Lot 87, also built in c.1855, a sewer line was installed prior to 1868, although the exact date remains unknown. In 1875, Joseph Philipps, a German realtor, his wife, two children, and a servant lived at this address. Ann Keenan, an unemployed Irish woman, also lived at this address. None of these residents were listed for this address in earlier directories. The lot passed through the hands of Kilvington, McNamee, and McClees, none of whom were ever listed as residents for this address. The residents for this address between the years c.1855, when the structure was built, and 1868, when a sewer line had been connected, remain unknown.

Block 2045 Between Adelphi Street and Clermont Avenue.
172 Park Avenue, Lot 7
174 Park Avenue, Lot 6
176 Park Avenue, Lot 5
178 Park Avenue, Lot 4
180 Park Avenue, Lot 3
182 Park Avenue, Lot 2
57 Adelphi Street, Lot 10
59 Adelphi Street, Lot 11

in area affected by foreclosure

These first dwellings on this block were built on Lots 10 and 11 at 57 and 59 Adelphi Street between 1850 and 1855 (Figure 3). By 1860 dwellings were also built on the northern ends of Lots 2 through 7 on 172 through 182 Park Avenue. The two-and-a-half story dwellings on Park Avenue each had basements and measured 20' wide by 35' long. The two Adelphi Street dwellings were each two stories tall. These all remained the same until a two story rear addition, about 15' long, was built on the southeast corner of the

dwelling on Lot 6, and small additions were built on the two Adelphi Street dwellings, all prior to 1904 (Figure 7). These buildings stood through at least 1929, and were presumably razed for the construction of Park Avenue in 1942.

The majority of this block was owned by the Hunter family until the 1850s-1860s. In 1852 Alvah Mulford owned several of the lots, and in c.1860 John C. Rustin bought all of these lots, selling them each within a few years. None of these land-owners appeared on directories as residents of these dwellings, and the Rustins were listed as builders and real estate handlers in the 1860s and 1870s.

The dwellings, built between 1855 and 1860, probably stood for only a few years prior to the installation of a sewer line on this part of Park Avenue. The block to the west, between Carlton Avenue and Adelphi Street, had a sewer line in Park Avenue by c.1863, so presumably the line dates to a similar period for this block (Tracing #3080, 1863, Sewer Records and Permit Office, Brooklyn). No specific sewer installation records were available for any of the Park Avenue dwellings identified on this block, while both of the Adelphi Street dwellings were hooked up to sewer lines in 1869, six years after a sewer line was available. Presumably, all dwellings were hooked up to sewers by the 1870s, since lines had been available in the 1860s.

According to the 1875 census records, these buildings were each occupied by several families. Lot 7 at 172 Park Avenue was residence to eight members of the Pearsall, Sanders, and VanNicklas families. Lot 6 at 174 Park Avenue housed seven members of the Hyatt and Strauss families. Lot 5 at 176 Park Avenue contained 11 members of the Haush, Hardline, Bradley, and Peterson families. Lot 4 at 178 Park Avenue housed five members of the Langdon, VanPelt, and Bertram families. Lot 3 at 180 Park Avenue had seven members of the Woodworth, Frank, and Freeman families, and Lot 2 at 182 Park Avenue had 12 members of the Hagerman, Morrell, and Cass families. Lot 10 at 57 Adelphi Street had 8 members of the Pomroy family, together with one servant. Lot 11 at 59 Adelphi Street had five residents of the Douerty family, and three residents of the Ballinger family.

When the sewer lines were installed in 1869 at the two Adelphi Street dwellings, Mr. Rustin owned the property, although he never appeared to live here. Between the years 1852 and 1873, these parcels were conveyed by Hunter, Stallknecht, VanSickley, Hoyt, Hyatt, Rustin, Martin, Ryder, Lush, Anterbridge, and Young, all non-residents. In addition, none of the above residents could be traced to these addresses on earlier or later directories or census records. Nor did any of the dwellings have only one ethnic group occupying it, with the diversity of residents originating from New York, Germany, Albany, Connecticut, Sweden, Maine, Finland, and

England. No specific residents could be tracked for any length of time between c.1855/60, when the structures were built, and the 1870s, when sewer lines were probably connected.

Block 2046 Between Clermont Street and Vanderbilt Avenue.
186/188 Park Avenue, Lot 8
190 Park Avenue, Lot 7
192 Park Avenue, Lot 6
196 Park Avenue, Lot 4
198 Park Avenue, Lot 3
200 Park Avenue, Lot 2
64 Vanderbilt Avenue, Lot 77

By 1850 a structure had been built on the northern ends of Lots 2 and 3 fronting Park Avenue at numbers 198 and 200. At 64 Vanderbilt Avenue on Lot 77 a small structure had been built on the southern end of the lot (Figure 2). By 1855, several other structures were also present on the block. At 200 Park Avenue on Lot 2 the 1850 structure was still present and a second structure had been built on the southern end of the lot. The structure on Lot 3 at 198 Park Avenue also remained unchanged from 1850. A structure had been built on the northern end of Lot 4 at 196 Park Avenue. A dwelling was built on the southern end of Lot 6. Two structures had been built on Lot 7 at 190 Park Avenue, and a structure had been built at the intersection of Clermont Avenue and Park Avenue on Lot 8, at 186/188 Park Avenue. The 1850 structure was still present on Lot 77 at 64 Vanderbilt Avenue, and an additional structure had been built on the eastern end of the lot (Figure 3).

In 1860 all of the lots appeared the same with the exception of Lot 77 at 64 Vanderbilt Avenue. Here, the eastern structure had been removed, while a new structure of similar size had been built on the western end of the lot. By 1869, additional structures had been built on the southern ends of Lots 8 and 5 at 186/88 and 194 Park Avenue (Figure 4). Between 1898 and 1904 the structure at the southern end of Lot 5at 194 Park Avenue had been removed and replaced, and the remaining structures were shown as two, three, and four story buildings with stores. 192 and 196 Park Avenue were still shown as dwellings (Figure 7). These remained unchanged through 1915 (Figure 8), and through 1929, and presumably until the widening of Park Avenue in 1942.

At 186/88 Park Avenue, the Lot 8 dwelling was built in c.1855, and the date of sewer installation is unavailable. No census records could be located for this address in 1875. Between 1850 and 1866, the property was owned by J. Spader, J. Vanderbilt, F. Stallknecht, J. Ravel, and A. Cord. Of these owners, none ever appeared to live here. The residents between c.1855, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

At 190 Park Avenue, the Lot 7 dwelling was built in c.1855, and the date of sewer installation is unavailable. In 1875 Charles Albrecht, a German butcher, owned and lived in the dwelling with his wife, and a border named Jacob Stoefleur, also a German butcher. Charles Albrecht was also listed at this address in 1870/71, but not in 1857/58. The parcel was owned by S. Barnes, P. Boyle, J. Spader, and S. McManus. Of these owners, only Charles Albrecht, who acquired the property in 1868, lived here at any point in time.

The structure at 192 Park Avenue on Lot 6 was built by c.1855, and has an unknown date of sewer line installation. In 1875 James Mullie and his family of three, together with James Shields, and his family of two, lived at this address. These Irish residents did not appear to occupy the structure for long, since none of these appear in earlier directories or census records at this address. Sarah McManus, who owned this and the 190 Park Avenue lots at some point, was never listed as a resident at this address. Therefore, the residents between the years c.1855, when the structure was built, and the 1870s, when sewer lines were probably installed, remain unknown.

The structure at 196 Park Avenue on Lot 4 was built in c.1855, and the date of sewer installation is unavailable. In 1875 Maria Frazer owned and lived in the dwelling, together with James Garrison, a native born lawyer, his wife and four children. The Garrison family was not listed at this address in either the 1857/58 directory or the 1870/71 directory. The property passed through many owners between 1850 and 1864, including J. Frazer, W. Colyer, A. Burke, J. Rhodes, S. Bouton, J. James., and S. Jackson. Of these owners, only Maria Frazer is listed as a resident of a house on Park Avenue near Vanderbilt Avenue in 1861/62, although the Frazer's did not own the parcel until 1864, and they were not residents here in either 1857/58 or 1870/71. Maria was not a resident in 1868/69, but again appears as a resident in both 1874/75 and 1882/83. Maria Frazer appears to have lived in the parcel for several episodes between the 1860s and the 1880s. Earlier occupants of the house, built in c.1855, remain unknown.

The dwelling at 198 Park Avenue was built prior to 1850 and has an unavailable date of sewer line connection. In 1875 William Dazzele, a German liquor dealer, his wife and stepson lived at this address. At that time, his wife Josephine owned the property. The Dazzele family is not listed at this address prior to 1875, and if Josephine was previously listed under her former married name, since it is unknown she could not be traced backwards in time. The parcel was owned by W. Colyer, J. Frazer, E. Nevins, and I. Opie, all non-residents. Therefore, the occupants between c.1850, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

The building at 200 Park Avenue was also built prior to 1850, and has an unknown date of sewer line connection. In 1875, James Gildersleve, a native born carman, and his wife and son, lived at this address, together with Henry Nostrand, also a native born carman, and his wife and four children. Neither of these occupants were listed at this address on earlier directories, however, the Gildersleve family was listed at 122 Park Avenue in 1870 (See Block 2042). Between 1850 and 1886, the parcel was owned by W. Colyer, A. Kimball, W. Wright, J. Bennett, A. Powell, and S. Young. Of these owners, only Wesley Wright may have been a resident. Wright owned the parcel between 1855 and the early 1860s when it was sold to Colyer. The 1861/62 directory placed Wright in a house on Park Avenue near Vanderbilt, although by 1868 he was no longer listed at this address. Therefore, Wright appears to be the only known resident between c.1850, when the structure was built, and the 1870s, when sewers were presumably available, having lived here only in the early 1860s.

At 64 Vanderbilt Avenue, the structure was built in c.1855 and has an unknown date of sewer line connection. In 1875 the dwelling was occupied by nine people. Thomas Siloc, an Irish painter, his wife and two sons, lived here with their father-in-law, Hugh Kerr, an Irish machinist. Thomas Fry, an Irish boiler maker, and his wife Elizabeth, also lived at this address, together with their nephew, Chris Armstrong, and their Irish servant, Maria Eagan. On earlier directories, the Siloc family was not listed, and Hugh Kerr was shown living on Franklin Place in 1870/71. The Fry family was not listed on the 1870/71 directory, but in 1857/58 was listed as living on Park Avenue near Carlton Avenue, several blocks west.

Between 1850 and 1877, the parcel was owned by J. Spader, J. Cammeyer, J. Folk, H. Weber, J. Reuter, and H. Matthias. Of these owners, Henry Weber was listed as a resident in 1861/62, but not on earlier or later directories. Weber owned the property off and on between 1851 and 1876, but only appeared to reside here in the early 1860s. Weber represents the only known resident between the years c.1855, when the structure was built, and the 1870s, when a sewer line was presumably available.

Block 1887 Between Vanderbilt and Clinton Avenues.

206 Park Avenue, Lot 6
208 Park Avenue, Lot 5
210 Park Avenue, Lot 4
212 Park Avenue, Lot 3
214 Park Avenue, Lot 2
216 Park Avenue, Lot 1
218/220 Park Avenue, Lot 57
56 Clinton Avenue, Lot 56
58 Clinton Avenue, Lot 55

The route of the proposed force main traverses Lots 1 through 6, and 55 through 57. Only one structure was present in 1850 on the northern end of Lot 6 at 206 Park Avenue (Figure 2). By 1855 several additional structures had been built. Lots 1 through 6 between 206 and 216 Park Avenue each had a structure with a vacant yard on the southern half of the lot. At 218/220 Park Avenue, another building was present on Lot 57, and at 58 Clinton Avenue on Lot 55 another structure had been built (Figure 3). By 1860 an additional structure was on the southern end of Lot 6 at 206 Park Avenue, and a building stood in the midsection of Lot 56 at 56 Clinton Avenue. These structures all appeared unchanged in 1869 (Figure 4), and remained the same through at least 1915 when they appear as two and three story buildings, some with stores, and some as dwellings. The structures on Lots 1, 55 and 56 each have basements (Figure 8). The structures appeared the same through at least 1929, and were presumably razed for the widening of Park Avenue in 1942.

The dwelling at 206 Park Avenue on Lot 6 was built by 1850, and the date of sewer line connection was unavailable. In 1875, the structure was occupied by twelve people. Deidrich Mahnken, a German grocer who owned the dwelling, and his wife and three children lived together with their two borders, both grocery clerks, and a German servant. In addition, William Smith, a native born fish dealer, lived together with his wife and son and their English servant. None of these people were listed at this address on earlier directories. In the 1860s, the parcel passed through the hands of Burtis, Armfield, Hedges and Mahnken. Hedges, who owned the parcel in 1864, was listed on the 1861/62 directory as having a grocery store at the corner of Park and Vanderbilt Avenues, and living at 51 Vanderbilt Avenue-which is the alternative address for this lot. In 1868/69 he was still listed at this address, but by 1874/5 he had moved. The parcel was sold to Mahnken in 1869 who undoubtedly took over the grocery store at that time and ran it through at least the early 1880s.

Therefore, between the early 1860s and the early 1880s the parcel was occupied by at least two families, both operating the grocery store on the ground floor and residing above. Borders and servants also occupied the residence. The occupants between c.1850 and 1860 remain unknown.

On Lot 5 at 208 Park Avenue, built between 1850 and 1855, the sewer connection date was also unavailable. In 1875 Harvey Ross, a New York boilermaker, owned the property. At that time he lived there with his wife and Samuel McCraken, a sealer, together with his wife. Ross had acquired the parcel in 1867. Neither the Ross or McCraken family were listed at this address on earlier directories. Between 1852 and the 1880s, the parcel was conveyed by Colyer, Pettit, Ross and Mahnken. Other than Ross, only Oliver Pettit, who owned the parcel off and on between 1852 and 1867, was listed in a house on Park near Vanderbilt in both 1857/58, and

1861/62. By 1868 Pettit lived elsewhere. Therefore, the only known occupants between c.1855, when the structure was built, and the 1870s, when a sewer line was presumably available, was Oliver Pettit, who resided here between c.1857 and 1862, and the Rosses, who may have lived here following their purchase of the property in 1867, through at least 1875.

On Lot 4 at 210 Park Avenue, also built between 1850 and 1855, the sewer connection date was unavailable. In 1875 William Frichett, a ship carpenter, and his wife, daughter, son-in-law, and three grandchildren lived at this address. In addition, James Eldert, an oyster and fish man, lived here with his wife. None of these occupants were listed on earlier directories for this address. The parcel was conveyed by Colyer, Cadmus, Hind, Hyatt, and Sullivan between the years 1852 and 1877. In 1857/58, John Cadmus resided in a house on Park near Vanderbilt Avenue. By 1861/62 he had moved. Cadmus had acquired the parcel in 1852, and sold it sometime before 1867 when Hyatt had conveyed it to Hind. John Cadmus represents the only known occupant between the years c.1855, when the structure was built, and the 1870s, when a sewer line was presumably available.

On Lot 3 at 212 Park Avenue, also built between 1850 and 1855, the sewer connection date was also unavailable. In 1875 William Alexander, a native born plumber, and his wife, two children, and niece lived here, together with their border, a young female coffeepacker. Moses White, a truckman, and his wife and two children also lived here. None of these people were occupants at this address on earlier directories. Between the 1850s and 1870s, the parcel was conveyed by Young, Howell, Colyer, Thomas, Baldwin, Howell, Swift, Valentine, and Leese. None of these owners were listed as occupants of this dwelling in any of the directories reviewed. Therefore, the occupants between the years c.1855, when the structure was built, and the 1870s, when a sewer line was presumably available, remain unknown.

The dwelling on Lot 2 at 214 Park Avenue was also built between 1850 and 1855 and had no date available regarding the sewer connection. In 1875, John W. Smith, a native born baker, his wife, brother, and three children all lived in this dwelling. Elsie Whiting, and her niece, Carrie Conor, and neice's husband, Edward Conor, also lived at this address. None of these people were listed for this address on earlier directories. The structure passed through many owners including Rhodes, Young, Kincaid, Porter, Pettit, Anderson, Fitzpatrick, Lurner, and Ruland. In 1861/62 William Kincaid was listed in a house on Park Avenue near Vanderbilt. By 1868 he had moved. A. Kincaid owned the property in 1874 when he conveyed it to Pettit. It is unknown when he first acquired the property. Pettit was listed in a house on Park near Vanderbilt in both 1857/58, and 1861/62. By 1868 Pettit lived elsewhere. It is unclear if this is the 214 or 208 Park Avenue address described above. Therefore, between c.1855 when the

structure was built, and the 1870s, when a sewer line was presumably available, the only known resident was William Kincaid who may have lived here in the early 1860s.

The dwelling on Lot 1 at 216 Park Avenue was also built between 1850 and 1855 and had no date available regarding the sewer connection. In 1875, twenty people lived here. Francis Strickland, a native born caulker, lived here with his mother, his brother Henry, also a caulker, and Henry's three children. Benjamin Carman, a shoemaker, his wife, three children, and one grandson also lived here. In addition, Rebecca and Ann Long, Irish operators, also lived here, as did Benjamin LaForge, a sailmaker, his wife, and their four children. None of these people owned the property, nor were they listed at this address on earlier directories. The parcel was conveyed through many people including Spader, Burtis, Talmage, Kincaid, Brundage, and Locks. Of these, only Kincaid may have lived here, as described above, in 1861/62 William Kincaid was listed in a house on Park Avenue near Vanderbilt. By 1868 he had moved. A. Kincaid owned the property between 1867 and 1872. Therefore, the only possible owner between c.1855, when the structure was built, and the 1870s, when a sewer line was presumably available, may have been Kincaid in the early 1860s.

The dwelling at 218/220 Park Avenue on Lot 57 was also built between 1850 and 1855 and does not have any sewer line connection records available. The structure was occupied by Michael Malone and his wife in 1875, both native born. In addition, they had four borders: Rhody Peters, an Irish blacksmith; James Wines and James Yates, both native born ice workers; and Sarah Quinn. None of these people lived here in either 1857/58 or 1870/71, nor did they own the property in 1875. The parcel was conveyed by Buck, Johnson, Foree, and Sherwood, none of whom ever resided at this address. Therefore the owners between c.1855, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

The structure At 56 Clinton Avenue on Lot 56 was also built between 1850 and 1855, and had no records available regarding the date of sewer line connection. In 1875 the dwelling was occupied by William Carter, a native born speculator and owner of the house, together with his wife, one, and servant. The family did not live here in either 1858/59 or 1870/71 when they were shown living elsewhere on Clinton Avenue. The lot was passed through the hands of Burtis, Baldwin, Baker, Sherwood, Johnson, Lyons, Laidlaw and Meyers, all non-residents. Therefore, the occupants between the years c.1855, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

The structure on 58 Clinton Avenue on Lot 55 was also built between 1850 and 1855, and had no records available regarding the date of sewer line connection. In 1875 the structure was

unoccupied, and in 1878/79 William Pitt was listed here on Lain's Elite directory. The lot was conveyed through the hands of Baldwin, Dinan, Force, Johnson, and Sherwood, all non-residents. Therefore, the occupants between the years c.1855, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

Block 1888 Between Clinton and Waverly Avenues
62 Waverly Avenue, Lot 39
67 Clinton Avenue, Lot 3

The first dwelling appeared on Lot 3 at 67 Clinton Avenue in 1860, when a two-and-a-half story structure was built in the middle of the lot. Also at that time, a two story brick building was constructed on the eastern half of Lot 39 at 62 Waverly Avenue. At that time the structures appeared to be part of a brick yard. The lots and structures remained unchanged through at least 1915 when the 67 Clinton Avenue building is shown as a three story dwelling with a basement, and the 62 Waverly Avenue dwelling is shown as a three story store building with a store (Figure 8). The structures remained unchanged through at least 1929, and presumably were razed for the 1942 widening of Park Avenue.

The 62 Waverly Avenue dwelling on Lot 39, built by c.1860, did not have any records available regarding the exact date of sewer line connection. The residents of the house appeared to be transient tenants. In 1842 the lot was owned by William Hunter Jr., who was listed in an 1846 directory as living at a different address with his father, a distiller. By 1847 this lot was sold to J. Neely, and in 1849 to Jesse M. Folk, a former master laborer at the Navy Yard turned builder. Folk owned the property through 1869, building a house on it during that time but not actually occupying it. Subsequently, there were multiple owners, probably absentee landlords. By 1875 the census record lists the Watson family as occupants. Four years earlier on the 1870-71 census, the Watson family had been residents elsewhere on the block. The 1877 Elite Directory listed Frederick Haggerty as the only resident at this address, although his name did not appear in the 1864, 1871, or 1881 directory at this address.

Between c.1860 and 1875, the structure at 62 Waverly Avenue was owned by several different people, and was not occupied by a single family or specific ethnic group for any length of time. Folk, the likely builder of this structure, appeared to be a speculator constructing dwellings on this and adjacent lots prior to his selling them in 1869. As was the case with much of the neighborhood, the dwelling was built as a rental, occupied by a series of unknown residents for only a short duration.

The structure at 67 Clinton Avenue on Lot 2 had a similar history, as it was also built between 1855 and 1860, and no sewer installation records were available. In 1875 eight unrelated Irish

laborers lived at this address. Mary Nolan and her son had six borders with the names of Kennedy, Terwilliger, McEvoy, Connolly, Reilly and Doehrty. These borders were stone cutters, soap cutters, hatters, laborers and stair builders. None of these people lived at this address in either 1857/58 or 1870/71, nor did they own the house in 1875. In 1878/79 George Murphy lived here according to Lain's Elite directory. The parcel was passed through the hands of Clark, Reed, Dall, Barkers, Magee, Halsey, and Leech, all non-residents. Therefore, the occupants between the years c.1860, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

Block 1892 Between Ryerson Street and Grand Avenue.
322 Park Avenue, Lot 95

In 1869 the first structure appeared on Lot 95 at the intersection of Park and Grand Avenues (Figure 4). The structure was no longer present by 1886 (Figure 5), and can only be assumed to be a dwelling.

There was no sewer connection record available for this address, nor were any 1875 census records found. Conveyance records between 1859 and 1880 indicate the lot passed hands often through the following people: Sparks, Tilloo, Redington, Jackson, Andrews, Sheridan, Wheeler, Waite, Mather, Bahrenberg, Caldwell and Jones. None of these people were listed as occupants on any of the directories consulted. Therefore, the occupants between the years c.1869, when the structure was built, and the 1870s, when sewer lines were presumably available, remain unknown.

Block 1893 Between Steuben Street and Grand Avenue
334 Park Avenue, Lot 5
340 Park Avenue/58 Steuben Street, Lot 62

A structure first appeared on Lot 5 by 1880, when the 25' by 90' lot had a two story 20' by 25' dwelling built on it's north end, leaving the southern 65' vacant. The lot had been vacant in 1869. This structure remained unchanged through at least 1929, and presumably was razed for the 1942 widening of Park Avenue.

The first building appeared on Lot 62 at the intersection of Park Avenue and Steuben Street in 1869 (Figure 4). However, by 1880 the building had been removed and the lot was vacant. By 1886 a two story dwelling had been built on the eastern three-quarters of the 25' wide by 50' long lot, approximately where the earlier structure has been (Figure 5). The 1886 dwelling was 25'wide by 35'long, leaving a 15' vacant yard to the west behind it.

The exact date of sewer installation to both of these

structures is unknown since records were not available. However, sewer lines were available throughout the project area by 1875, so presumably they were available at the time that the Lot 5 structure was built between 1869 and 1880, probably negating any sensitivity for historical period features. The Lot 62 structure dating to 1869 was replaced by later a building. The rear yard of the 1869 structure is south of the project corridor, which appears to only traverse the structure itself. The footprint of the earlier 1869 building was probably obliterated by the 1886 construction, and any homelot features which may have been associated with the earlier structure are outside of the project corridor. Therefore, neither of these lots are considered sensitive for home-lot archaeological remains.

Discussion:

The exhaustive research conducted on these lots has yielded a number of insights into the community development of the area. The majority of structures were owned by absentee landlords, often bankers and lawyers who purchased them for investment purposes. Those structures that were owned by their occupants, were occasionally used as a place of business, that is grocers lived above their grocery stores. A large portion of the population represented was composed of unskilled and skilled laborers and craftsmen. Few professionals were observed in the directory and census search for this neighborhood. There was a particularly high number of Irish renters, presumably this was the case with most of the metropolitan New York area following the great Potato Famine in Ireland. Germans seemed to also comprise a fairly high percentage of the residents. To a lesser degree, other northern and eastern European immigrants settled in this area. The surrounding industries attracted a fairly transient, working-class group residing in the community.

Only few structures identified had known occupants for any period of time prior to the installation of sewer lines. If just establishing a transient population is considered sufficient criteria for establishing sensitivity, then all of the lots could be considered potentially eligible. However, the cultural make-up of these transient residents is unknown, rendering it difficult to establish a contextual understanding in which to assess potential archaeological resources. Since 17 of these 53 dwellings did have known residents for the years prior to sewer hook-up, these would be the more likely candidates in which to address specific research issues.

Issues which could be addressed through archaeological research on some of these lots could include issues of class as it was defined in the mid-nineteenth century. Were the grocers, who maintained servants, living at a higher standard than their neighbors? Were the long-term residents at 138 Park Avenue,

need to sample them.

Catherine Douglas and her extended family, utilizing more expensive wares than those of the surrounding transient population? Did those families that owned the structure they occupied have a different pattern of consumption than renters? These types of issues could be addressed by comparing depositional material between these lots, and by comparing depositional material to other dwellings with transient populations (ie. those reported from Sullivan Street).

The following is a list of lots with residents that could be established between the date of dwelling construction and the date of sewer line installation, and may be eligible to address specific research issues:

Lots With Known Residents Predating Sewer Installation

X Recommend combination on Page

Street Address	Year Built	Year Sewers	Date of Resid.	Name of Occupants	Occupation/ Ethnicity	
48 PA Block 2039	c.1860	?	1875	Charles Mimitz	German grocer	
			1875	Ted Myer-border	German clerk	
52 Park Block 2039	c.1855	?	1875	Patrick Ganley wife & 5 children	Irish carpenter	A-11
			1875	Peter Genzarie wife	Itl. musician Irish	
110 PA Block 2042	c.1855	1868	1860	(?) Martin Fargo	NA	nno
112 PA Block 2042	c.1855	1868	1860	(?) Martin Fargo	NA	nno
122 PA Block 2042	c.1855	1868	1860	John Hohn Catherine H.	owners 1852-59	
124 PA Block 2042	c.1855	1873	1860-75	Lewis Meyer Honnber?	German	
132 PA Block 2043	c.1860	1890	1868	Henry Rule	Baker (owner) D.	
			1875	Hugh Skillman wife, family	Irish Tinsmith	
			1875	Alex Prinkle wife, 2 kids	Scottish Gas fitter	

138 PA Block 2043	c.1855	1872	1857-82	Cath. Douglas & family (O'Keefe)	Irish
			1875	Snydam	NA
140 PA Block 2043	c.1855	1875	1875	McElroy family	Irish
			1875	Edmond Herman	NY carpenter
			1875	Goater family	NY
142 PA Block 2043	c.1855	1870	1860	G. McKee	NA
			1865	Wm. Alexander	plumber
190 PA Block 2046	c.1855	?	1870-75	Charles Albrecht	German butcher
196 PA Block 2046	c.1855	?	1860	Maria Frazer	NA
			1874-81		
200 PA Block 2046	c.1850	?	1855-61	Wesley Wright	NA
64 Van Block 2046	c.1855	?	1861/62	H. Weber	NA
206 PA Block 1887	c.1850	?	1861-68	Hedges	Grocer
			1875-82	Deidrich Mahnken	Ger. grocer
				+ family	
				+ 2 boarders	Ger. clerks
				+ 1 servant	German
			1875	Wm. Smith	fish dealer
				+ family	
				+ 1 servant	English
208 PA Block 1887	c.1855	?	1875	Harvey Ross	boilermaker
			1875	Sam McCraken	owner 1867-75
210 PA Block 1887	c.1855	?	1857	John Cadmus	NA
214 PA Block 1887	c.1855	?	1857-61	Oliver Pettit[?]	NA
			1861	William Kincaid [?]	NA

← ? conflicting. A-27 nna D-23 hne

Of these lots the force main will traverse the following, as portrayed on Figure 7:

Problem NO - location of proposed trench has low potential

At 48 Park Avenue, the corridor will cross through the structure, entirely avoiding the backyard. Because of this, the lot can be considered to have a low sensitivity for historical resources.
At 52 Park Avenue, the corridor will cross the southern foundation of the structure and a small portion of the backyard.
At 110 Park Avenue, the corridor will traverse the southern portion of the lot.
At 112 Park Avenue, the corridor will traverse the southern portion of the lot.
At 122 Park Avenue, the corridor will traverse the southern portion of the lot. By 1904 this was the site of a Machine Shop which may have sealed in earlier historical period resources.
At 124 Park Avenue, the corridor will traverse the southern portion of the lot.
At 132 Park Avenue, the corridor will traverse the southern portion of the lot.
At 138 Park Avenue, the corridor will traverse the southern portion of the lot.
At 140 Park Avenue, the corridor will traverse the southern portion of the lot.
At 142 Park Avenue, the corridor will traverse the southern portion of the lot.
At 190 Park Avenue, the corridor will traverse the mid-section of the lot.
At 196 Park Avenue, the corridor will traverse the mid-section of the lot.
At 200 Park Avenue, the corridor will traverse the mid-section of the lot.
At 64 Vanderbilt, the corridor will traverse the mid-section of the lot.
At 206 Park Avenue, the corridor will traverse the southern portion of the lot.
At 208 Park Avenue, the corridor will traverse the southern portion of the lot.
At 210 Park Avenue, the corridor will traverse the southern portion of the lot.
At 214 Park Avenue, the corridor will traverse the southern portion of the lot.

Conclusions and Recommendations:

Based on the documentary research conducted for the proposed Park Avenue Force Main, a total of 18 structures dating to the mid-eighteenth century have been found to be potentially sensitive for homelot resources. However, dates of sewer hook-ups were not available for 10 of the 18 lots. It is known that sewer lines were in place in every street in the project area by 1875, so that date was assumed in the absence of any other data. On 4 of the 10 lots without sewer hook-up dates, the first residents who could be identified did not live there prior to 1875. Since they would have become occupants concurrently if not after sewers were installed, the lots are considered to have lower research potential than others where earlier occupants were identified. As a result, the structures at 48 and 52 Park Avenue on Block 2039, at 140 Park Avenue on Block 2043, and at 208 Park Avenue on Block 1887 were all eliminated from the final sensitivity map (Figure 9).

A great many structures could not be associated with residents prior to the installation of sewer lines; these probably hosted transient renters and storekeepers comprising an unknown population. Further documentary research on those lots with known residents could perhaps refine information on ethnicity and occupation. If these lots are considered to meet sensitivity criteria established by the NYCLPC, then a sampling plan based on the current research goals, such as those described above in the Discussion section, should be devised with the review and approval of the NYC Landmarks Preservation Commission.

W

X

R. disagree

contradiction D-2

need to look at water connection info. & sample transients

This does not reflect the state of the art & previous discussions on need to sample transient populations.

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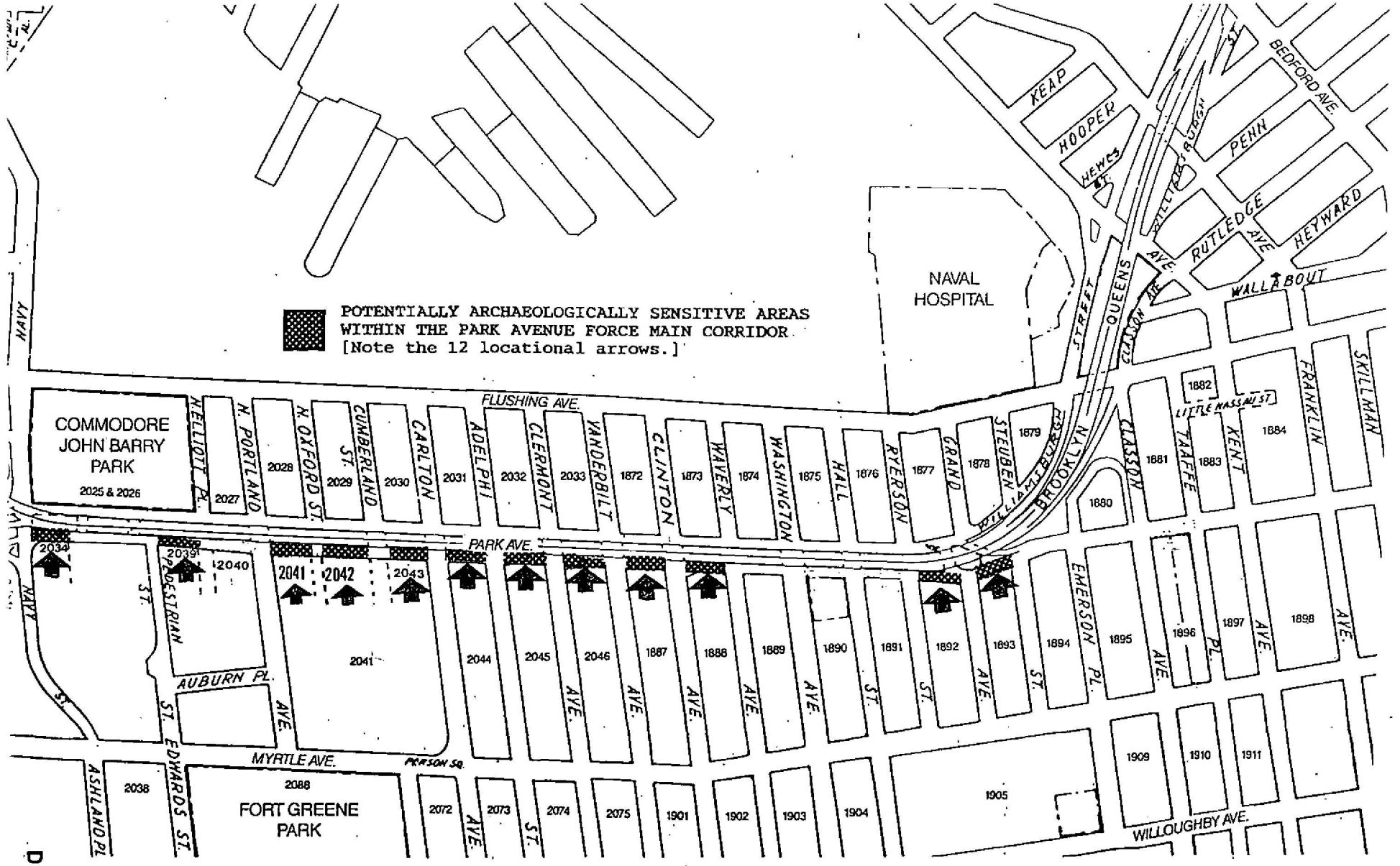
POTENTIALLY ARCHAEOLOGICALLY SENSITIVE AREAS WITHIN THE PARK AVENUE FORCE MAIN CORRIDOR
[Note the 12 locational arrows.]
NAVAL HOSPITAL
COMMODORE JOHN BARRY PARK
2025 & 2026
FORT GREENE PARK
2088
FLUSHING AVE.
PARK AVE.
MYRTLE AVE.
WILLOUGHBY AVE.
AUBURN PL.
PEARSON SQ.
KEAP
HOOPER
HEWES ST.
BEDFORD AVE.
PENN
RUTLEDGE AVE
HEYWARD
WALLABOUT
QUEENS
CLASSON AVE.
BROOKLYN
STREET
WILLIAMSBURG
NAVY
ST. EDWARDS ST.
ASHLAND PL
PEDESTRIAN
N. ELLIOTT PL.
N. PORTLAND
N. OXFORD ST.
CUMBERLAND ST.
CARLTON
ADELPHI
CLERMONT
VANDERBILT
CLINTON
WAVERLY
WASHINGTON
HALL
RYERSON
GRAND
STEUBEN
CLASSON
TAAFFE
LITTLE MASSAU ST.
KENT
FRANKLIN
SKILLMAN
EMERSON PL.
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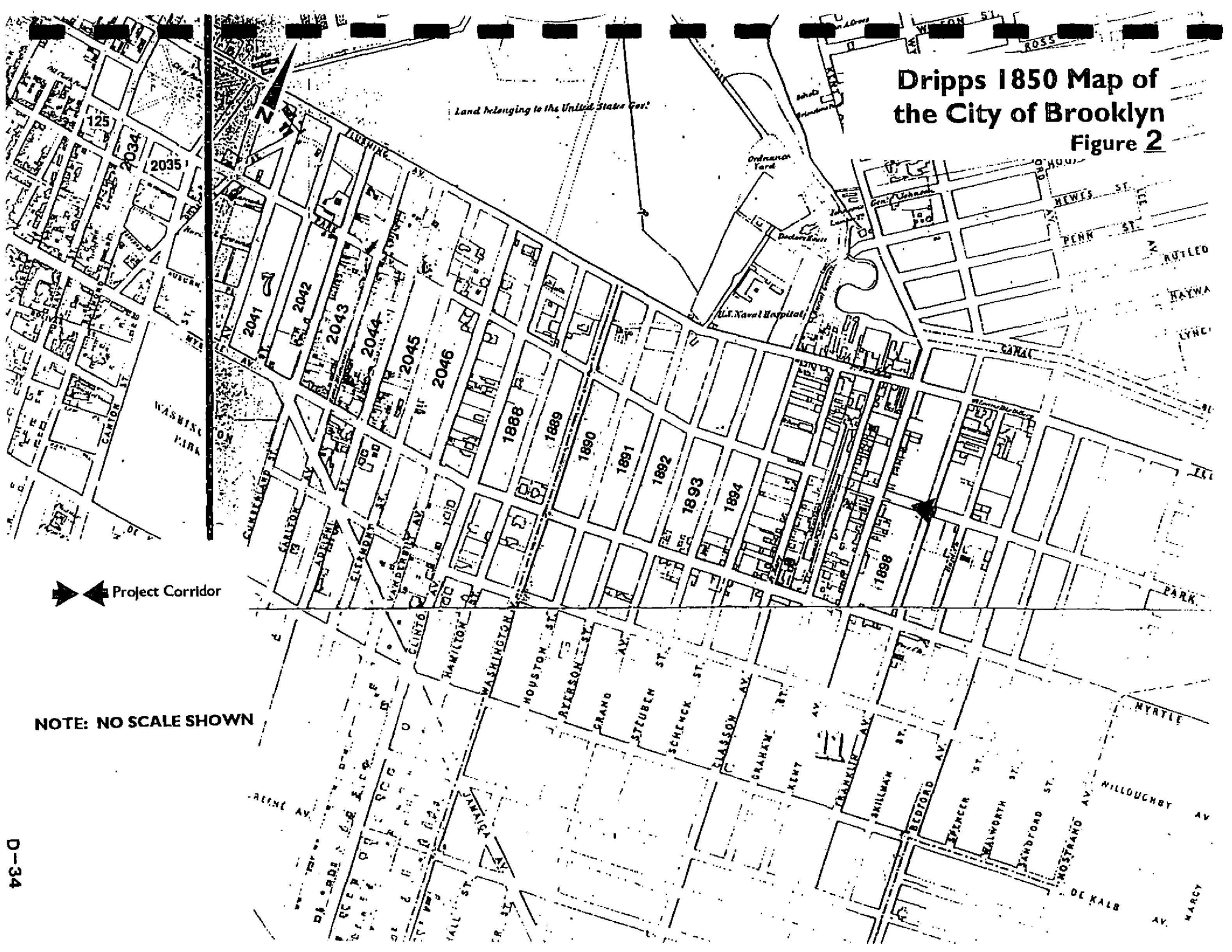
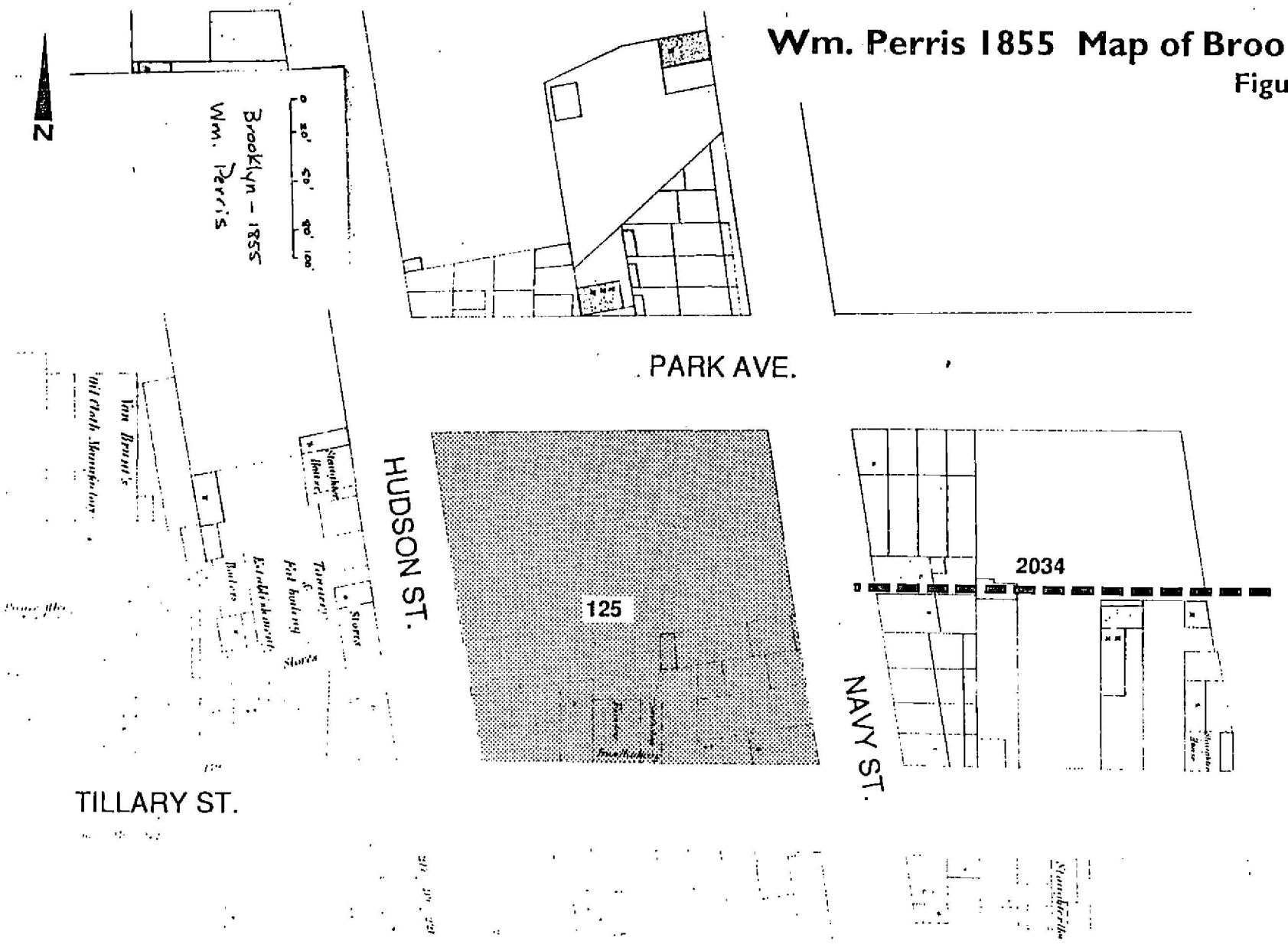

Dripps 1850 Map of the City of Brooklyn
Figure 2
Land belonging to the United States Gov.t
Ordnance Yard
U.S. Naval Hospital
Project Corridor
NOTE: NO SCALE SHOWN

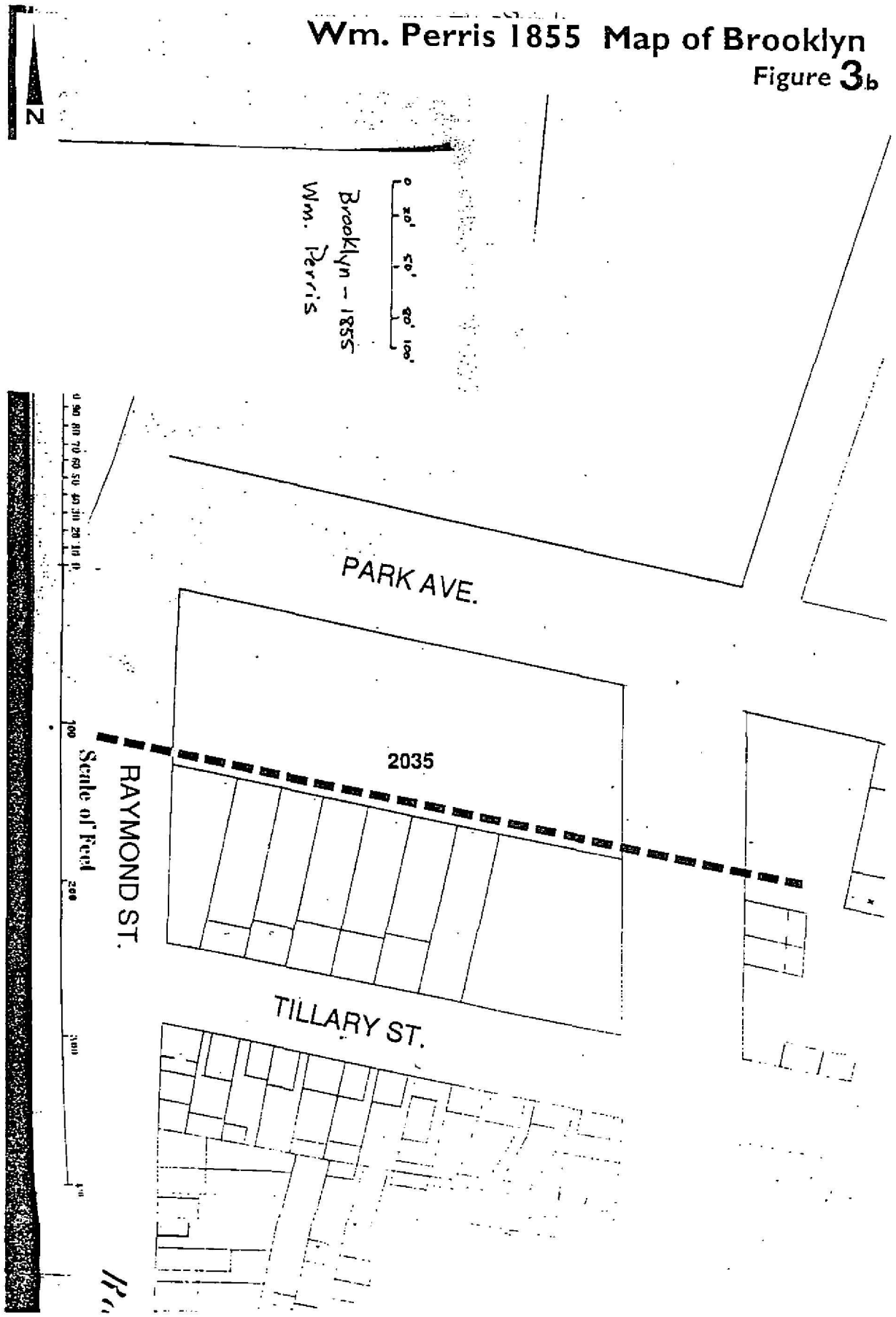
Wm. Perris 1855 Map of Brooklyn

Figure 3a

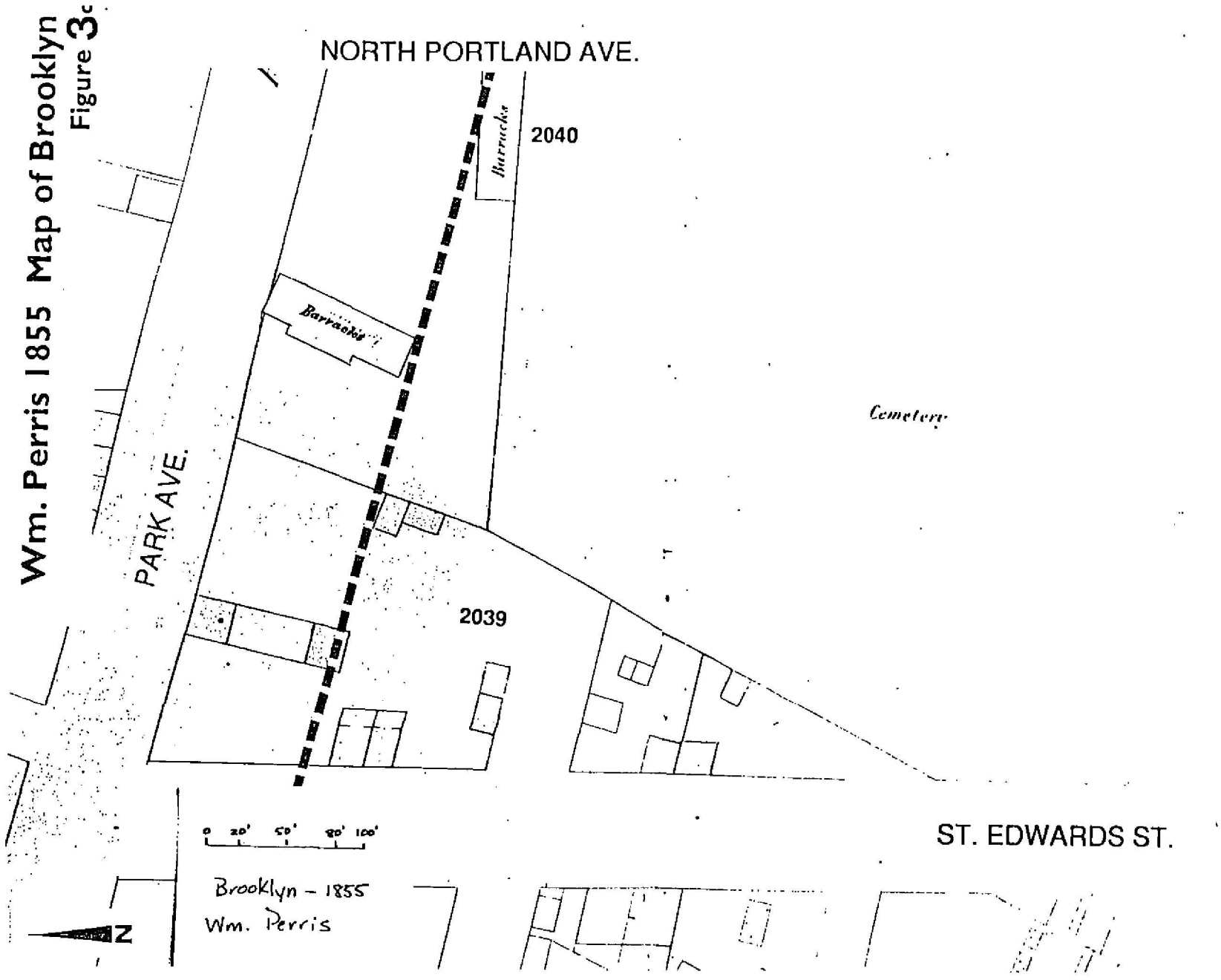


Wm. Perris 1855 Map of Brooklyn

Figure 3b

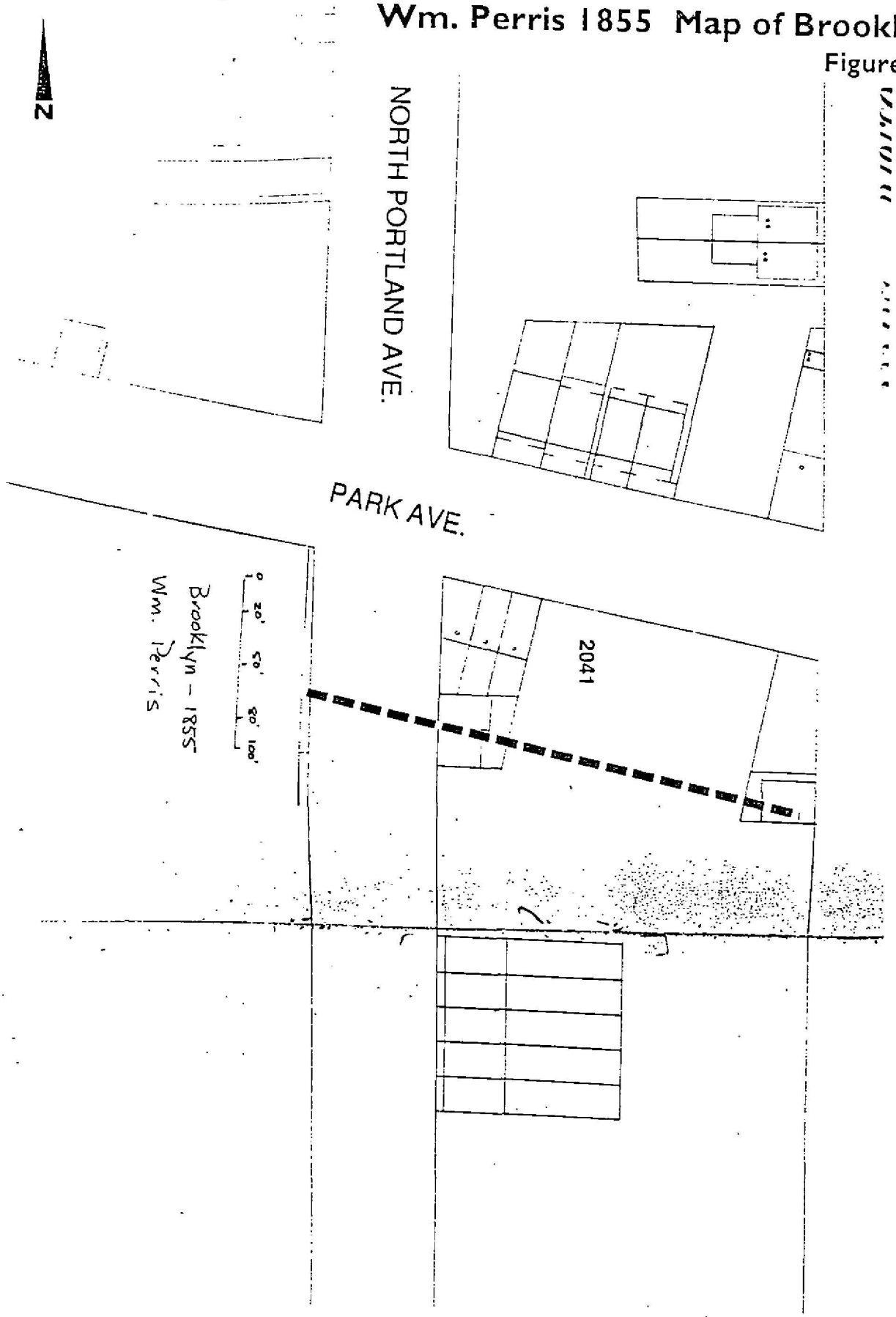


Wm. Perris 1855 Map of Brooklyn
Figure 3c



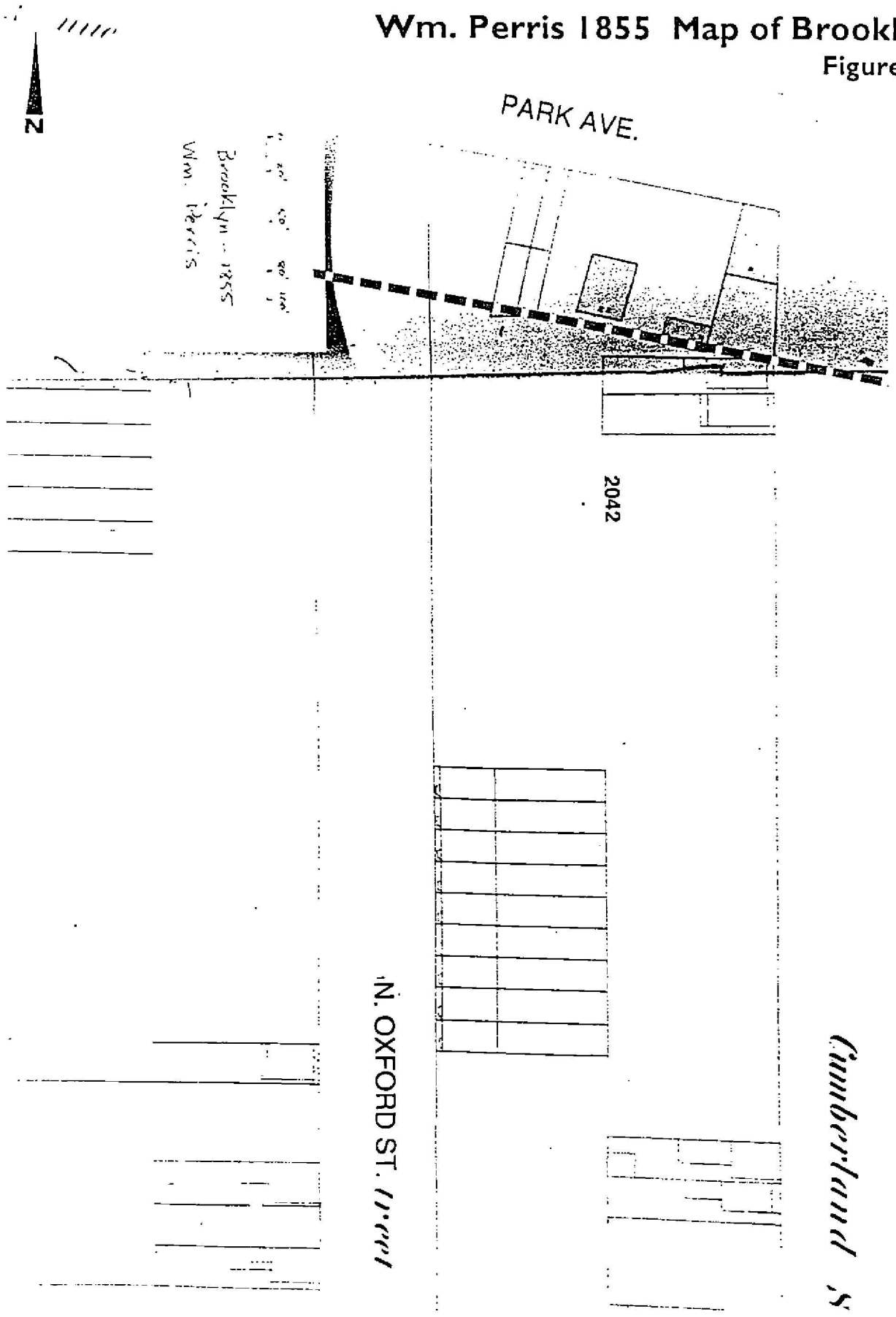
Wm. Perris 1855 Map of Brooklyn

Figure 3d



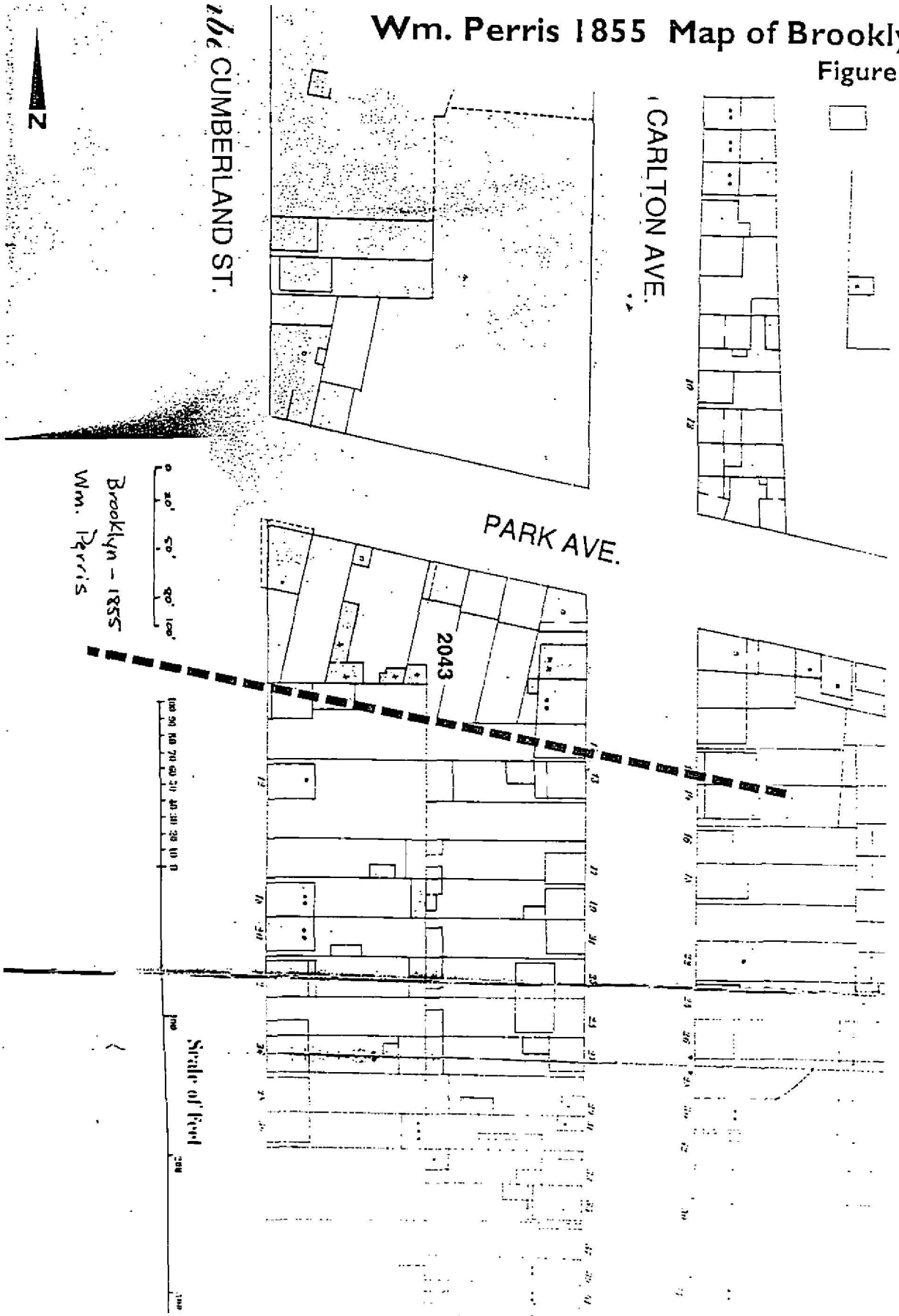
Wm. Perris 1855 Map of Brooklyn

Figure 3e



Wm. Perris 1855 Map of Brooklyn

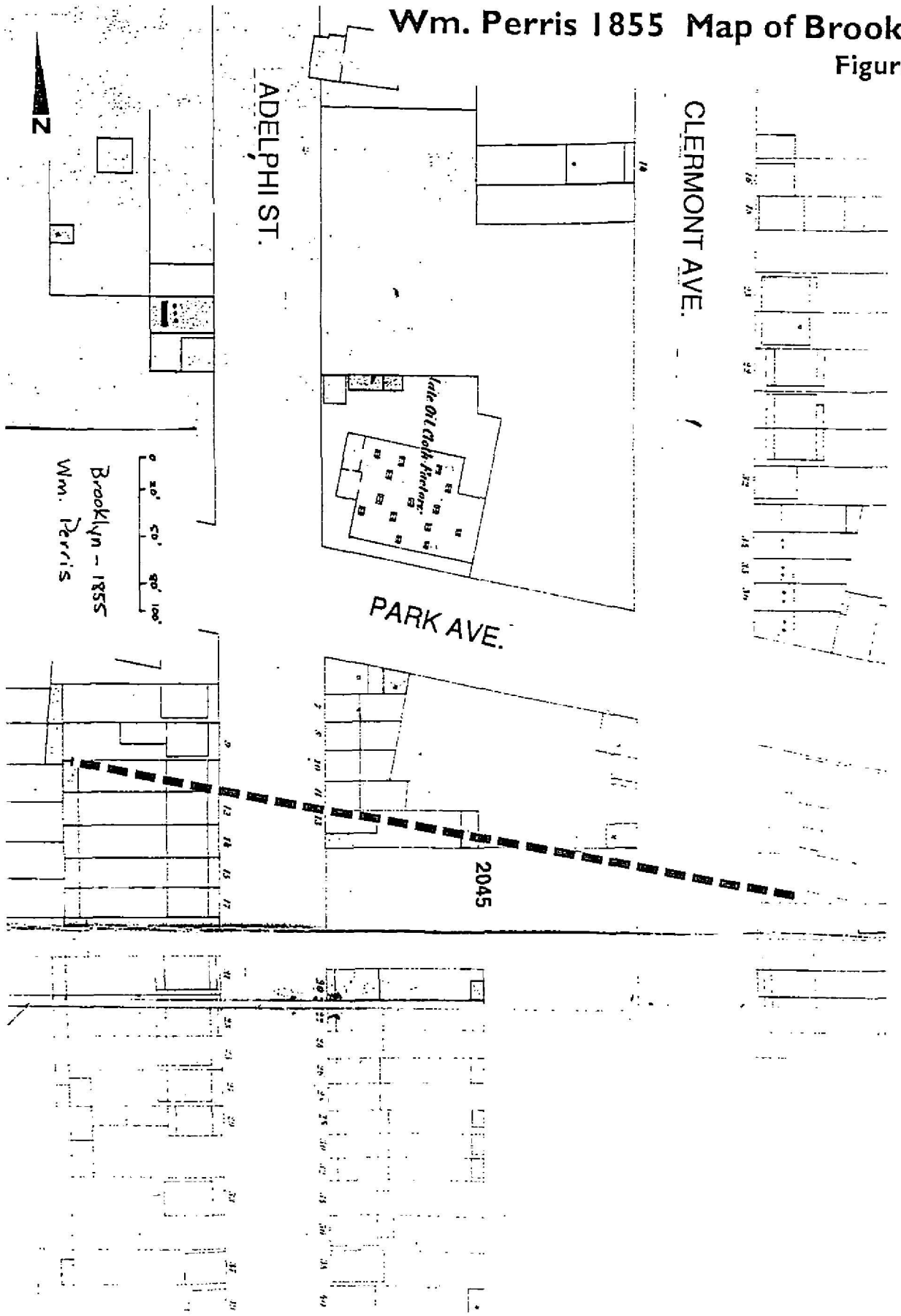
Figure 3f



Wm. Perris 1855 Map of Brooklyn
Figure 3g

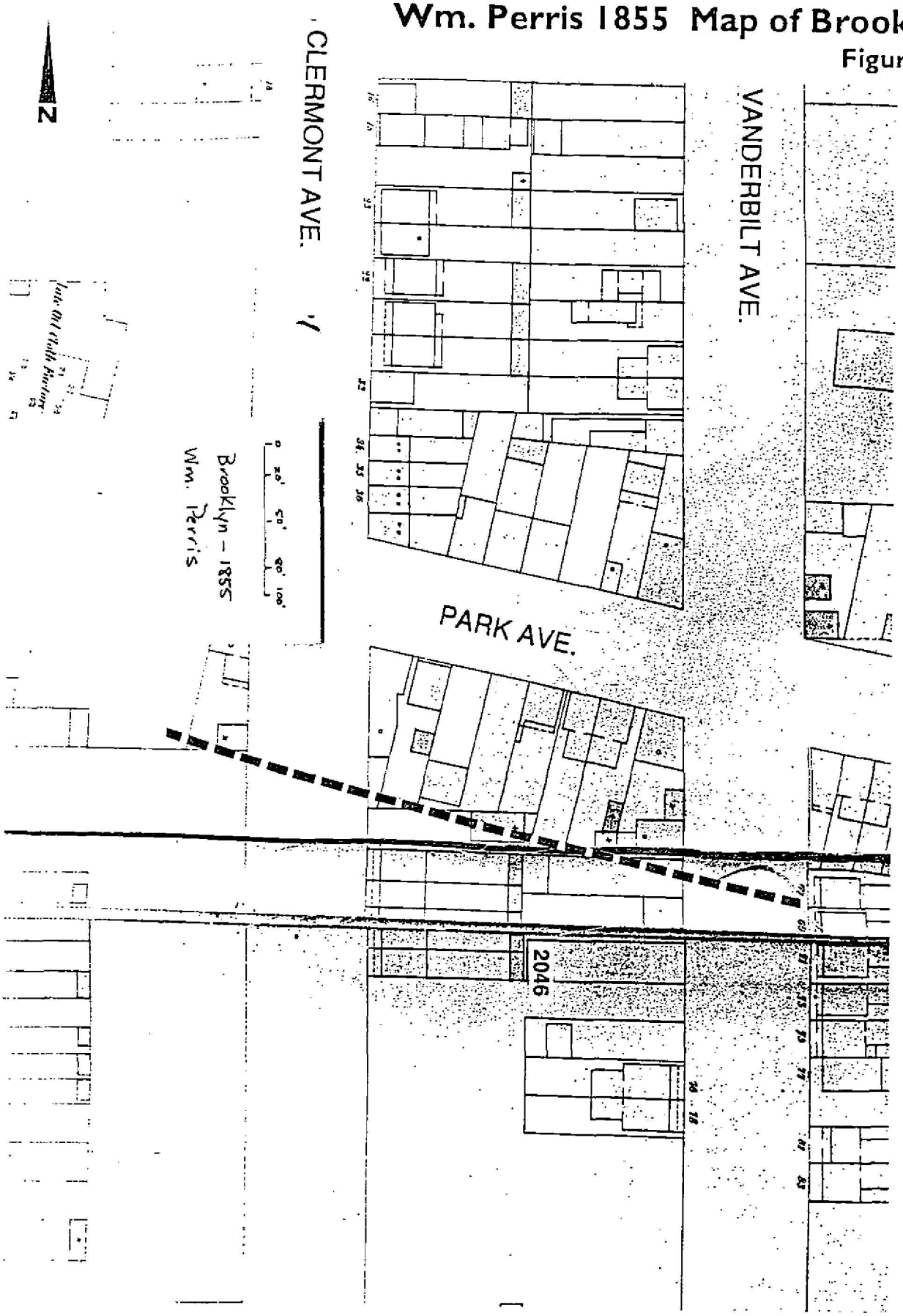
Wm. Perris 1855 Map of Brooklyn

Figure 3h



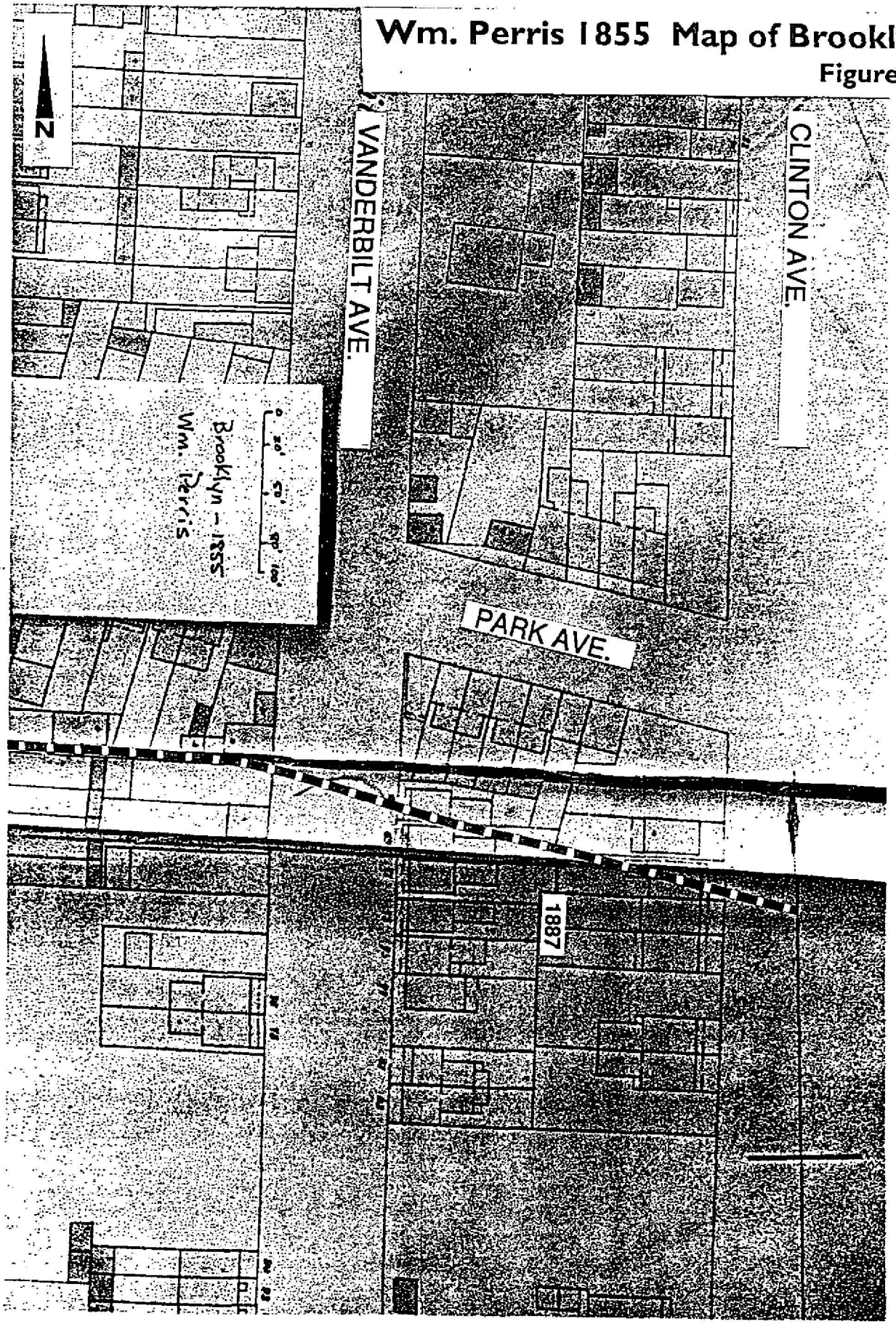
Wm. Perris 1855 Map of Brooklyn

Figure 3i



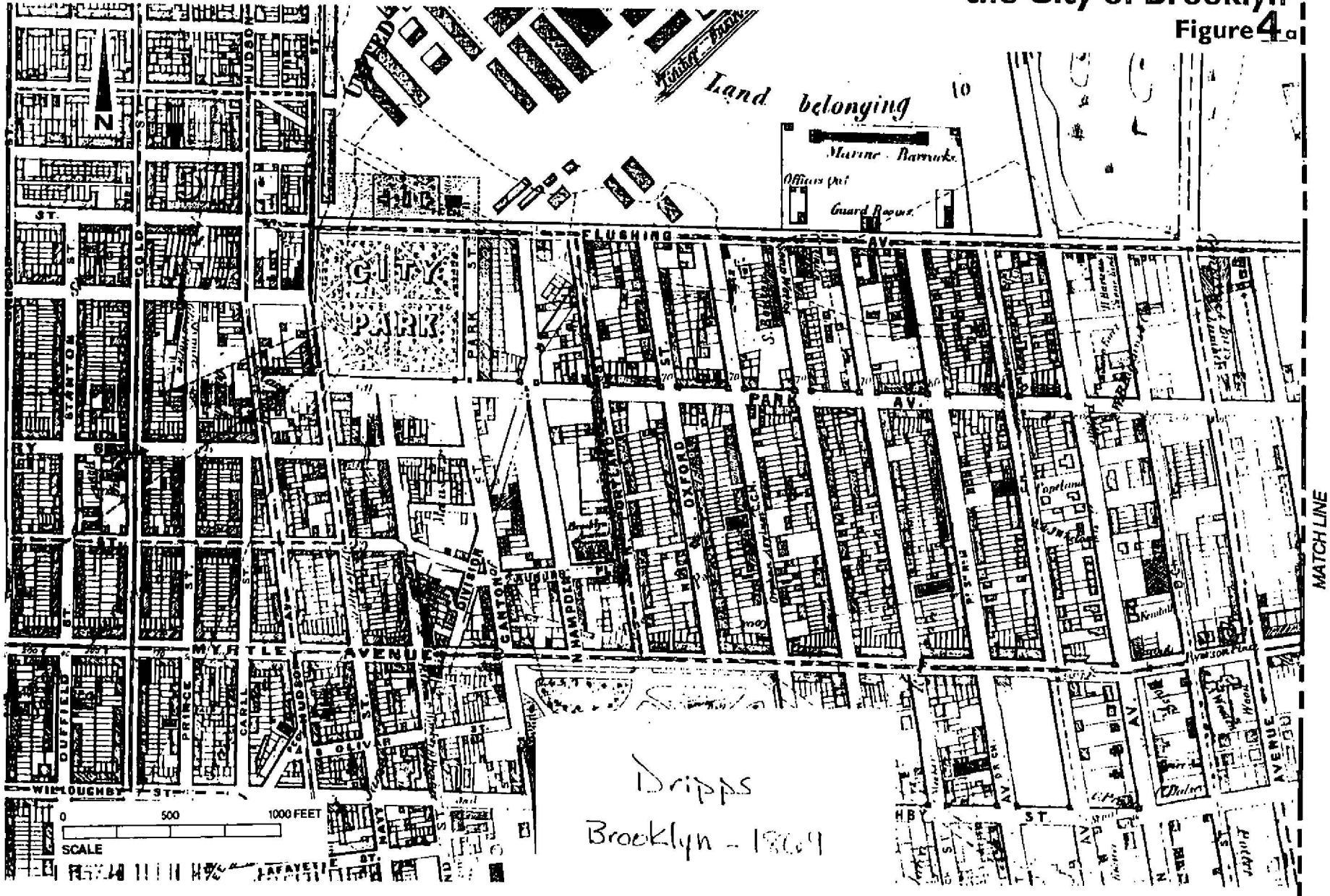
Wm. Perris 1855 Map of Brooklyn

Figure 3



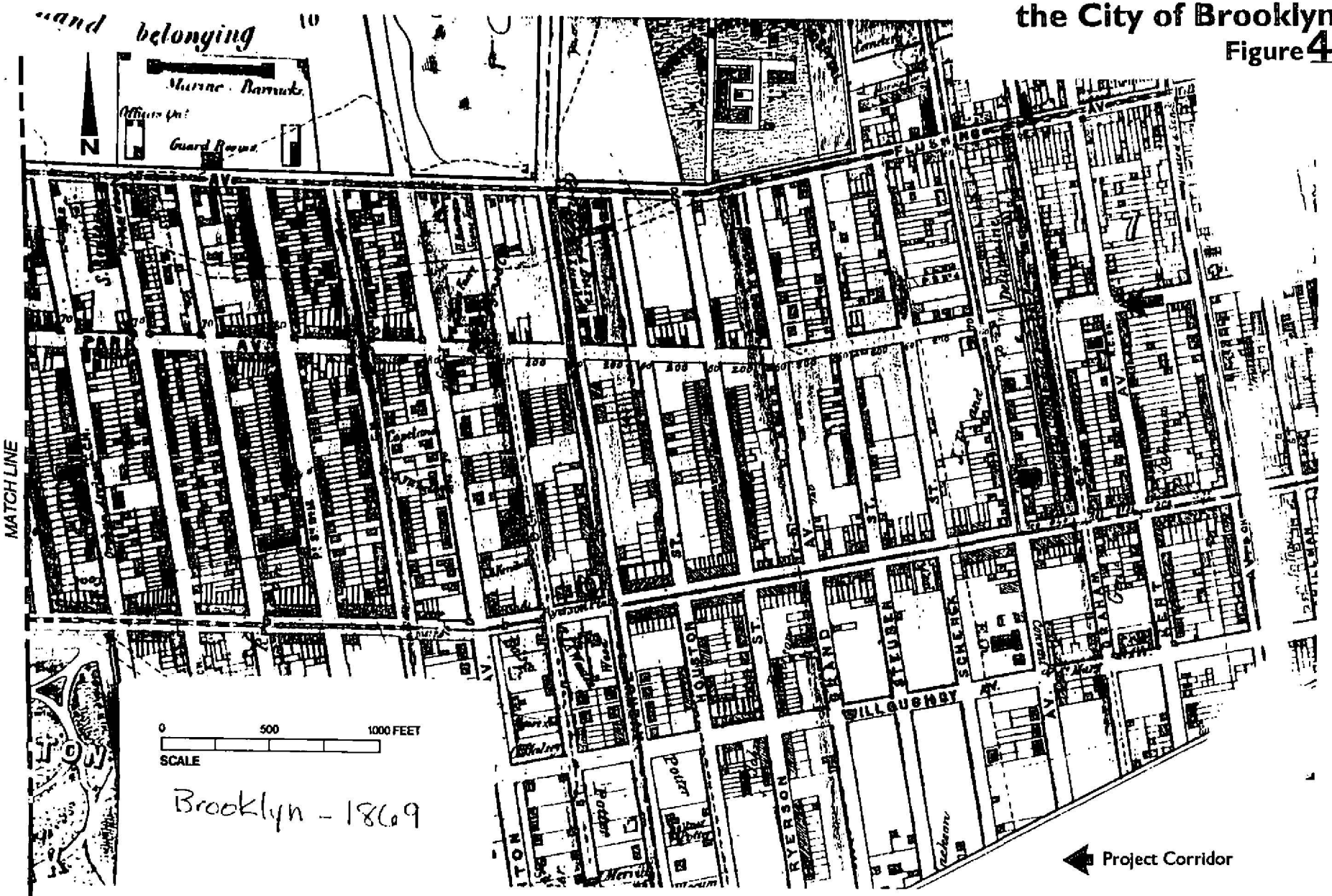
M. Dripps 1869 Map of the City of Brooklyn

Figure 4



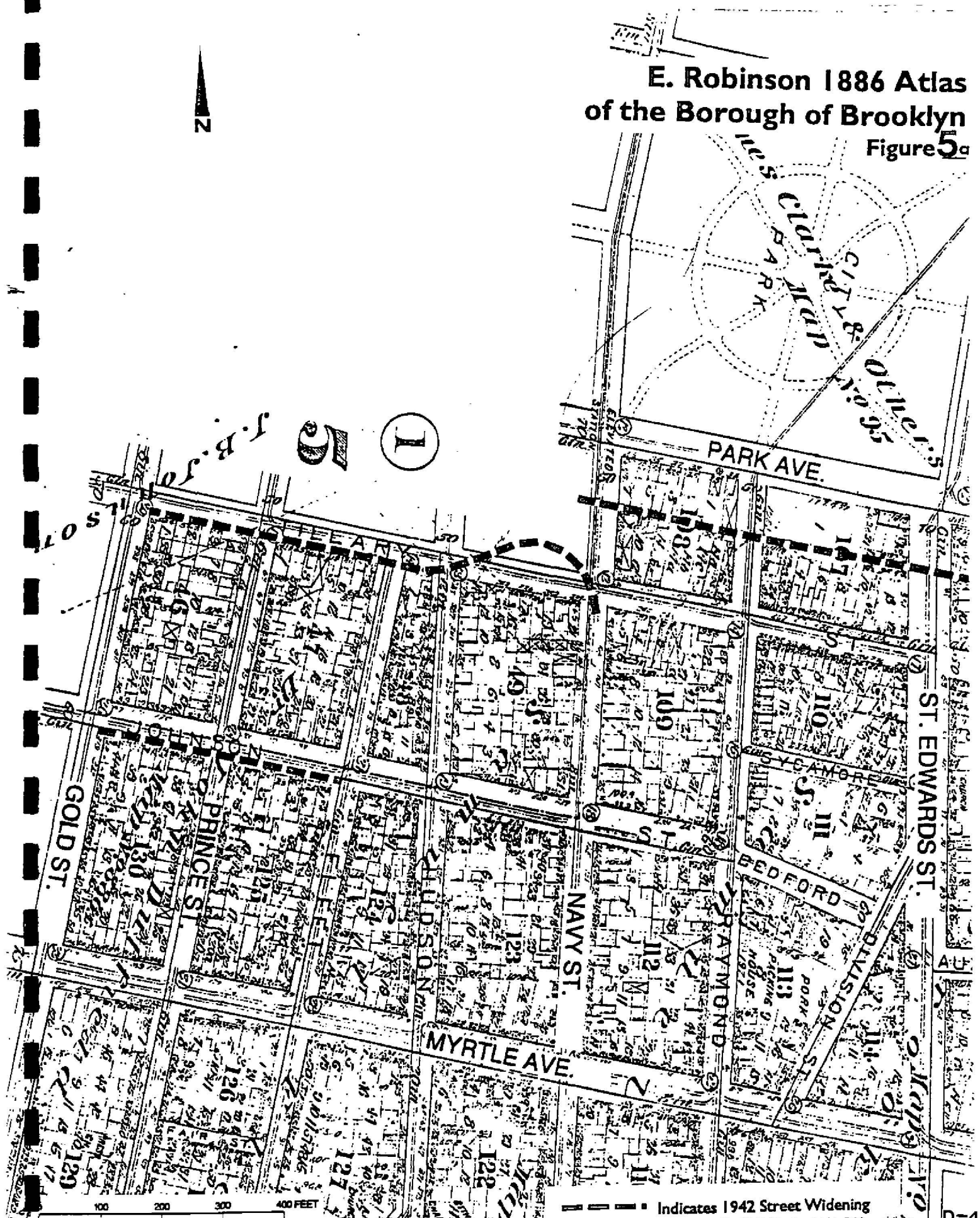
M. Dripps 1869 Map of the City of Brooklyn

Figure 4b



E. Robinson 1886 Atlas of the Borough of Brooklyn

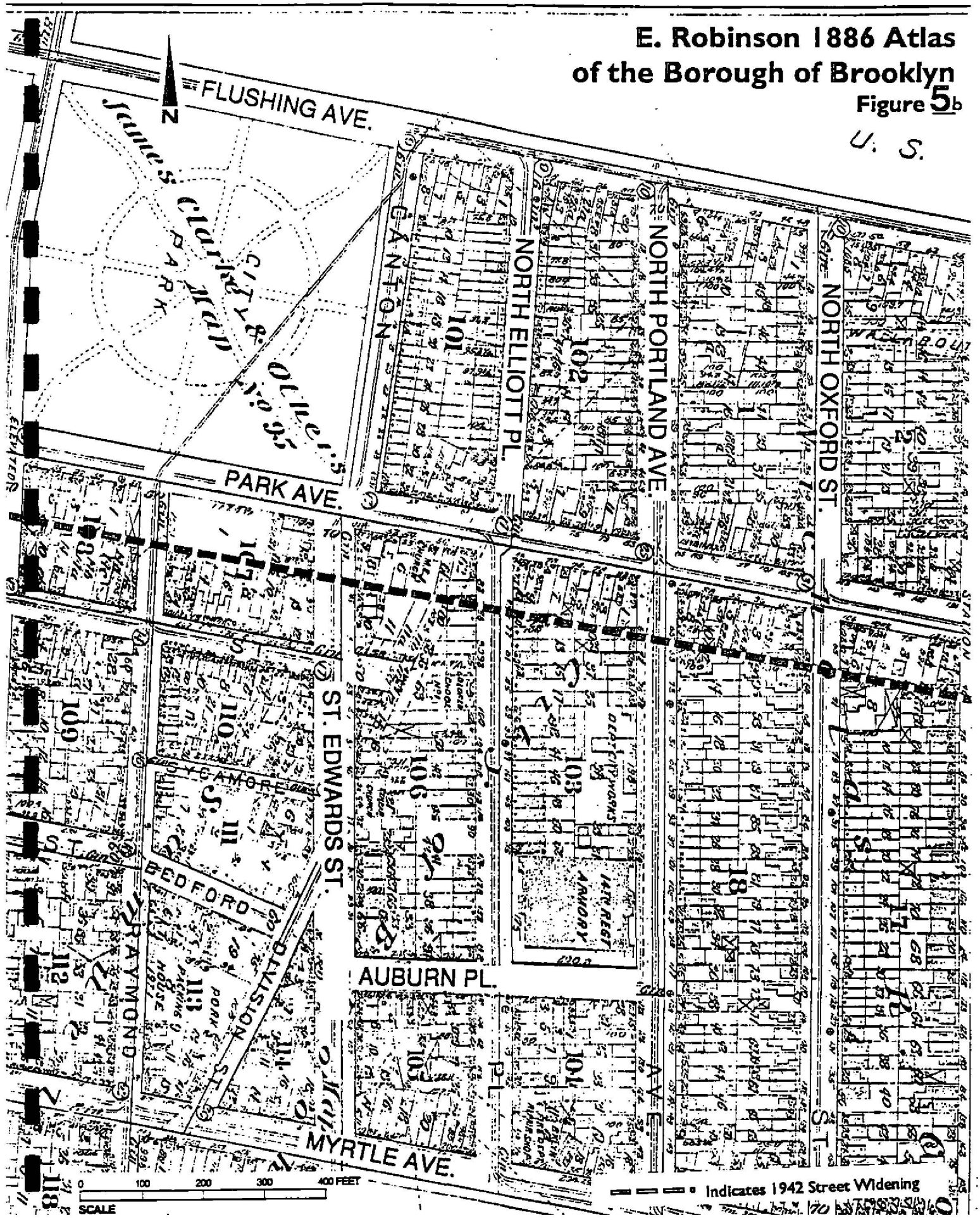
Figure 5a



E. Robinson 1886 Atlas of the Borough of Brooklyn

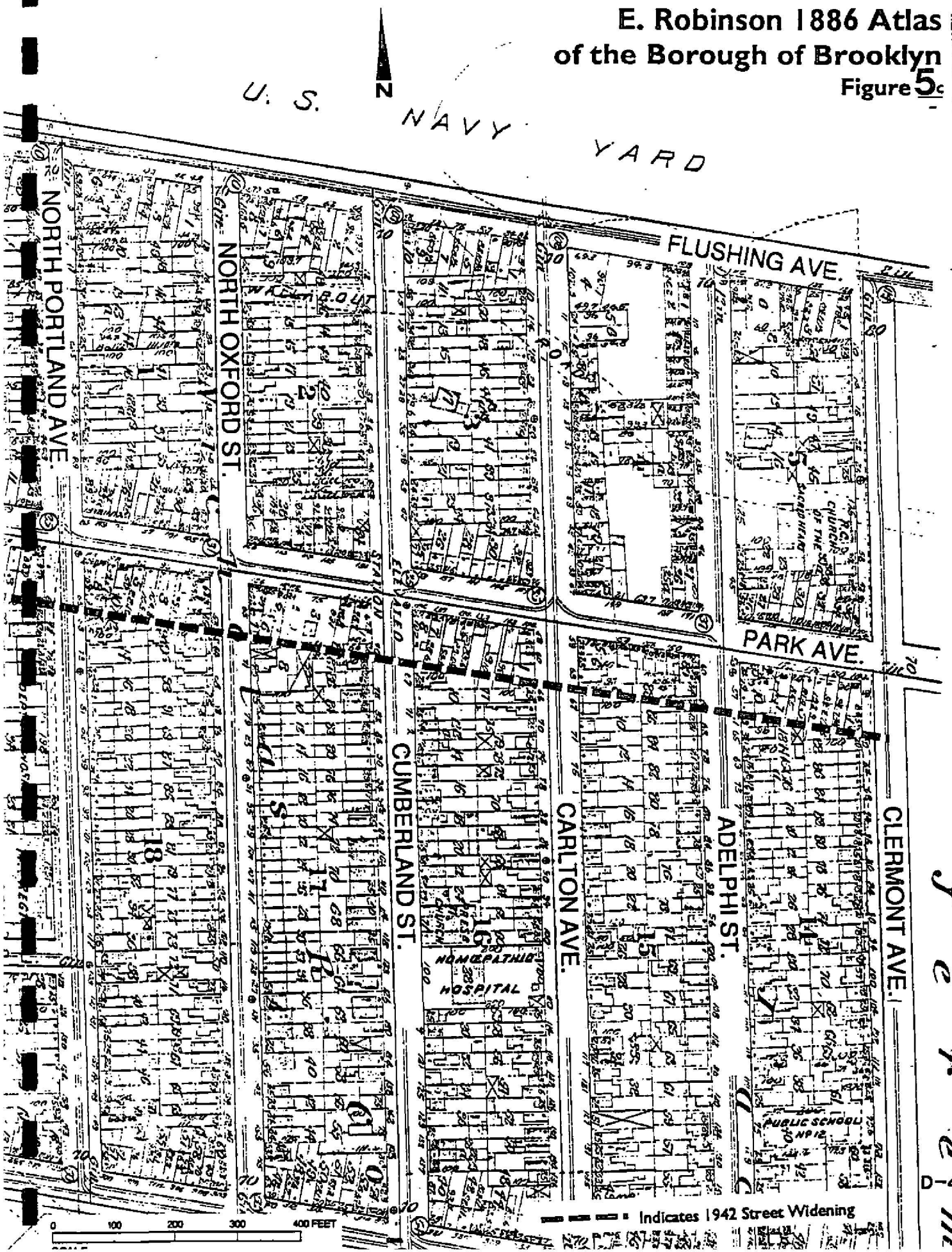
Figure 5b

U. S.



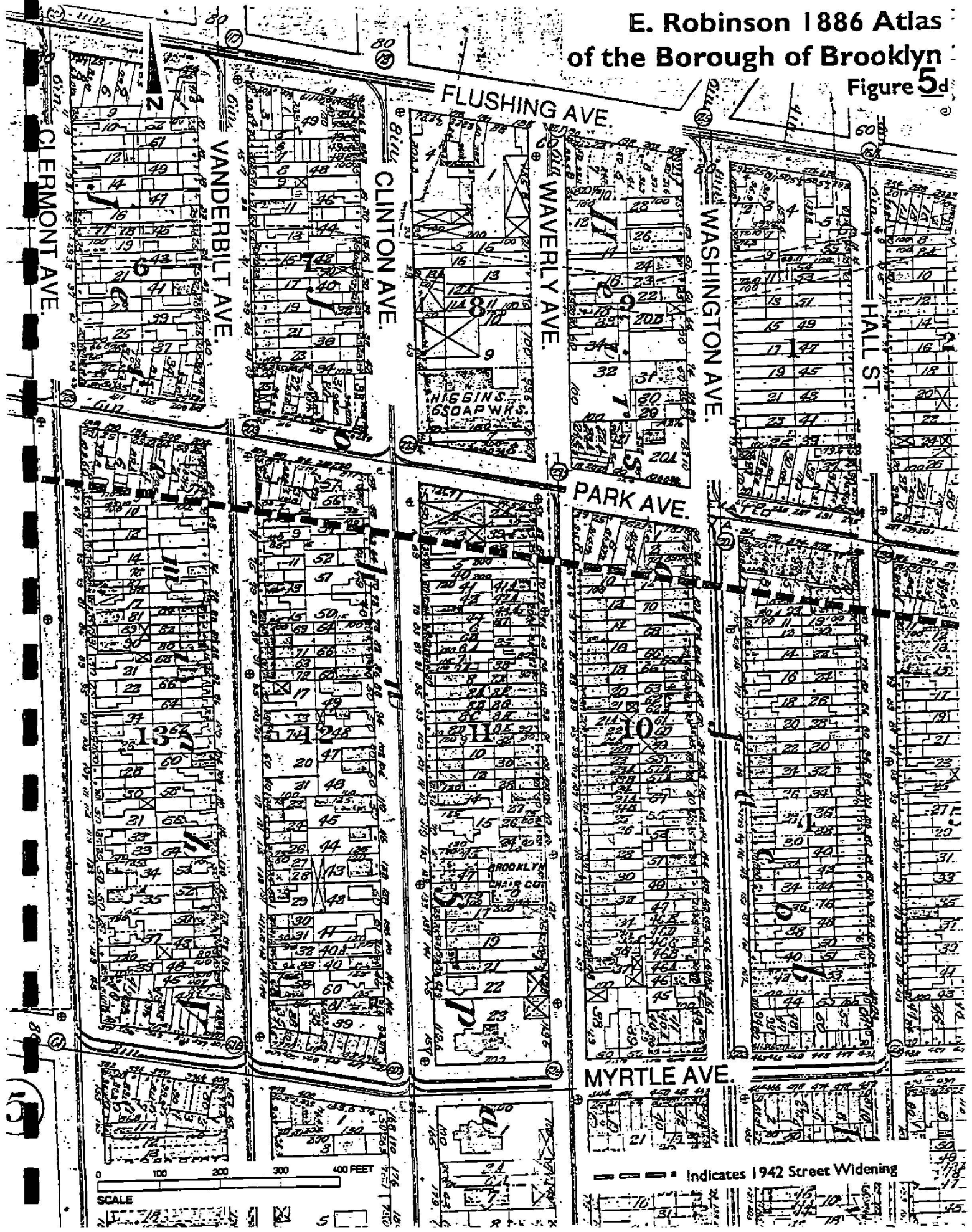
E. Robinson 1886 Atlas of the Borough of Brooklyn

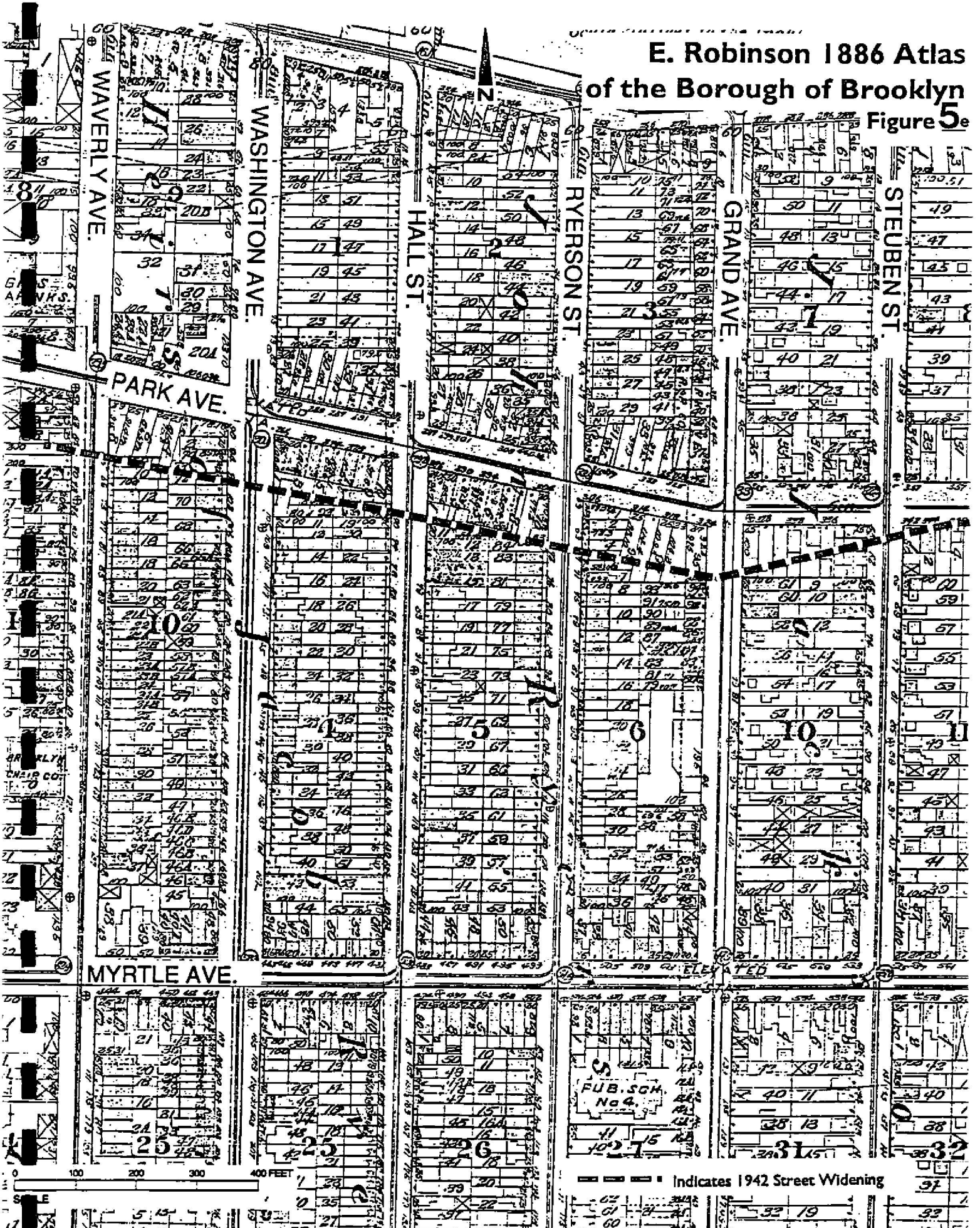
Figure 5c



E. Robinson 1886 Atlas of the Borough of Brooklyn

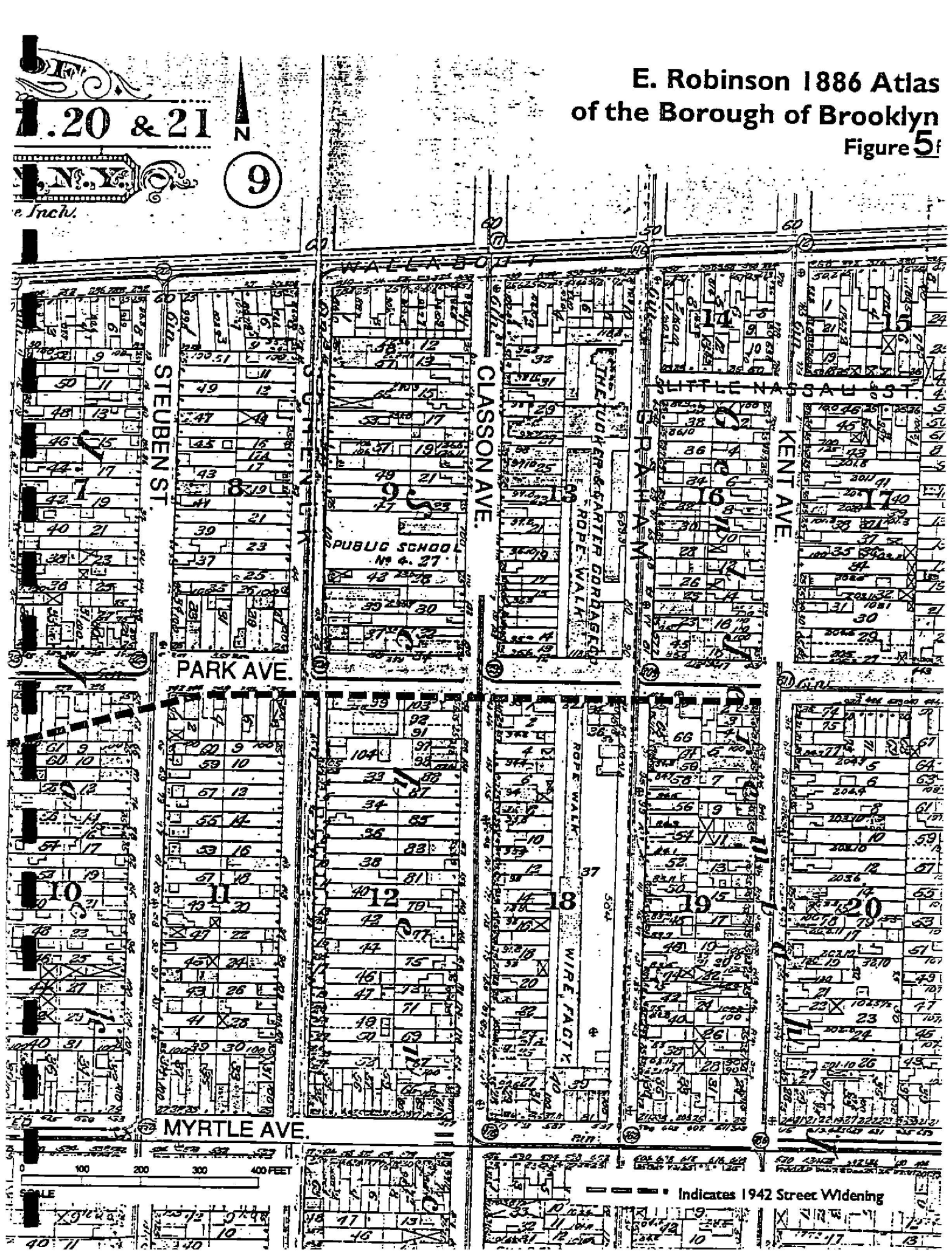
Figure 5d




E. Robinson 1886 Atlas
of the Borough of Brooklyn
Figure 5e
WAVERLY AVE.
WASHINGTON AVE.
HALL ST.
RYERSON ST.
GRAND AVE.
STEUBEN ST.
PARK AVE.
MYRTLE AVE.
ELEVATED
PUB. SCH. No 4.
N
0 100 200 300 400 FEET
SCALE
Indicates 1942 Street Widening

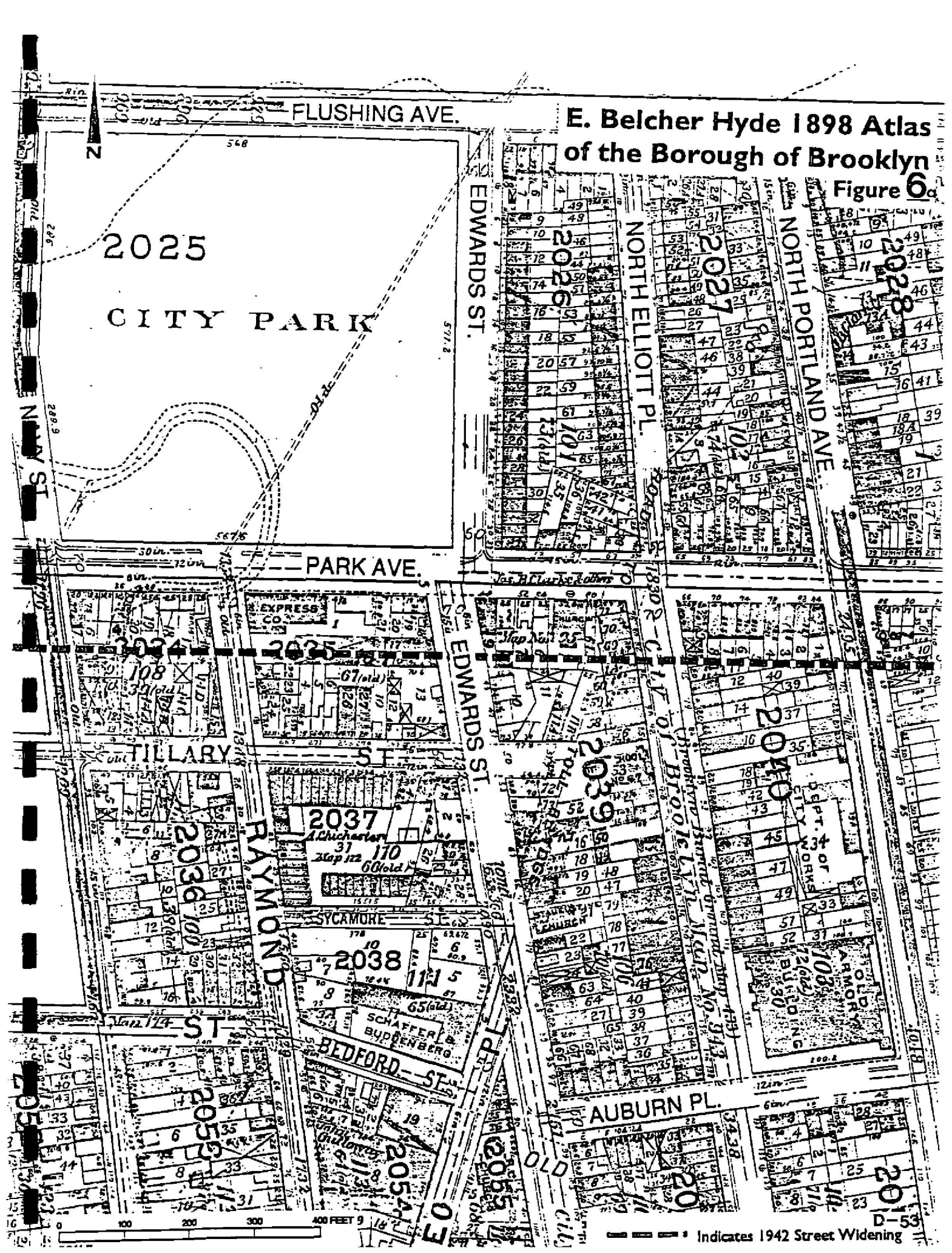
E. Robinson 1886 Atlas of the Borough of Brooklyn

Figure 5f



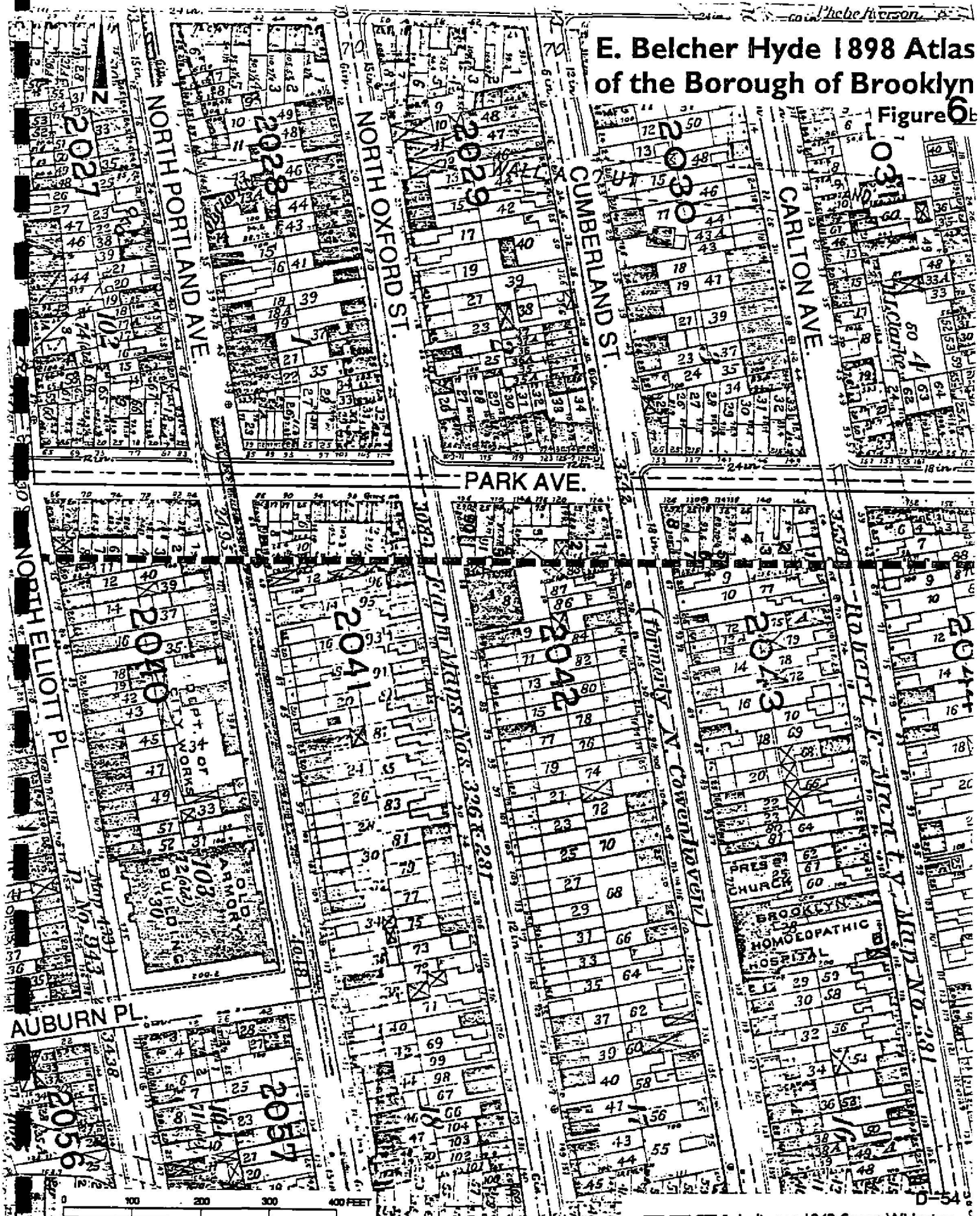
E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

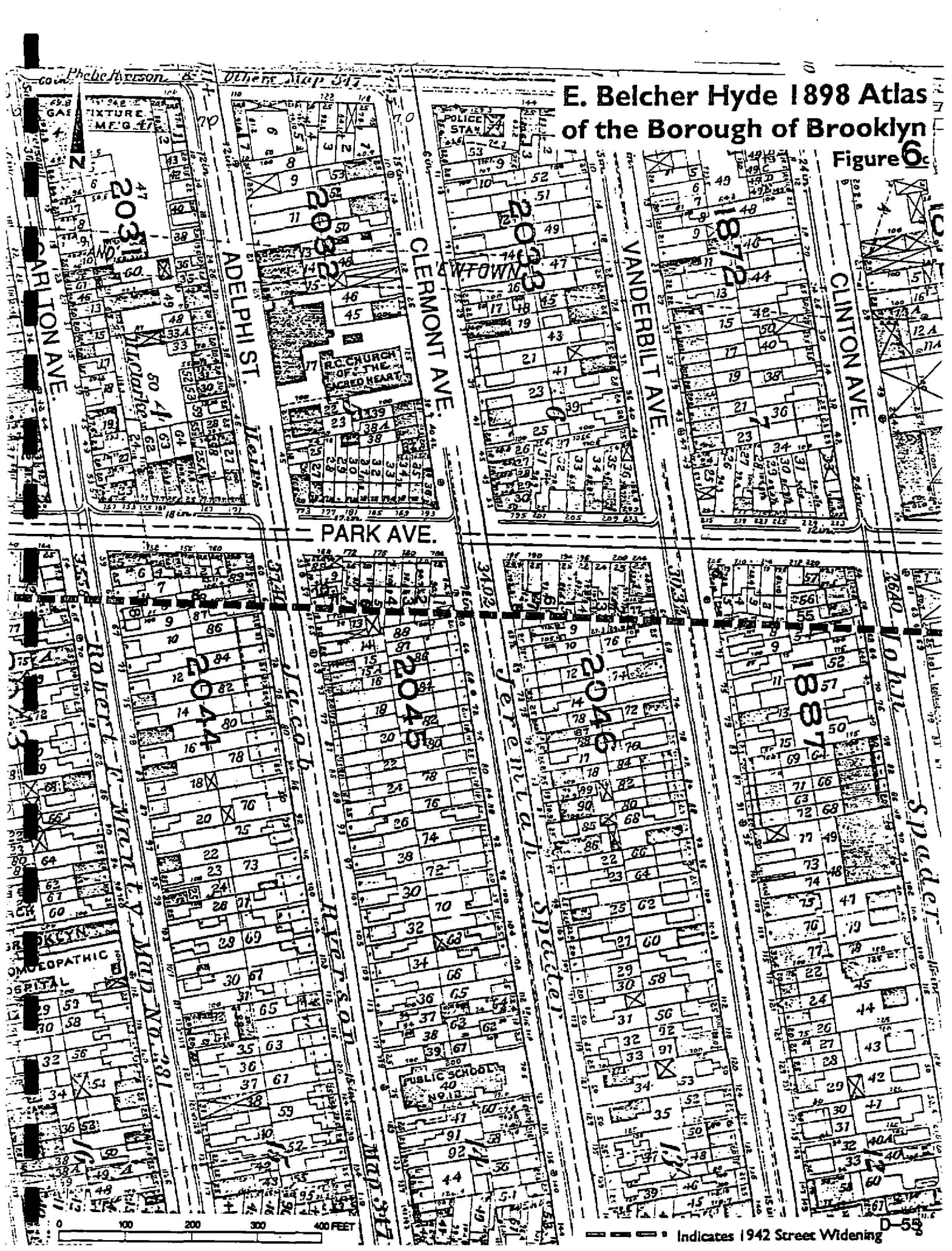
Figure 6a



E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 6b



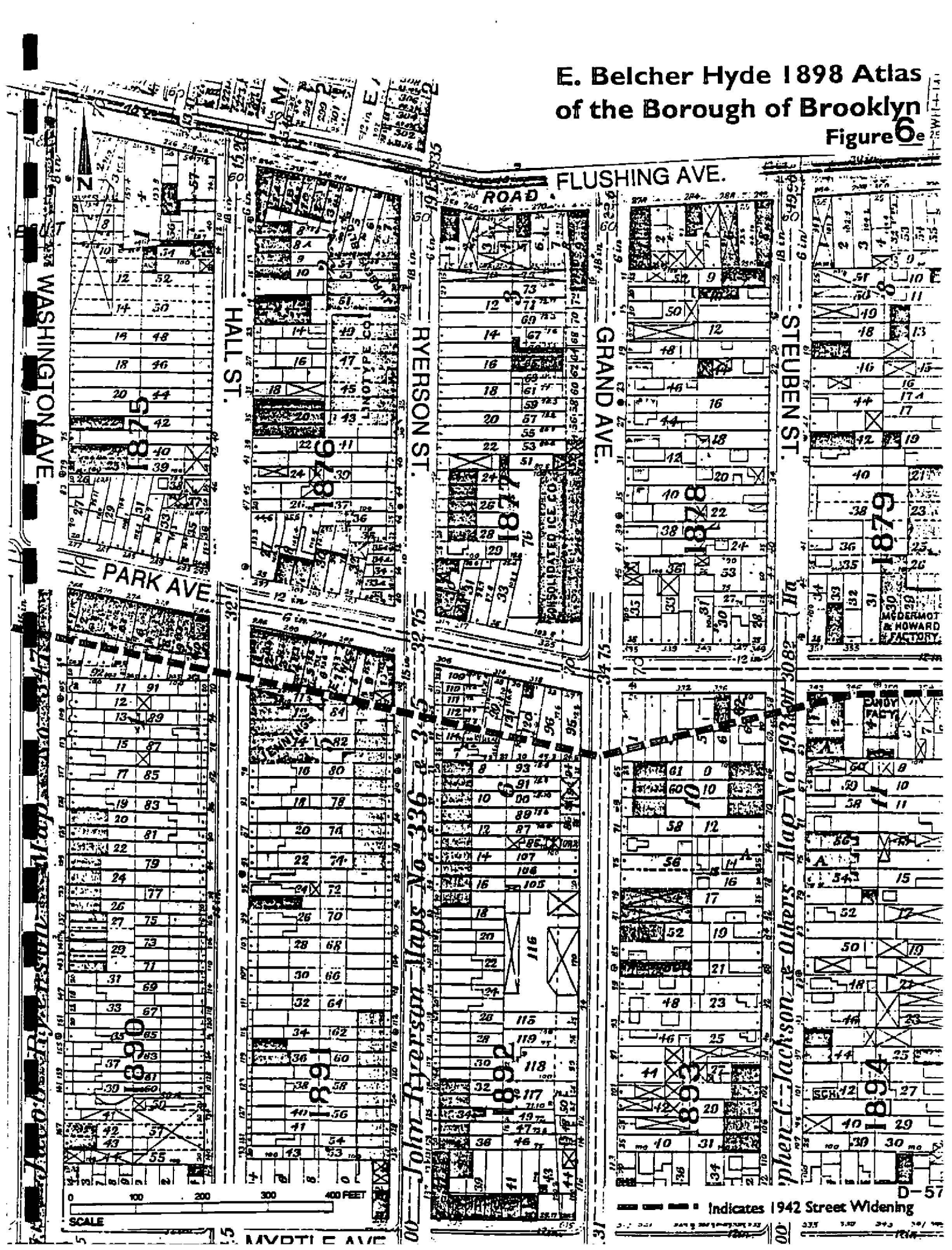

E. Belcher Hyde 1898 Atlas
of the Borough of Brooklyn
Figure 6
PARK AVE.
CARLTON AVE.
ADELPHI ST.
CLERMONT AVE.
VANDERBILT AVE.
CLINTON AVE.
R.C. CHURCH OF THE SACRED HEART
POLICE STA.
PUBLIC SCHOOL
Phebe Iverson & Others Map 347
Lefferts Place
Rutland Road
Park Place
Sterling Place
Prospect Place
Lincoln Place
Eastern Parkway
Map No. 281
2031
2032
2033
2044
2045
2046
1872
1873
1887
0 100 200 300 400 FEET
Indicates 1942 Street Widening

E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 6

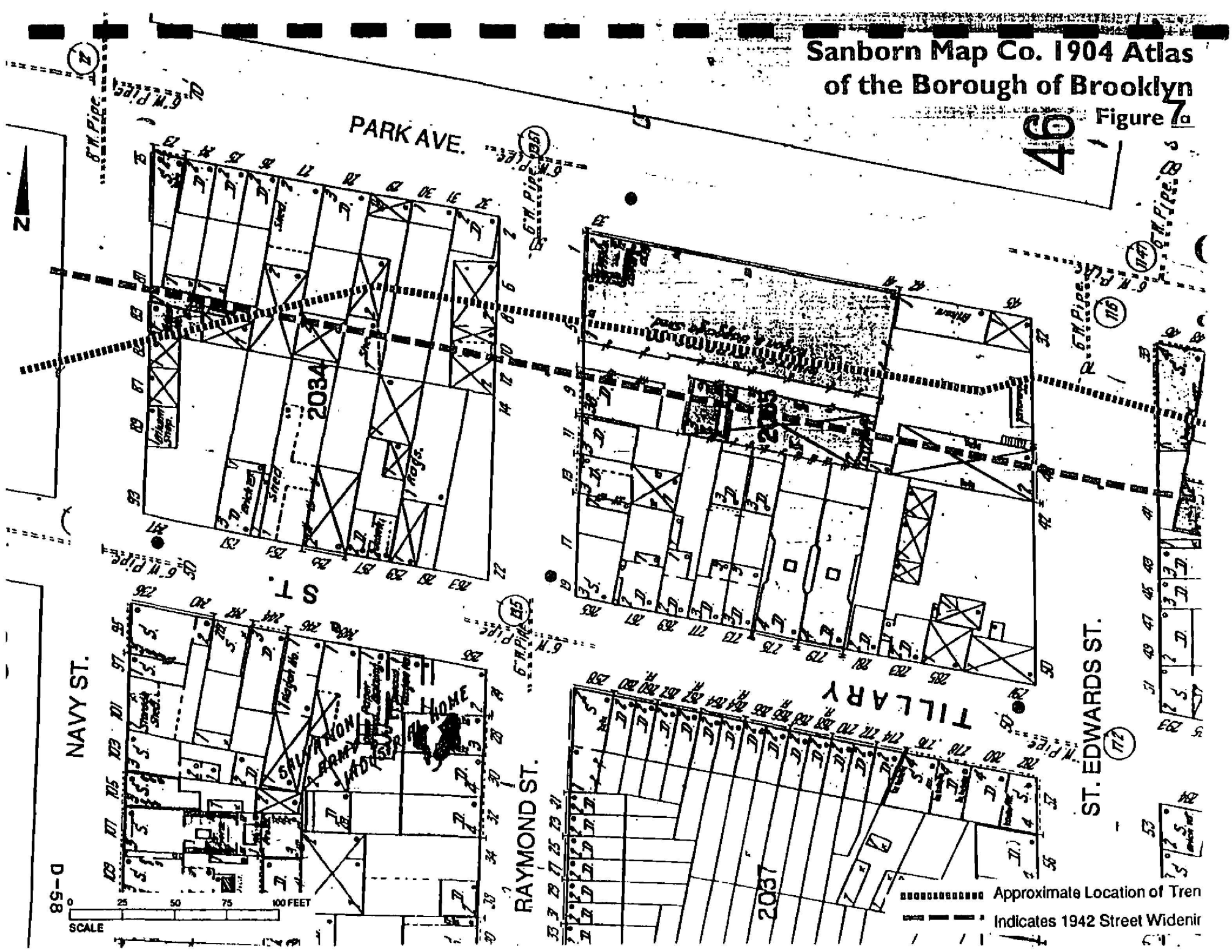
E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

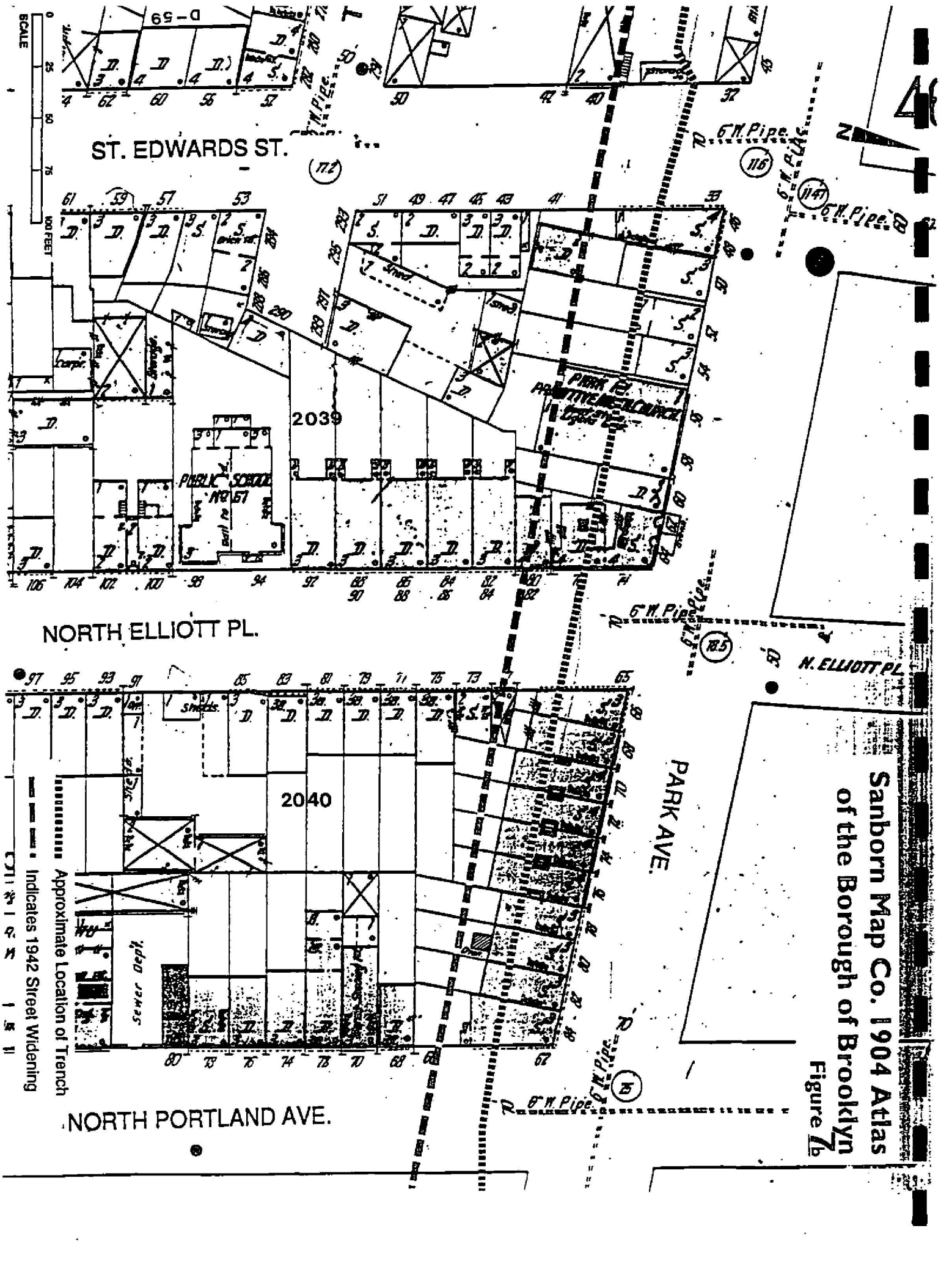
Figure 6e



Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

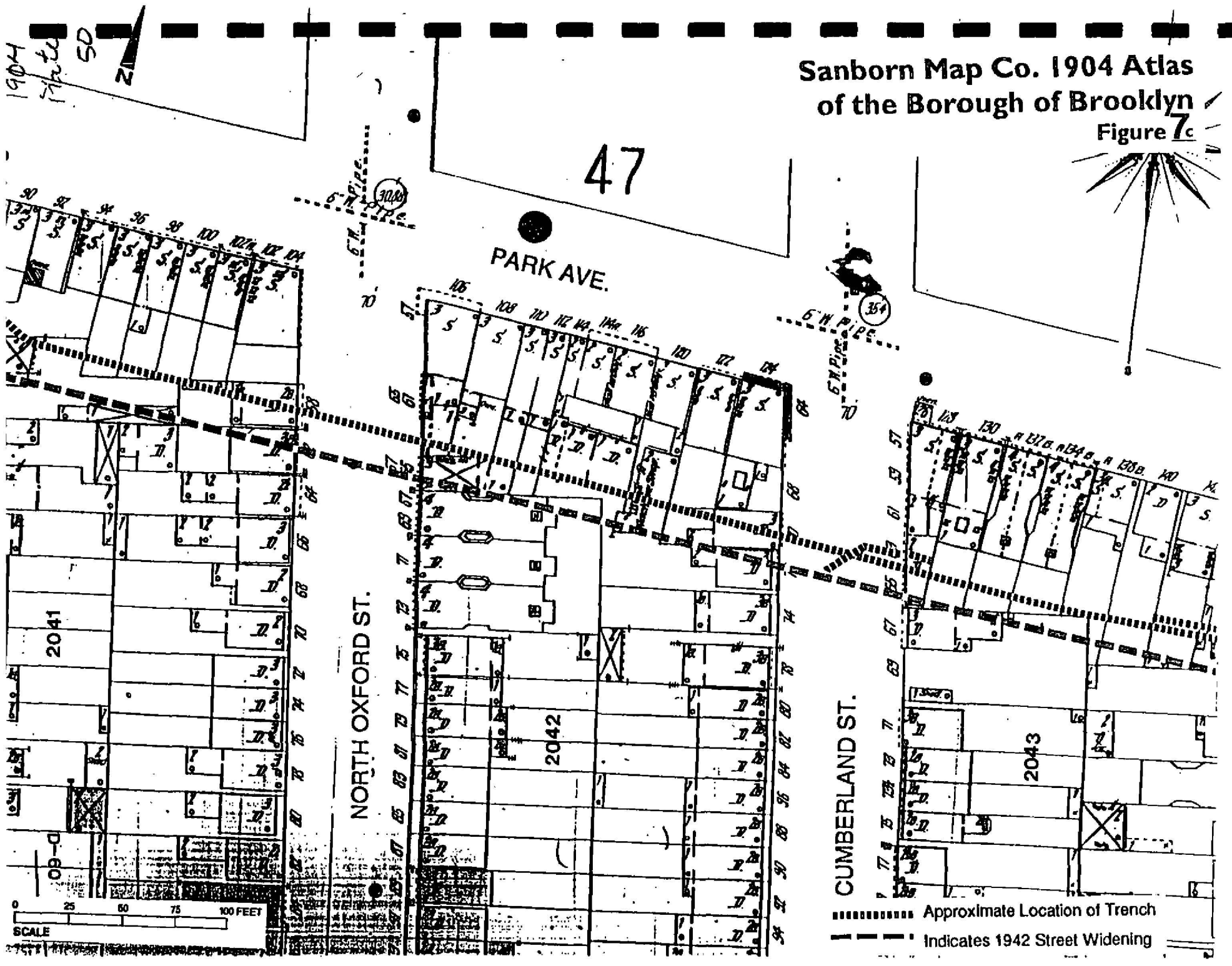
Figure 7a

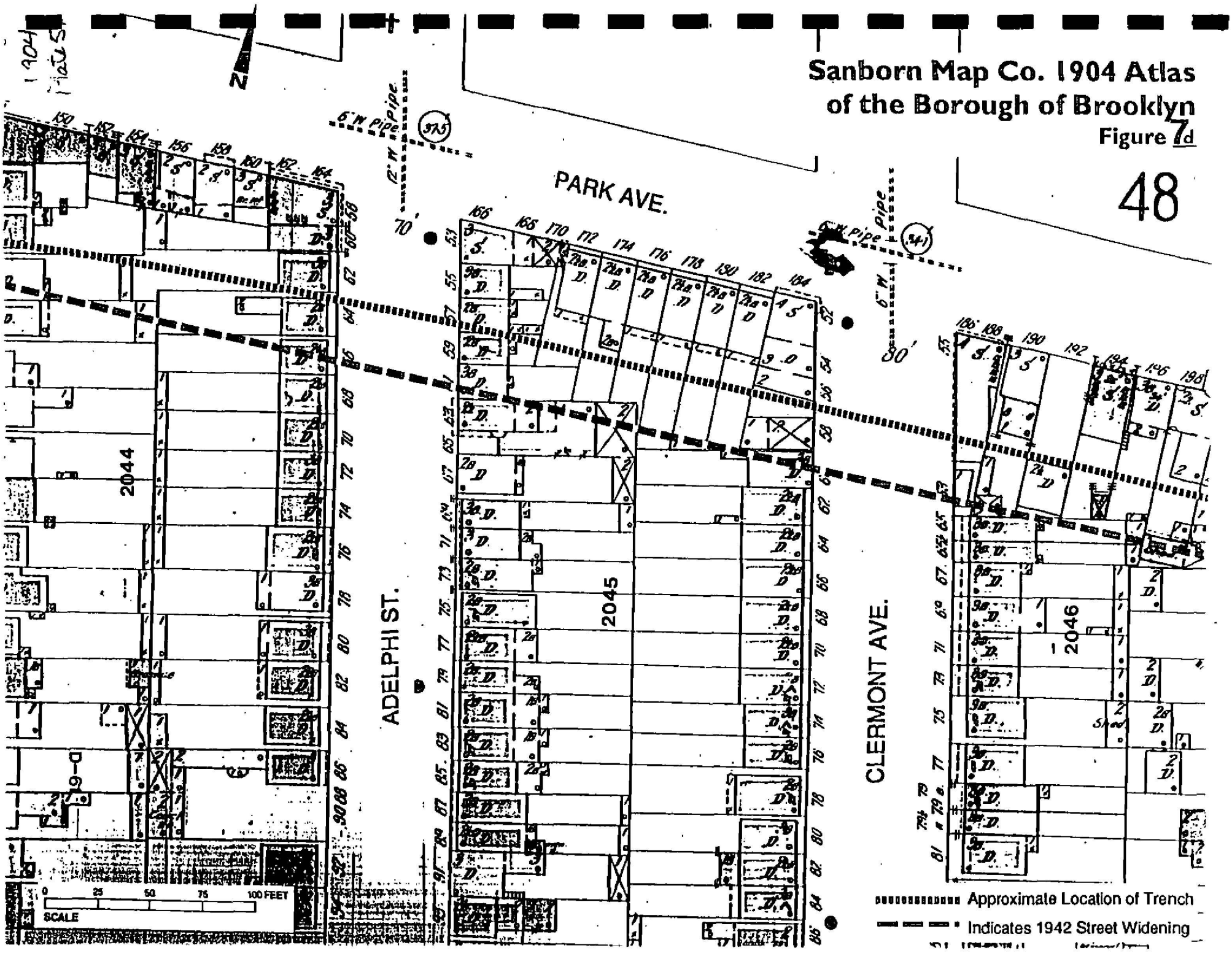


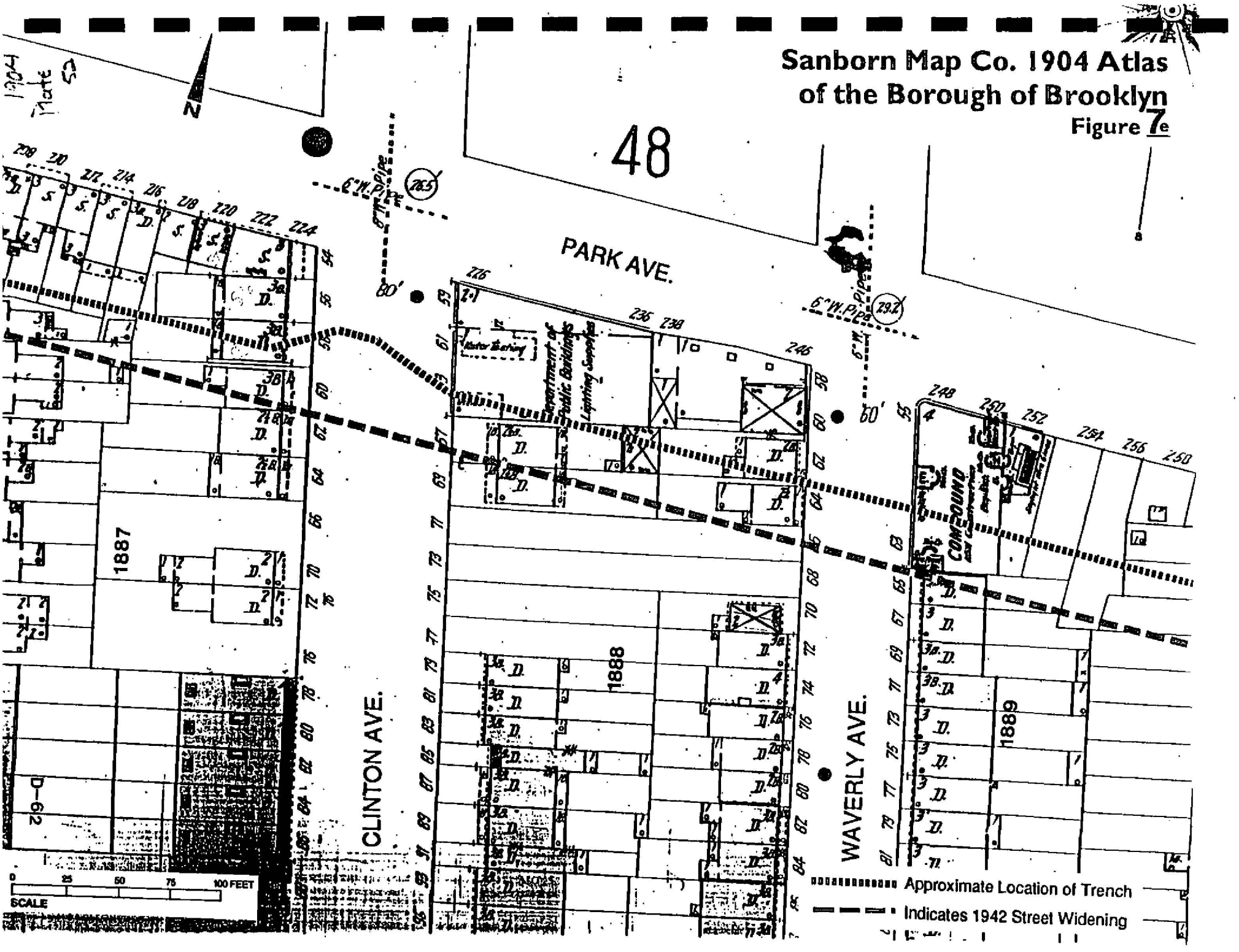


Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 7b

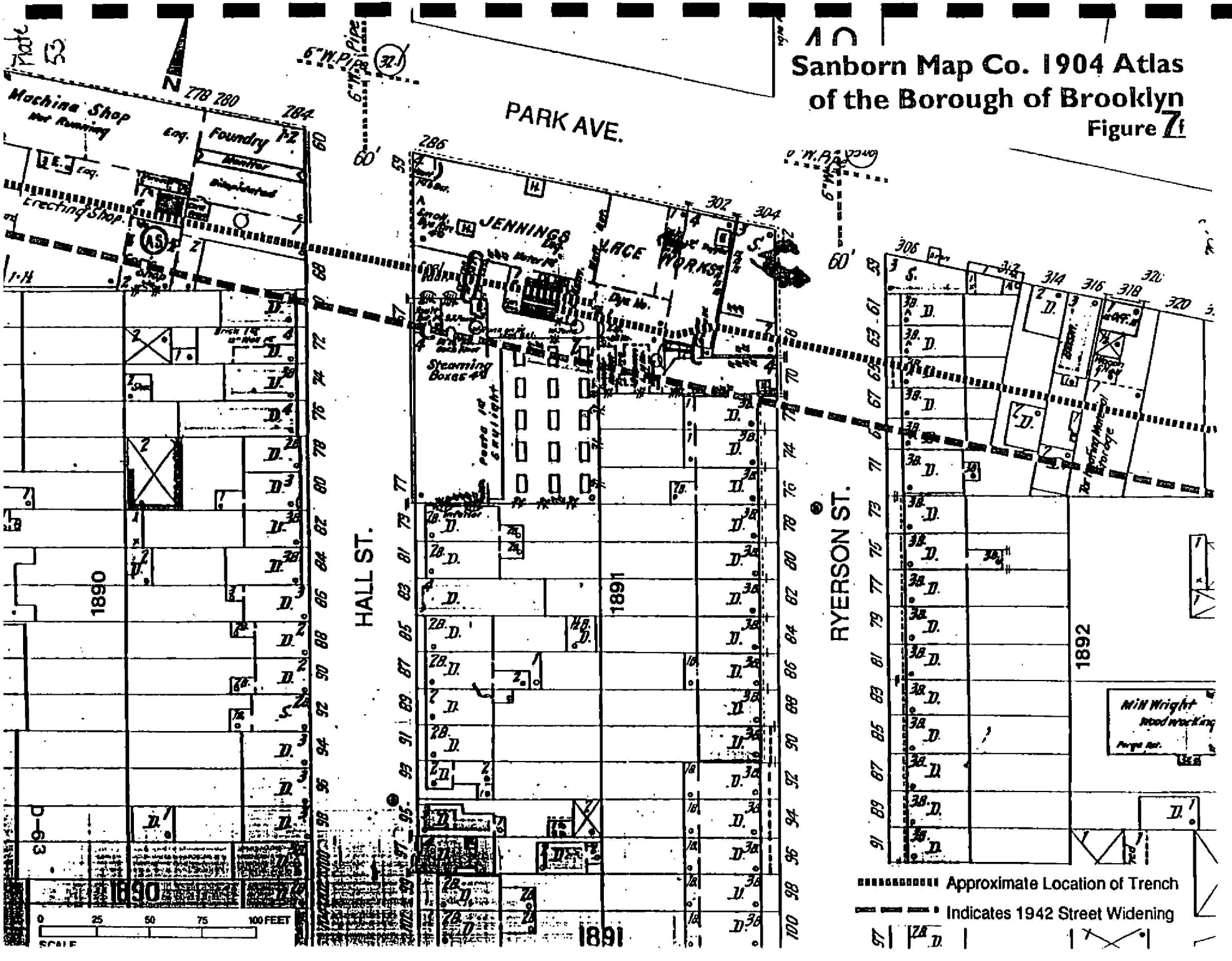

Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 7c
47
PARK AVE.
NORTH OXFORD ST.
CUMBERLAND ST.
2041
2042
2043
6" W. Pipe
SCALE
0 25 50 75 100 FEET
Approximate Location of Trench
Indicates 1942 Street Widening


Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 7d
48
PARK AVE.
ADELPHI ST.
CLERMONT AVE.
2044
2045
2046
6" W. Pipe
12" W. Pipe
70'
80'
SCALE
0 25 50 75 100 FEET
Approximate Location of Trench
Indicates 1942 Street Widening


Sanborn Map Co. 1904 Atlas
of the Borough of Brooklyn
Figure 7e
48
PARK AVE.
CLINTON AVE.
WAVERLY AVE.
1887
1888
1889
60'
60'
6" W. Pipe
6" W. Pipe
6" W. Pipe
Approximate Location of Trench
Indicates 1942 Street Widening
SCALE
0
25
50
75
100 FEET

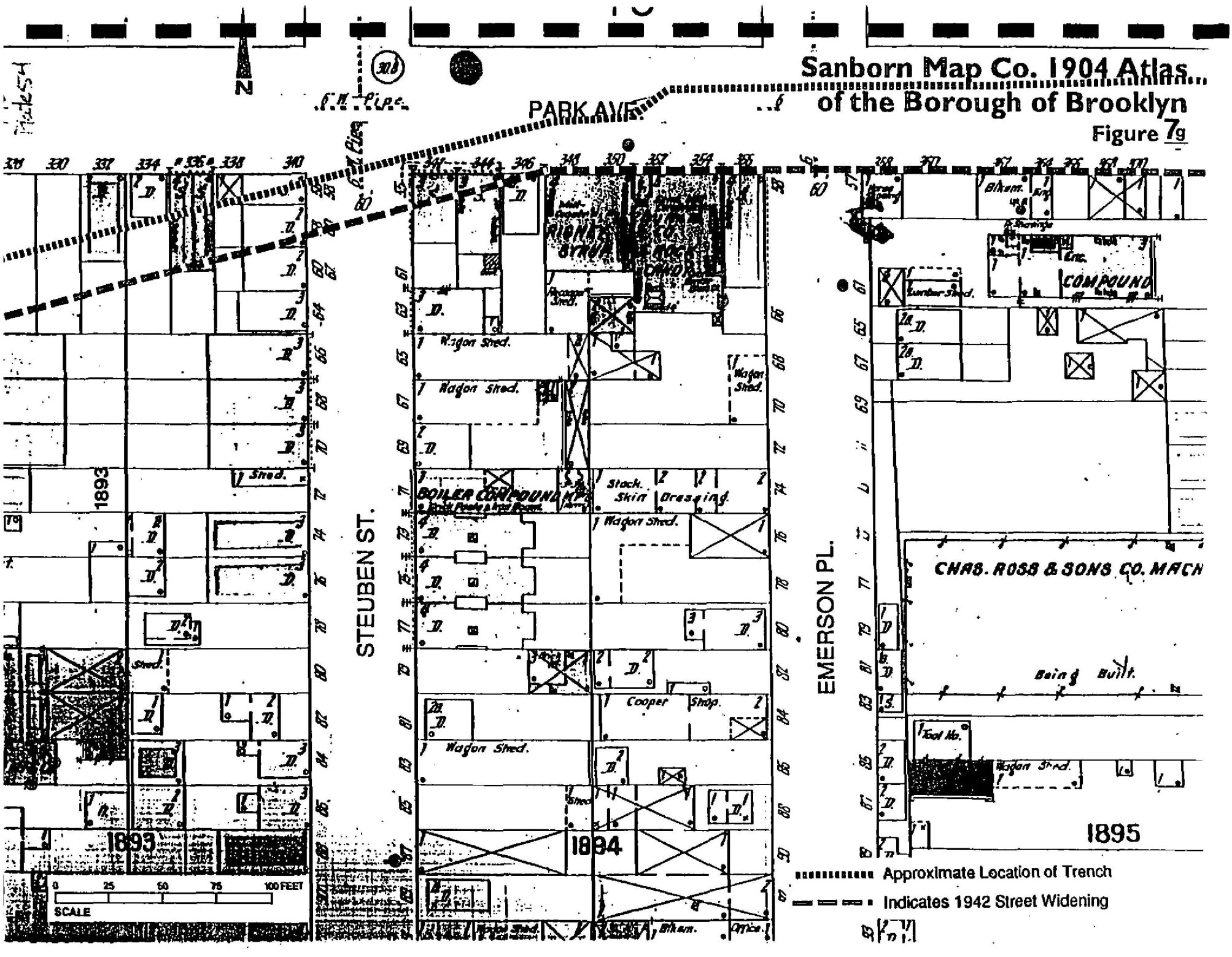
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 7f



Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 7g

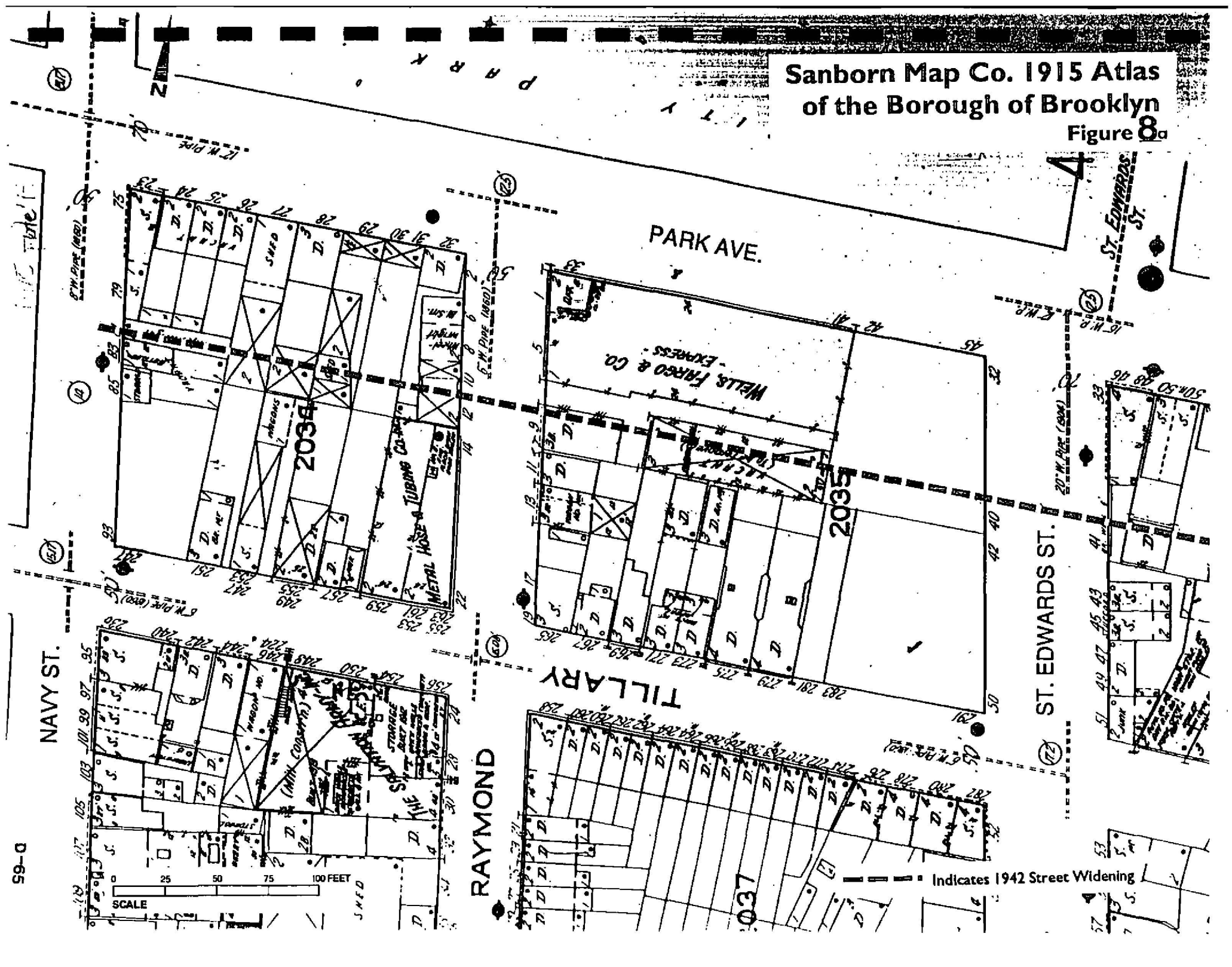


Approximate Location of Trench

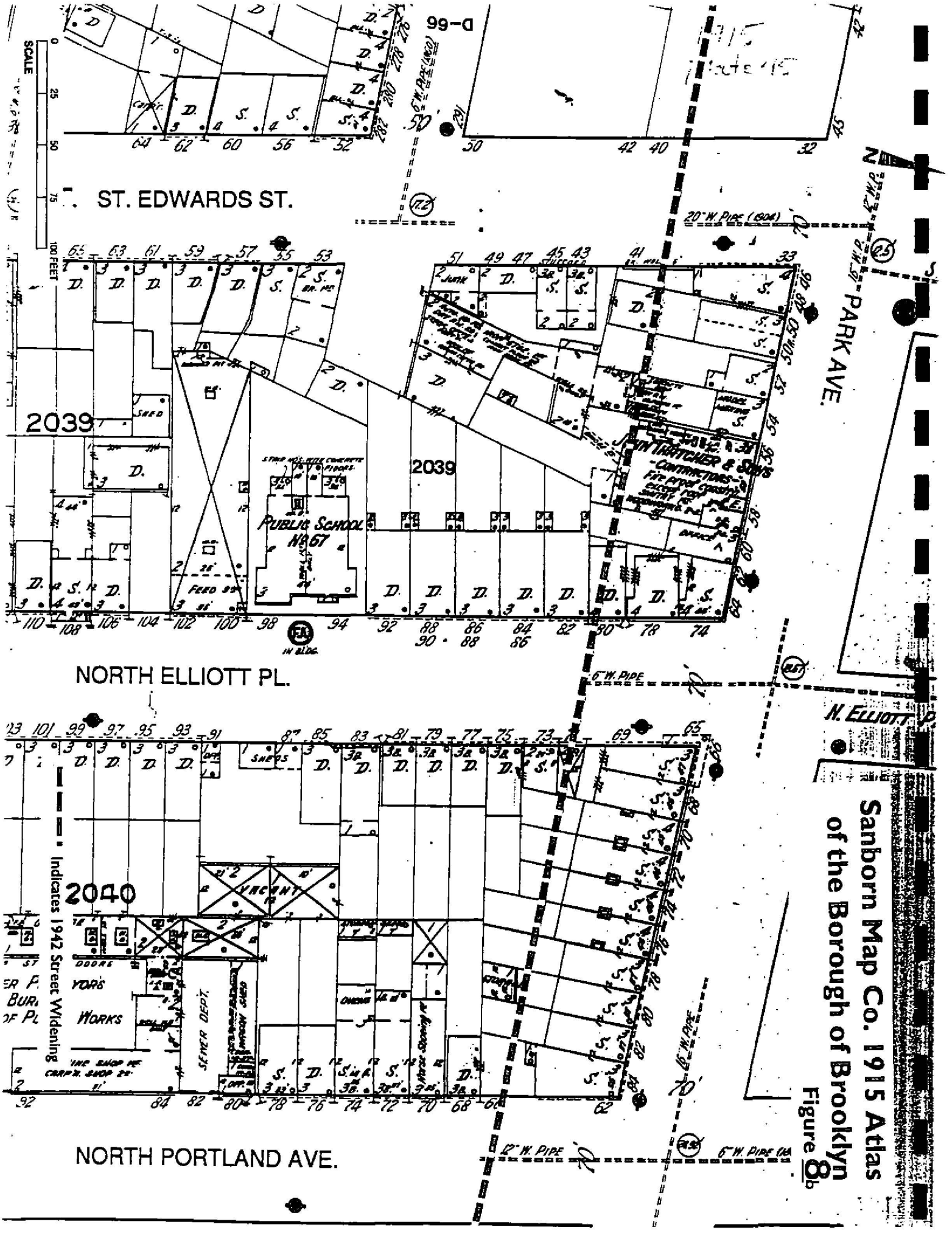
Indicates 1942 Street Widening

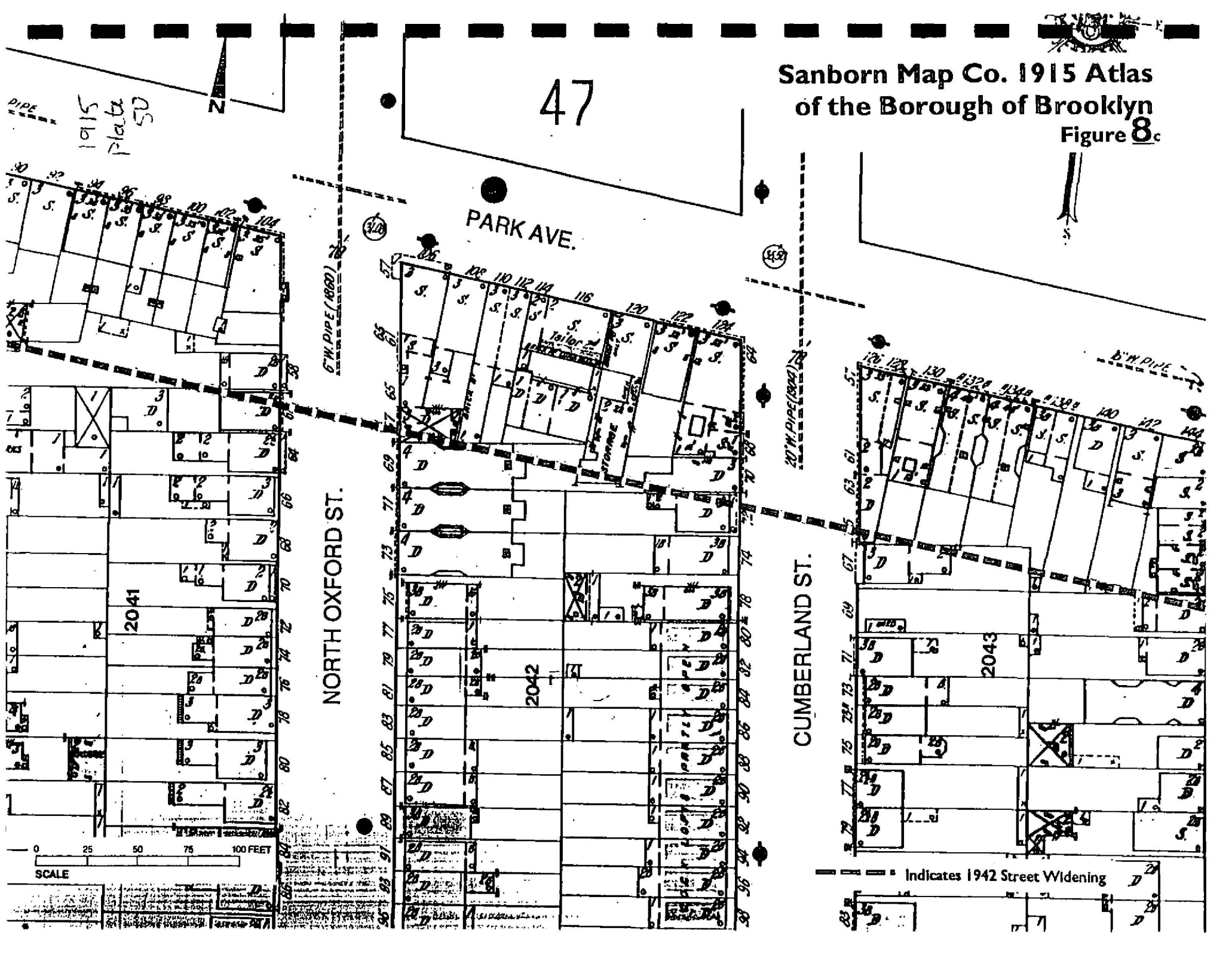
Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

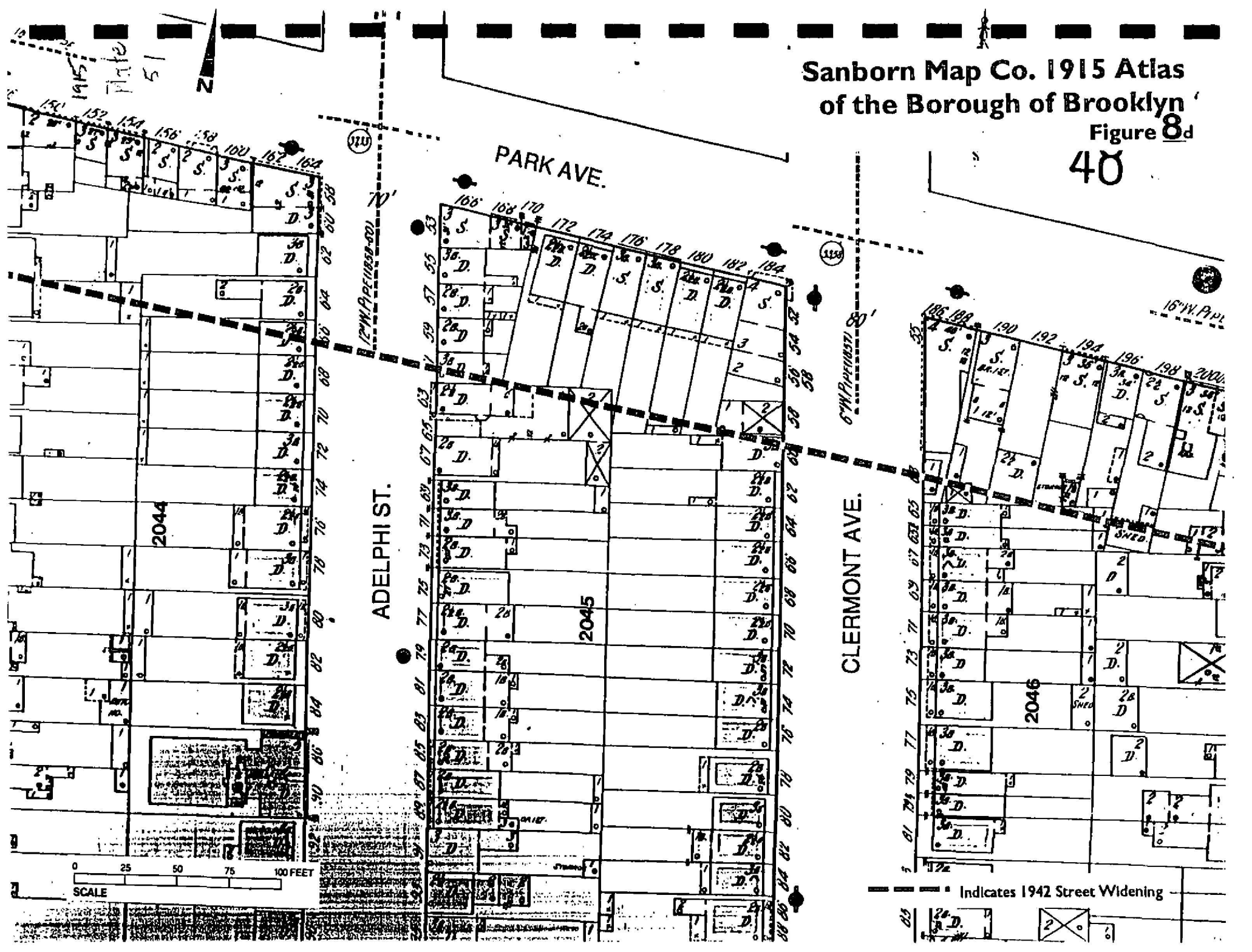
Figure 8a



59-a

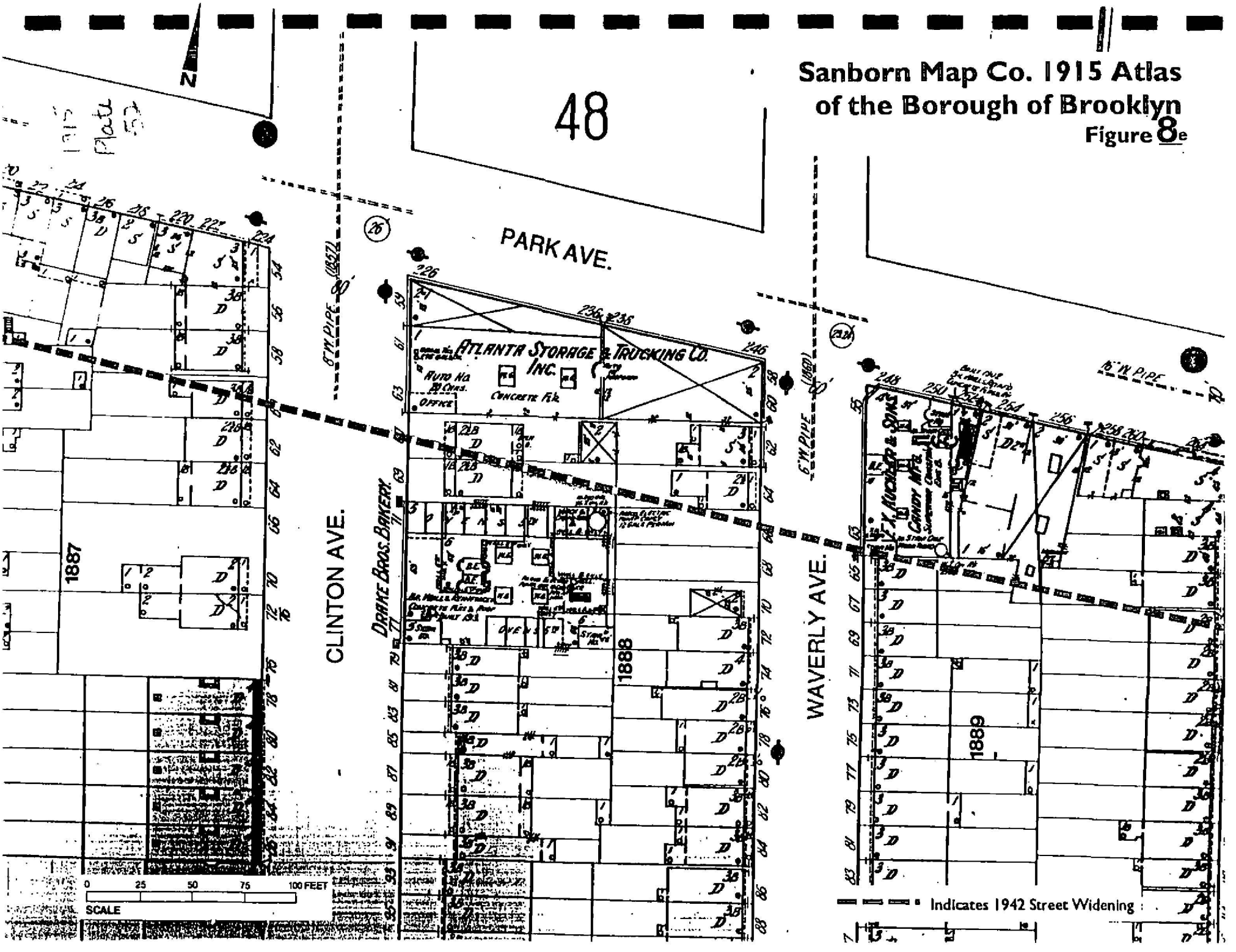

D-66
ST. EDWARDS ST.
N. ELLIOTT PL.
NORTH PORTLAND AVE.
PARK AVE.
N. ELLIOTT
2039
2040
PUBLIC SCHOOL No 67
VACANT
WORKS
SCALE
0
25
50
75
100 FEET
20" W. PIPE (604)
6" W. PIPE
12" W. PIPE
Indicates 1942 Street Widening
Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 8b

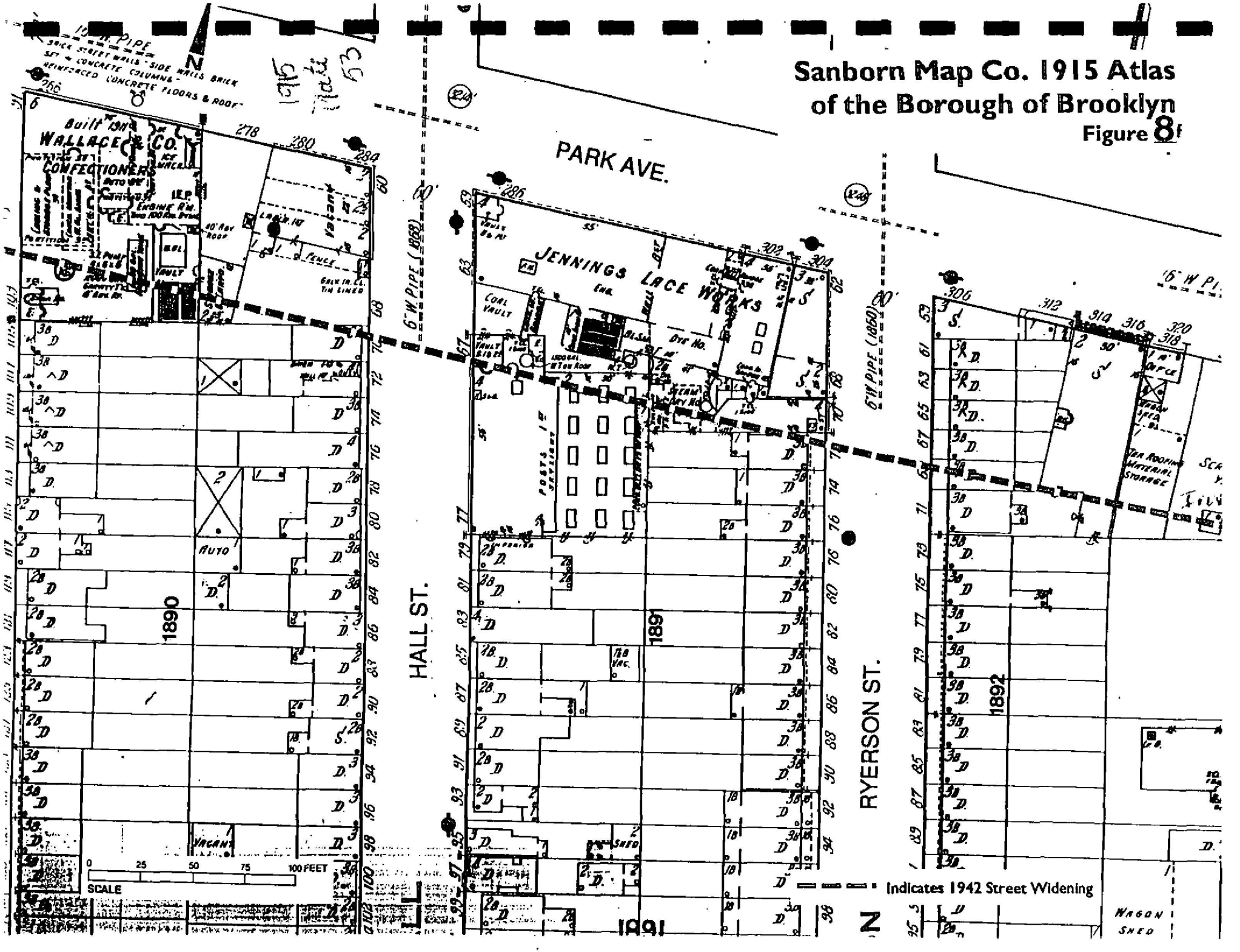

Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 8c
1915 Plate 50
N
47
PARK AVE.
NORTH OXFORD ST.
CUMBERLAND ST.
6"W. PIPE (1880)
20"W. PIPE (1894)
6"W. PIPE
2041
2042
2043
0 25 50 75 100 FEET
SCALE
Indicates 1942 Street Widening

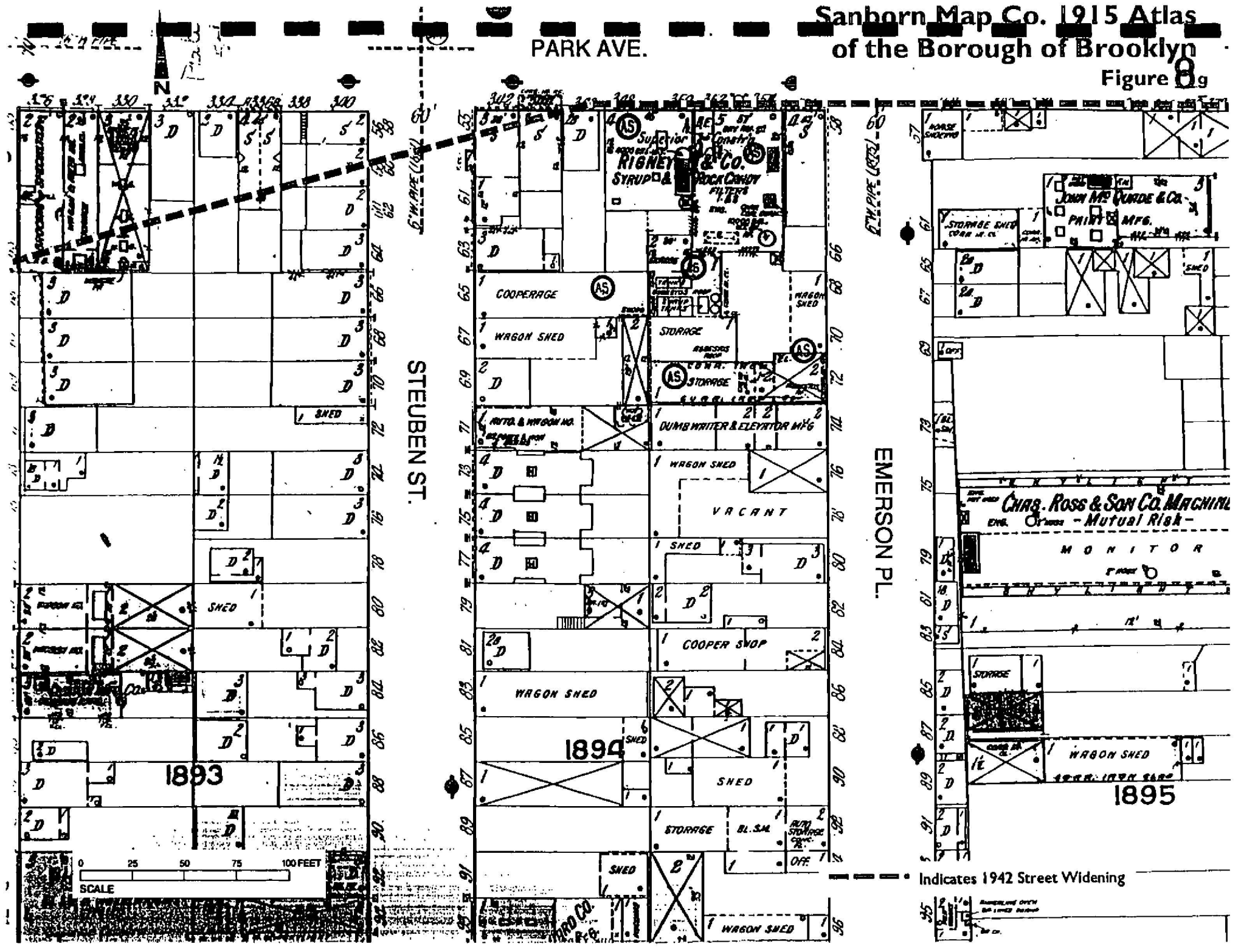

Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 8d
40
PARK AVE.
ADELPHI ST.
CLEMONT AVE.
2044
2045
2046
12"W.P.
6"W.P.
16"W.P.
SCALE
0 25 50 75 100 FEET
Indicates 1942 Street Widening

Sanborn Map Co. 1915 Atlas of the Borough of Brooklyn

Figure 8e

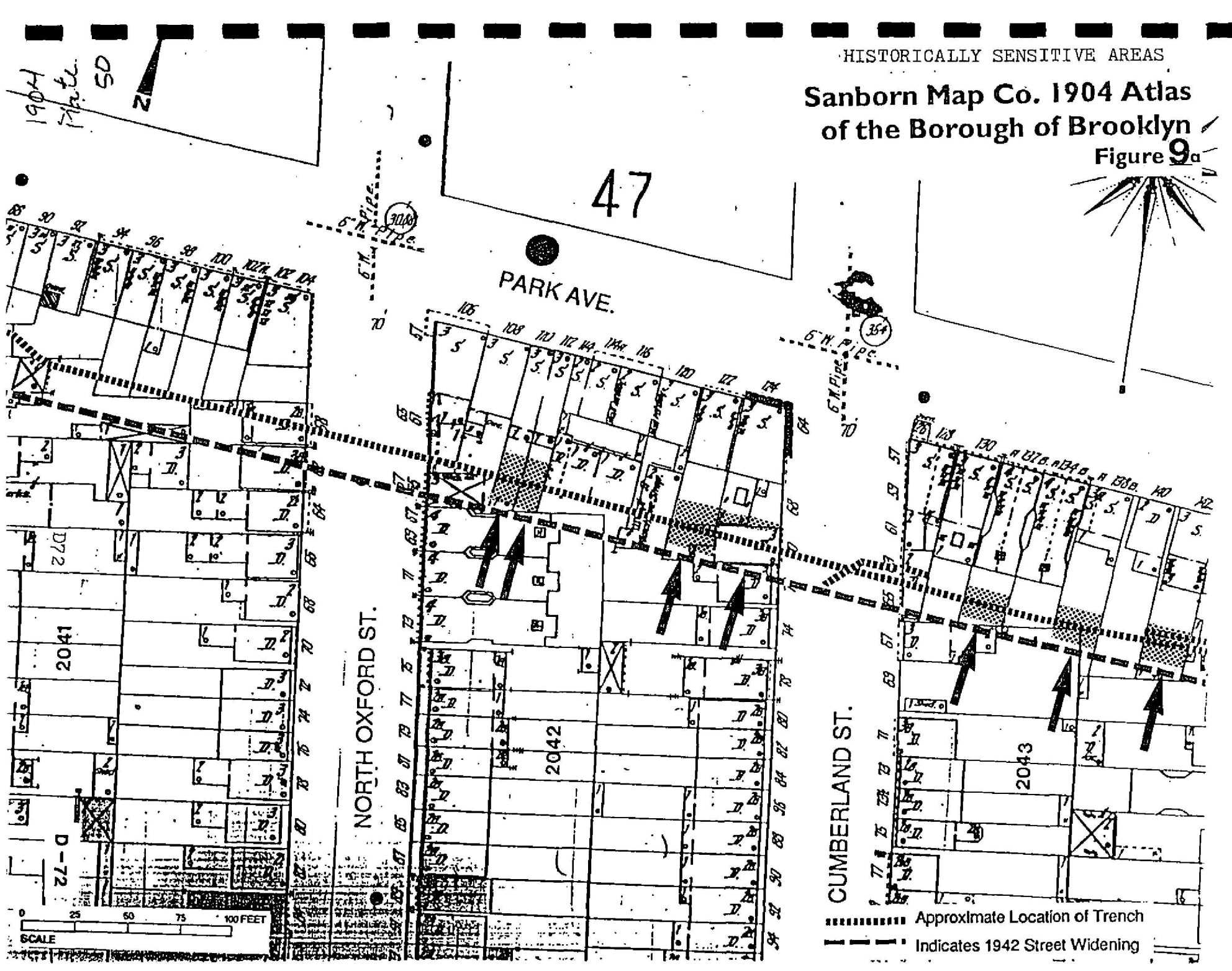



Sanborn Map Co. 1915 Atlas
of the Borough of Brooklyn
Figure 8
PARK AVE.
HALL ST.
RYERSON ST.
JENNINGS LACE WORKS
WALLACE & CO.
CONFECTIONERS
6" W PIPE (1868)
6" W PIPE (1860)
1890
1891
1892
SCALE
0 25 50 75 100 FEET
Indicates 1942 Street Widening


PARK AVE.
STEUBEN ST.
EMERSON PL.
N
1893
1894
1895
SCALE
0 25 50 75 100 FEET
COOPERAGE
WAGON SHED
STORAGE
VACANT
COOPER SHOP
SHED
MONITOR
Indicates 1942 Street Widening

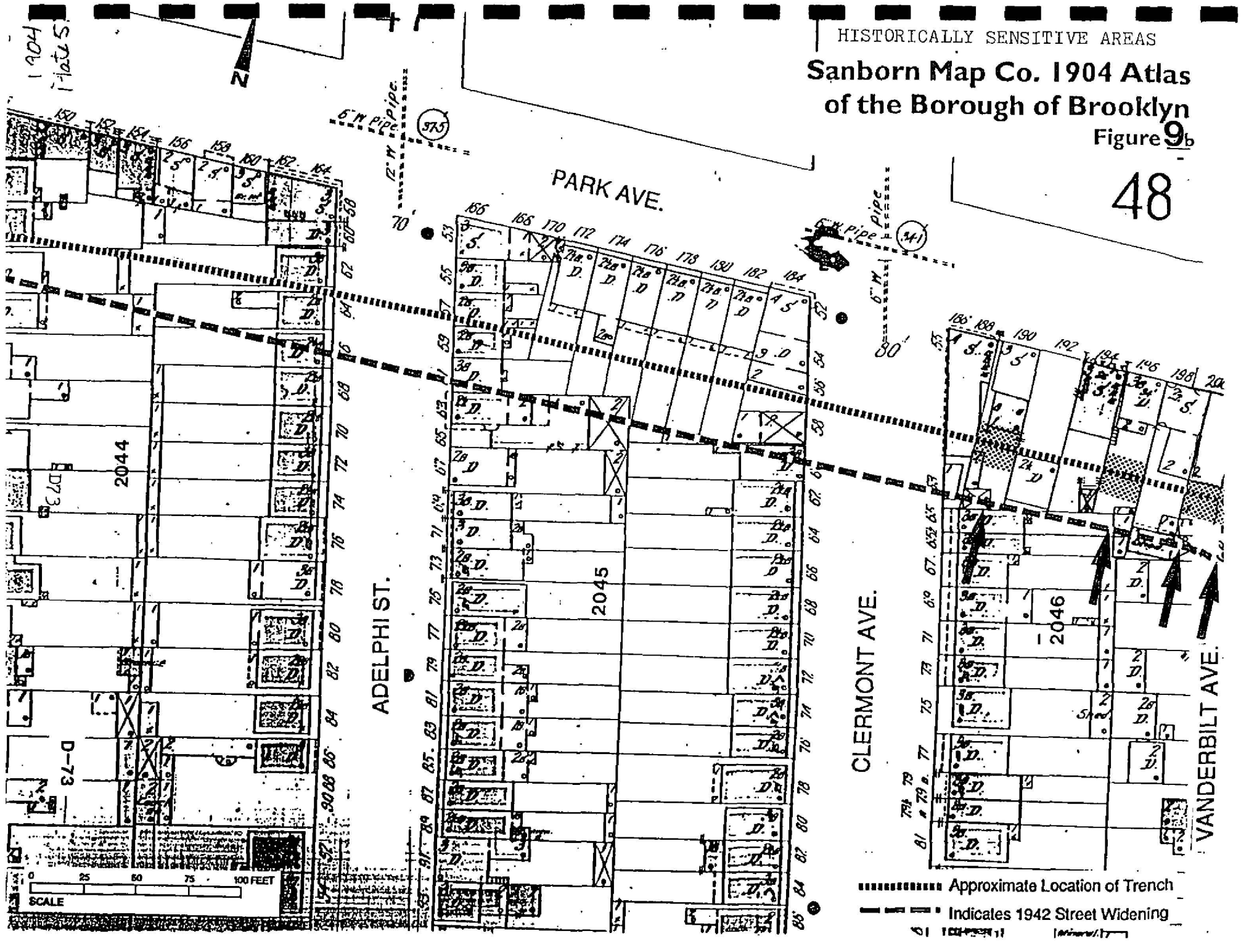
Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

Figure 9a



Sanborn Map Co. 1904 Atlas of the Borough of Brooklyn

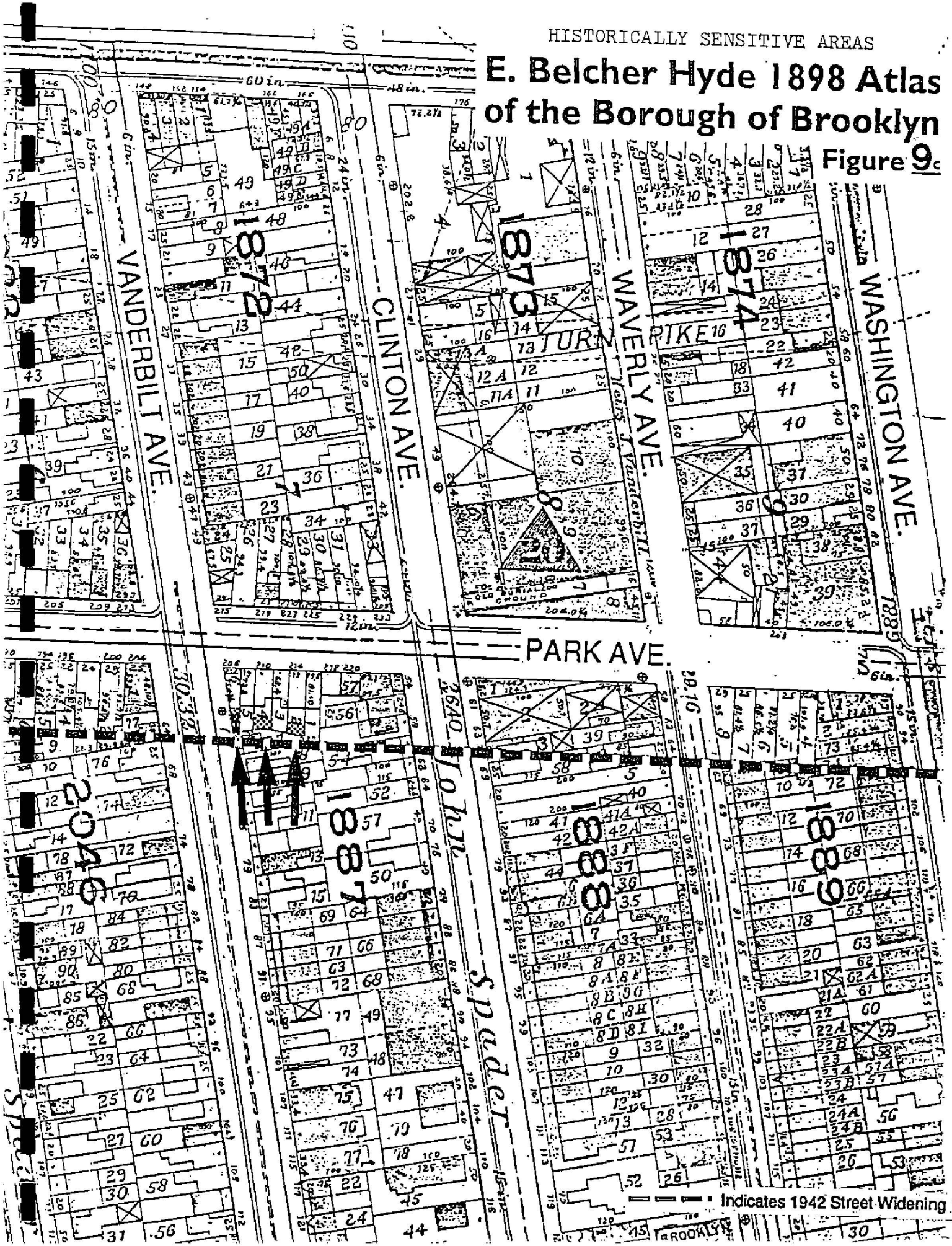
Figure 9b



HISTORICALLY SENSITIVE AREAS

E. Belcher Hyde 1898 Atlas of the Borough of Brooklyn

Figure 9c



APPENDIX

March 1, 1991

Ms. Valerie Baker
Borough Commissioner and Manager
Brooklyn Department of Buildings
Municipal Building, 8th Floor
Brooklyn, NY 11201

Dear Ms. Baker:

Historical Perspectives, Inc., has been conducting documentary research in Brooklyn since 1982, with tremendous assistance from the Buildings Department. The many projects completed include research on the Fulton Landing site, the Atlantic Terminal Urban Renewal site, and numerous projects under the Department of Environmental Protection (DEP). Historical Perspectives, Inc. is currently performing documentary research under the DEP for the Newtown Creek Water Pollution Control Plant in Brooklyn. Research entails documenting the presence and demolition of buildings on the south side of Park Avenue between Taaffe Place and Gold Street.

In an effort to fulfill research requirements I need to review pre-demolition building records. On more than one occasion I have been to the Buildings Department, Block and Lot division, requesting specific Block and Lot files. Occasionally Mr. Tony Costanzo, who has been very helpful, was able to find early building records. However, since the buildings in question were razed in 1942 and replaced by Park Avenue, many of the files were not locatable.

Is there any way of assuring that I have taken advantage of all the channels available to pursue these files? I have been to the Municipal Archives in Manhattan in search of demolished building files only to find that they have none for Brooklyn predating 1970.

I was hoping that someone would be able to assist me in the investigation for these files. In the event that an additional search can be pursued, the following are some of the Block and Lot numbers needed:

Block 2039, Lot 31
Block 1891, Lots 34-45
Block 1896, Lot 30 (some records were found for this)

Any assistance to expedite research would help to ensure that the project continues to meet the DEP's tight schedule. Thank you very much for your assistance. I will call your office during the week of March 18th to check on the progress of research.

Sincerely,

Faline Schneiderman-Fox

Faline Schneiderman-Fox
Project Director, HPI

March 1, 1991

Ann Taylor, Director
New York City Department of Transportation
Office of Litigation Support
295 Lafayette Street, Room 424
New York, New York 10013

Dear Ms. Taylor:

Historical Perspectives, Inc. is currently performing documentary research under the Department of Environmental Protection (DEP) for the Newtown Creek Water Pollution Control Plant in Brooklyn. Research entails documenting twentieth century road construction along Park Avenue between Taaffe Place and Gold Street. We would like to request access to those records regarding the widening of Park Avenue in Brooklyn in 1942, and any subsequent construction within the roadbed.

The Department of Transportation's Plan Archives are an incredibly valuable resource for documenting historical development in New York. Historical Perspectives, Inc., has had the opportunity to utilize the archives in the past for projects under contract to the DOT. Ms. Colon at the Archives has been very helpful to our research efforts in the past, and we look forward to a continuing cooperative venture.

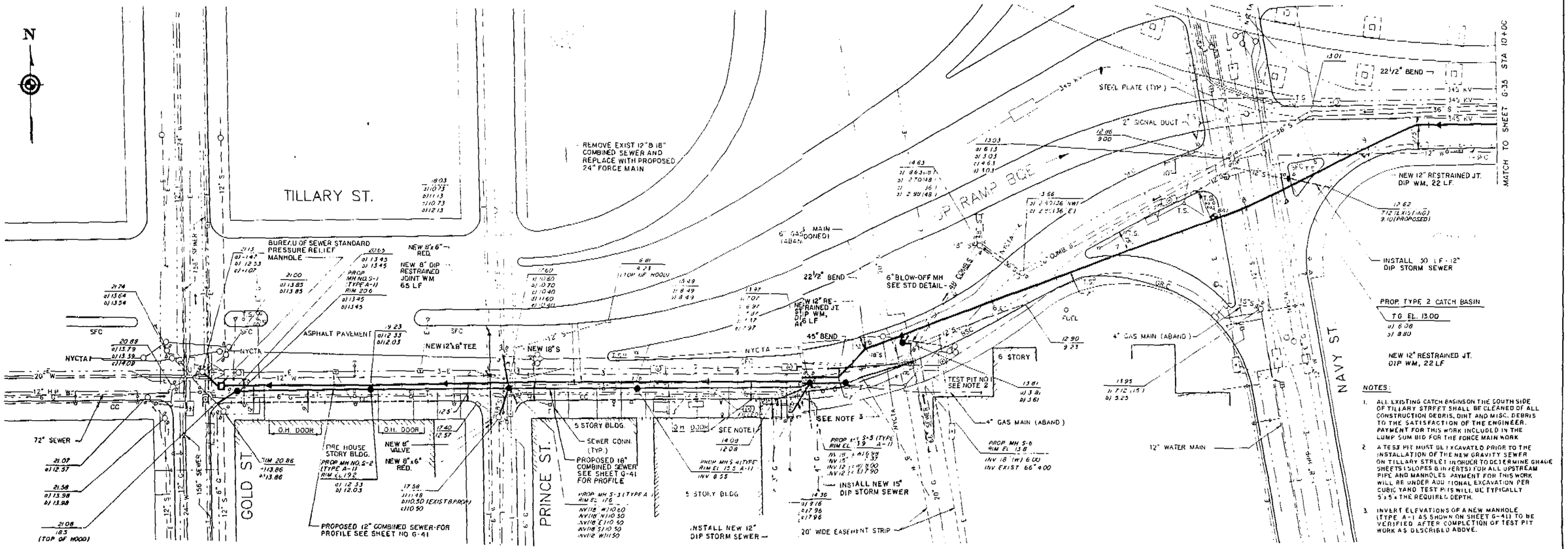
Thank you for your consideration. Any assistance to expedite research would help to ensure that the project continues to meet the DEP's tight schedule. I will call your office within the next to weeks to get the clearance for research.

Sincerely,

Faline Schneiderman-Fox

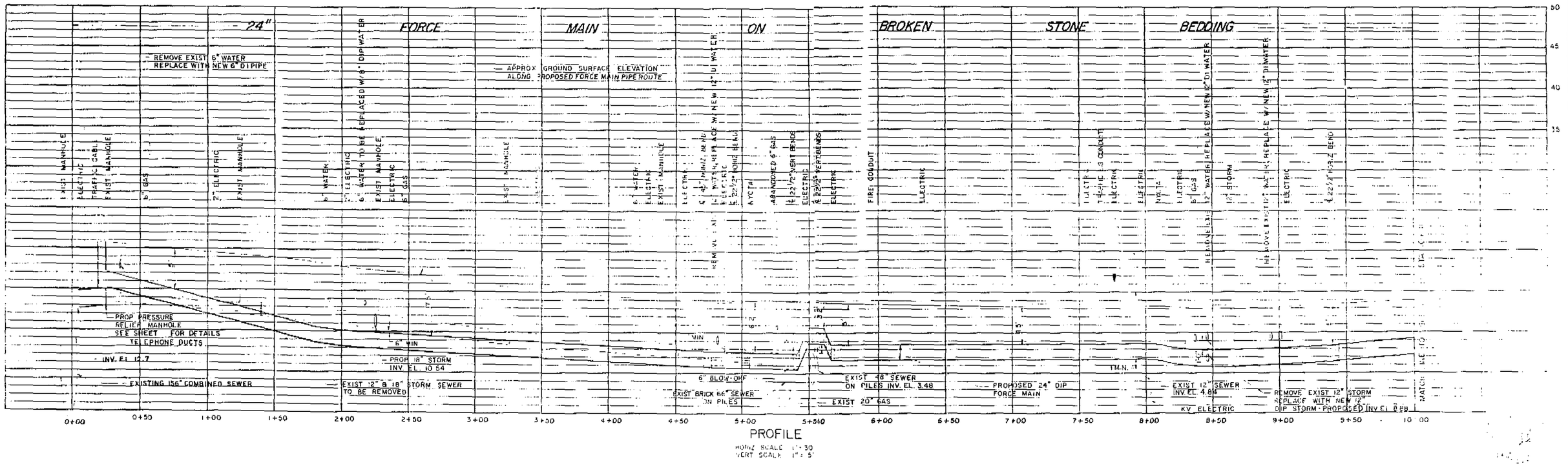
Faline Schneiderman-Fox
Project Director, HPI

cc. Ms. Petra Colon



PLAN

SCALE 1" = 30'



PROFILE

HORIZ SCALE 1" = 30'
VERT SCALE 1" = 5'

DATE / DESCRIPTION / APPROVAL	DR KM/CO; CK NM / DES NM/MQ; GROUP LEADER SK; EC	SCALE AS SHOWN	URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY	APPROVED FOR THE CITY OF NEW YORK — PROJECT MANAGER — CHIEF, DIVISION OF PLANT DESIGN	CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF HEAVY CONSTRUCTION DIVISION OF PLANT DESIGN CAPITAL PROJECT WP-283 TAAFFE PL. PUMPING STA. & FORCE MAIN	CONTRACT NO. PS-18 PARK AVE. FORCE MAIN PLAN AND PROFILE - SHEET NO. 1

Figure 4-1

N

MATCH TO SHEET G-34 STA. 10+00

22½° BEND

REMOVE EXISTING 12" STORM SEWER REPLACE W/ NEW 12" DIP STORM SEWER

REMOVE EXISTING MANHOLE AND REPLACE W/ NEW MANHOLE (TYPE A-11)

NEW 20" RESTRAINED JT DIP, 50 LF

BULKHEAD 78" BRICK SEWER-SEE DETAIL BELOW

LIMIT OF ELEVATED BOE OVERHANG

OFFSET 23 LF NEW 8" RESTRAINED JT DIP WATER MAIN OVER PROPOSED FORCE MAIN

36" SEWER INSIDE ABAND. 78" BRICK SEWER

22½° BEND

TEST PIT REQUIRED SEE NOTE 1

PROPOSED 24" DI FORCE MAIN

36" SEWER

TWIN 24" SEWER

12" STORM SEWER

NO. ELLIOT PLACE

2 TELE. DUCTS (ABAND.)

24" COMB. SEWER

72" STEEL WATER MAIN

NEW 12" RESTRAINED JT. DIP, 33 LF

DEFLECT PIPE AT JOINTS AS REQ'D

TEST PIT REQUIRED SEE NOTE 1

2" SIGNAL DUCT

18" SEWER

(ABANDONED) CON ED

15"S (ABANDONED)

12" W

T.S. CONC SW

24" COMBINED SEWER

12" SEWER

2 TELE. DUCTS (ABAND.)

OVAL SHAPED 3'x 4' BRICK WALLED SEWER CHAMBER

ST. EDWARDS ST.

(PEDESTRIAN WALK)

NO. PORTLAND AVE.

MATCH TO SHEET G-36 STA. 20+29

NOTE:

1. TEST PITS ARE TO BE EXCAVATED PRIOR TO THE START OF CONSTRUCTION IN ORDER TO DETERMINE THE LOCATION, SIZE & DEPTH OF A UTILITY. PAYMENT FOR EXCAVATION WILL BE MADE PER CUBIC YARD EXCAVATED AS MEASURED IN PLACE UNDER "ADDITIONAL EXCAVATION"

BULKHEAD DETAIL
SCALE: NONE

PLAN
SCALE 1"=

PROFILE
HORIZ. SCALE : 1"= 30'
VERT SCALE : 1"= 5'

24" FORCE MAIN ON BROKEN STONE BEDDING

REMOVE EXIST 8" WATER REPLACE W/NEW 8" DIP WATER

EXIST 36" STORM SEWER (INV. EL. 3.9) INSIDE ABANDONED 78" SEWER - BULKHEAD OPEN ENDS OF 78" PIPE

EXIST 20" WATER TO BE REPLACED W/NEW 24" DIP WATER

EXIST 36" SEWER

REMOVE EXIST. 12" VCP SEWER REPLACE WITH NEW 12" VCP SEWER INV. EL. 11.0 (PROPOSED)

EXIST 18" VCP SEWER INV. EL. 7.70

EXIST 24" SEWER INV. EL. 5.40

PROPOSED 24" DIP FORCE MAIN

EXIST 72" STEEL WM

EXIST 12" W TO BE REPLACED W/ NEW 12" DIP WATER

EXIST 24" VCP SEWER INV. EL. 13.23

MATCH TO SHEET G-36 STA. 20+29

NO	DATE	DESCRIPTION	APPROVAL

DR. K.M./C.D. TR. ____
CK N.M. DES N.M./M.G.
S.K. GROUP LEADER
E.C. ENGINEER

SCALE
AS SHOWN

URS CONSULTANTS, INC.
CONSULTING ENGINEERS
NEW YORK NEW JERSEY

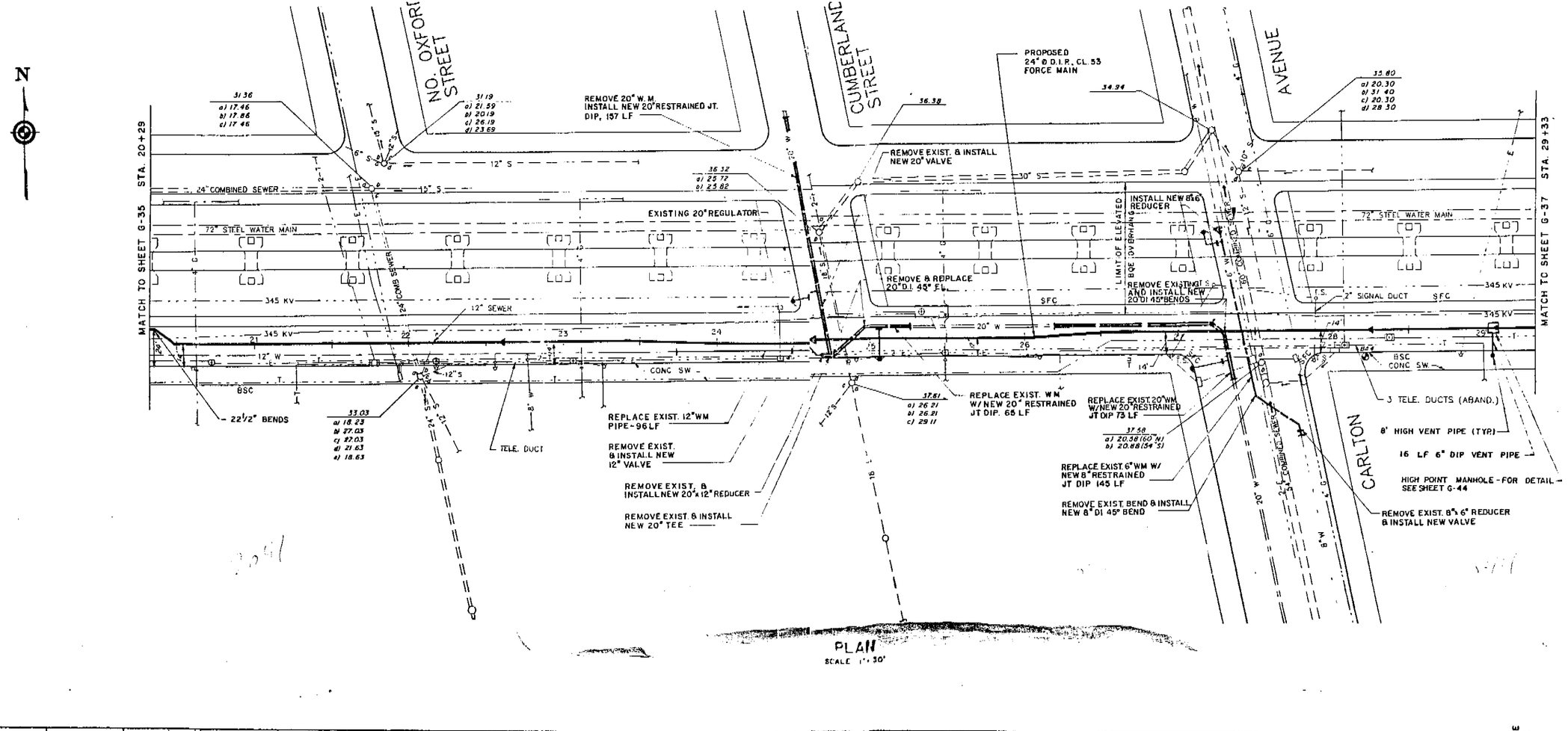
APPROVED FOR THE CITY OF NEW YORK
PROJECT ENGINEER P.E.
CHIEF, DIVISION OF PLANT DESIGN P.E.

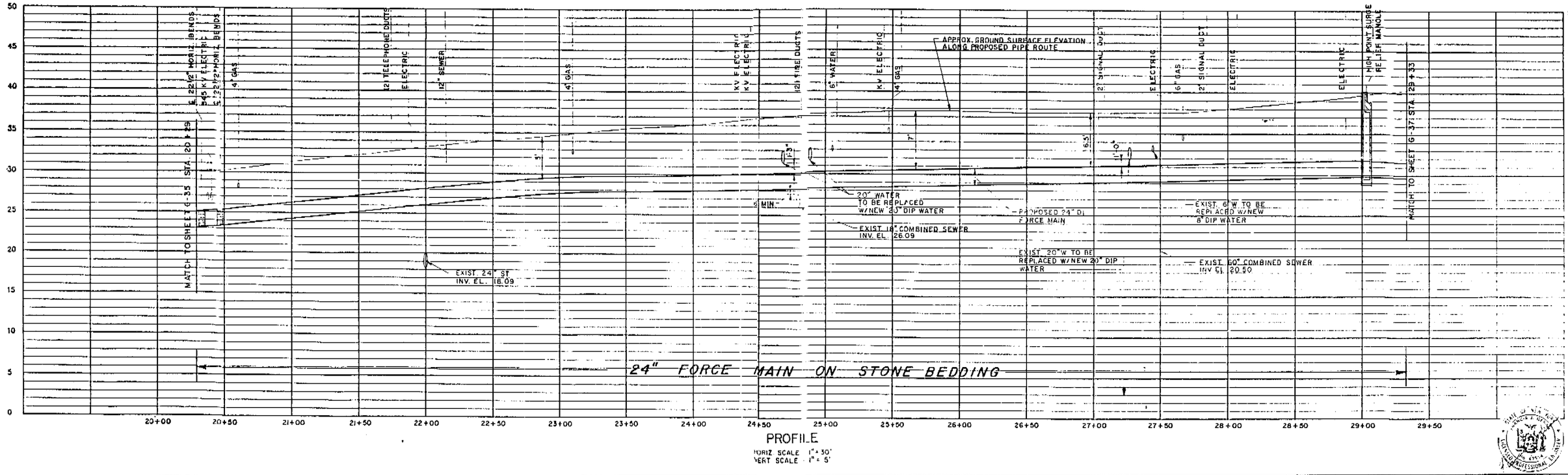
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HEAVY CONSTRUCTION
DIVISION OF PLANT DESIGN
CAPITAL PROJECT WP 283 TAAFFE PL. PUMPING STA. & FORCE MAIN

CONTRACT NO. PS-18

PARK AVE. FORCE MAIN
PLAN AND PROFILE - SHEET NO. 2

DATE FEBRUARY 15, 1991
SHEET
Figure 4-2





PROFILE
HORIZ SCALE 1" = 30'
VERT SCALE 1" = 5'

NO.	DATE	DESCRIPTION	APPROVAL

DR J.C./C.D. YR
CK N.M. DES N.M./M.D.
S.K.
GROUP LEADER

SCALE
AS SHOWN

URS CONSULTANTS, INC.
CONSULTING ENGINEERS
NEW YORK NEW JERSEY

APPROVED FOR THE CITY OF NEW YORK
PROJECT ENGINEER P.E.
P.E.

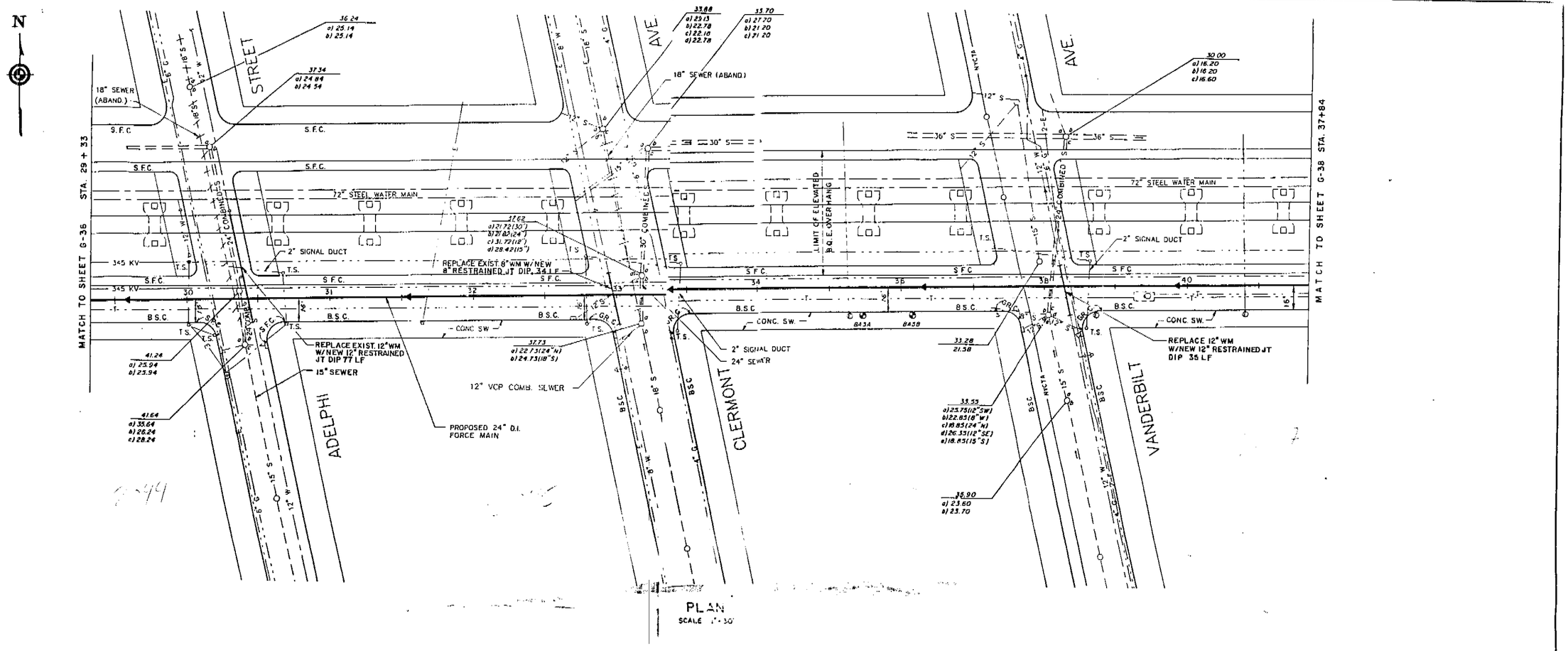
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HEAVY CONSTRUCTION
DIVISION OF PLANT DESIGN

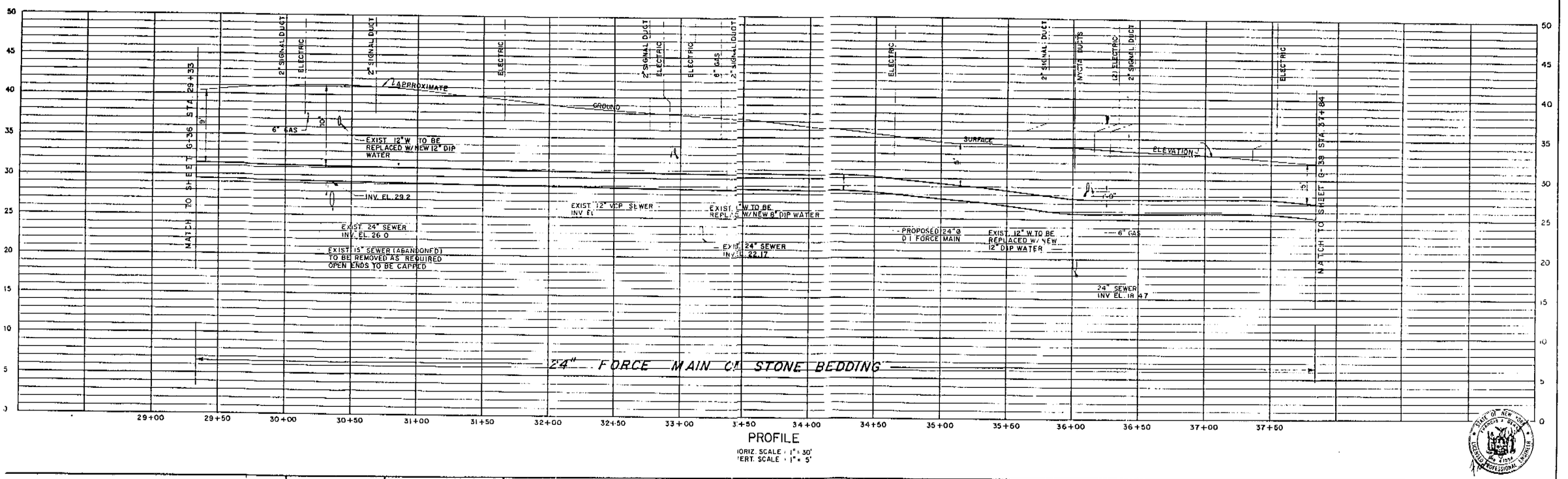
CONTRACT NO. PS-18

PARK AVE. FORCE MAIN
PLAN AND PROFILE - SHEET NO. 3

DATE FEBRUARY 15, 1991

Figure 4-3





PROFILE
HORIZ. SCALE 1" = 30'
VERT. SCALE 1" = 5'

DATE	DESCRIPTION	APPROVAL

DR. K.M./C.D. TR
CP N.M. DES N.M./M.Q.
S.K. GROUP LEADER
E.C.

SCALE
AS SHOWN

URS CONSULTANTS, INC.
CONSULTING ENGINEERS
NEW YORK NEW JERSEY

APPROVED FOR THE CIT OF NEW YORK
PROJECT ENGINEER P.E.
P.E.

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF HEAVY CONSTRUCTION
DIVISION OF PLANT DESIGN

CONTRACT NO. PS-18
PARK AVE. FORCE MAIN
PLAN AND PROFILE SHEET NO. 1

DATE FEBRUARY 15, 1991
SHEET
Figure 4-4

N

MATCH TO SHEET G-37 STA. 37+84

MATCH TO SHEET G-39 STA. 48+47

AVENUE

CLINTON

WAVERLY

WASHINGTON

HALL

STREET

72" STEEL WATER MAIN

12" WATER MAIN

2 KV ELEC. DUCTS

REMOVE 8"x6" REDUCER

INSTALL NEW 20"x 16" DIP REDUCER

TEST PIT REQUIRED SEE NOTE 1 SHEET G-35

LIMIT OF ELEVATED BQE OVERHANG

22 1/2° BENDS

2" SIGNAL DUCT

STEEL PLATES (TYP.)

345 KV

SFC

BSC

CONC. SW

GR. CURB

REPLACE EXIST. 12"WM W/NEW 12" RESTRAINED JT DIP-25 LF

REPLACE EXIST. 12" WM W/NEW 12" RESTRAINED JT DIP-26 LF

REPLACE EXIST. 16"WM W/NEW 20" DIP-91 LF

REPLACE 12"WM W/NEW 12" DIP WM-20 LF

REPLACE EXIST. 6"WM W/NEW 8" RESTRAINED JT DIP-91 LF

INSTALL NEW 8" GATE VALVE & 8"x6" REDUCER

TELE. DUCT (ABAND.)

12" SEWER

20" WATER

PROPOSED 24" DI FORCE MAIN

PLAN

SCALE 1"=50'

EXIST. 12"& 20" WATER TO BE REPLACED W/NEW 12"& 20" DIP WATER

EXIST. 12"W TO BE REPLACED W/NEW 12" DIP WATER

PROPOSED 24" DIP FORCE MAIN

24" SEWER INV. EL. 14.42

24" SEWER INV. EL. 5.96

24" FORCE MAIN ON STONE BEDDING

APPROX GROUND SURFACE ELEVATION ALONG PROPOSED PIPE ROUTE

EXIST 12"W TO BE REPLACED W/NEW 12" D.P. WATER

EXIST. 24" SEWER INV. EL. 17.20

EXIST 6"W TO BE REPLACED W/NEW 8" DIP WATER

24" SEWER INV. EL. 20.22

24" FORCE MAIN ON SAND BEDDING

PROFILE

HORIZ. SCALE : 1"= 50'
VERT. SCALE : 1"= 5'

STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER

DATE / DESCRIPTION / APPROVAL	DR J.C./C.D. TR CK N.M. DES N.M./M.Q. S.K. GROUP LEADER E.C. ENGINEER	SCALE AS SHOWN	URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY	APPROVED FOR THE CITY OF NEW YORK PROJECT ENGINEER P.E. CHIEF, DIVISION OF PLANT DESIGN P.E.	CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF HEAVY CONSTRUCTION DIVISION OF PLANT DESIGN CAPITAL PROJECT WP-283 TAAFFE PL. PUMPING STA. & FORCE MAIN	CONTRACT NO. PS-18 PARK AVE. FORCE MAIN PLAN AND PROFILE - SHEET NO. 5	DATE FEBRUARY 15, 1991 SHEET Figure 4-5

N

MATCH TO SHEET G-38 STA. 48+47

MATCH TO SHEET G-40 STA. 56+93

STREET

RYERSON

GRAND AVE.

STEUBEN ST.

ABANDONED SEWER

72" STEEL WATER MAIN

2-12"ABANDONED PIPES

22½° BENDS

345 KV SFC

B.S.C.

GR. C.

REPLACE 8" WM W/NEW 8" RESTRAINED JT DIP WATER-35LF

4" GAS MAIN (ABAND.)

PROPOSED 24" D.I. FORCE MAIN

40 LF 8" DIP DRAIN @ 0.4 % CONNECT TO EXIST. STORM SEWER MANHOLE

ELEVATED OVERHANG

LIMIT OF SIDE

TEST PIT REQUIRED SEE NOTE 1 SHEET G-36

20" SEWER (ABAND.)

20"x16" REDUCER

16 LF 6" DIP VENT PIPE

8' HIGH VENT PIPE (TYP.)

6" GAS MAIN (ABAND.)

NYCTA DUCT

JACKING PIT

JACK 140'± OF 40"(ID) STEEL CASING

AIR RELEASE VALVE CHAMBER

REPLACE EXIST 16" WM W/NEW 20" RESTRAINED JT. DIP-52 LF

48" COMBINED SEWER

12" SEWER

20"x12" REDUCER

11¼° BEND

4" GAS MAIN (ABAND.)

RECEIVING PIT

24" SEWER

20'

TEST PIT REQUIRED SEE NOTE 1 SHEET G-35

PLAN

SCALE 1"=30'

50 45 40 35 30 25 20 15 10 5 0

47+00 47+50 48+00 48+50 49+00 49+50 50+00 50+50 51+00 51+50 52+00 52+50 53+00 53+50 54+00 54+50 55+00 55+50 56+00 56+50 57+00 57+50

MATCH TO SHEET G-38 STA. 48+47

345 KV ELECTRIC

ELECTRIC

4" GAS ABAND.

FIRE CONDUIT

(2) TELEPHONE

20" ABAND. SEWER

6" GAS

AIR RELEASE VALVE CHAMBER

TELEPHONE

NYCTA

36" WATER

11¼° HORIZ. BENDS

APPROXIMATE GROUND

SURFACE ELEVATION

REPLACE EXIST 8"W W/NEW 8" DIP WATER

22½° HORIZONTAL BENDS

24" SEWER INV EL. 19.20

PROPOSED 24" D.I. FORCE MAIN

REPLACE EXIST 16"W W/NEW 20" DIP WATER

INV 25.78

8" DIP DRAIN

INV 25.0

48" SEWER INV EL. 22.48

JACKING PIT

72" STEEL WATER

11¼° BENDS

40"(ID MIN.) STEEL CASING PIPE (½" THICK)

24" D.I. FORCE MAIN

MATCH TO SHEET G-40 STA. 56+93

24" FORCE MAIN ON SAND BEDDING

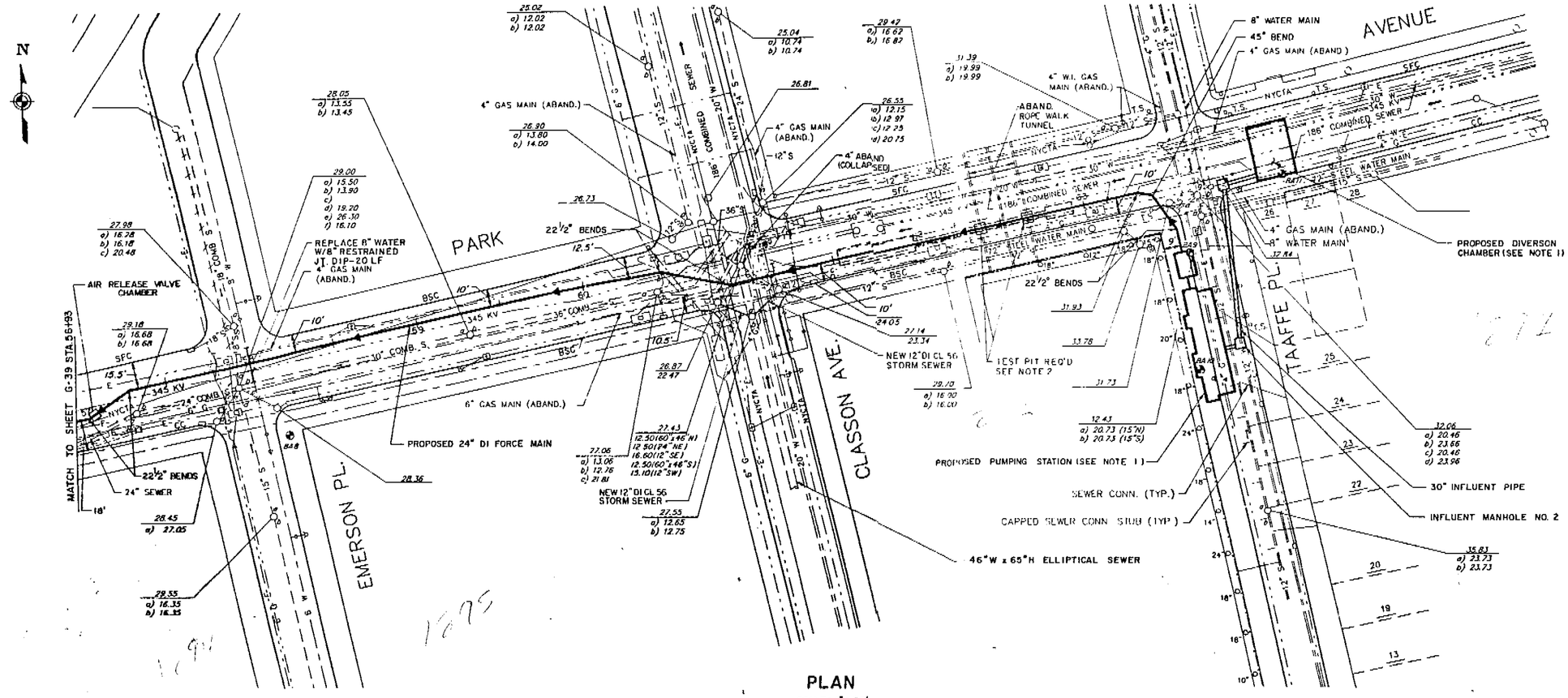
PROFILE

HORIZ. SCALE: 1"=50'

VERT. SCALE: 1"=5'

STATE OF NEW YORK — JOSEPH L. GENTILE — No. 51564 — LICENSED PROFESSIONAL ENGINEER

DATE / DESCRIPTION / APPROVAL	DR C.D./K.M. TR ___ CK N.M. DES N.M./M.Q. GROUP LEADER S.K.	SCALE: AS NOTED	URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY	APPROVED FOR THE CITY OF NEW YORK ___ PROJECT ENGINEER ___ P.E. ___ DATE	CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF HEAVY CONSTRUCTION DIVISION OF PLANT DESIGN	CONTRACT NO. PS-18 PARK AVE. FORCE MAIN	DATE FEBRUARY 15, 1991 SHEET Figure 4-6

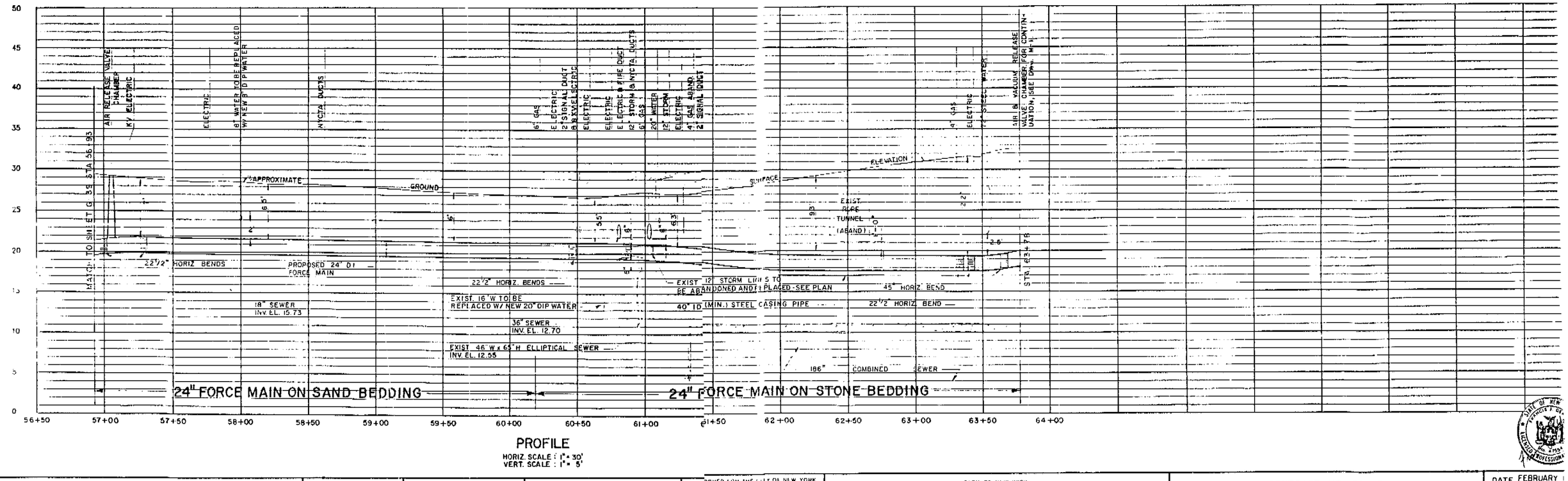


PLAN

SCALE: 1" = 30'

NOTE:

1) SEE PUMP STATION SITE PLAN DRAWING M-1 FOR OF PUMP STATION, DIVERSION CHAMBER, INFLUEN MANHOLE(S), INFLUENT PIPE & PERMANENT & TEM RELOCATION OF EXISTING UTILITIES
2) TWO TEST PITS ARE REQUIRED (5'x5' TYP.) TO LOCATE THE OUTSIDE LIMITS OF THE ROPE TUNNEL AND TH OF THE TOP AND BOTTOM OF THE STRUCTURE



PROFILE

HORIZ. SCALE : 1" = 30'
VERT. SCALE : 1" = 5'

DATE / DESCRIPTION / APPROVAL	DR KM/CD TR ___ CK N.M. DES N.M./M.Q. S.K. GROUP LEADER E.C.	SCALE: AS SHOWN	URS CONSULTANTS, INC. CONSULTING ENGINEERS NEW YORK NEW JERSEY	APPROVED FOR THE CITY OF NEW YORK ___ PROJECT ENGINEER P.E. ___ CHIEF, DIVISION OF PLANT DESIGN P.E.	CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF HEAVY CONSTRUCTION DIVISION OF PLANT DESIGN CAPITAL PROJECT WP-283 TAAFFE PL. PUMPING STA. & FORCE MAIN	CONTRACT NO. PS-18 PARK AVE. FORCE MAIN PLAN AND PROFILE - SHEET NO. 7	DATE FEBRUARY 1 SH

Figure 4-7