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1. EXECUTIVE SUMMARY

This report is a study of specific parts of the Brooklyn Piers 7-12 site north of the Atlantic Basin that were flagged by the Landmarks Preservation Commission (LPC) as warranting further study and assessment for their potential sensitivity to yield remains of archaeological and historical significance. The specific blocks and lots concerned are block 281, lots 1 and 62; block 334 lots 1, 2, 7, 14, 40, 50 to 59, and 61 to 65, and all of blocks 340, 346, 499 and 500 (Figs. 17-19). Only these blocks and lots and the streets that either presently or formerly bordered them are included in the “project site” referred to in this report.

The conclusions presented in this report are based on primary sources such as historic maps, tax assessments, sewer connection records, city directories, government documents (i.e. Acts of the State Legislature), and contemporary newspaper articles. Secondary sources consulted are histories of Brooklyn compiled in the 19th and 20th centuries.

The entire area under consideration is composed of landfill that was deposited in the 1840s following the creation of the Atlantic Basin. (This port is located in the southern part of the Brooklyn Piers 7-12 site, and is not included in the present assessment). It is likely that the wharf area, block 281, lot 1, and possibly also the other blocks under consideration in this report, were built of cribwork with earth deposited over it. In general, the uses of the blocks and lots on the project site were primarily commercial, consisting of large warehouses on block 281, lot 1; coal and lumber yards, and stores throughout the study area. There were also some industrial uses: lime production in the earliest period of occupation, meat packing, and a large chemical manufacturer on block 334. Residential uses, never very extensive, were best attested in the mid-19th century and declined in the 20th.

Since the project site is built on landfill, there will not be any *in situ* remains of prehistoric occupation in this material. But excavations for the Atlantic Basin revealed that in prehistoric times the water level was lower, and consequently, the shoreline was formerly further out (west). This means that the project site area might have once been dry land and therefore a location potentially attractive to the indigenous populations for harvesting shellfish. Accordingly, should future development involve excavation below the river bed, archaeological monitoring would be recommended.

As for the historic periods, none of the sites of former commercial and industrial

buildings has been judged historically significant or archaeologically sensitive. The businesses or processes that were conducted in these buildings for the most part did not utilize built-in structures or installations that could contribute to a better understanding of the functioning of the enterprises concerned, and, in any case, the businesses in question have been described in the literature and are well documented. Some industrial furnishings that might have been of interest, such as the lime kilns on a part of block 281, lot 1, are located on sites that no longer exist (the old piers), or that have been negatively impacted by subsequent construction. There remain, however, a number of locations, formerly the backyards of mid-19th century dwellings, which have not been disturbed by later building episodes and that may contain the remains of privies associated with the earliest occupants on the project site, some of whom moved in as early as 1850. Water pipes were laid in almost all the streets surrounding the project site in the late 1850s, but some of the dwellings were erected already by 1850, and these buildings may have had cisterns at the rear. By 1855, a number of stores and dwellings had been erected on the project site, but sewer service was not available until ca. 1860, leaving residents without sanitary facilities – unless they dug a privy in their yard. The contents of these privies, should the structures be discovered intact, would indeed be of historic and archaeological interest as both the privies and the residential occupation of the sites themselves were short-lived. This means that the artefactual assemblages from these installations would correspondingly belong to a more narrowly defined period of time than is usually the case, making these privies’ contents more like the “time capsule” that can indeed provide a window on a particular era in the past, rather than mere garbage pits containing seventy-five years worth of debris. We do not expect to find cisterns associated with these dwellings: water was available from the 1850s on most of the project site blocks, thanks to the water pipes that were laid in the street already in that decade. These early water pipes, however, are of historic interest, and since the streets, whether mapped or demapped, may be impacted either by construction or by future excavation for utilities, some of the street beds are considered potentially archaeologically sensitive.

Table I, on the following pages, summarizes the results of this assessment. The blocks and lots listed by the LPC are listed individually in this table, but note that Block 281, lot 1, was formerly divided up into a number of “old blocks” each of which contained a number of “old lots”. Similarly, the only lot on block 499, lot 1, was formerly composed of a number of

“old lots”. Since these old blocks and old lots no longer exist and were not listed individually by the LPC, the table flags only those old lots on block 281, lot 1, considered sensitive for potential archaeological remains. The street beds are also not listed in the table. Their potential archaeological sensitivity is evaluated in Chapter 6 and recommendations regarding these locations, as for the other archaeologically potentially sensitive sites, are made in the conclusions, Chapter 7.

**TABLE 1
ASSESSMENT OF ARCHAEOLOGICAL SENSITIVITY - SUMMARY**

BLOCK	LOT	OLD BLOCK	OLD LOT(S)	SENSITIVE	NOT SENSITIVE	Comments
281	62				X	
	1	4			X	
		3			X	
		2			X	
		1	23	X		51 Warren St.
			24	X		53 Warren St.
			28	X		70 Columbia St.
			29	X		68 Columbia St.
			30	X		66 Columbia St.
			31	X		64 Columbia St.
			35	X		48 Congress St.
			37	X		44 Congress St.
			39	X		40 Congress St.
			40	X		38 Congress St.
		20	3	X		Baltic St.
		19	6	X		59 Harrison St.
		33 & 34			X	
		35	7	X		58 Van Brunt St.
			8	X		60 Van Brunt St.
			13	X		47 Degraw St.
			14	X		45 Degraw St.
		47	6-17	X		23-1 Beach Pl.
		47A	1-12	X		24-2 Beach Pl.
			15-22	X		1-8 Degraw St.
			24	X		72 Van Brunt St.
			29	X		28 Sackett St.
			30	X		30 Sackett St.
			31	X		32 Sackett St.
			32	X		34 Sackett St.
334	1			X		
	2				X	
	7				X	
	14		10		X	
			11		X	
			12	X		
			13	X		
			14	X		

BLOCK	LOT	OLD LOT(S)	SENSITIVE	NOT SENSITIVE
(334)	40	30		X
		31		X
		32		X
		33		X
		34		X
		35	X	
		36	X	
		37		X
		38		X
		39		X
	51		X	
	52		X	
	53		X	
	54		X	
	55		X	
	56			X
	57			X
	58		X	
	59		X	
	61			X
	62			X
	63			X
	64		X	
	65		X	
340	1		X	
	2		X	
	3		X	
	4			X
	5			X
	6			X
	7		X	
	8			X
	9			X
	10			X
	14			X
	15		X	
	16		X	
	17			X
	19			X
	20			X
	21			X
	22		X	
	23		X	
	24		X	
	25			X
	26			X
	28			X

BLOCK	LOT	OLD LOT(S)	SENSITIVE	NOT SENSITIVE
(340)	29		X	
	30			X
	31		X	
	32			X
	33			X
	35	23	X	
		24		X
	38			X
	39		X	
	40		X	
	41		X	
	42		X	
	43			X
	44			X
	45		X	
	46	33	X	
		34		X
	48	35		X
		36		X
		37		X
	51			X
346	1			X
	2			X
	3		X	
	5		X	
	6		X	
	7			X
	9		X	
	10		X	
	11			X
	21			X
	22			X
	23		X	
	25			X
	26			X
	29			X
499		9	X	
		10	X	
		11	X	
		12	X	
		13	X	
		14	X	
		15	X	
		16	X	
		17	X	
500				X

2. DESCRIPTION OF THE PROJECT SITE AND PLANNED DEVELOPMENT

The City of New York (“City”) proposes to acquire portions of an approximately 120 acre site in Brooklyn Community District 6 including 1.1 miles of waterfront frontage between piers 7 and 12, the area of the Atlantic Basin and adjacent upland tracts, and would subsequently dispose of most of that property for future development. Part of this property is to be acquired from the Port Authority of New York and New Jersey (“Port Authority”), and some is City owned. The program of improvements will involve mapping and demapping streets and easements, and portions of the property and adjacent areas would be rezoned to permit a wider range of accessory uses. Modifications would accordingly be made to the Red Hook Peninsula Urban Renewal Plan. On the southern portion of the area, where the Atlantic Basin is located, and for which no archaeological review is required, the proposed action would result in the expansion of cruise terminal and complementary uses, as well as improve public access to the waterfront.

This report is an assessment of the potential archaeological sensitivity of the northern portion of the 120 acre site, which was flagged by the Landmarks Preservation Commission (LPC) as requiring further study (Report cover and Figs. 1 to 15). Here, maritime commercial uses would be maintained, with new opportunities for commercial development. This area is located along the shore between Atlantic and Hamilton Avenues. Its eastern boundary, between Atlantic Avenue and Kane Street is Columbia Street (Fig. 12). From Kane Street to Hamilton Avenue, it is bounded on the east by Van Brunt Street (Fig. 15). The blocks and lots concerned are: block 281, lots 1 and 62; block 334, lots 1, 2, 7, 14, 40, 50 to 59, and 61 to 65, and all of blocks 340, 346, 499 and 500 (Figs. 17-19). These blocks and lots, and adjacent streets are referred to collectively as the “project site” in the present report.

There are no designated historic resources within the project site. Immediately North of it, however, is the Brooklyn Heights Historic District, whose southern border runs along Atlantic Avenue from just east of Furman Street to Court Street. One to two blocks east of the project site, beginning mostly along the line of Hicks Street between Atlantic Avenue and Degraw Street, is the Cobble Hill Historic District and Extension. This eastern border of this district is Court Street. The Atlantic Avenue Tunnel, also listed on the State/National Register

of Historic Places runs underground along Atlantic Avenue between Columbia Street and Boerum Place.

Block 281 lot 1, which borders Atlantic Avenue, encompasses piers 7, 8, 9A and 9B. Piers 7 and 8 are currently being used as a general import/export cargo area, while the upland portion of piers 8, 9A and 9B is leased by the Port Authority to American Stevedoring Inc., which operates the Red Hook Marine Terminal. This container port is an off-loading cargo facility for both containerized and break-bulk cargo of raw materials. The lease with American Stevedoring Inc. is due to expire in 2007 and, as the container port is unable to compete with New Jersey's terminals, the City aims to redevelop the area in order to facilitate its reuse.

The project site is contained within five of the twelve proposed parcels defined in the DEIS prepared by Philip Habib and Associates (Fig. 16):

Parcel A is wholly included in the project site. It comprises most of block 281 with an area of approximately 49 acres. It would be occupied by maritime industrial uses and cargo operations, and dedicated to industrial and manufacturing uses. A brewery and an associated 40,000 sf beer garden are anticipated, to be sited on Pier 7. On piers 8, 9A and 9B there would be maritime warehouse and distribution areas for general cargo; containers, break bulk cargo and other similar uses. It is expected that the three pier sheds currently located on the piers, containing approximately 623,200 sf of floor area, will be reused. The remainder of the lot area will continue to be devoted to maritime industrial uses, container and storage activities. The upland portion of Parcel A, along Columbia Street between Kane and Warren Streets, contains the "Port Authority of New York and New Jersey New York Marine Terminals Brooklyn Port Authority Piers Administration Building" and the "Waterfront Commission Building", at 90 and 100 Columbia Street, respectively. These offices, estimated to consist of approximately 61,700 sf., would remain.

Parcel C is a small part of block 281 that is slated for light industrial, warehousing and office uses.

Parcel B includes parts of the project site on block 281, lots 1 and 62, and parts of blocks 334 and 340. The larger portion of this parcel, lying outside the area being reviewed for archaeological sensitivity in this report, will contain the passenger cruise ship terminal on pier 10, retail, light industrial and warehousing uses, and approximately two acres of open

space.

Parcel D is the western part of block 334. It is assumed that this small parcel of approximately 24,000 sf will be occupied by artists' space and galleries.

Parcel E includes part of block 340, and all of blocks 346 499, and 500. Assumptions for this parcel consist of approximately 34,700 sf of retail uses and a total of 152,400 sf of light industrial, warehousing and office uses.

Proposed rezonings on the project site are on:

Proposed parcel C, located on block 1, from M2-1 to M1-4

Proposed parcel D and part of B, on block 334, from M2-1 to M1-4

Proposed parcel E, on blocks 340, 346, 499 and 500, from M2-1 to M1-4,

Part of proposed parcel B, on blocks 281, 334 and 340 from M2-1 to M1-4.

Most of block 281, which is largely contained within disposition parcel A, will remain zoned M1-1 and M2-1.

These rezonings maintain manufacturing zoning classifications and would not increase the maximum floor area ratio permitted.

Proposed changes to the city map within the project site area are as follows.

Columbia Street, between Atlantic Avenue and Kane Street will be widened from its existing 70 feet to 100 feet on its west side, that is, within the area of the project site. A 30-foot wide greenway would be established in the right-of-way of the remapped Columbia Street. The area of this remapping, which traverses old building lots, may be subject to potential impacts from possible future excavations for utilities.

Block 281: Pacific, Amity and Congress Streets, currently mapped at widths of 50, 70 and 60 feet respectively, will be demapped west of Columbia Street and may therefore be impacted by future building construction. A new 105-foot wide segment of Degraw Street would be mapped between Van Brunt Street and the newly established Conover Street (following the line of the proposed widening of the section between Columbia and Van Brunt Streets, which is not contained in the project site reviewed in this assessment). This would allow for a new 30-foot-wide green way on the north side of the street. The area of this street widening, which traverses old building lots, may be subject to potential impacts from possible future excavations for utilities.

Blocks 281, 334, 340: a new, 85-foot wide segment of Conover Street will be mapped

beginning at the western end of Degraw Street and running south through the middle of blocks 334 and 340, approximately, and past the western end of block 346. The area of this new street, which traverses old building lots, may be subject to potential impacts from possible future excavations for utilities.

Blocks 281 and 334: a new segment of Sackett Street will be mapped from a point approximately 90 feet west of Van Brunt Street to the newly established Conover Street. The area of this street may be subject to potential impacts from possible future excavations for utilities.

Blocks 334 and 340: a new segment of Union Street will be mapped from a point approximately 146 feet west of Van Brunt Street to the newly established Conover Street. The area of this street may be subject to potential impacts from possible future excavations for utilities.

Block 499: a new, 70-foot segment of Summit Street would be mapped between Imlay and Conover Streets. The continuation of Summit Street to the east is currently mapped at 60 feet. The additional 10 feet would run over the south side of block 499. The area of this new street, which traverses old building lots, may be subject to potential impacts from possible future excavations for utilities.

3. ENVIRONMENTAL SETTING AND PREHISTORIC PERIODS

The project site is composed of landfill between the former low and high water lines on the western shore of Long Island, facing the Buttermilk Channel (Report cover). The Channel is an arm of the East River that flows between Long Island and Governors Island. It was scoured out by the river before the last glacial advance over 10,000 years ago and therefore predates human settlement in the area. The stories of farmers crossing with their cows to Governor's Island at low tide are apocryphal, according to Stiles (1870, 576, n.1), who noted that, looking down from the heights at Hicks Street over the broad marshes, it might have appeared that the cows were on their way across the channel. During the dredging for the Atlantic Basin, tree roots were found at a depth of approximately twenty feet below surface, suggesting that in prehistoric times the water level was lower. Thus, remains of the Native American presence, specifically, shell middens, might well be found on the project site under the fill or under the floor of the river bed adjacent to the present coastline (Cammisa 1995, 2). Should future actions in the project site area involve excavation below the fill layer or below the river bed floor, archaeological monitoring would be recommended. The current development plan does not however involve such actions, and therefore no potentially negative impacts on possible submerged archaeological resources are anticipated.

Before the shoreline was filled to its present line, the area was a tract of low-lying salt marsh submerged during high tide and exposed in low. The area of the salt marsh is shown on the 1845 Coastal Survey map (Fig. 21). It is the dotted area between the actual shoreline and the water. The flat coastal area continued eastward until approximately the line of present-day Hicks Street, where the upland began. There was also a rather large, steep-sided hill whose summit rose between Henry and Clinton Streets, south of Summit Street (Colton 1836). This hill was leveled during the development of the area in conjunction with the creation of the Atlantic Basin.

The course of the shoreline in the early 19th century and the episodes of filling, largely during the 1840s, that resulted in its present appearance, may be reconstructed by consulting city records, directories, secondary sources (histories), and historic maps. The 1836 Colton, 1845 Coastal Survey, 1855 Perris, 1846 Butt maps, and 1875-6 Board of Health map representing the "original high and low grounds..." as they existed in 1776-7 are very useful

in this regard (Figs. 20, 21, 22, 23 and 2; the evidence from street openings will be detailed in section 4, below).

The 1845 Coastal Survey map indicates that the original shoreline ran from just south of the foot of Atlantic Avenue at Furman Street to east of Columbia Street, then continued south, east of the line of Columbia Street, until just north of Degraw Street, where it swung out into a small spit of land before turning sharply east again. South of Degraw Street, there was an extensive marsh occupying the area approximately between later Hicks Street, which roughly marks the edge of dry land, and the later line of Columbia and Van Brunt Streets. The shoreline then continued further east, following the landward edge of the Atlantic Dock.

The 1855 Perris and 1869 Dripps maps, both more detailed than the 1845 Coastal Survey map, show that the shoreline originally ran east of the project site's block 281, east of Columbia Street. The 1836 Colton map shows that the blocks between Atlantic and Amity Streets were filled by that date. The shoreline continued south in a fairly straight line as far as Harrison (Kane) Street, where it swung out into a small point just south of the line of Irving Street. This is the point where the Red Mill once stood (see Chapter 4, below). The 1836 Colton map records a small inlet at Degraw Street, while the 1855 Perris shows a similar feature on the line of later Sedgwick Street. No roads have been traced west of the line of Columbia Street on the 1836 Colton map. From the inlet southward, the shoreline continued east of Columbia Street and the project site. Both the 1836 Colton and the 1855 Perris map show a promontory or shoals off the coast. On the earlier map, this sand bar or shoal is attached to the mainland by a very narrow spit at its southern end, as also on the map depicting the shoreline on the 1875-76 Board of Health map. The shoal extends northward approximately to the line of Irving Street. The tidal pond that it enclosed was known as "Cornets Mill Pond". With the possible exception of a small strip at the eastern end of Block 340, the shoal between Sedgwick and President Streets was not on the project site. On the 1855 Perris map, the spit of land has disappeared and the land directly south of it is also now divided up into a series of shoals or islands, both features no doubt resulting from coastal erosion. On a map of 1750, this offshore area was labeled "Flats", while the land at the shore was "Broken meadows".

The 1846 Butt map outlines streets that were not created or were differently configured: a Hale Street that was never built appears on the map, but Van Brunt Street does

not. Block 346 is shown bisected by the non-existent Hale Street. From these inaccuracies we may infer that the land south of Harrison (Kane) and west of Columbia Streets was not yet created. The map does show, in faint outline, the made land and piers between Atlantic Avenue and Baltic Street west of Columbia Street, as does the 1855 Perris map, much more clearly. This section, part of block 281 of the project site, was therefore probably built in the mid 1840s.

The 1849 Colton map indicates that the project site blocks 346, 340, and 334 were built a little later than the northern part of the project site, but they existed by 1849 and had been built upon by that date. Blocks 499 and 500, south of Hamilton Avenue, existed by 1849 too, but were still vacant. Block 281 was built up approximately between the mapped western end of Pacific Street to the end of Sackett Street west of Van Brunt, (see the tax map, Fig. 17, for the length of the street). Thus, all of block 281 had been created except for the actual piers beyond the inner edge of the present-day slips. Block 281, lot 62, is the only part of the project site that was still mostly under water, and remained so throughout its history.

As for the elevation of the project site and adjacent areas, in general, the land still slopes down quite noticeably towards the shore as one moves west from downtown Brooklyn along Atlantic Avenue. It also slopes down from north to south. The above-mentioned hill, located between Henry, Clinton, Summit and Rapelye Streets, seems to have been the closest elevated area to the project site that might have attracted Indians as a place for a look-out or fort. Slightly further away was the more famous "Cobleskill", near the intersection of Atlantic and Pacific Avenues and Court Street. This hill, which gave its name to the Cobblehill neighborhood, was used in the revolutionary war as an emplacement for the American's "Corkscrew Fort", one of a line of fortifications that extended from the Wallabout to the Head of Gowanus Creek (Stiles 1867, 252).

The earliest available elevations for the project site date to 1886 (Robinson). A comparison of these figures with those on later maps to the present time shows no appreciable variation except what may be expected from slight differences in the location where the measurement was made, or increases or decreases in the thickness of the street beds, where the heights were taken. Thus, as far as can be determined from the elevations and from the evidence of the historic maps, the landfill composing the project site blocks dates to the 1840s. Only the piers and the areas immediately adjacent to the slips were destroyed or

disturbed by changes in the configuration of the port area in later decades.

The Indians of the Archaic Period (ca. 8,000-1,000 B.C.) favored coastal locations on islands, at the head of estuaries, or by the seashore, particularly elevated, well-drained tracts of land. Marshlands, rivers and bays offered plentiful supplies of shellfish, fish and wild fowl. With the development of agriculture during the Woodland Period (ca. 1,000-1,600 A.D.) the Indians created large, permanent or semi-permanent palisaded settlements although they still traveled seasonally to their hunting or fishing camps on the shore, the latter identified by middens, huge piles of discarded shells. Their principal transport artery through Brooklyn ran a short distance north of the project site: for the Indians, as later for the Europeans, the principal landing place for river traffic was at the point which later became the pier of the Brookland Ferry, at the foot of Fulton Street. The route to the interior then ran along the line of later Fulton Street; further on, just east of Flatbush Avenue and across the Eastern Parkway to the Prospect Park reservoir (Armbruster 1919, 5ff.; Bolton 1922, 131).

At the time of the European conquest, the area of present-day downtown Brooklyn was settled by the Marechkawiek Indians, one of the Long Island Canarsee groups possibly related to Delaware subtribes (Bolton 1920, 271; Bolton 1922, 132). South of Wallabout Bay, a neck of land jutting into the East River was called the "Cape of the Marechkawiek" (Stiles 1867, 307), and the 1639 Manatus map shows a Marechkawiek longhouse in this area (Grumet 1981, 27). One of the Marechkawiek settlements was discovered in 1826 on a hill on Bridge Street between Front and York Streets in what is now the Vinegar Hill neighborhood (Bolton 1922, 133). Bolton suggested that another Indian settlement, called Werpos or Wopus, should be located near Warren and Hoyt Streets (*Ibid.*, 137). This site was at the head of an Indian path that later came to be known as Red Hook Lane, now, in its straightened form, Court Street (Bolton 1922, 137-138). Cropsey (1925) placed the longhouse buildings mentioned above at Borough Hall and Fort Hamilton, and noted an Indian village located near Lawrence and Jay Streets at Fulton Street. Stiles (1869, 35) reported that Indian artifacts were found "on the right of the Old Ferry". There are, however, no site reports to accompany any of these findings. The SHPO sensitivity map also records sites east and southwest of the Brooklyn Bridge, on or near the waterfront (Sensitivity map A0047-01-0074, A047-01-0179, A047-01-0102). Yet in their 1984 report on a site immediately south of the Brooklyn Bridge, Historical Perspectives consulted Solecki, who was then excavating in the

Fulton Ferry area and he stated that he had found no prehistoric remains (HPI 1984, 7).

There is evidence (above) that the water level was lower in prehistoric periods and that the coastline consequently lay further west than in historic periods. It is therefore possible that the area of the project site was not tidal, and aboriginal peoples might then have come here to collect and process shellfish, leaving shell middens behind. As stated earlier, however, these prehistoric remains, if present, would be below the present water table and only subject to negative impacts in the event of future excavation below the fill on the project site, or of dredging below the floor of the river adjacent to the project site. Clearly, the fill layer of which the project site is composed will not contain any *in situ* prehistoric traces and is therefore not considered sensitive for prehistoric archaeological remains.

4. HISTORICAL PERIODS

The area under review in this report, termed the “project site”, is located immediately south of the old village of Brooklyn, whose southern border lay along Atlantic Avenue, formerly District Street. This street was laid out in 1829, following Patchen’s Lane, a dirt tract that had existed since 1714 and was named after Ralph Patchen, who had a house and dock at the foot of the lane (Stiles 1870, 573, n. 1). In 1829, the South Ferry to New York began service from Patchen’s Dock, at the foot of the newly laid street, to Whitehall in New York. The original owners of the ferry did such a poor job, however, that under threats from disgruntled Brooklynites, they gave up their lease and the Corporation of Brooklyn took over in 1835. The city ran the operation for a few years before it was taken over by the Union Ferry Company (Stiles 1870, 543, 577, n. 1).

John Cornell, whose name appears on the 1855 Perris topographical map (Fig. 24), was one of the early owners of the area immediately east of the project site. His father, Whitehead Cornell, came to Brooklyn in the mid 18th century from Queens, bought up part of the Lubbertson patent (roughly present-day Red Hook), and further expanded his holding through marriage into the Seabring family. He then expanded his holdings by acquiring the remainder of the Seabring estates on the shore, including the area east of the project site. His son John inherited 60 acres including the old Seabring mill (Bergen 1750). Solecki (1984, 12) puts this mill, known as the Red Mill, on the point south of Butler Street (now Harrison Street) near where Irving Street would later be built (Fig. 20). This was east of the project site, which did not yet exist.

The history of the project site itself, which is composed of made land, does not begin until after the creation of the City of Brooklyn in 1834 and the establishment of the 6th ward, in which the project site is located. The ward boundaries ran from the Gowanus Creek “...west along to the bay to the west side of Red Hook then east along the bay and the East River to the west side of the Village of Brooklyn to District Street”.¹ The streets were laid out by the Commissioners in the following year, although most of those traversing the project site were not built until the later 1840s (Brooklyn C.C. 1870, 27ff). Columbia Street was paved

¹ Brooklyn C.C. 1870, 108, from Acts of the Legislature of New York State, Apr. 1, 1834, Ch. 92, p. 90, Sec. 2.

between Kane and Union Streets in 1846, and from Union Street to Hamilton Avenue in 1847 (Stiles 1867, 20). Degraw Street was graded and paved in 1848 and Irving, Sedgwick and Warren Streets in 1852 (Ibid.). The principal property owner on block 334, Anson Blake, was one of those responsible for grading and paving President Street in 1846 (*Brooklyn Eagle* 1846). A street car ran along Columbia Street; its tracks were still visible in Stiles' day (1867, 20).

There was also a street railway on Atlantic Avenue. In 1834, the Brooklyn and Jamaica Railroad Company built a road from the East River along Atlantic Avenue to Jamaica, but leased its road to the Long Island Railroad in 1836 (Atlantic Avenue 1897, 214). The terminal building of the Long Island Railroad was located at the northern end of the project site on Atlantic Avenue (block 281, lot 1, old block 4). The L.I.R.R. was given the authority, in 1844, to construct a tunnel through Atlantic Avenue -- the oldest subway in the world, according to some (Atlantic Avenue 1897, 177). Stiles (1867, 15) thought that the dirt from the excavation was probably dumped at the end of Atlantic Avenue and contributed to the filling of the former cove between Atlantic Avenue and Joralemon Street. The Atlantic Avenue tunnel was eventually closed in 1859 because of protests by real estate owners along its route, and the steam railway was removed after 1861 (Atlantic Avenue 1897, 177, 197, 215). As part of the agreement, the company was required to restore the street to its proper grade and to move its terminus to Hunter's Point.

The cross directory in the 1842 *Brooklyn Directory* reveals that the lots on the west side of Columbia Street between Atlantic Avenue and Amity Street were occupied by that date (block 281, lot 1). This land was probably made in conjunction with the creation of Atlantic Avenue, and is shown already on the 1836 Colton map. The short list of residents and the presence of lumber yards between Atlantic Avenue and Pacific Street, and a livery stable between Pacific and Amity Streets, however, indicate that these blocks were not yet densely built up. The directory also confirms the absence of residents on any of the other streets on the project site, and only Pacific Street, Amity Street and Baltic Street are noted as open up to the East River.

One of the principal developers of south Brooklyn was Colonel Daniel Richards. A member of the produce commission, and with experience in the transportation business, he arrived in Brooklyn in 1832. In 1839-40, Richards planned the Atlantic Docks -- based on the

Liverpool docks in England -- on forty acres of land at the foot of Hamilton Avenue. The Act of Legislature that established the Atlantic Dock Co. authorized not only the creation of the basin and surrounding wharves, piers and bulkheads, but the building of “foundries and warehouses for commercial purposes” as well (Brooklyn C.C. 1870, 114, May 6, 1840, Ch. 215, 0. 164). At Red Hook, Daniels was also responsible for building the first grain elevator in New York port (Stiles 1870, 577, n.1). Construction of the Atlantic Basin began in 1841 with labor provided by the Irish immigrants who arrived en masse during the 1840s and settled in the newly constructed housing in the area. As noted above (Chapter 3), the shoreline consisted of salt meadows and marshes and the land chosen by Richards for the basin was almost wholly uncovered at low tide (Stiles 1870, 575, n. 2). The materials produced by the dredging for the basin, as well as earth from the leveling of hills adjacent to the port, were used to fill the marshes all around it, and so link the port to the rest of the developed part of the city (Stiles 1870, 577, n. 1). Red Hook Hill, which seems to have been the name of the eminence immediately southeast of the project site between Henry and Clinton Streets and south of Summit Street, was “fast passing away” in 1851, according to an article in the *Star* (quoted in Stiles 1869, 291). The earth from dredging and leveling was also used in the creation of the wharves, which were constructed of stone-filled cribwork, as were no doubt all the old wharves in the project site area. The land was built out into the river far enough to provide a sufficient depth of water for ships to moor at the piers (Ibid.).

The filling of the project site area and its development was a direct result of the creation of the Atlantic Basin, which was completed in 1850. By this date (Dripps), all of the project site blocks had been created. The first warehouse at the Atlantic Basin was built in 1844; during the last years of the 1840s, some seven hundred buildings were erected in the 6th ward (Stiles 1867, 16; Stiles 1884, 633). Buildings on the newly created project site blocks are no doubt included in this number. In 1847, Daniel Richards “and Others” who owned the land fronting on the water in the sixth ward, were authorized by an act of the State Legislature to “erect, construct and build docks, wharves, bulkheads, piers and basins on the land under water in front of their lands” (May 5, Ch. 202, p. 194, Brooklyn C.C. 1870, 115). This act includes part of the project site.

Some of the other “water lots” making up the project site were conveyed to the following individuals (Brooklyn C.C. 1870, 173):

H. Alexander Jr., from the center of Union to the center of Summit Streets (blocks 340, 346, 499 and 500) March 11, 1847 (Lib. H., p. 334, Lib. 163, p. 380).

Anson Blake, the lot bounded by Union and Sackett Streets (block 334) July 31, 1854 (Lib. I, p. 213, Lib. 374, p. 236).

John Laforge, the lot bounded by Columbia Street from the center of Warren Street to a line North of Congress Street, 258 feet 8 inches in point on Columbia Street (part of block 281, lot 1, old lot 1 and part of old 2); February 21, 1851 (Lib. H. p. 546, Lib. 242 p. 389, April 14, 1851);

George Wood, W.F. Haveymer and F.C. Haveymer, the "water lot between the center of Baltic Street and a line 130 feet south therefrom and parallel therewith" (part of block 281, lot 1, old block 19), May 10, 1850, (Lib. H, p. 469, Lib. 217, p. 217).

The reader will note in the catalogue, (Part II of this report), that the earliest preserved tax assessments record the fact that a number of lots on the project site blocks were owned by the same individuals, who evidently purchased them as an investment. One of the major speculators of properties in the project site area was Anson Blake, who bought up the old farms in the 1830s (*Brooklyn Eagle* 1896). His offices were on Atlantic Street at the corner of Columbia Street, and at the "end of Columbia near Union" (Brooklyn Directory 1850). Anson was President of the Dutchess County Insurance Company (*Brooklyn Eagle* 1849). In the tax assessments, we find Blake's heirs listed as the owners of much of block 334, since Anson died in 1868 (*Brooklyn Eagle* 1896).

By 1855, the project site had been developed for residential uses in some areas, especially on blocks 334, 340, 346, 499 and 500 but also, to a lesser degree, in the more heavily commercial areas bordering the piers on block 281, lot 1. Lot 62, on block 281, was never completely filled. Only its southern edge was made land. There was a wharf and piers, and a ferry service ran from here to New York until between 1950 and 1969 (Sanborns). In the 19th century, the property was occupied by the Hamilton Ferry, one of the lines owned by the Union Ferry Co. This firm was incorporated in 1854. It was formerly known as the Union Ferry Company Association (1851-1854) and before that, the Brooklyn Union Ferry Company (1844-51). In 1855, three ferries ran daily to Whitehall between 4:30 a.m. and midnight (Record 1855, 83). Some of the buildings shown on the detailed 1855 Perris map can be traced back to 1850, by comparing the configuration of buildings on the blocks to

those depicted on the smaller scale Dripps map, which shows no addresses or lot numbers, or the material of the buildings (frame or brick), as the Perris does. Thus, the oldest buildings on the project site date at the earliest to the late 1840s, with the majority erected between 1850 and 1855. These stores and houses were without either water or sewage facilities: the Brooklyn directories of the 1840s and 50s list the addresses of public cisterns, but there were none located anywhere near the project site, and sewer service was not available until ca. 1860.

Discussions about the city's poor water supply and plans to improve it began in the early 1850s (Jarvis and Burnett 1852). In 1855, the Nassau Water Company was incorporated and proceeded, in the following year, to begin excavation of a reservoir in what is now Prospect Park (Stiles 1869, 422). The company evidently also began laying pipes in the late 1850s in anticipation of the forthcoming water supply, including in the streets in the project site area, several of which date to 1857 or 1858. In December 1858, water was introduced into the city mains, and public cisterns are no longer listed in the Brooklyn City Directory of 1859-60 (Manufacturers 1886, 60-61; Stiles 1869, 429). Residences and businesses "began at once" to benefit from the new water system, something that would only have been possible, of course, if the pipes were already in place (Stiles 1869, 430).

As for sewer service, a Board of Sewer Commissioners was constituted in April 1857 "to devise and carry into effect a plan of drainage and sewerage for the whole city [of Brooklyn]" (Stiles 1869, 428). The city council had already authorized the construction of sewers on main thoroughfares in the early 1850s, but these were meant exclusively to carry storm water and were not part of an overall sewer system (Goldman 1988, 141). Some five and a half miles of storm sewers had been laid by 1857 (Union 1899, 227). The plan for a sewer system was adopted immediately after the introduction of the water supply, i.e. in 1859 (Goldman 1988, 140). Unfortunately, the first three volumes of the sewer connection records for Brooklyn are lost and we therefore do not know the exact dates or locations of the first connections. The earliest preserved volume of permits, recorded in Book 4, date to 1867. We presume that volume 1 should be dated from ca. 1860 into the early 1860s, with books 2 and 3 dating to the early to mid 1860s.

The area of project site block 281 now included in lot 1 was formerly divided up into ten blocks bordered by the streets that today stop at the east side of Columbia Street but

formerly continued west of it. The following discussion of some of the early commercial uses of this part of the project site uses the old block and lot numbers as they first appear on the 1880 Bromley maps (Figs. 33, 34, and 35). From north to south, the old block numbers west of Columbia Street were: old block 4, between Atlantic and Pacific Streets; old block 3, between Pacific and Amity Streets; old block 2, between Amity and Congress Streets; old block 1, between Congress and Warren Streets; old block 20, between Warren and Baltic Streets; old block 19, between Baltic and Kane Streets; old block 33, between Kane and Irving Streets; old block 34, between Irving and Sedgwick Streets, old block 35, between Sedgwick and Degraw Streets, and old blocks 47 (west) and 47A (east) between Degraw and Sackett Streets. These ten old blocks were dominated by the massive warehouses and grain elevators that stood at the foot of the piers. There were also industrial uses -- principally coal and lumber yards, and lime kilns -- and commercial uses, with most of the buildings on these blocks containing stores, at least on the ground level. These may also have had dwellings on the upper stories. Buildings identified as dwellings rather than stores, on the 1886 and later Sanborn maps, were less numerous on these old blocks. On the remaining project site blocks, 334, 340, 346, 499 and 500, residences were more common, although commercial uses, including hotels, were the most frequently noted on the insurance maps. There were also some industries, such as a chemical manufacture on block 334.

Brooklyn's port offered a great advantage over the facilities at New York in that cargoes could be unloaded directly into the warehouses located at the foot of the piers and so save shippers the expensive cartage fees that they had to pay on Manhattan (Stiles 1870, 574). The 1850 Dripps map, published only a few years after the project site area was created, already depicts two large buildings on block 281, lot 1, between Congress and Baltic Streets, at the end of old blocks 1 and 20. The first detailed maps of the area, the 1855 Perris and 1860 Provision Stores maps, show how the warehouses by then dominated project site block 281, lot 1 (Figs. 26, 27, 28, and 29). Woodruff and Robinson's stores on old block 1, between Congress and Warren Streets, handled sugar, guano, fish, and other products (Stiles 1870, 575). According to Stiles, their dock could accommodate as many as twenty ships, with ten able to discharge their cargoes simultaneously (Ibid.) The Baltic Stores, on old block 19, carried sugar, salt, rags, and wool, and the Union Stores, on old blocks 33 and 34, sugar, molasses, coffee, and other products (Stiles 1870, 575). In the late 19th century, the Brooklyn

warehouses handled 90% of raw sugar and molasses imports (Stiles 1884, 633).

These businesses were also often the principal property owners on the old blocks where their warehouses were located, as revealed by the slightly later tax assessments (1869-1873). The principal names associated with the warehouses on the project site were David Dows, Jeremiah P. Robinson, A. Woodruff, Charles Kelsey and J.S. Ward.

Kelsey & Loughlin were dealers in coal and wood with offices at 27 Atlantic Street (Manufacturers 1870, 118). Their coal depot was at Nevins Street on the Gowanus Canal. The company was founded in 1847 as W. & C. Kelsey, with Loughlin, an Irishman from Brooklyn, joining in 1866.

The firm of Dows and Cary, founded by David's brother John, was the principal supplier to the Union army during the Civil War and reputedly saved the government a great deal of money on its transactions (*Brooklyn Eagle* 1890). In 1865, under the direction of David Dows (1814-1890), who became sole proprietor in 1854, the firm built the Columbia Stores on old block 4 at the foot of Atlantic Street. According to Dows' obituary (*Brooklyn Eagle* 1890), "this was the first major grain store on the Brooklyn piers and began the transformation of the area into a major grain-shipping center". David Dows & Co. also owned the Pacific Elevator on old block 3. Dows' obituary observed that when he died, the flags at all the New York City exchanges were hung at half-mast (*Brooklyn Eagle* 1890).

Jeremiah P. Robinson (b. 1819) was another of Red Hook's great developers. He designed and built the Erie basin and adjoining basins, piers, and warehouses, together with Franklin Woodruff and William Beard. Robinson began his career working for the firm of E.P.A. Woodruff, jobbers in fish, salt and provisions. He soon made partner (Stiles 1884, 638). After E.P. Woodruff died, the firm was renamed A. Woodruff & Robinson. The owners began acquiring and improving property on the waterfront in 1843, and went into the warehousing business, becoming "pioneers in this line" (Ibid.). Franklin Woodruff (1832-1898), a younger contemporary of Robinson, entered the firm in 1850 and became a partner in 1858 (Stiles 1884, 642; *Brooklyn Eagle* 1898). The firm was dissolved when he withdrew in 1875, but the Robinsons: Jeremiah P, the senior member, his brother, George C. and his son, Jeremiah A. Jr., continued to run the business in the same locations. In 1873, their warehousing business was said to be the largest "on the Brooklyn shore", with several million in invested capital (*Brooklyn Eagle* 1873).

William Beard was an Irish immigrant who became a successful builder and railroad contractor. In addition to helping develop the Brooklyn piers in Red Hook, he also promoted the transformation of the Red Hook marshlands into Erie Basin by using ballast from European vessels for landfill -- and charging the ship owners fifty cents per cubic yard for the privilege of dumping it there (Stiles 1870, 580, n. 1; Stiles 1884, 638). After 1868, Beard built the massive brick warehouses of the New York Warehouse Co., and the Brooklyn Wharf & Warehouse Co., on old blocks 4, 3, 2 and 1. These handled international shipments and those from the American Midwest, and sent goods up the Hudson to the Erie Canal. At its height, after consolidating eighteen other firms under The Brooklyn Wharf and Warehouse Co.'s direction, the company owned two hundred sixty four brick warehouses, a waterfront of 14,599 feet, and 44 piers (*Brooklyn Eagle* 1894).

J.S. Ward & Co., whose stores stood on old block 47, was founded in 1834. An article in the *Brooklyn Eagle* (1872) describes the building as "of the most substantial character, being required to sustain an immense weight of provisions". Ward specialized in salt beef and salt pork sent from Cincinnati, Chicago and the west. The warehouse must have contained work areas such as tables, vats and the like, as well as space to store the thousands of bushels of salt required each year, since the incoming barrels of meat were unpacked, inspected and sorted according to quality, then resalted and repacked on these premises (see Fig. 35, "Provision inspection Warehouse"). Some 150,000 barrels were received annually, with an average value per barrel of \$20. Thus, the gross annual value of goods handled by J.S. Ward & Co. was in the neighborhood of \$3,000,000. The warehouses on the north side of Degraw Street, opposite J.S. Ward & Co. were also initially used by meat packers, but according to the same 1872 article in the *Brooklyn Eagle*, the United States Warehousing Company already occupied the premises, in spite of the legend on the 1880 Bromley map (Figs. 35 and 41).

The United States Warehousing Company was a warehouse where grain was cleaned, weighed and stored. A grain elevator on the dock, powered by a three hundred horse power engine, was used for offloading and loading cargo between the ships and the warehouse. The building itself was also a sturdy construction,

...entirely of iron and brick, 120 feet square and 100 feet high. Iron columns extended from the ground to the roof, and the brick work partly encloses them, forming a compact fireproof building. Instead of the ordinary wooden bins on

successive floors for grain storing there are 162 cylindrical columns, 50 feet deep, open at the top, and with small openings or trap doors at the bottom to draw the grain out. (*Brooklyn Eagle* 1872)

There was no wood used at all, only iron, for all the interior bins and piers, etc., which were supported on granite foundations on piles, “driven as hard into the earth as possible” (Ibid.). The weight of the grain when the bins were full – without the weight of the architecture-- was about 15,000 tons. Evidently, the operation was considered state-of-the art both as far as the grain storage was concerned, as well how it was moved, entirely “by machinery of the most improved kind” (Ibid.).

The massive old warehouses, grain elevators and the machinery connected with them no longer survive. Indeed, there is no trace of the old piers themselves. They were dismantled after 1950, and the present piers and slips are configured quite differently from what one sees on the 19th century maps. Only the area at the foot of the piers, between Columbia Street and the inner edge of the slips, has not been impacted by the many building episodes that altered the piers and slips over and over in the second half of the 19th and early 20th centuries. The area at the foot of the piers, as well as on blocks 334, 340, 346, 499 and 500, was occupied by stores, a few dwellings, the warehouses, and various buildings used for light industry, through the first half of the 20th century. Its complete transformation from a densely built up area to a largely vacant tract occupied by paved parking and loading areas and various pier sheds, occurred during the 1950s and 1960s, as indicated by the Sanborn maps.

5. LOT HISTORIES: EVALUATION OF ARCHÆOLOGICAL SENSITIVITY

The catalogue in Part II of this report details all the information gleaned from the historic maps, tax assessments and sewer records, and serves as the bibliography for this section.

Block 281

Lot 62

Lot 62 is mostly underwater. It consisted of a wharf and piers. The area of the wharf still exists; the piers do not (Fig. 4). The first map that shows a wharf and pier here is the 1869 Dripps map (Fig. 25), but it is known that the Hamilton Ferry Company was already running ferries to Whitehall from the foot of Hamilton Street in the 1840s, and some kind of docking facilities must have been built by that time (see p. 24, above). Lot 62 included a small, rectangular area at the western end of old block 47, now mostly under water, that was formerly occupied by the coal shed of the Union Ferry company and its coal conveyors (1886 Sanborn). The area where the ferry house once stood is probably also under water, and the remaining portion of the block, along the water's edge was formerly the road called "Ferry Place". *This lot is not considered archaeologically sensitive.*

Lot 1

This large lot comprises the piers and adjacent parking lots and loading areas around them. The east border of the site extends southward from Atlantic Avenue on Columbia, Street as far as Kane Street, then turns west on Kane Street until Van Brunt Street, then continues south on Van Brunt Street to Sackett Street, which is the south boundary of the lot. For clarity's sake, the following discussion of lot 1, and the corresponding presentation of the data in the catalogue, have been divided up into its former ten blocks, with the lot numbers as shown on the 1880 Bromley maps. The early block numbers remained the same but the lot numbers have changed over time, so the reader should refer to the 1880 Bromley maps for the location of the lot numbers referred to below.

We may immediately eliminate from consideration the piers themselves, as these are modern constructions dating to the 1960s. They replaced the old piers, which were demolished after undergoing a series of transformations during their lifetimes. The area of concern lies therefore between Columbia Street and the foot of the piers. Note that Columbia Street will be widened on its west side, taking in 35 feet of the east, paved side of lot 1. This area may however still be subject to future impacts arising from excavations for utilities. It will be seen that lot 1 was largely built up with warehouses, although there are some rear yards, not impacted by subsequent construction and associated with early dwellings or stores, which are considered archaeologically sensitive for remains of privies and cisterns. The west-east streets that appear on the historic maps and on the current tax maps of block 281, lot 1 are no longer visible west of Columbia and Van Brunt Streets because they have been subsumed into the open paved areas that make up most of the eastern part of lot 1. These streets have never been built upon to the present time and are considered sensitive for remains of early water pipes. The proposed changes to the city map affecting this block and lot were detailed in Chapter 2, above.

The old blocks of lot 1 are as follows:

Old block 4 was between Atlantic and Pacific Streets, west of Columbia Street.

Old block 3 was between Pacific and Amity Streets, west of Columbia Street.

Note that old blocks 4 and 3 are now one continuous area forming pier 7, which extends from Atlantic Avenue on the north to the slip whose northern edge follows the former north side of Amity Street.

Old block 2 was between Amity and Congress Streets, west of Columbia Street. It is now mostly occupied by the slip between Piers 7 and 8.

Old block 1 was between Congress and Warren Streets, west of Columbia Street.

Old block 20 was between Warren and Baltic Streets, west of Columbia Street.

Old block 19 was between Baltic and Kane (formerly Harrison) Streets, west of Columbia Street.

Old block 33 was between Kane and Irving Streets, west of Van Brunt Street.

Old block 34 was between Irving and Sedgwick Streets, west of Van Brunt Street.

Old block 35 was between Sedgwick and Degraw Streets, west of Van Brunt Street.

Old blocks 47 (west) and 47A (east) are between Degraw and Sackett Streets, west of Van Brunt Street.

Old block 4

Between Atlantic Avenue and Pacific Street - Figs. 17, 25, 26, 33, 39, 44, 50, and 55.

The Sanborn maps (1939, 1958) record the presence of two water pipes in Pacific Street one of which dates to 1858, making it among the earliest of the water pipes installed by the Nassau Water Company. The area of Pacific Street is therefore considered archaeologically sensitive for remains of this historic water supply system.

The 1841-42 reverse directory lists D.B. Keeler and A.P. Ostrom lumber yards on the west side of Columbia Street between Atlantic and Pacific Streets. On the south side of Atlantic Avenue (then Atlantic Street) were the Railroad Office; N. Pettit's grocery; Wm. H. Terry; J. Renie's south Ferry & R.R. Inn; Henry W. Smith; George Dowling, James Oakley's Jamaica hotel; Jacob B. Walter's Rising States Hotel, and James Stoddart, Jr.

In 1855, the Long Rail Road Depot was situated at the foot of Atlantic Street at the northwest corner of old block 4 and on its old north pier. The old depot, shown on the Perris map, became an "eating house and clothing store" that in 1890 was owned by Mrs. Mulford Martin (*Brooklyn Eagle* 1890C). There were three brick and one frame building on Atlantic Avenue; three brick buildings on Columbia Street, including the one on the corner, and three small frame buildings further south, also on Columbia Street. By the end of the 1860s, if not earlier, the two small piers that had formerly stood at the west end of the block were built out or replaced by a much larger structure. This was occupied by David Dows & Co. Columbia Stores, built in 1868. The small buildings on the northeast side of the block, identified as stores on the 1886 Sanborn map, still stood, but the southern half was already largely torn down and by 1880, with the exception of some brick buildings on Columbia Street, there were only sheds here. The large brick warehouse building survived until between 1904 and 1915, when it was reduced to only its eastern third. The rest of its former area was replaced by a pier shed that extended to the end of the pier and was initially occupied by the Sicola Americana S.S. Co. Pierce Line, then by the New York Dock Co.'s Bull Steamship Lines. By the 1939, only the buildings near the corner of Atlantic Avenue and Columbia Street still survived, with

most of the rest of the area used as a parking lot.

Since sewer service was not available until ca. 1860, lots shown to have been occupied by frame or brick buildings on the 1855 Perris map could potentially be sensitive for the remains of a privy, unless it can be demonstrated that their backyard areas were impacted by subsequent construction. Thus, the history of each of the lots shown to have been already built up on the 1855 Sanborn map was carefully traced and is detailed in the catalogue. It was found that no portion of the yards of these early stores or dwellings had not been impacted by later building episodes and consequently, *no part of old block 4 is sensitive for archaeological remains. But the bed of Pacific Street, as note above, is considered archaeological sensitive for potential archaeological remains of early water pipes.*

Old block 3

Between Pacific and Amity Streets – maps, Figs. 17, 25, 27, 33, 39, 44, 50, and 55.

The 70-foot-wide Amity Street contains a six-inch water pipe installed in 1858. This is among the earliest pipes in the area's water supply system and therefore of historic significance. Thus, the former street bed of Amity Street is considered archaeologically sensitive.

The eastern end of the block was developed by 1841-42, since there are individuals listed on the west side of Columbia Street, between Pacific and Amity Streets in the 1841-42 reverse directory: M. Cole, E. Cole; J. Campbell, J. Riley, P. Murray, livery stable, and J. Fagan and Mrs. McGuire.

The eastern end of the block was first developed with brick and frame buildings, some of which were probably also used as dwellings, as well as with commercial or industrial structures such as a lime and brick yard on the north side of the block and lime kilns on the south side. Around 1860, the northwest corner of the block was occupied by a coal yard. These industries disappeared during the 1870s. Most of the rest of the block in 1855 was taken up by identical rows of six brick buildings facing each other, either side of the twenty-foot wide Kelsey Alley that ran east-west from Columbia Street to the end of the made land, down the middle of the block. Either side of the buildings at the opening of the alley, on Columbia Street, were another large brick building at the corner of Pacific Street, and three

small frame buildings, with yards, near and at the corner of Amity Street. Three brick buildings on Pacific Street were followed by a lime and brick yard with frame buildings at the foot of the north pier. There were five frame buildings on Amity Street and a brick building containing four lime kilns near the foot of the pier, as well as half a dozen frame buildings on the wharf. Since these buildings existed before sewer service was available, it is possible that those that had rear yards may also have had cisterns and privies. Examination of a long series of historic maps, however, revealed that at one point in time or another, each of the former backyards was impacted by subsequent construction. They are therefore not considered sensitive for archaeological remains.

There were originally two small piers at the end of this block but during the 1860s they were transformed by the addition of a new section in the middle that united them into one much larger structure, with a long, narrow pier extending into the river. By 1869, like the pier building on old block 4, the large structure erected on the pier was owned by David Dows & Co. The brick building, a grain elevator, extended to Columbia Street over the area formerly occupied by Kelsey Alley and the brick buildings on it. Between 1915 and 1939, the grain elevator was converted for the premises of the New York Dock Co.'s Bull Steamship Lines.

By 1886, most of small buildings on the Pacific Street side of the block were built over by the office, engine room and boilers connected with the grain elevator, while the west half of the Amity Street side was built over by frame structures, first occupied by Canda & Kane Storage and later by the American Ice Company. Between 1915 and 1939, the remaining areas where the earlier frame and brick buildings had stood, at the corner of Columbia and Pacific Streets and on Amity Street to the corner of Columbia Street, were built over by an extension of the huge pier building and a warehouse for paper and twine storage, respectively.

Because of negative impacts from subsequent building episodes, no part of old block 3 is considered sensitive for archaeological remains, but the former bed of Amity Street is considered archaeologically sensitive for early water systems.

Old block 2

Between Amity and Congress Streets - Figs. 17, 25, 27, 33, 39, 44, 50, and 55.

The sixty-foot wide Congress Street contains an 1857 water pipe that may be impacted by possible future excavation for utilities. The pipe belongs to the earliest city water system installed in the area and is therefore of historic significance. Thus, the former street bed is considered archaeologically sensitive.

The 1855 Perris map shows the northeast corner of old block 2 fronting on Columbia and Amity Streets occupied by Osman and Phyfe lumber yard. There is only a small, brick office building on the corner and a second, small building further south, on Columbia Street. On the southeast corner of the block was Walter & Broker Coal Yard, with a small frame building on Columbia Street and a store approximately one-third of the way up the block, on Congress Street. That building adjoined a large, frame structure, probably a storage shed, either for the coal and lumber yard, or for the iron yard immediately west of it on Congress Street. The area west of Osman's and including part of the yards south of it, to the end of the built-up area, is now part of the slip between piers 7 and 8. In 1855, Woodruff & Robinson's storage warehouse stood at the western end of old block 2. This building was back-to-back with the brick building of Barber's Beef & Pork Packing Establishment at the northwest end of the block. East of the packing house, on Amity Street, was "Vorhies & Spencer Lime & Brick Yard", with a large frame building, an empty yard, and a second shallow frame building along the street. The 1869 Dripps map preserves the notation "A. Woodruff and Robinson's", and shows two, instead of one, pier at the end of the block. The entire area of old block 2 was completely built over by 1880 by the brick structure of "Robinson's Stores". The warehouse was owned or operated in turn by the Brooklyn Wharf Warehouse Company, the New York Dock Co., and the Amity Street Stores. By 1939, the area had been divided up between garages, a hauling firm, and the N.Y. Dock Co. Between 1950 and 1969, old block 2 was removed and the current configuration of piers and slips created. Except for a small area at the eastern end of the old block that was first occupied by coal and lumber yards, none of the old block still exists: it is now the slip between piers 7 and 8.

Old block 2 is therefore not considered sensitive for archaeological remains, but Congress Street is considered archaeologically sensitive for early water systems.

Old block 1

Between Congress and Warren Streets, west of Columbia Street - Figs. 17, 25, 27, 34, 39, 45, 51, and 56.

The fifty-foot wide Warren Street, not currently mapped west of Columbia Street, contains a six-inch water pipe installed in 1860. This is among the earliest of the water pipes installed by the Nassau Water Company and therefore of historic significance (for Congress Street see above, under old block 2). *The area of Warren Street is considered archaeologically sensitive for early water systems.*

Woodruff & Robinson Storage Ware House, which by 1880 took over most of the area of piers 7, 8 and 9A – old blocks 4, 3, 2, 1, 20, 19 and 33 -- was already established by 1855 in a brick structure occupying approximately the westernmost third of old block 20. The area of the Iron Yard and its few associated stores and sheds immediately east of Woodruff's, on Congress Street, disappeared under the much enlarged brick store that the company erected by 1880, as did Mills Coal & Coke Yard, on Warren Street. The rest of the block, in 1855, was occupied by both brick and frame buildings. Those on Columbia Street all had yards except for the brick building at the corner of Warren Street, which occupied its entire lot. *Of these old lots, numbers 23, 24, 26, 28, 29, 30, 31, 35, 37, 39, and 40, as numbered on the 1880 Bromley map, have not been impacted by subsequent construction and are considered archaeologically sensitive for a cistern and / or privy.*

The three story brick dwelling on old lot 23 was erected by 1855 but was connected to the sewer system only in the late 1860s. the three-story building that stood on the lot ca.1869-1873 belonged to John M. Lerman. In 1915, a one-story brick shed was erected on the rear of the lot, leaving uncovered all but approximately fifteen-feet of yard in the middle of the lot. The rear of the building was not impacted, and we can not eliminate the possibility that the center of the area may have contained a privy. *Old lot 23 is therefore considered archaeologically sensitive for a cistern and a privy.*

The four story dwelling on old lot 24, also belonging to John M. Lerman in 1869-1873, was erected by 1855 and connected to the sewer system in the late 1860s. Aside from a couple of narrow sheds, neither the rear of the house, nor the rear of this yard was impacted by subsequent construction. *Old lot 24 is therefore considered archaeologically sensitive for*

a cistern and a privy.

The twelve-foot deep yard behind the four-story brick store on old lot 26 could conceivably have accommodated a privy. Like its neighbor on old lot 25, it was built before 1855 but not connected to the sewer system until the late 1860s. In 1869 to 1873 it too belonged to Lerman (1869-1873). ***Old lot 26 is therefore considered archaeologically sensitive for a cistern and a privy.***

Although a frame shed was built at the rear of old lot 28 by 1886, this still left an approximately seventeen foot deep yard between the shed and the two story store that had stood on the front of the lot since at least 1855. It is possible that the U.S. Government Weighing Station overlapped part of this area. But enough of the yard area remained free of negative impacts to have preserved a privy. There is no record of a sewer connection for this property. The reading of the first owner's name, from 1869 to 1873, is uncertain: possibly B. Mabee. ***Old lot 28 is therefore considered archaeologically sensitive for a cistern and a privy.***

Old lot 29 had a frame building on the front of the lot by 1855. There is no sewer connection record for this property. It was owned by Charles O'Neil in 1869-1873. Except for a narrow shed along the rear lot line and the possible impact of the U.S. Government Weighing Station, which partly overlapped the center of the lot, enough of the original yard remained free of subsequent buildings so that a privy, if present, could have been preserved. The rear of the house was also not impact by subsequent construction. ***Old lot 29 is therefore considered archaeologically sensitive for a cistern and a privy.***

By 1855, there was a frame building on the front of old lot 30. The owner in 1869-1873, Charles O'Neil, connected the property to the sewer system in 1873, some twenty years after the first building was erected. The building was either enlarged or replaced by a much longer structure by 1886, but the rear portion of the yard was not impacted by subsequent construction. ***Old lot 30 is therefore considered archaeologically sensitive for a privy.***

A second property of Charles O'Neil (1869-1873), old lot 31, had a brick building on the front of the lot by 1855. He connected it to the sewer system in 1873. Neither the rear of the building, nor most of the yard were impacted by subsequent construction. ***Old lot 31 is therefore considered archaeologically sensitive for a cistern and a privy.***

Old lot 35 was developed with a brick building by 1855. The 1886 Sanborn map

records it as a dwelling. Woodruff and Robinson connected the property to the sewer system in 1868. At that time, there was a two-and-a-half story building with basement on the lot. There is a second recorded connection for this lot in 1908 naming the same firm. Woodruff & Robinson owned the property in 1869 to 1873. The occupants of the building in the 1850s may well had a cistern and privy which, if present, will not have been impacted by subsequent construction episodes. ***Old lot 35 is therefore considered archaeologically sensitive for a cistern and a privy.***

Old lot 37 had frame buildings on the front and rear of the lot by 1855 but the property was not connected to the sewer system until 1868, by Woodruff & Robinson. The owner in 1869-1873 is listed as Mathew Murphy. The 1886 Sanborn records the building as a three story dwelling. The earliest residents may well have built a cistern and privy in their yard, which, if present, will not have been impacted by subsequent construction episodes in this part of the lot. ***Old lot 37 is therefore considered archaeologically sensitive for a cistern and a privy.***

Old lot 39 had a frame building on the lot, probably used for some industrial purpose from at least 1855. By 1880, this structure was replaced by a brick building. The yard was never built on, aside from a small one-story building at the rear of the lot, along the lot line, and there is no record of a sewer connection before 1907, by J. Gaffney. The earliest listed owners were Woodruff & Robinson, 1869-1873. There is a possibility that a privy once existed in the yard, in which case it will not have been impacted by subsequent construction. ***Old lot 39 is therefore considered archaeologically sensitive for a privy.***

Old lot 40 was not developed until after 1855, but before 1869. There is no sewer connection record, however, until John Breman in 1908. The earliest owners of the property were once again Woodruff & Robinson in 1869-1873. There is certainly ample time and space for a cistern and a privy to have existed at the rear of the old building and in the yard of this lot, and in the absence of later building episodes, the remains of the privy shaft could have survived. ***Old lot 40 is therefore considered archaeologically sensitive for a cistern and a privy.***

The remaining old lots of old block 1: 21, 22, 25, 27, 32, 33, 34, 36 and 38 are not considered sensitive for archaeological remains either because they were in time completely built over, or because they were not developed prior to being connected to the sewer system.

The two-story building on old lot 21, owned by Margaret Green in 1869-1873, was connected to the sewer system by B. Green in 1870. Between the existence at various times of a building in the rear half of the lot or at the rear lot line, and additions at the rear of the front building, no part of the old lot was not eventually built upon. ***Old lot 21 is therefore not considered archaeologically sensitive.***

Old lot 22 was not developed until after 1869, by which time it was connected to the sewer system. The names associated with this lot in the sewer connection records and tax assessments are unfortunately not legible. ***Old lot 22 is therefore not considered archaeologically sensitive.***

Old lot 25 had a brick building on it by 1855 that was connected to the sewer system in the late 1860s. It was owned by Mr. Lerman in 1869-1873. The 1903 Hyde map shows that by that date a one story addition had been erected that completely covered the former yard area of this lot. ***Old lot 25 is therefore not considered archaeologically sensitive.***

Old lot 27 had a frame building on the front of the lot by 1855. In 1869-1873, the property was owned by James Hughes, who connected it to the sewer system in 1870. Either by 1880, or between 1880 and 1886, a brick building was erected on the lot that completely covered the former yard. ***Old lot 27 is therefore not considered archaeologically sensitive.***

Old lot 32, Charles O'Neil's third property on this block (1869-1873), was also developed by 1855 with a brick building on the front of the lot and a frame building at the rear (see old lots 30 and 31, above, for O'Neil's other two properties). There are four sewer connections for this lot ranging from the early 1860s to ca. 1914. The lot was completely covered by a building by 1869. ***Old lot 32 is therefore not considered archaeologically sensitive.***

Old lot 33, Charles O'Neil's fourth property on this old block (1869-1873) was not developed until after 1855, though by 1869 there was a building on the front of the lot. The property was connected to the sewer system by Woodruff & Robinson in 1868 probably at the time when the building was erected, or very close to it. ***Old lot 33 is therefore not considered archaeologically sensitive.***

Old lot 34 was not developed until after 1855, but by 1869 there was a building on the front of the lot. In 1868 the property was connected to the sewer system by the firm of Woodruff & Robinson, which continued to own it from 1869 to 1873. It is likely that the

sewer connection was more or less contemporary with the erection of the first building on the property. *Old lot 34 is therefore not considered archaeologically sensitive.*

Old lot 36 already had four small frame buildings on it by 1855. Mrs. Leahy is listed as the owner in 1869-1873. There are two sewer connection records, the first in 1868 by Woodruff & Robinson, the second ca. 1914. By 1939, the former narrow yard area between the front and back buildings depicted on the 1855 Perris map was completely covered over by a one story brick building. *Old lot 36 is therefore not considered archaeologically sensitive.*

Old lot 38 was connected to the sewer system in 1868 by Woodruff & Robinson, which also owned the property in 1869-1873. The yard between the two frame buildings that stood on the lot in 1855 was completely covered over when a large brick building was erected on the lot probably in the 1880s. *Old lot 38 is therefore not considered archaeologically sensitive.*

Old block 20

Between Warren and Baltic Streets, west of Columbia Street - Figs. 17, 25, 28, 34, 40, 45, 51, and 56.

Baltic Street is not currently mapped west of Columbia Street and there is no plan to re-map it. The six-inch water pipe installed in 1856 in Baltic Street could be negatively impacted by future construction. This is among the earliest of the water pipes installed by the Nassau Water Company and therefore of historic significance. The area of the street is considered archaeologically sensitive.

Between 1904 and 1915, the southern third of the block was covered by railroad tracks, with a freight station on Baltic Street at the eastern end of the block. The tracks may have disturbed the old foundations of buildings on this part of the block but they did not actually cover the area of the rear yards. The old lots on Baltic Street are therefore discussed individually below. With one exception, noted below, the owner of all the properties listed for 1869-1873 was the Delaware & Hudson Canal Co. Where not stated otherwise, there was no sewer connection record.

In 1855, approximately the western third of this block was occupied by Thompson's Beef & Pork Packing House. This establishment consisted of both a main, brick building, and

what may have been a number of frame sheds or storage areas. Immediately east of this complex were vacant lots. There are six sewer connection records for this part of the block. The New York Dock Company is listed for five of the records, ranging in date from 1912 to 1932, and J.J. Dixon is listed for the sixth, 350 feet west of Columbia Street, in 1913. The Baltic Street side of the block was occupied by Jackson & Shannon's lumber yard. The same lumber dealers used most of the area fronting on Columbia Street for a lumber yard as well. Between these establishments, there were a number of frame buildings on individual lots usually on both the front and rear of the lots or in the yards, but leaving ample vacant areas for potential privies and cisterns. By 1880, the area formerly occupied by the pork packing house and the empty lot on Warren Street immediately east of it were swallowed up by another of Woodruff & Robinson's massive Congress St. Stores (see block 1, above). Although the 1869 Dripps map shows a number of buildings on the front of the lots on the Warren Street side of the block, by 1880 (Bromley), the entire area east of the giant warehouse was vacant, except for a small brick building at the corner of Baltic and Columbia Streets. The former coal yard at the east end of Baltic Street was at that point being used to store coal and wood.

Old lot 3, shown on the 1880 Bromley map, included in 1855 three lots that were built up with industrial and non-industrial frame buildings on three separately outlined lots. The eastern two of these contained vacant areas in the middle and rear of the lots that were not subsequently built upon. The buildings were demolished between 1869 and 1880. There is a possibility that privies could have existed in the yard areas and given the lack of later building episodes, remains of these features could have survived. ***Old lot 3 is therefore considered archaeologically sensitive for a cistern and a privy.***

In 1855, old lot 4 was divided into four lots, with frame buildings on both the front and rear of the lots and yards in between. The garage of the New York Port Authority's administration building, erected between 1950 and 1969, completely covered the area of this lot. ***Old lot 4 is therefore not considered archaeologically sensitive.***

Old lot 5, on Columbia Street at the corner of Baltic Street, was occupied by lumber yards and later a coal and wood yard. Like the other lots on this side of the block, it was half covered by railroad tracks laid between 1904 and 1915. Like old lot 4, this lot was completely covered by the garage of the New York Port Authority's administration building, erected

between 1950 and 1969. ***Old lot 5 is therefore not considered archaeologically sensitive.***

Old lot 6, at the corner of Warren and Columbia Streets, had two recorded sewer connections: Burke (first initial illegible), in 1868, and the New York Dock Co., in 1913. The owner in 1868 to 1873 was the Delaware & Hudson Canal Co., like almost every other part of this old block. In 1855 this lot was divided up into three lots each containing frame buildings. Possibly already ca. 1869, but certainly between 1903 and 1915, a one story building occupied by engineers and contractors completely covered the lot. The later garage of the New York Port Authority's administration building again overlapped the southwest corner of old lot 6. ***Old lot 6 is therefore not considered archaeologically sensitive.***

Old lot 7 was covered by the same one story building, erected between 1903 and 1915, that covered the neighboring old lot 6. The rear of this old lot was also later overlapped by the garage of the New York Port Authority's administration building. ***Old lot 7 is therefore not considered archaeologically sensitive.***

Old lot 8 was also completely covered by the same one story building that extended over old lots 6 and 7. The southeast corner of the lot was later overlapped again by the garage of the New York Port Authority's administration building. ***Old lot 8 is therefore not considered archaeologically sensitive.***

In 1855, old lot 9 had frame buildings on the front and back of the lot with a vacant area in between, but like its neighbors to the south, it was covered by the Supply Construction & Supply Co. Engineers and Contractors building, erected between 1904 and 1915. ***Old lot 9 is therefore not considered archaeologically sensitive.***

Old lot 10 was owned by Nicole (?) Doran in 1869-1873, but she did not connect her house to the sewer system until 1878. Whether or not Mrs. Doran had a privy in her yard, by 1915, the entire lot area was covered by the engineers and contractors building that extended over old lots 6, 7, 8, and 9. ***Old lot 10 is therefore not considered archaeologically sensitive.***

Only old lot 3 of old block 20 is considered archaeologically sensitive for a cistern and a privy. The other old lots, because of impacts from subsequent construction episodes, or because of the lack of development, are not archaeologically sensitive. Baltic Street is considered archaeologically sensitive for remains of early water systems.

Old block 19

Between Baltic and Kane (formerly Harrison) Streets, west of Columbia Street - Figs. 17, 25, 28, 34, 40, 45, 51, and 56.

The 1915 Sanborn map shows three water pipes in Harrison Street, one of which was a twelve-inch pipe for salt water, marked "private". No dates are recorded, but the private pipe, if not also the undated 20- and 16-inch pipes, are certainly worth investigating, and the area of Harrison Street within the project site is therefore considered archaeologically sensitive for early water systems.

Except for one brick building on old lot 6 and a sprinkling of seven small frame buildings, four of which served industrial purposes, old block 19 was not yet developed in 1855. But by 1869, the brick storehouses of A.C. Woodruff's Baltic Stores covered approximately two-thirds of the block. There are six sewer connections for this part of the block ranging in date from 1870 to 1909, and under a number of names. The eastern end of the block was still vacant, used for coal and lumber yards, as also still in 1880. By 1915, much of the northern half of the block was covered by railroad tracks. The 1869 Dripps map records a building at the rear of old lot 6 at 59 Harrison Street. By 1880, the lot was vacant. There were other buildings erected on both the front and the rear of old lot 6 later in the 19th century and early 20th centuries, but the yard at the center of the lot remained vacant. There are no sewer connection records for this lot, and there could have been a privy associated with the lot's first period of occupation. If so, it will not have been impacted by subsequent construction.

Old lot 6 is therefore considered sensitive for archaeological remains of a privy, but the remainder of old block 19 is not considered archaeologically sensitive. Harrison Street is considered archaeologically sensitive for remains of early water systems.

Old blocks 33 and 34

Between Kane and Sedgwick Streets west of Van Brunt Street - Figs. 17, 25, 29, 35, 40, 46, 52, and 57.

These two old blocks have often been united in the past, since Irving Street has usually not been open west of Van Brunt Street. Sedgwick Street however was, and it contains a six-inch water pipe dating to 1860. This belongs to the earliest water system in the area and is therefore of historic significance. The 1915 Sanborn map also notes a “private”, undated twelve inch water pipe in Van Brunt and Kane Streets, as well as two water pipes dated to 1904 in Van Brunt Street. An opportunity to investigate the 1860 pipe or the “private” pipes, would certainly be of archaeological and historic interest. Except for Irving Street, which has no recorded pipes in its bed, all the streets around old blocks 33 and 34 are therefore considered archaeologically sensitive. The entire length of Van Brunt Street contained within the project site is considered archaeologically sensitive.

In 1855, old blocks 33 and 34 were occupied by the frame stores of the Robins Southern naval Store Yard and a small brick lime shed on the wharf near Sedgwick Street. There was also a small frame storage facility on Van Brunt Street, along with a couple of smaller frame buildings. There are three sewer connections for old block 33 dating to the early 1860s, and a connection dated 1891, 60 feet west of Harrison, for the Brooklyn Storage Company. There are no recorded connections for old block 34. The 1869 Dripps map records a facility for coal on Kane Street, and what are probably the same frame buildings on the south side of old block 33. By this date, if not already earlier, Charles Kelsey owned both old blocks 33 and 34 and the pier. In the 1869-1873 tax assessments, his building is noted as four stories. By 1880, old block 34 was covered by Kelsey Stores and Union Stores. Between 1886 and 1893, Union Stores erected another building that covered approximately half of old block 33 on its north side. A small commercial building was erected in the line of Irving Street in the late 1880s or early 1890s. Because these old blocks were more or less completely occupied by large warehouses, they are not considered archaeologically sensitive.

While no part of old blocks 33 or 34 is considered archaeologically sensitive, the former street beds surrounding these old blocks, including Sedgwick, Van Brunt and Kane Streets, are considered archaeologically sensitive for remains of early water pipes.

Old block 35

Between Sedgwick and Degraw Streets, west of Van Brunt Street, Figs. 17, 25, 29, 35, 41, 46, 52, and 57.

A six-inch water pipe was installed in Degraw Street in 1860. This is among the earliest of the water pipes installed by the Nassau Water Company and therefore of historic significance.

In 1855, this block had both commercial and residential buildings. The western half was occupied by the brick building and frame sheds of Caldwells & Underhill, a firm that processed pork and beef. By 1869, these buildings were occupied by Parker, a beef and pork inspector, and the rest of the block was built up probably with the sheds and other buildings related to the pork inspection and packing business shown on the 1880 Bromley map. A. Baxter, whose International Packing House is noted on the 1886 Sanborn map, already owned the property where the business was sited in 1869-1873.

In 1855, aside from Caldwells, there was only a row of eight brick dwellings on Degraw Street (old lots 9 to 16) and two on Van Brunt Street (old lots 7 and 8), with vacant areas between the houses and Caldwell's and in the northeast quarter of the block. These houses were small, measuring 12.5 feet wide by 35 feet deep, with 35 foot deep yards behind the row on Degraw Street and small one story sheds (?) at the rear of each lot, along the lot line. According to the tax assessments, the buildings on old lots 9, 10, 11, 12, 13, and 14 are noted as having two stories, but the 1886 Sanborn map records them as three-story structures. Yet they are the same size, so that the owners must have simply added a floor to the existing buildings. The two three-story houses on Van Brunt Street, recorded as such in 1869-1873, were the same 12.5 X 35 foot size, but were on 100 foot lots and therefore had deeper yards, also with narrow, one-story structures at the rear of their properties. Old lots 7 and 8 were connected in 1871 to the sewer system by McCosker (first initial unreadable) and John Stutt, respectively. The listed owner of both these properties in 1869 to 1873, as well as old lots 13 and 14, was John Stutt. The sewer connections for old lots 9, 11, 12 and 13 were all in the lost book 3, and probably date to the mid 1860s. There are no records of any connections for old lots 10, 14, and 16. Old lot 15 was connected in 1867, by D. Farrell, who was also the owner of both this property and its neighbor, on old 16, in 1869-1873. The listed owners for the

remaining old lots, in 1869 to 1873, were: Richard (Dayle?), old lots 9 and 10; Maurice Degard, old lot 11, and William Ellmore, old lot 12.

The rear yards of old lots 7, 8, 13 and 14 were never impacted by subsequent construction and are considered potentially sensitive for the remains of a cistern and privy, since they existed a decade or more before the residents began using the city's sanitary facilities. The rear yards of old lots 9, 10, 11, 12, 15 and 16 were built over at various times in these old lots' history and are therefore not considered sensitive for archaeological remains. Degraw Street is considered archaeologically sensitive for remains of early water pipes.

Old blocks 47 and 47A

Between Degraw and Sackett Streets west of Van Brunt Street - Figs. 17, 25, 29, 35, 41, 46, 52, and 57.

It is proposed to establish continuations of Degraw and Sackett Streets west of Van Brunt Street as far as a new street, Conover Street, that will curve westward from the west end of Degraw Street and continue west across old blocks 47A, and blocks 334 and 340. On old block 47A the street will run over the rear of old lots 1 to 12; 13, 14, 37, 38, and 18, 19 and 36. The sections of Degraw and Sackett Streets west of Van Brunt contain six inch water pipes that were laid in 1860 and are therefore among the earliest city water pipes in Brooklyn. They are of historic interest and the portions of these streets adjoining the project site are therefore considered archaeologically sensitive.

The wharf area was not built up yet in 1855, but by 1869, the western end of old block 47 was covered by John S. Ward's warehouse. The 1880 Bromley map records that Ward's was a provision inspection ware house. (The southwest corner of this block belongs to lot 62, discussed below). Because of the building coverage and its nature, This part of old block 47 is not considered archaeologically sensitive.

Old blocks 47 and 47A were originally separated by the 35 foot wide Beach Place. This street appears on the 1915 Sanborn map but no longer on the 1939 map. From 1855, the street was flanked on both sides by rows of twelve dwellings, each two stories high and measuring 16.8 feet wide by about 30 feet long with a twenty foot deep yard, according to the

Sanborn maps (old lots 6-17 and 1-12). The owner of all these properties in 1869-1873 was the same John S. Ward who owned the warehouse at the end of the block. The two sewer connections for the lots on the west side of Beach Place, located on the north and south sides of the block, date only to 1931 and 1938, and were for Butler's Warehouse (1939 Sanborn). On the south side of Beach Place, there are also two recorded sewer connections, located in the middle of each side of the area occupied by these lots, dating to the late 1860s. Any or all of these dwellings could therefore have been equipped with a cistern and privy at the back of the buildings and in their yards. ***Old lots 6 to 17 of old block 47 and old lots 1 to 12 of old block 47A are therefore considered archaeologically sensitive for cisterns and privies.***

East of Ward's houses on old block 47A, a cooperage extended the width of the block over old lots 13, 14, and 38, completely covering their areas. In 1886, the facility was used as a brass foundry and for storing "junk". ***Old lots 13, 14 and 38 are therefore not considered archaeologically sensitive.***

The eastern two-thirds of old block 47A was divided up into a number of house lots, with two rows of houses on Degraw and Sackett Streets.

Old lots 15 to 22 were developed by 1850 with a row of eight houses on the fronts of the lots. the 1855 Perris map records these as built of brick. Each measured 12.5 feet wide by 60 feet long, with 40 foot rear yards, and a shed or other shallow building stood at the rear of each lot. In 1869-1873, these two story dwelling with basements belonged to William Cornell (four properties) and the Empire Building Association (four properties). The sewer connections are all later; west to east: two for P. (Blixt?), in 1895; one ca. 1877 (record lost); one early 1860s (record lost); and two for Straus in 1877. ***Any of these dwellings could have been equipped with a water and sanitary facilities at the rear of the buildings or in the yards, and because there is no evidence of negative impacts from subsequent construction, old lots 15 to 22 are considered archaeologically sensitive for cisterns and privies.***

Old lots 28 to 32 were developed by 1855 with a row of five brick houses each 20 feet wide by 50 feet deep with 25 foot deep yards. All the properties were connected to the sewer system during the early 1860s (book 2, lost). The yard of the building on old lot 28 was eventually completely covered by a two story rear addition, but aside from some small sheds at the rear of lots 30, 31 and 32, the former yards of these dwellings have not been impacted by subsequent construction. ***Old lots 29 to 31 are therefore considered archaeologically***

sensitive for cisterns and privies, but old lot 28 is not considered archaeologically sensitive.

In 1855, there were also buildings at, and near, the corner of Degraw Street on Van Brunt Street, on old lots 23 and 24. The buildings on old lot 23 covered its entire area. Owner Caroline Myers (1869-1873) connected the property to the sewer system in 1867. *Because the house completely covered the lot area, old lot 23 is not considered archaeologically sensitive.*

Old lot 24 belonged to Michael Flood in 1869 to 1873, but he connected it to the sewer system only in 1873 and he may well have found it convenient to build a cistern and privy in his yard. There was ample space, with an approximately 40 foot deep yard behind Flood's three story dwelling. *Neither the rear of the building, nor the yard were ever impacted by subsequent construction and old lot 24 is therefore considered archaeologically sensitive* for a privy.

Old lots 25, 26 and 27 on Van Brunt Street were not developed until after 1855 but there were buildings on these properties by 1869. In 1869-1873, Chester Adams owned old lots 25 and 26, while old lot 27 was owned by W. H. Imlay. The sewer connections are later: two for Hodgkiss in 1886 (old lots 25 and 26) and one for W.J. (Ninns?) in 1914 (old lot 27). In 1886 these three lots were part of a coal yard. The buildings were one story frame sheds with one brick section, also used as a shed, on old lot 27. After the properties were connected to the sewer system in 1886 and before 1893 (Bromley), old lots 25 and 26 were developed for residential occupation with three story brick buildings. By 1904, the area of old lot 27 was completely built over (and again between 1950 and 1969). Because of this, and because all these old lots in their earliest periods of use were occupied by a coal yard rather than by a store or residence, *old lots 25, 26 and 27 are not considered archaeologically sensitive.*

Old lot 33, owned by C.G. Lawless in 1869-1873, was connected to the sewer system in the late 1860s. *Every part of the lot was built on at one point or another and old lot 33 is therefore not considered archaeologically sensitive.*

Old lot 34 had a frame building on the rear of the lot by 1850. Old lot 35 was not developed until after 1869 but by 1880 had a frame building on the front of the lot and a shed at the rear that extended over the rear of old lot 34 as well. Old lot 36 was not developed until after 1880 but by 1886 had a one story brick building on the front of the lot. All three properties (and the cooperage on old lots 37 and 38) were owned by Joseph Thompson in

1869 to 1873, and are noted in the tax assessments as “shops”. Old lot 34 was connected to the sewer system by N. Davis in 1887. Old lots 35 and 36 were connected by Daniel Ferry in 1891. By 1893, all three lots had long, five story brick tenement buildings on the front of the lots. These covered all but approximately nine feet of the former yard area on old lots 34 and 35 that had existed between the frame buildings and the sheds at the rear of the lots ca. 1880. This area may be reduced by another foot or two to allow for the disturbance created by the excavation for the foundations of the five story tenement buildings. In sum, although a small part of the former yards old lots 34 and 35 were not impacted by subsequent construction, the likelihood of a privy being discovered here, directly in front of the sheds, seems remote. And although the rear yard of old lot 36 was never built over, the property was not developed until the 1880s and then connected to the sewer system within a few years. Altogether, it is concluded here that, because of the space and time periods involved, *old lots 34, 35 and 36 are not considered archaeologically sensitive.*

Block 334

Like their neighbors to the north, the residents and businesses of block 334 had access to city water from the pipe in Hamilton Avenue as early as 1857. Water pipes were also laid in Union and Sackett Streets before 1860 (1915 Sanborn). These are among the earliest of the water pipes laid by the Nassau water company, and therefore of historic significance. Since the Hamilton Avenue right-of-way runs over the Brooklyn Battery Tunnel, whose construction may have destroyed the early pipes, and in any case, will never be excavated, it is not considered archaeologically sensitive. *The sections of Union, Sackett and Van Brunt Streets lying within the project site, however, are considered archaeologically sensitive for early water systems.*

Although city water was available by the end of the decade, block 334 was developed already by 1855, and the earliest residents may well have built cisterns at the rear of their buildings. Similarly, while the earliest sewer connections for some properties followed in the 1860s, many were not connected at all, or only at much later dates. For these, the possibility exists that residents or business owners of the mid to late 19th century dug privies in their yards. Where no impacts from subsequent construction on the former yard areas can be demonstrated, the lots are considered potentially archaeologically sensitive for the remains of a cistern or privy.

The following discussion refers to lots by the current numbering system, except for those lots that comprise multiple old lots, in which case the old lot numbers, as shown on the 1880 Bromley map, are used.

There is no recorded sewer connection for Lot 1, whose first recorded owners were the heirs of Anson Blake (1869-1873.). The property was built up already in 1850. The brick building shown on the 1855 Perris map extended over lots 1 and 2. The 1886 Sanborn map shows one-story structures at the rear of the building with a vacant space between them only approximately five feet deep. The configuration appears rather too cramped to install a privy, but there might have been a cistern at the rear of the building. *Lot 1 is therefore considered archaeologically sensitive for a cistern, but not for a privy.*

Lot 2, the store on the corner of Sackett Street and Ferry Place, completely covered its lot by 1886 and is therefore not considered archaeologically sensitive for a backyard

privy.

Lot 7 comprises the five old lots 5 through 9. By 1880 all these lots were covered by the four story brick building of J. Monroe Taylor Chemical Works until roughly the turn of the century. By 1915 the factory was occupied by Hamilton Pipe Works. Then it became a baking powder manufacture. In its last industrial incarnation, the building was the paint ware house of the Martin-Senour Co. In the late 20th century it served as a freight terminal. Any fixtures of possible significance for the history of the chemical industry will have been removed when the manufacture was converted to other purposes. ***Lot 7 is therefore not considered archaeologically sensitive.***

Lot 14 comprises the five old lots 10 through 14, (later numbers 14 to 18). All were developed with buildings by 1855.

Old lot 10 was used as a hotel at least by 1886. Between 1903 and 1915, a one story hall was added to the rear of the building that completely covered the former yard area. At the time of the first tax assessments, the lot was owned by Mr. / Mrs. Haverty (initial unreadable), but the property was not connected to the sewer system until 1878, by M. Taylor, who was no doubt related to, or the same person as, the J.M. Taylor who owned the chemical factory next door on lot 7. ***Because the yard was impacted by subsequent construction, this part of lot 14 is not considered archaeologically sensitive.***

Old lot 11, which was used as a dwelling at least ca. 1886, was first connected to the sewer system in the early-mid 1860s. The owner in 1869-1873 was Simon Fitch (the reading of the last name is unclear). Whether or not the property was originally equipped with a cistern and privy is moot because by 1915, a brick one-story wing was added to the rear of the dwelling that completely covered the former yard area. ***This part of lot 14 is therefore not considered archaeologically sensitive.***

The rear yard of old lot 12, which was used as a dwelling ca. 1886, was never completely built over. There was a one story brick building along the rear lot line at a couple of points in the lot's history, but otherwise the yard remained empty of structures and the building unchanged. The house was owned by Simon (Fitch?) like its neighbors to either side, and connected to the sewer system in the early to mid 1860s. This still leaves some years, perhaps a decade or so, when the house had no sanitary facilities except possibly a privy in the yard. This part of lot 14 is therefore considered archaeologically sensitive for a privy. ***This***

part of lot 14 is therefore considered archaeologically sensitive for a cistern and a privy.

Old lot 13 was used as a store ca. 1886, but between 1903 and 1915, a one story brick building that served as a dining room was erected on the rear third of the lot leaving about fifteen feet of yard between it and the front building. This would still leave room enough for a cistern and a privy, however, which might have been needed before water and sewer service became available. The first recorded owner in the tax assessments was Simon (Fitch?). ***This part of lot 14 is therefore considered archaeologically sensitive for a cistern and a privy.***

Aside from a small one story brick building, perhaps a shed, that existed at one point at the rear of the lot, the yard of old lot 14 was never completely built over. The first owner listed is Celia Tucker, 1869-1873. The property was connected to the sewer system in the early 1860s, some years after it was erected. There is room, both temporally and spatially, for a cistern and a privy at the rear of the building and in the former yard area, ***and this part of lot 14 is therefore considered archaeologically sensitive for a cistern and a privy.***

For lot 14, therefore, the former yard areas of old lots 12, 13 and 14 are considered archaeologically sensitive for a privy; old lots 10 and 11 are not considered archaeologically sensitive.

The large lot 40, comprising old lots 30 to 39, was not occupied until after 1855 and up to 1869 it was still not built on but being used as a coal yard. The 1869-1873 tax assessments record that all the old lots of lot 40, and indeed all the lots as far as Van Brunt Street, belonged to the heirs of Anson Blake. By then, they were all built up with sheds. By 1880, however, the Bromley map shows two brick buildings on old lots 37 and 38, distinct from the frame buildings on old lots 30-35. Old lot 37 was connected to the sewer system by A. Blake in 1875, and may be eliminated from consideration for archaeological sensitivity. The 1886 Sanborn depicts this brick building as a stable or shed, and in the early 20th century, it was used as a carpenter shop. The building on old lot 38 was not connected to the sewer system until 1891, at which time it still belong to the Anson Blake estate. But it was only a shed or stable, not a residence or a shop, and in 1915 it was being used to store hay feed. It is doubtful that this building would have been equipped with its own cistern or privy, especially in view of the fact that the neighboring property, which did have facilities, belonged to the same family or owner. ***Old lots 37 and 38 are therefore not considered archaeologically sensitive.***

The only other sewer connection recorded for lot 40 is H. Olsen in 1916, on old lot 35 at 35 Union Street. He presumably lived in the one story brick dwelling shown on the 1915 Sanborn map. Since both this lot and lot 36 (33 Union Street) were apparently vacant in 1880, the buildings date to the 1880s. Both were being used as dwellings as early as 1886. Although the 1903 Hyde map notes that they were shops at that time, during the later 1890s (post 1893) or early years of the 20th century, the building on lot 35 acquired a two story rear addition that could have served as a residence. There was also a very large shed or stable extending over the rear third of both lots that had stood there since at least 1886. Between the two story addition at the rear of the building on old lot 35, and the small shed in the yard of old lot 36, and the shed at the rear of both lots, one wonders where the residents would have found room for a privy. We can not however rule out the possibility that they did install a facility in the yard, perhaps in the vacant area behind and between the two shops. By the time the buildings were erected, water service was long available and we would not expect to find a cistern connected with it. *Old lots 35 and 36 are therefore both considered sensitive for archaeological remains of privies.*

Every part of old lots 30, 31 and 34 was covered with buildings at one point or another in these lots' history, which would have impacted possible backyard features, and there can not be more than a few square feet of old lot 39 that were not also eventually impacted by construction. The buildings themselves were used as sheds or stores; connected with a coal yard; used as carpenter workshop or as a machine shop. None of these uses would yield remains of historical significance. *Old lots 30, 31 and 34 are therefore not considered archaeologically sensitive.*

The remaining old lots, 32 and 33, were built up with sheds from ca. 1869 on. By 1886 they were part of Petite's coal yard. Given the history of occupation on these lots, which remained commercial and largely connected with storage of materials, *old lots 32 and 33 are not considered sensitive for archaeological remains.*

For lot 40, therefore, the former yard areas of old lots 35 and 36 are considered archaeologically sensitive for a privy; old lots 30 to 34 and 37 to 39 are not considered archaeologically sensitive.

Lots 51 to 65 all had brick buildings erected on the front of the lots by 1855 before sewer service was available, and all had rear yards that could have accommodated a privy.

The 1886 Sanborn records that these were all four story stores with one story rear wings. The histories of the individual lots are as follows:

The buildings on lots 53, 56, 57, 61, 62 and 63 may be eliminated from consideration for archaeological sensitivity because their rear yards were impacted by subsequent building episodes. The first listed owners of these properties in 1869-1873 were Ellen Hickey for lot 53; Conroy (first initial unreadable), for lot 56; James (Cananaugh?) for lot 57; Catherine T. Tanner for lot 61; John Ross for lot 62, and Elizabeth Murtagh, for lot 63. The only name preserved from the sewer connection records is John Collins, in 1885, for lot 57. The records for lots 56, 61, 62 and 63 are in the lost books of the early-mid 1860s. For lot 53 there is no record of a connection at all. ***Because the former yard areas were completely built over at one point or another in the lots' histories, lots 53, 57, 61, 62 and 63 are not considered archaeologically sensitive.***

As for lots 51, 53, 54, 58, 59, 64 and 65, they were all developed with brick buildings on the front of the lots by 1855. the 1869 Dripps map indicates that the rear yards of lots 51, 53, and 54 were used for coal storage, which makes one wonder how or where the owners or tenants of the stores on these lots, fronting on Union Street, would have built privies behind their establishments after ca. 1869. Apart from this episode, however, the rear of these lots, as of lots 58, 59 and 60, remained vacant, and except for a few small structures at various times their yards were not impacted by subsequent construction episodes. Thus, we can not rule out the possibility that the properties were equipped with cisterns and privies in the 1850s to early 1860s, prior to being connected to the water and sewer systems and before the coal yard located on Sackett Street ca. 1855, moved into their backyards. This may have occurred after the erection of the chemical works (see lot 7, above). ***Lots 51, 53, 54, 58, 59, 64 and 65 are therefore considered archaeologically sensitive for cisterns and privies.***

The building on Lot 51 was connected to the sewer system in the early 1860s, some years after the building was erected. Z. Landerberger is listed as the first owner (1869-1873). Since there were no negative impacts from subsequent construction either to the building or its yard, the possibility that a cistern and privy existed on this lot can not be ruled out. ***Lot 51 is therefore considered archaeologically sensitive for a cistern and a privy.***

The first listed owner of the property on Lot 52 was Peter J. Rudden. Confusingly, the sewer connection lists his neighbor Ellen Hickey (1869-1873). But the location of the

connection suggests that it may have been on the property line between the two lots. In any case, this would not rule out the possibility that the tenants had a privy in the yard during the 1850s. Neither the building nor the yard was impacted by subsequent building episodes. *Lot 52 is therefore considered archaeologically sensitive for a cistern and a privy.*

Lot 54 has no recorded sewer connection. The first recorded owner is Ann G. Jane (1869-1873). The owners or tenants on this property may have found it useful to construct a privy in the yard at some point. Neither the building nor the yard was impacted by subsequent building episodes. *Lot 54 is therefore considered archaeologically sensitive for a cistern and a privy.*

Lot 55 was connected to the sewer system in the early 1860s. The property's first owner was Anthony (Prossler?) (1869-1873). Here too, an indeterminate number of years preceded the sewer connection, which means that the possibility of a privy in the rear yard can not be ruled out. Neither the building nor the yard was impacted by subsequent building episodes. *Lot 55 is therefore considered archaeologically sensitive for a cistern and a privy.*

Lot 58 was connected to the sewer system by Mr. Murphy in 1873 although the listed owner for 1869-1873 was James (McGriavy?) Thus, the building was standing on the lot for some two decades before the tenants availed themselves of the city's sewage facilities. Additions or rebuildings eventually almost the entire lot area, making unlikely that a cistern, usually located at the rear of buildings, would have survived. We can not however rule out the possibility that a privy existed in the small area at the rear of the lot that was not impacted by subsequent construction. *Lot 58 is therefore considered archaeologically sensitive for a privy, but not for a cistern.*

Lot 59, composed of old lots 48 and 49, was owned was Ellen (Skehan?). There are two sewer connection records: The larger building on old lot 49, 13 Hamilton Avenue, was connected in the early 1860s, but its neighbor was not connected until 1925, by S. Brown. Both could have used backyard privies, as well as cisterns, and since neither buildings nor yards were impacted by subsequent construction, these installations may have survived. *Lot 59 is therefore considered archaeologically sensitive for cisterns and privies.*

Lots 64 and 65 and the adjacent lot 63, which was eventually completely built over, were occupied by a four story brick hotel and store that were erected by 1850, and by 1855 at least, named the "Atlantic Hotel". The building served as a hotel until at least 1886, and the

structure survived until after 1915. Lot 64 has three recorded sewer connections: one in the early 1860s and two in the late 1860s. The first recorded owners were J. & M. Murphy (1869-1873). Lot 65 was not connected to the sewer system until 1941 by J.B. White. Like the other properties on Ferry Place, its first recorded owners were the Heirs of Anson Blake in 1869-1873. The vacant area at the rear of these lots is very narrow, but behind lot 65 it was about 20 feet long, and this is certainly big enough for a few, surely much needed, privies. The vacant area behind lot 64 was very restricted, but the two spaces are adjacent and were originally connected, so that the feature(s) might have overlapped the two lots. ***Lots 64 and 65 are therefore considered archaeologically sensitive for cisterns and privies.***

Block 340

There were quite a few buildings standing on this block already by 1850. By 1855, it was fully developed. As elsewhere, some property owners availed themselves of sewer service soon after it became available, ca. 1860, while others, for one reason or another, did not. Water service was available to this blocks' residents already by the late 1850s. A twelve inch water pipe was laid in President Street in 1857; six inch pipes existed in Hamilton Avenue and Van Brunt Street also in 1857, and a six inch pipe was laid in Union Street before 1860. These pipes are among the earliest laid by the Nassau Water Company and therefore of historic significance. The former Hamilton Avenue runs over the Brooklyn Battery Tunnel, whose construction may have destroyed the early pipes, but in any case, this area will never be excavated, and is therefore not considered archaeologically sensitive. *The sections of Union, President and Van Brunt Streets surrounding block 340, however, are considered archaeologically sensitive for early water pipes.*

The following discussion refers to lots by the current numbering system, except for those lots that comprise multiple old lots, in which case the old lot numbers, as shown on the 1880 Bromley map, are used.

The 1855 Perris map shows brick dwellings with stores under on most of the lots. But there were also complexes of an industrial character, as indicated by the presence of buildings marked green for hazard. There was also a coal yard on old lots 36 and 37 (part of lot 48, see below). In later decades these industrial uses disappeared along with the few residential ones, and every building on the block was designated as a store except for the large bakery on Union Street and a hotel briefly located on old lot 34 (lot 46, below).

The oddly configured lot 1 has no rear yard to speak of, just a long, approximately four-foot strip that runs along the east side of old lot 2, which was also already built on in 1850. Although this strip was part of lot 1 already in 1850, and has never been impacted by construction, it would not make sense to test it except in conjunction with its neighbor, lot 2, whose rear yard was also never built on. The 1886 Sanborn records that both were four story stores. Lot 1 was connected to the sewer system in the early 1860s, but there is no record of a connection for lot 2. *Both lots 1 and 2 are considered archaeologically sensitive for a cistern and a privy.*

Lot 3 had a building standing on it by 1850 and a vacant rear yard. Neither was ever impacted by later building on the lot. The property was not connected to the sewer system until 1929 by A. (Pitinos?). It is possible that the owners of this four story store also found it practical to build facilities for water and sewage. ***Lot 3 is therefore considered archaeologically sensitive for a cistern and a privy.***

The building on Lot 4 in 1855 was part of a large structure that also extended over lots 4, 17, 19 and 20, and was marked green for hazard on the Perris map, so probably an industrial space. By 1869, this complex no longer existed. The building on lot 4 was connected to the sewer system in the late 1860s. ***Because it completely covered the lot, lot 4 is not considered archaeologically sensitive.***

By 1855, lots 5 and 6 each had a brick building standing on the front of the lot, with a yard behind it. There are two sewer connections for lot 5, one dated ca. 1869, the other in 1907, by William Evertt. Lot 6 was connected to the sewer system in the late 1860s. Between 1893 and 1903 a one story brick building was erected on each of the lots that covered all of the former yards except a narrow strip perhaps five feet deep at the rear. ***Lots 5 and 6 are therefore not considered archaeologically sensitive.***

The 1850 Dripps map shows a building on lot 7 completely covering it, but the 1855 Perris map shows a brick building with a rear extension that covered not quite half the rear yard on its east side. This building survived until between 1915 and 1939. It was not connected to the sewer system until 1890, by Andrew Donovan, and previous owners or occupants may have found it convenient to erect a privy in the yard, although the space, approximately twelve by fifteen feet, is small. But the vacant rear corner of the yard, which existed from at least 1855, was never built upon and the possibility that there was a cistern at the rear of the building and a privy in the yard can not be ruled out. ***Lot 7 is therefore considered archaeologically sensitive for a cistern and a privy.***

Lots 8 and 14, on President and Union Streets respectively, were completely built over with a brick building by 1855. The building on the Union Street half already existed in 1850. The 1886 Sanborn records the building as a four story store. Lot 8 has no recorded sewer connection, but lot 14 has two, the earlier from the first, lost sewer connection book, probably dating ca. 1860, the second by J.C. Koehl (?) in 1887. ***Because the lots were completely covered by buildings, lots 8 and 14 are not considered archaeologically sensitive.***

The building on lot 9 depicted on the 1855 Perris map extended from President to Union Streets. The 1886 Sanborn records it as a four story store. There are no sewer connections for this lot, *but as the lot was completely covered from the start, lot 9 is not considered archaeologically sensitive.*

Lot 10, the western tip of this triangular block, was completely covered by a brick building on it in 1855 that is labeled “Barker House” on the Perris map. It continued to serve as a hotel until at least 1886, when it was called Waldo Ho. (house or hotel). This establishment was connected to the sewer system as soon as facilities became available: its record is in the lost book 1, ca. 1860. *Because the lot was completely covered from the start, lot 10 is not considered archaeologically sensitive.*

Lot 15 had a brick building on the rear of the lot in 1850 and another on front of the lot by 1855, by which time the older building had been removed. Except for a narrow, one story brick building along the rear lot line, the rear yard was never impacted by subsequent construction. The property was connected ca. 1860, but this still leaves an indeterminate number of years, approximately five at the minimum, during which the building was without facilities. There may therefore have been a privy in the yard used during that early period of the lot’s occupation, as well as a cistern at the rear of the building. *Lot 15 is therefore considered archaeologically sensitive for a cistern and a privy.*

The brick building on lot 16, in 1855, was the mirror image of the one on lot 7, with an extension at the rear on only one side of the building, here the east. The lot however had a much larger, L-shaped yard that was never impacted by subsequent construction. The property was connected to the sewer system ca. 1860, but this still leaves an indeterminate number of years, approximately five at the minimum, during which the building was without facilities. There may therefore have been a privy in the yard used during that early period of the lot’s occupation, as well as a cistern at the rear of the building. *Lot 16 is therefore considered archaeologically sensitive for a cistern and a privy.*

Lot 17 comprises old lots 6 and 7. Most of the lot was occupied by an industrial building in 1850 that had wings on lots 4, 19, 20 and 21. The property was not connected to the sewer system until 1877 by Mrs. Burgaman, but eventually the vacant areas at the rear of old lot 6 and along the east edge of lot 7 were built over. *Lot 17 is therefore not considered archaeologically sensitive.*

In 1855, the front of lot 19 was occupied by a brick store and the rear by a wing of the industrial complex that extended over lots 4, 17, 20 and 21. The property was not connected to the sewer system until 1891, but this is moot, because the narrow yard between the earliest buildings on the lot was covered by 1886 by a building that housed a bakery. *Lot 17 is therefore not considered archaeologically sensitive.*

Lot 20 and part of lot 48 (old lot 37), were connected ca. 1886 and are therefore treated here together. In 1855, the front of the L-shaped lot 20 was occupied by a brick store and part of the rear by a wing of the industrial complex that extended over lots 4, 17, 20 and 21. The store was connected to the sewer system in 1867 by Chas. (Boltmen?) The eastern end of the "L", south of lot 23 and extending partly over the area south of lot 22, was never built upon. This piece of land, however, did not belong to the rear yard of the lots on Union Street, it was a separate lot, number 30 on the 1880 Bromley. There were no buildings on it until 1886, when the western end had a small wing, marked "rectifying" of the building on lot 20. At this point, the building on lot 20 ran across the block, taking in the building on old lot 37. Judging by the "rectifying" chamber, it was no doubt partly given over to manufacturing, although the building on the front of lot 37 was the old four story store that had stood there since at least 1855. That property was also connected to the sewer system in the late 1860s. There is no sewer connection for old lot 30, and it was not possible to find an owner's name to go with it. Nevertheless, in view of this area's lack of relationship to surrounding lots and the fact that it was not actually occupied either by a store or a dwelling, *neither lot 20, nor old lot 37 of the neighboring lot 48 are considered archaeologically sensitive.*

Lot 21, developed by 1850, was completely covered by a brick building by 1886. Although the property was never connected to the sewer system, this is moot in view of the lot coverage. *Lot 21 is therefore not considered archaeologically sensitive.*

Lots 22, 23 and 24 all had brick stores on the front of the lots by 1850. Except for narrow sheds along the south and east lot lines on lots 22 and 23 and a single narrow shed along the rear lot line of lot 24, their rear yards were never built on. The buildings on these properties were all identified as four story stores on the 1886 Sanborn map. Lot 22 was only connected to the sewer system in 1897, by E. (Mondainia?), leaving half a century without facilities. There is no record of a sewer connection for lot 23. Lot 24 was connected in 1876 by Cosgrove. The possibility that privies existed in the yards of these lots, as well as cisterns

at the rear of the buildings, can not be ruled out, *and lots 22, 23 and 24 are therefore all considered archaeologically sensitive for cisterns and privies.*

The L-shaped lot 25 includes part of old lot 30 as defined on the 1880 Bromley. This portion of the lot was covered by a frame building erected between 1893 and 1903 and may be eliminated from consideration for archaeological sensitivity. It may be noted that on the 1915 Sanborn, it is designated "Dry Ho." and was possibly part of the industrial complex on lot 20 (see above). In 1855 there was a brick store on lot 25 fronting on Union Street and a narrow frame building some distance behind it along the east half of the lot and extending over old lot 30 marked green for hazard. The property was connected to the sewer system in 1876 by Cosgrove. Between 1915 and 1939, the yard was covered by a one story brick pool room, which would have negatively impacted any potential remains of a privy. *Lot 25 is therefore not considered archaeologically sensitive.*

The Dripps map shows that lot 26 was developed for multiple dwellings by 1850 with a row of brick buildings fronting on an alley called Union Court on the 1855 Perris map. There are two sewer connection records for this property, both dated 1868, for Butterworth. The 1886 Sanborn records a three story store on Union Street followed by a row of two story brick buildings. By 1903, these buildings were replaced by a massive structure with a three story wing in the front and a two story wing in the rear. A one story section connecting the two was built over the west side of the lot, covering the remaining area of the former alley. *Lot 26 is therefore not considered archaeologically sensitive.*

Lot 28 was developed by 1850 with a building on the rear of the lot. In 1855, there was a brick building on the front of the lot with a frame rear wing that together covered the rest of the lot area, although the earlier building was by that time removed. There is no sewer connection for this lot, but if there had been a privy in this narrow yard, the two one-story brick buildings built in there in the early 20th century would probably have negatively impacted a privy or cistern. *Lot 28 is therefore not considered archaeologically sensitive.*

Lot 29 had a brick building standing on the front of the lot by 1850. The property was connected to the sewer system by Mr. (Armor?) in 1867. The 1886 Sanborn records that the building was a three story store. An extension at the rear of the building may have negatively impacted a cistern, but the rear yard was never disturbed by subsequent construction. *Lot 29 is therefore considered archaeologically sensitive for a privy, but not a cistern.*

By 1903, the former yard of lot 30 was completely covered by extensions to the original ca. 1855 brick store on the front of the lot. The property was connected to the sewer system in the mid-1860s, but this is moot in view of the lot coverage. ***Lot 30 is therefore not considered archaeologically sensitive.***

Lot 31 had a brick building on the front of the lot by 1850. The property was connected to the sewer system ca. 1860. Its rear yard was not impacted, except by the addition, in the early 20th century, of a one story brick building along the rear lot line. The building remained unchanged during its lifetime. ***Lot 31 is therefore considered archaeologically sensitive for a cistern and a privy.***

Lot 32 was eventually completely built over. It was initially developed by 1855 with a brick store at the front of the lot, and connected to the sewer system by Lang in 1873. ***But in view of the lot coverage, lot 32 is not considered archaeologically sensitive.***

Lot 33 was already completely covered by buildings in 1850. The 1855 Perris map records a brick store on Union Street and two small buildings marked green for hazard on Van Brunt Street. The property was connected to the sewer system ca. 1860. ***In view of the lot coverage, lot 33 is not considered archaeologically sensitive.***

Lot 35 comprises two old lots, numbers 23 (north) and 24 (south). Two buildings, later recorded as brick stores, were standing on the front of lot 35, on Van Brunt Street, by 1850. One of the buildings was connected to the sewer system ca. 1860, the other in 1867, by E.D.W. Mitchell. Except for a one story brick building in the yard of old lot 23, along the north lot line, the southern half of the yard and a strip at the rear, along the west lot line, were never impacted by subsequent construction. Old lot 24, for all intents and purposes, was eventually completely covered by building. ***Old lot 23 of lot 35 is therefore considered archaeologically sensitive for a cistern and a privy, but old lot 24 of lot 35 is not considered archaeologically sensitive.***

Later identified as a brick store, lot 38 already had a building on it by 1850. There is no recorded sewer connection. The lot was however eventually completely covered with buildings. In 1950, the premises were occupied by an undertaker. ***In view of the lot coverage, lot 38 is not considered archaeologically sensitive.***

Lot 39 was built upon by 1850. On later maps, the building is identified as a brick store. The 1855 Perris map also shows a narrow building at the rear of the lot along the lot

line. The property was connected to the sewer system ca. 1860. The rear yard was never impacted by subsequent construction. We can not eliminate the possibility that the occupants used a cistern and a privy during the first ten years or more the building's occupation. ***Lot 39 is therefore considered archaeologically sensitive for cistern and a privy.***

By 1850, lots 40, 41, and 42 had buildings on the front of the lots. The 1855 Perris map indicates that these were brick, and shows also narrow structures along the rear lot line. Lot 40 was connected to the sewer system in the early to mid 1860s; lot 41, only in 1910, by G. Tasso, and lot 42, in the early to mid 1860s. The yards of these properties were never impacted by subsequent construction. We can not eliminate the possibility that cisterns and privies were used on these properties during the early years of their occupation. ***Lots 40, 41 and 42 are therefore considered archaeologically sensitive for cisterns and privies.***

Lot 43 was developed by 1850, but its area was completely built over by 1903. The 1886 Sanborn map indicates that the building was a three story brick store. The property was connected to the sewer system in the mid 1860s, but this is moot in view of the lot coverage. ***Lot 43 is therefore not considered archaeologically sensitive.***

Lot 44, also developed by 1850, was also eventually completely built over by the same three story brick building that covered the former yard of its neighbor, lot 43. The early building was a three story brick store (1886 Sanborn). It was connected to the sewer system ca. 1860. There is also a later connection, east of the first, dated 1877, for M. Smith. ***Because of the lot coverage, lot 44 is not considered archaeologically sensitive.***

Lot 45 was developed by 1855 with a brick building on the front of the lot. The rear of this lot was never impacted by subsequent construction and although it was connected to the sewer system ca. 1860, there are still some years during which the occupants may have found it practical to use a cistern and a privy. The 1886 Sanborn records the building as a three story store. ***Lot 45 is therefore considered archaeologically sensitive for a cistern and a privy.***

Lot 46 comprises old lots 33 and 34, both of which had brick stores standing on the front of the lots by 1855. Additionally, old lot 34 (on the west), had a frame building at the rear of the lot colored green for hazard, so probably connected with some industrial use or containing flammable materials. Both lots were connected to the sewer system ca. 1860. Lot 34 was completely built over by the early 20th century. While the extensions at the rear of the original building on old lot 33 will have probably destroyed a potential cistern, portions of the

rear yard were never impacted by subsequent construction. ***Old lot 33 of lot 46 is therefore considered archaeologically sensitive for a privy, but old lot 34 is not considered archaeologically sensitive.***

Lot 48 comprises old lots 35, 36 and 37. Old lot 37 was treated above under lot 20. Old lot 35 was almost completely covered by buildings by 1855, with a brick store on the front of the lot and two frame buildings, both marked green for hazard, in the rear half of the lot. The three story store on the front of the lot was augmented by a three story addition in the early 20th century. The only vacant area was along the west lot line. There is no sewer connection record for this property, but this is moot, given the lot coverage. In 1855, old lot 36 was occupied by a coal yard. By 1869, there was a building on the front of the lot. The lot was connected to the sewer system by the late 1860s. By 1886, the lot was almost completely covered by buildings, except for a narrow strip along the west side of the property. ***Because of the lot coverage, old lots 35, 36 and 37 are not considered archaeologically sensitive.***

Block 346

This block was filled in the late 1840s before 1849, and the Hamilton Street side was completely covered with brick dwellings with stores by 1855. Unlike block 499 (below), the first tax assessments of 1869-1873 do not show one owner-developer buying up a row of lots but rather a different owner is listed for almost every lot. In 1850, there was one building on Hamilton Avenue, and three on President Street. But while the Hamilton Avenue side then developed quickly, with a complete row of brick buildings by 1855, the President Street side continued to be sparsely occupied, with only three brick stores on old lots 20, 21, 22 and some frame structures marked green for hazard and therefore probably industrial on old lot 23.

Businesses and residents on every side of block 346 had access to city water as early as 1857, the date when water pipes were laid in all three streets bordering the block. These are among the earliest installations of the Nassau Water Company and therefore of historic significance. But since the Hamilton Avenue right-of-way runs over the Brooklyn Battery Tunnel, whose construction may have destroyed the early pipes, and in any case, will never be excavated, it is not considered archaeologically sensitive. *But the sections of President, Carroll and Van Brunt Streets bordering block 346 are considered archaeologically sensitive for remains of early water pipes.*

Sewer connections for some of the properties on Hamilton Avenue (old lots 18, 19, 20 and 21) and President Street (old lots 2 and 3), followed in the 1860s. The remaining connections -- when they were actually made at all -- date after 1870. *Although a number of the lots on this block may be eliminated from consideration for potential archaeological sensitivity because they were completely built over at one point or another (lots 1, 2, 7, 11, 21, 22, 25 and 26), the rear yards of lots 3, 5, 6, 9, 10, and 23 were not impacted by subsequent construction and may be sensitive for archaeological remains consisting of cisterns and privies.* Unfortunately, except for the ship chandlery at 43 Hamilton Avenue indicated on the 1886 Sanborn map (lot 11), we have no information about the types of businesses that existed at these addresses in the mid-late 19th century.

Lot 3, on the corner of Carroll Street and Hamilton Avenue, was a three-part brick building with stores at least on the ground floor. Its sewer connection was recorded in the lost book 1, which may be dated ca. 1860, several years after the erection of the building. We can

not rule out the possibility that the building's earliest users were equipped with a cistern and privy, and since the rear of the lot was never impacted by subsequent construction, *lot 3 is therefore considered archaeologically sensitive for a cistern and a privy.*

Lot 5, 6, 9 and 10 on Hamilton Avenue, all twenty-foot wide lots with three story brick buildings on them, were built by 1855. Lots 6 and 9 were connected to the sewer system in the early 1860s (records in the lost book 3 and book 2, respectively), but the adjacent properties on lots 5 and 10 have no sewer connection records. Again, we can not rule out the possibility that these buildings' earliest users had cisterns and privies, and since there were no later building episodes on these lots that may have destroyed these features, *lots 5, 6, 9, and 10 are all considered archaeologically sensitive for cisterns and privies.*

The church and school on the corner of President and Van Brunt Streets is not considered archaeologically sensitive because its buildings completely covered the lot. The main building, erected between 1880 and 1886, was first occupied by the Bethel Ship Methodist Episcopal church. By 1903, the building was transformed into a Catholic convent school run by the Missionary Sisters of the Sacred Heart. The school was later renamed the St. Charles School.

Block 499

Block 499 is no longer surrounded by four streets as shown on the tax map but subsumed into the general area at the southern end of the Brooklyn Piers. The residents of this block, at least on the Hamilton Avenue side -- which was the first to develop Hamilton Avenue -- had access to city water as soon as it became available. A pipe was laid in Hamilton Avenue in 1857. But since this right-of-way runs over the Brooklyn Battery Tunnel, whose construction may have destroyed the early pipes, and in any case, will never be excavated, it is not considered archaeologically sensitive. Today, block 499 is bounded on the west by Summit Street, which contains two water pipes, a six inch pipe dated 1874 and a twelve inch pipe dated 1904. These are not among the earliest pipes laid in the area and are therefore of much less historic interest than their neighbors on nearly every other street on the project site. Both water pipes in Imlay Street date to 1904, and the same remarks apply. The four-inch water pipe in Conover Street is not dated on the maps. In view of the number of opportunities of recovering remains of early water pipes on every other street on the project site, *the later or undated pipes located in Summit, Imlay and Conover Streets are not considered of archaeologically sensitive, and the area of Hamilton Avenue, which will not be impacted by subsequent excavation or construction is also not considered archaeologically sensitive.*

The land on which this block was built was created after ca. 1849 and before 1855, by which time the Hamilton Avenue side of the block was built up with a row of identical brick buildings, probably the same four story stores as shown on the 1886 Sanborn map, which also records the maritime commercial character of many of these establishments. All the buildings were four story brick stores, with a number whose businesses clearly reflect the proximity of the Atlantic Dock, viz. the workshops for carpenters and boat builders and shipwrights; storage for stevedores, and a "sail institute" on Summit Street, as well as a boarding house and a hotel on Commercial Wharf and Imlay Street, respectively. The upper stories of the stores would have been occupied by those who ran the shops or rented out to others.

Block 499 today contains only lot 1, but formerly was divided up into 17 old lots. The earliest tax records, from 1869-1873, record that groups of lots had been bought up by single individuals, evidently for investment. David Van Cleef, for instance, owned old lots 4, 5 and

6, and all the Hamilton Avenue properties except for the corner lot on Commercial Wharf were developed by Martha Peet. Her lessees' names are unfortunately unknown, since the sewer records, which might have provided them, are lost.

In 1855, the Commercial Wharf (now Conover Street) side of the block had just two buildings near the corner of Summit Street. The rest of the old lots on the Summit Street and Commercial Wharf sides of the block were built upon only after 1855 but before 1869. Both the two buildings shown on the 1855 Perris map near the corner of Summit Street, as well as the later buildings on the north and west sides of the block, may be eliminated from consideration for archaeological sensitivity either because the old lots were sooner or later completely built over (old lots 1 through 6), or because the sewer connection records predate 1867 while the buildings were erected after 1855, suggesting that they were probably hooked up shortly after their construction. For instance, lots 7 and 8, were not developed until after ca. 1869 (Dripps), but their sewer connections were recorded in the lost book 3, which should date before ca. 1867. *Old lots 1 through 8 are therefore not considered archaeologically sensitive.*

The properties on lots 9 through 14 were also connected to the sewer system before 1867. Their connections were recorded in the lost book 2, dating probably to the early to mid 1860s, probably no more than about ten years after the buildings were erected. Lot 17 was connected in 1869. Lot 15 has no sewer connection recorded and lot 16 was not connected until 1931! None of the buildings or their rear yards was impacted by subsequent construction, and the residents may well have used cisterns and privies. *Old lots 9 through 17 are therefore considered archaeologically sensitive for a privy and a cistern.*

Block 500

The small triangular block 500 is no longer bounded by three streets as shown on the tax map but subsumed into the general area at the southern end of the Brooklyn piers. *As noted in the previous sections, neither Summit Street, nor Hamilton Avenue is considered archaeologically sensitive, but Van Brunt Street, which passes in front of the tip of this block, is considered archaeologically sensitive for early water pipes.*

Like block 499 to the north, the land on which block 500 was built was created only ca. 1850, but quickly developed thereafter, because the 1855 Perris map already shows four brick buildings on the block, three of them industrial, since they are marked green for hazard. These cover most of the block area. The Imlay Street front of the block was developed by 1880. The 1886 Sanborn records that several of the shops were smithies. By 1915, the commercial establishments had become more diversified, with a plumber supply and a moving picture store sharing the block with other stores, and a poultry seller moving in between 1915 and 1939. All the old buildings were demolished between 1939 and 1950, to be replaced by a single large office building that was in its turn demolished between 1979 and 1988.

Because the block was almost completely covered with commercial buildings practically since its creation, and these will not have left archaeological traces of historic interest, no part of this block is considered archaeologically sensitive.

6. CONCLUSIONS AND RECOMMENDATIONS

This assessment has determined that a total of seventy-three sites, consisting of the former back yards of dwellings and stores, are potentially archaeologically sensitive for remains of cisterns and / or privies associated with the earliest period of occupation on the project site. Twenty-four of these sites are located on block 281, lot 1: there are ten sites on the block between Congress and Warren Street (old block 1) and seven on the block between Degraw and Sackett Streets (old blocks 47 and 47A); one site is located each of the old blocks between Warren and Baltic Streets (old block 20) and Baltic and Kane Streets (old block 19); the block between Sedgwick and Degraw Streets contains four sites. The remaining sections of block 281, lot 1 are not sensitive for archaeological remains, that is: the entire area between Atlantic Avenue and Congress Street, and between Kane and Sedgwick Streets. Block 281, lot 62 is not considered archaeologically sensitive. The remaining sites are located as follows: thirteen sites on block 334; twenty-one on block 340; six on block 346, and nine on block 499. No part of block 500 is considered archaeologically sensitive.

Sections of almost all the present and former streets within the project site area contain water pipes belonging to the earliest system installed in the area. These are therefore also considered archaeologically sensitive. Only Summit, Imlay and Conover Streets may be eliminated from consideration, as the pipes laid in those streets are later in date. Hamilton Avenue is also not considered archaeologically sensitive because no building or excavation will take place in its right-of-way, which runs over the Brooklyn Battery Tunnel. In any case, the excavation for the tunnel will have probably destroyed the old street bed and the pipes that it contained. In all the other streets, however, there are pipes dating between the late 1850s to 1860, which are the earliest laid by the Nassau Water Company and therefore of historical significance. The streets considered potentially sensitive for archaeological remains of early water systems are: Pacific, Amity, Congress, Warren, Baltic, and Kane Streets, west of Columbia Street; Kane, Sedgwick, Degraw, Sackett, Union and President Streets, west of Van Brunt Street, and Van Brunt Street between Kane Street and Hamilton Avenue.

This assessment recommends that archaeological testing be undertaken in the former back yard areas flagged for archaeological sensitivity in order to determine the presence or absence of remains of privies or cisterns and their state of preservation. A backhoe may be

used to remove the asphalt and its bedding to expose the fill layer beneath in which the privies or cisterns may have been excavated. Any features encountered would then be excavated by hand by archaeologists, their form and location recorded, and their contents collected, recorded and studied. As for the area of the streets, the following protocol is recommended. In the case of mapped streets, where the street needs to be opened in install new utilities, or in the case of demapped streets, where construction will necessitate excavation within the former street beds, it is recommended that an archaeologist be present to monitor the work of the utilities company or builder. Should any old pipes come to light during either of these operations, or any other operation that might negatively impact potential archaeological remains, it is understood that work would be temporarily suspended until the archaeologist could assess the integrity of the remains, record them, and if the archaeologist and the LPC deemed it appropriate, excavated portions of the pipes for further study and possible conservation.

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Fig. 1. General aerial view of the project site area under review for archaeological sensitivity.



Fig. 2. Aerial view of part of block 281 with piers 7 & 8, showing the location of part of the project site.



Fig. 3. Aerial view of part of block 281 with piers 9A & 9B, showing the location of part of the project site.

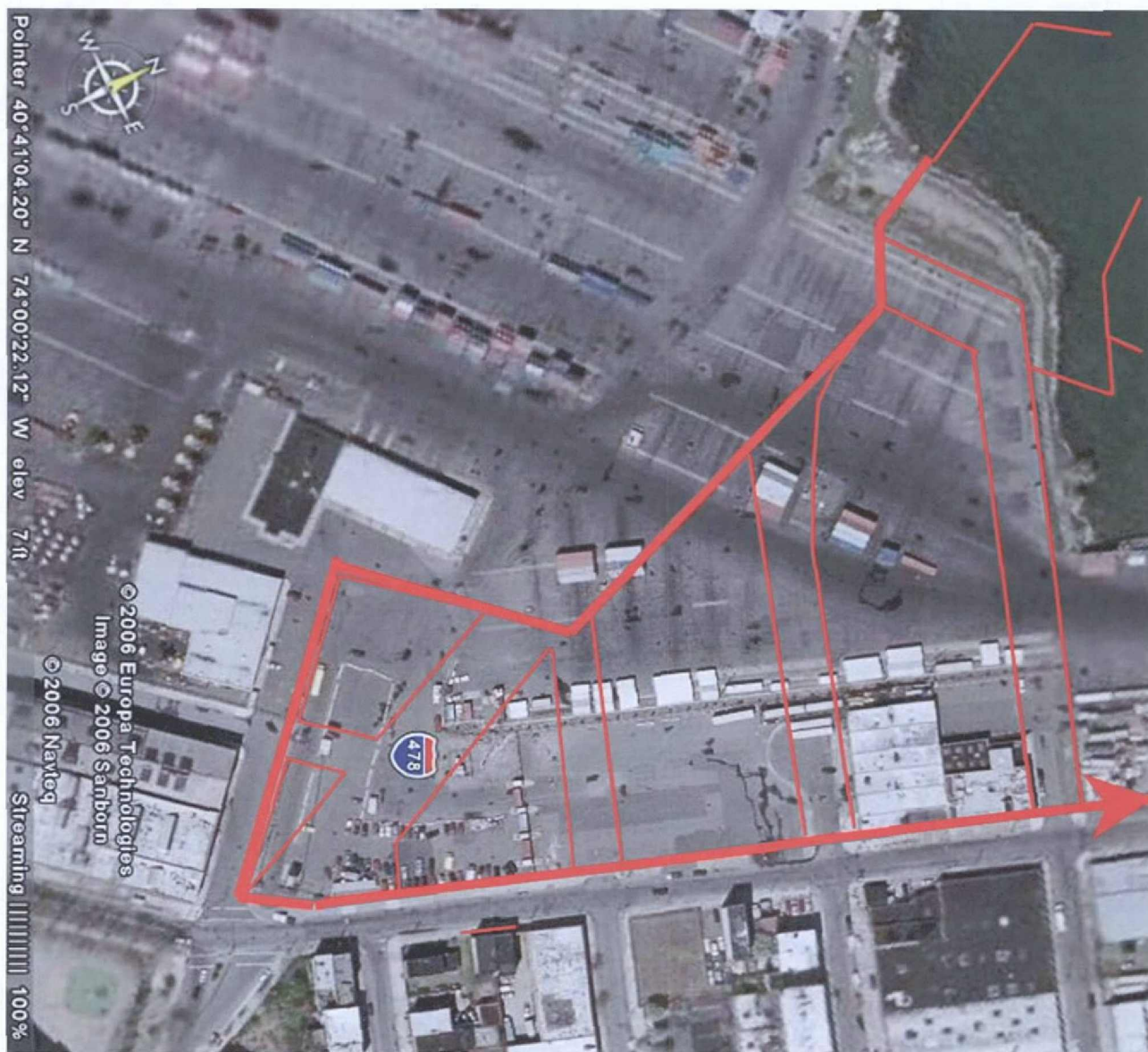


Fig. 4. Aerial view of blocks 334, 340, 346, 499 and 500, showing the location of part of the project site.



Fig. 5. View west on Atlantic Avenue; the project site and pier 7 on the left.



Fig. 6. View from the northeast corner of Columbia Street and Atlantic Avenue looking towards pier 7



Fig. 7. View from Columbia Street west towards pier 7.



Fig. 8. View from Columbia Street west towards pier 8 on the left.



Fig. 9. View from the corner of Columbia Street at Warren Street looking south southwest towards the Port Authority of New York and New Jersey and the New York Marine Terminals Brooklyn Port Authority Piers Administration buildings.



Fig. 10. View from the east side of Columbia Street at Baltic Street looking west towards 100 Columbia Street, the Waterfront Commission Building.



Fig. 11. View from the east side of Columbia and Baltic Streets towards the southwest.

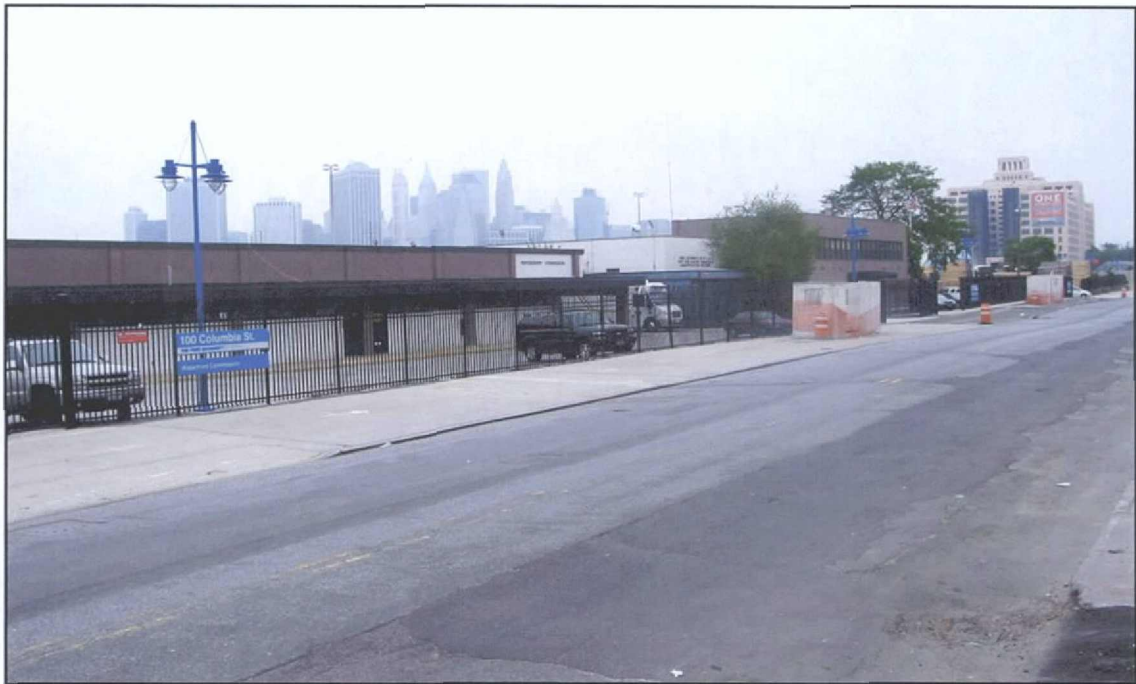


Fig. 12. View from the northeast corner of Kane and Columbia Streets north on Columbia Street.

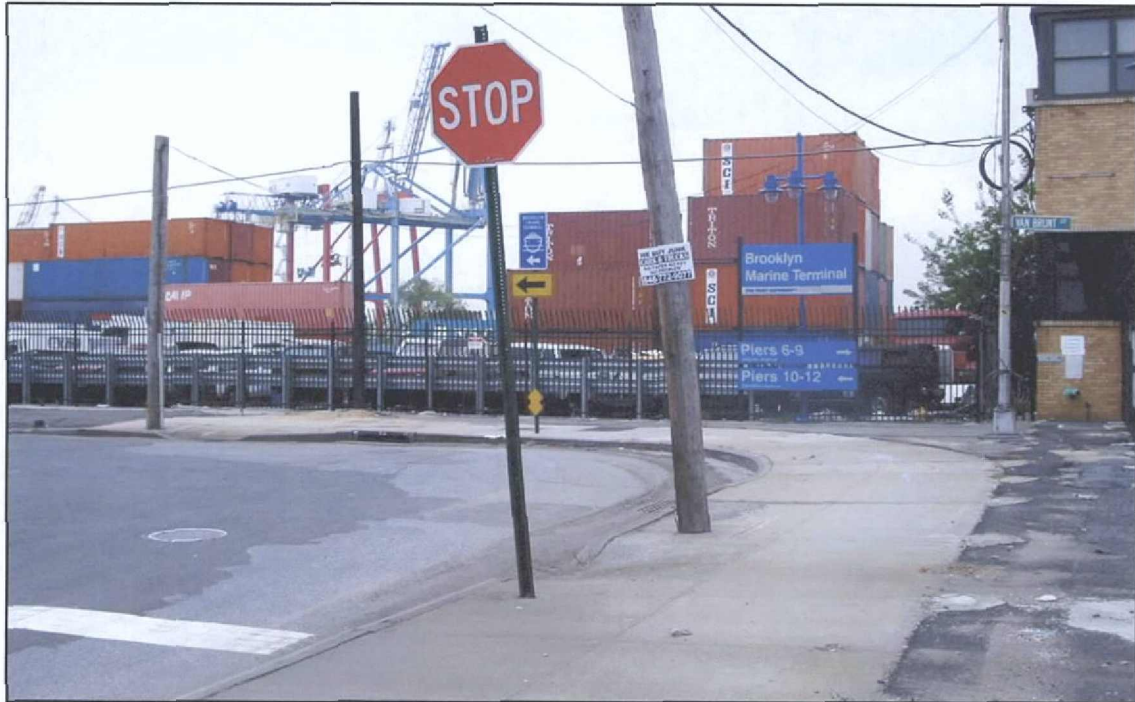


Fig. 13. View from near the corner of Van Brunt and Degraw Streets looking west.



Fig. 14. View from the northwest corner of Van Brunt and Sackett Streets looking south southwest.

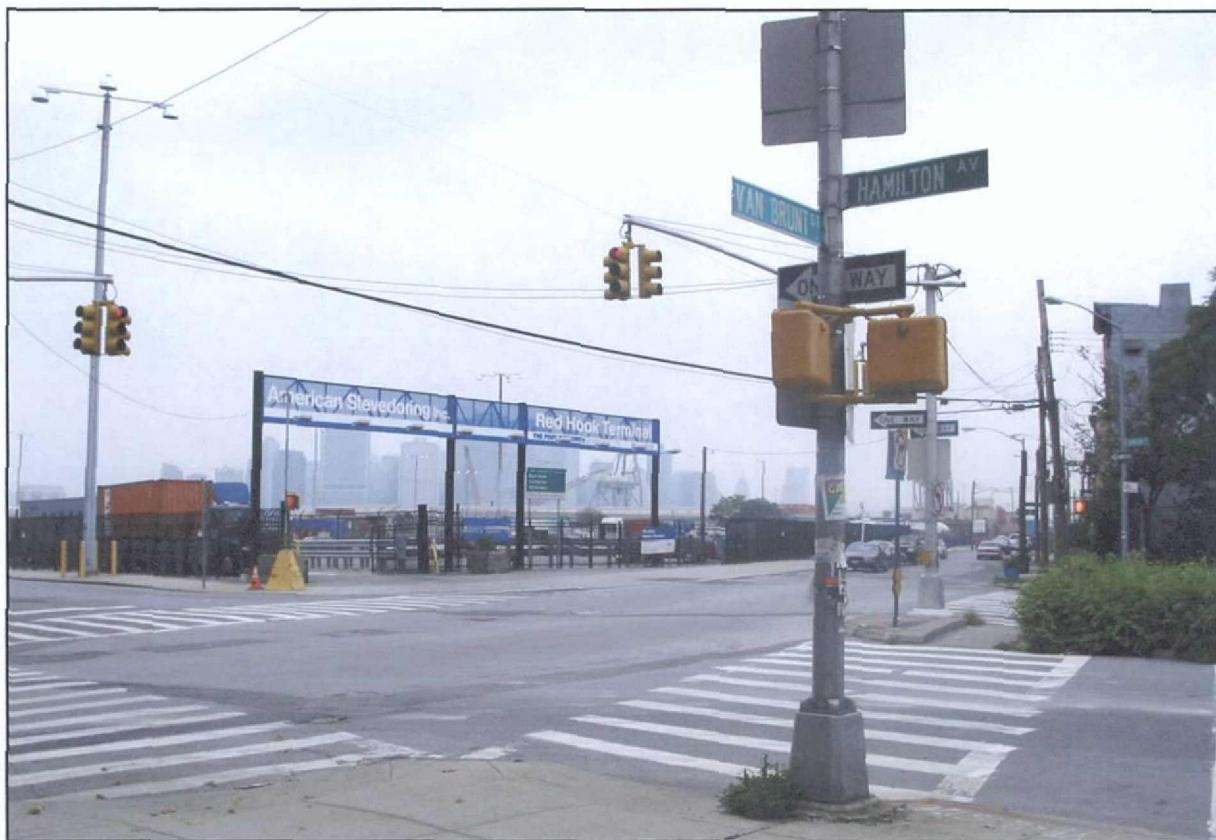


Fig. 15. View from the southeast corner Van Brunt Street and Hamilton Avenue, looking northwest along Van Brunt Street (Summit Street on the left).

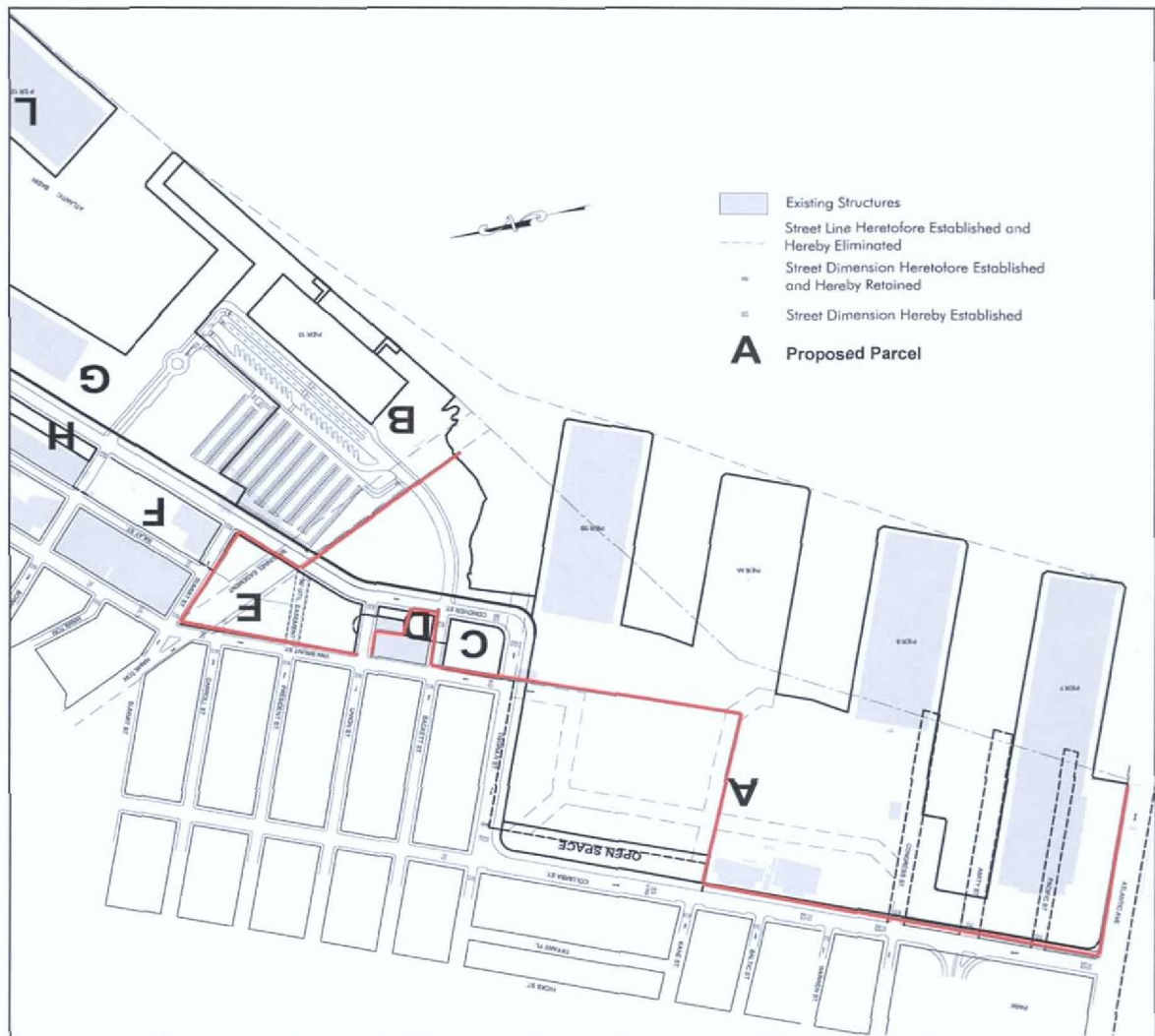


Fig. 16. Brooklyn piers, proposed parcels, showing the location of the project sites.
Courtesy Philip Habib & Associates.

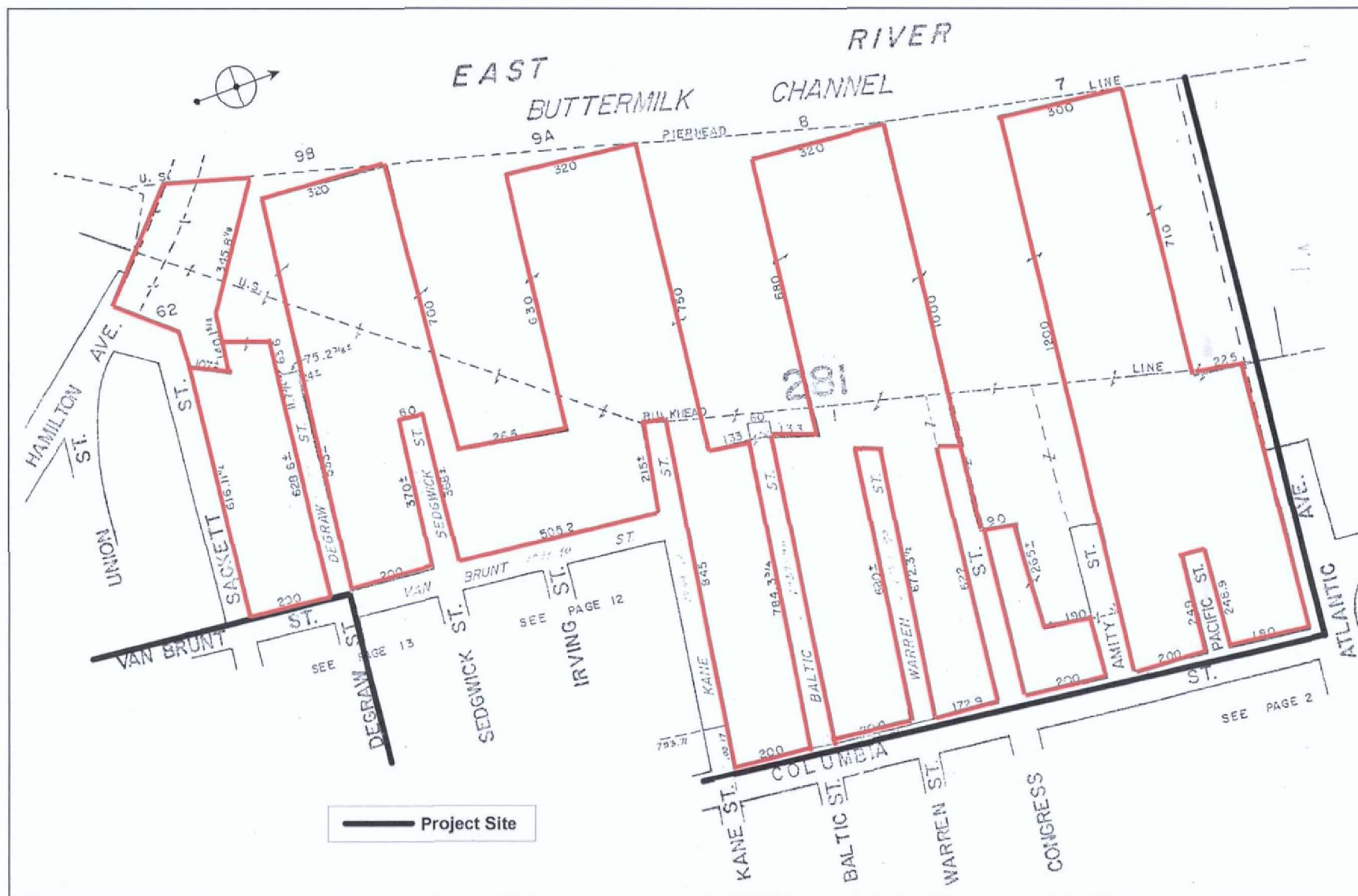


Fig. 17. Tax map of block 281, lots 1 and 62.

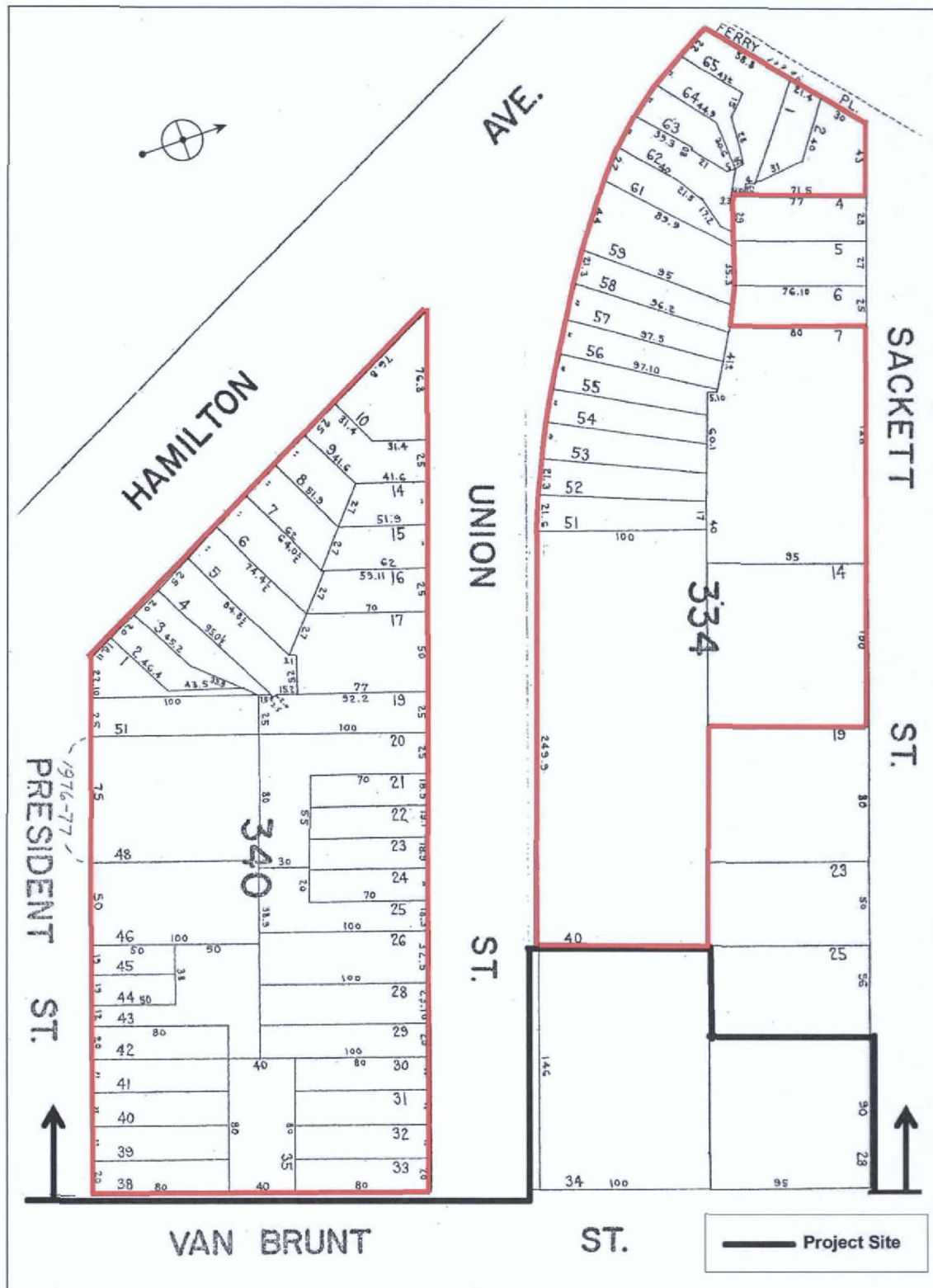


Fig. 18. Tax map of blocks 334 and 340.

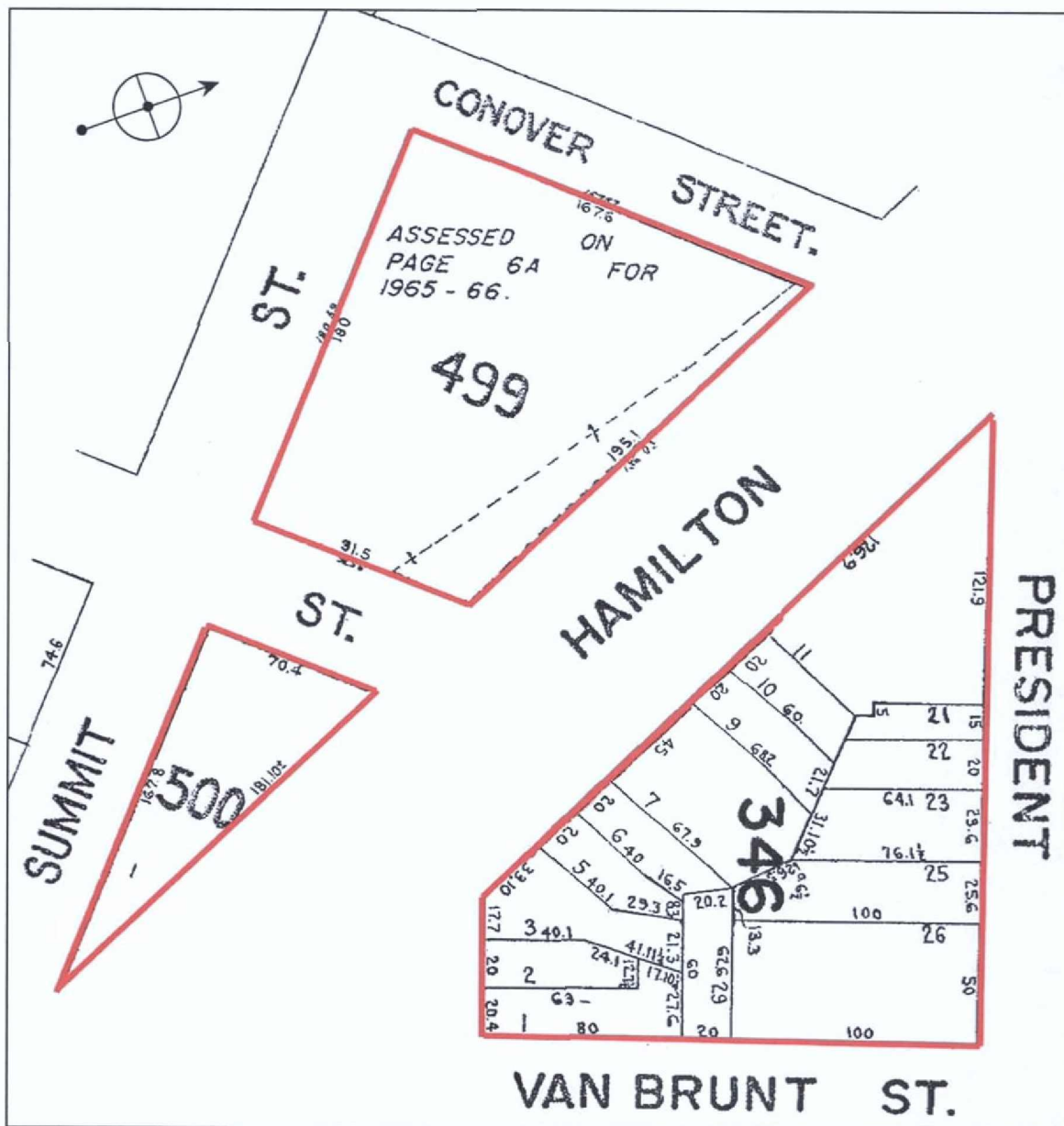


Fig. 19. Tax map of blocks 346, 499 and 500.



Fig. 20. 1836 Colton map showing the location of the project sites.

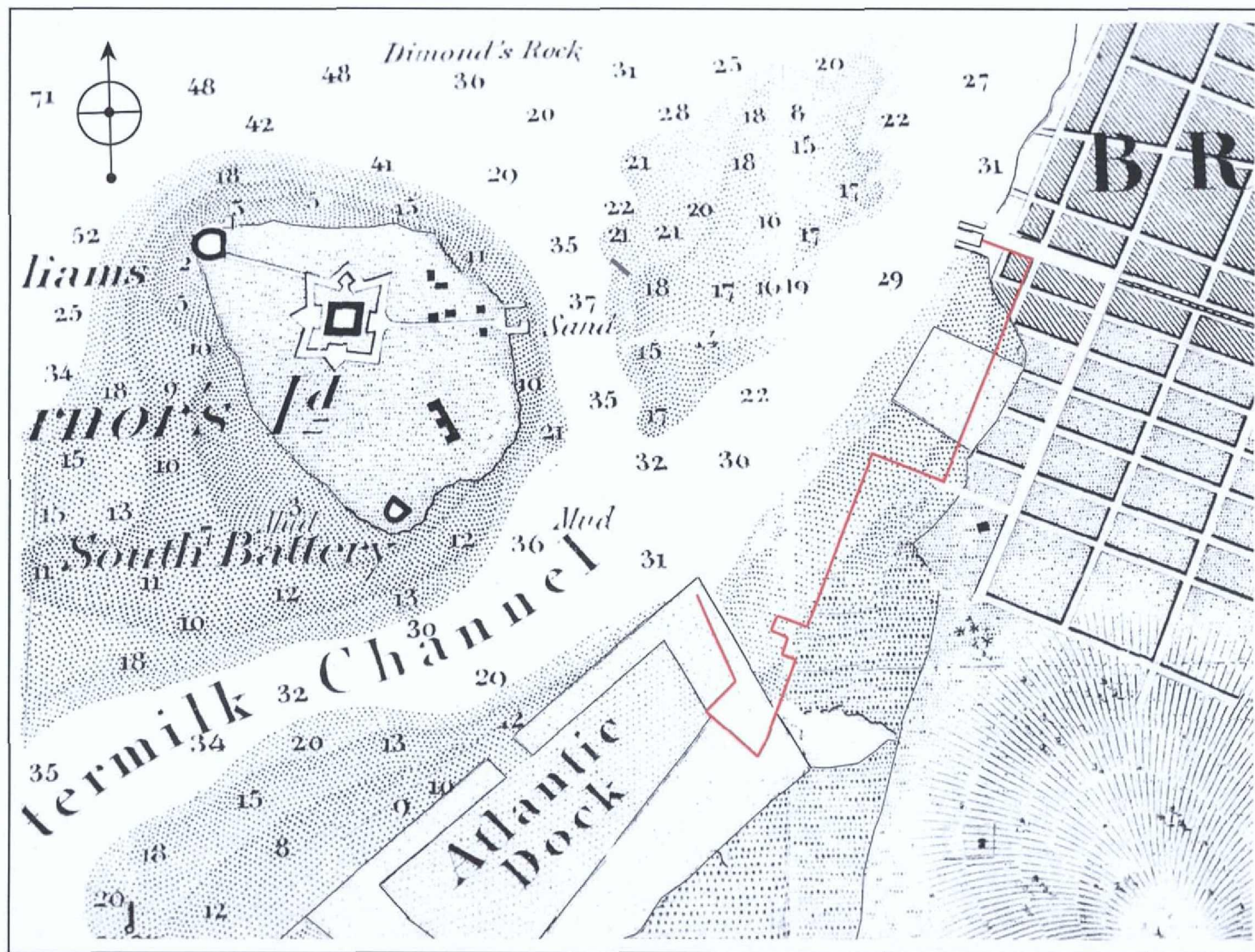


Fig. 21. 1845 Coastal Survey map showing the location of the project sites.

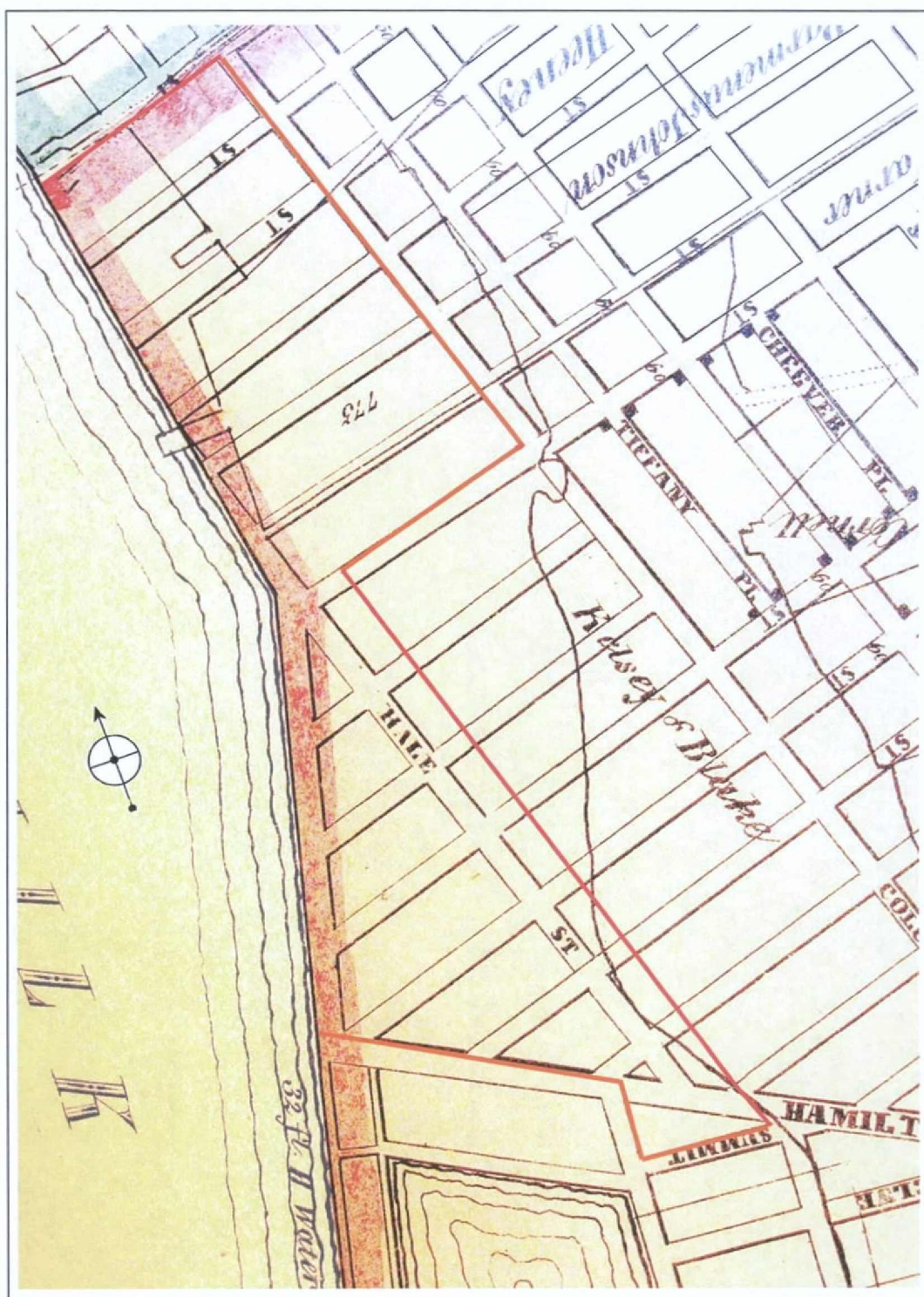


Fig. 22. 1846 Butt map showing the location of the project sites.

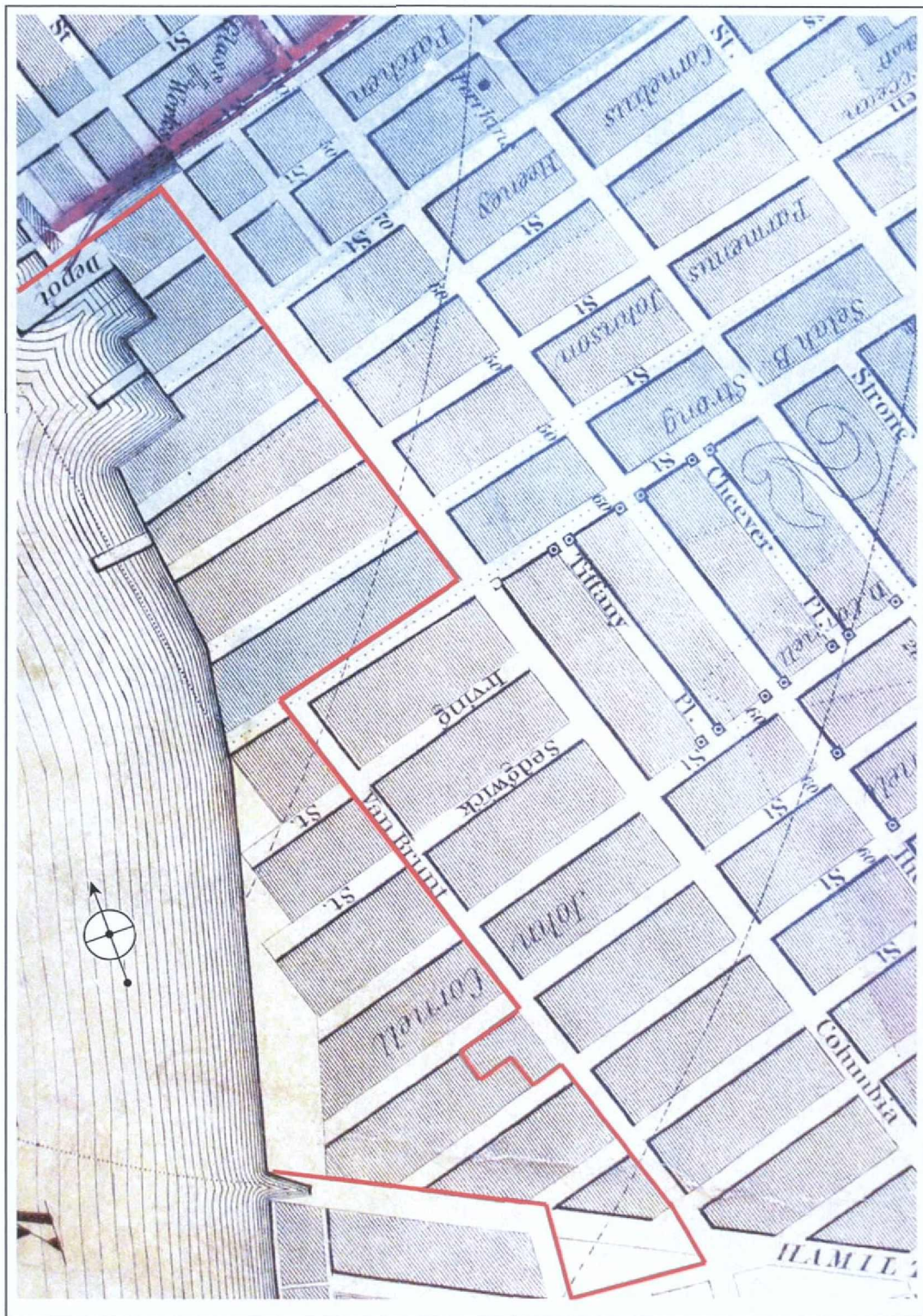


Fig. 23. 1849 Colton map showing the location of the project sites.

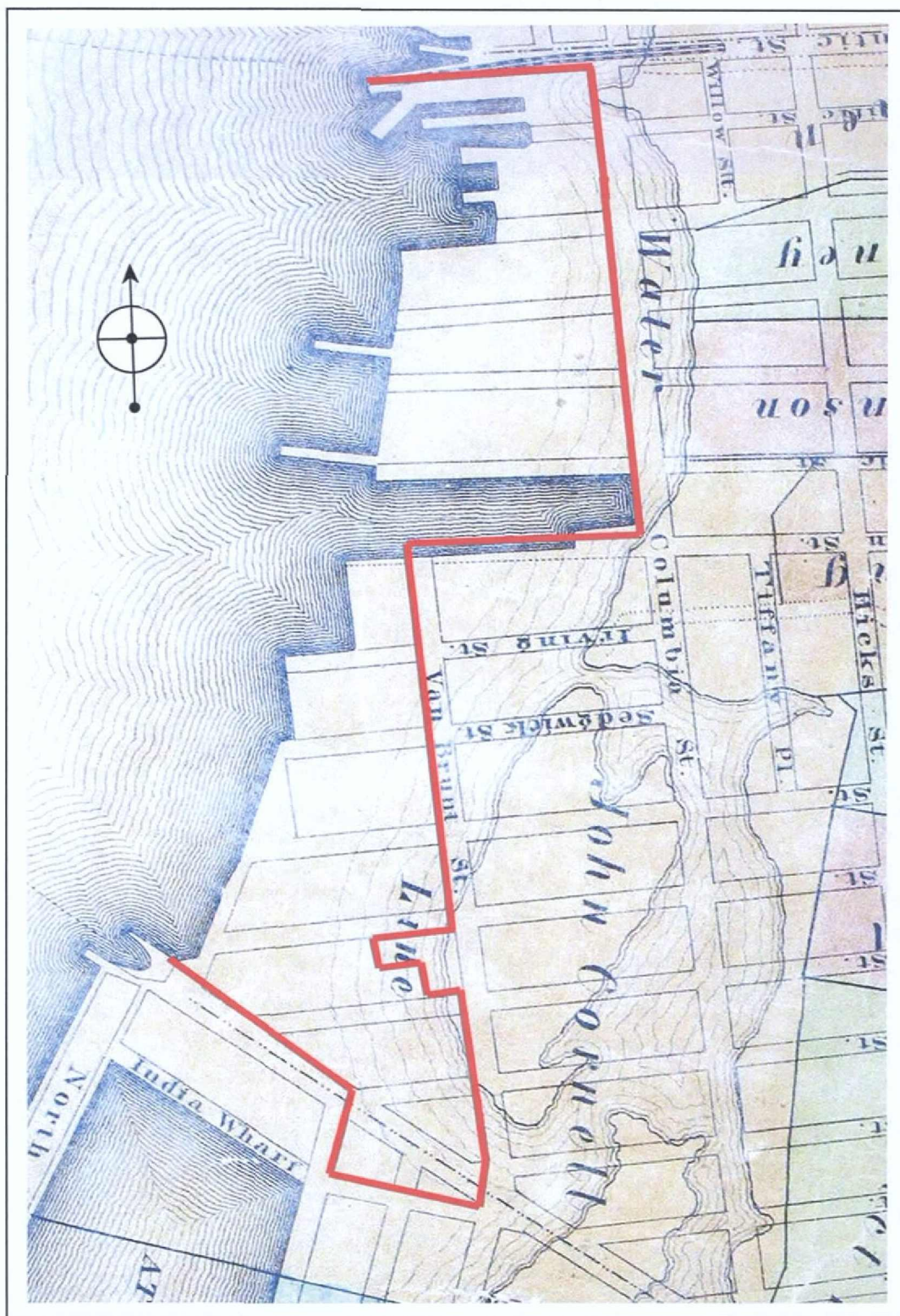


Fig. 24. 1855 Perris map showing the original coastline and the location of the project sites.

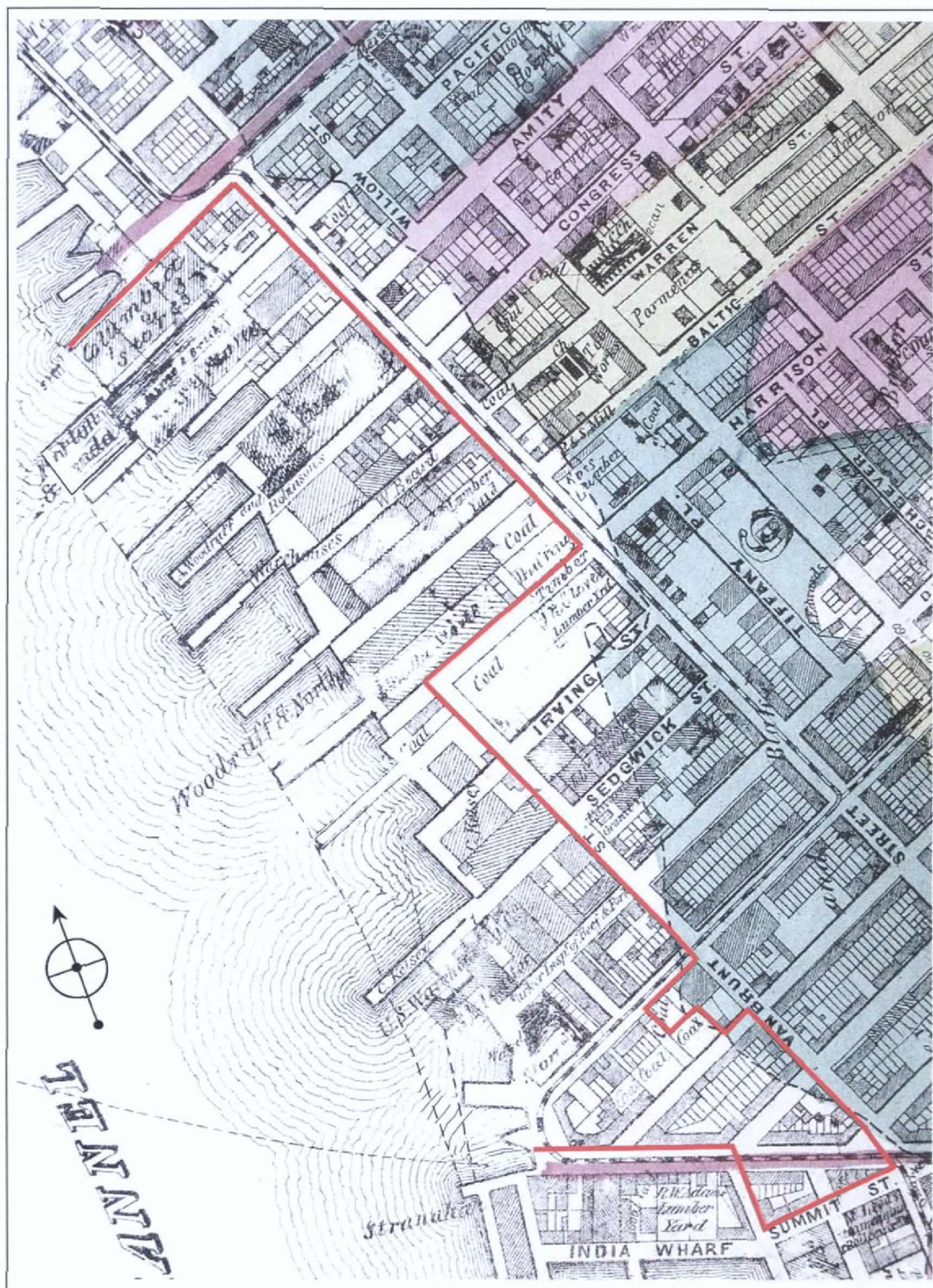


Fig. 25. 1869 Dripps map showing the location of the project sites.

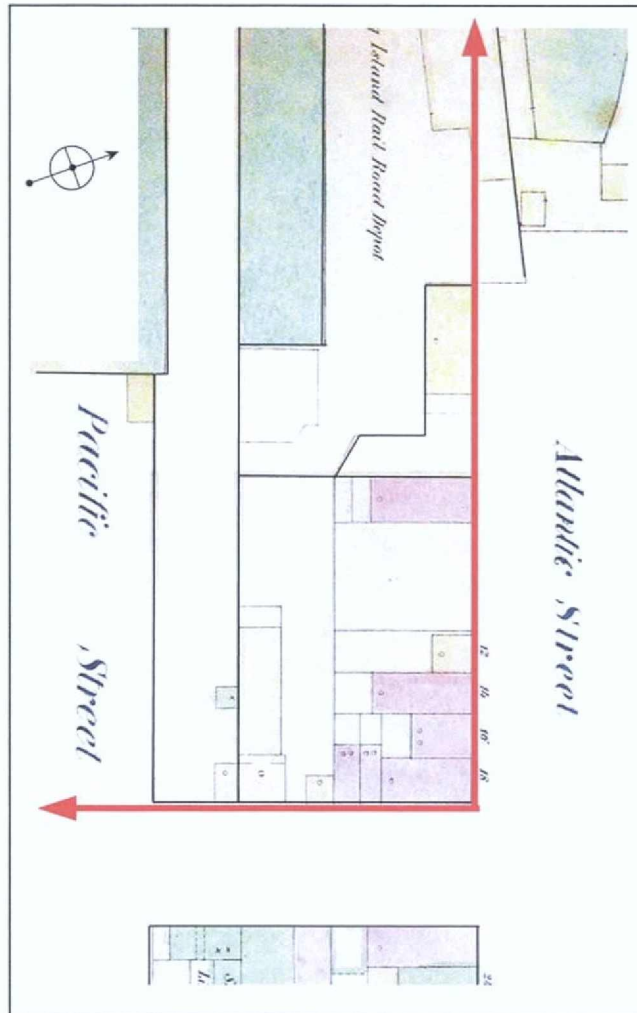


Fig. 26. 1855 Perris map showing the location of the project site on block 281, lot 1, between Atlantic and Pacific Streets.

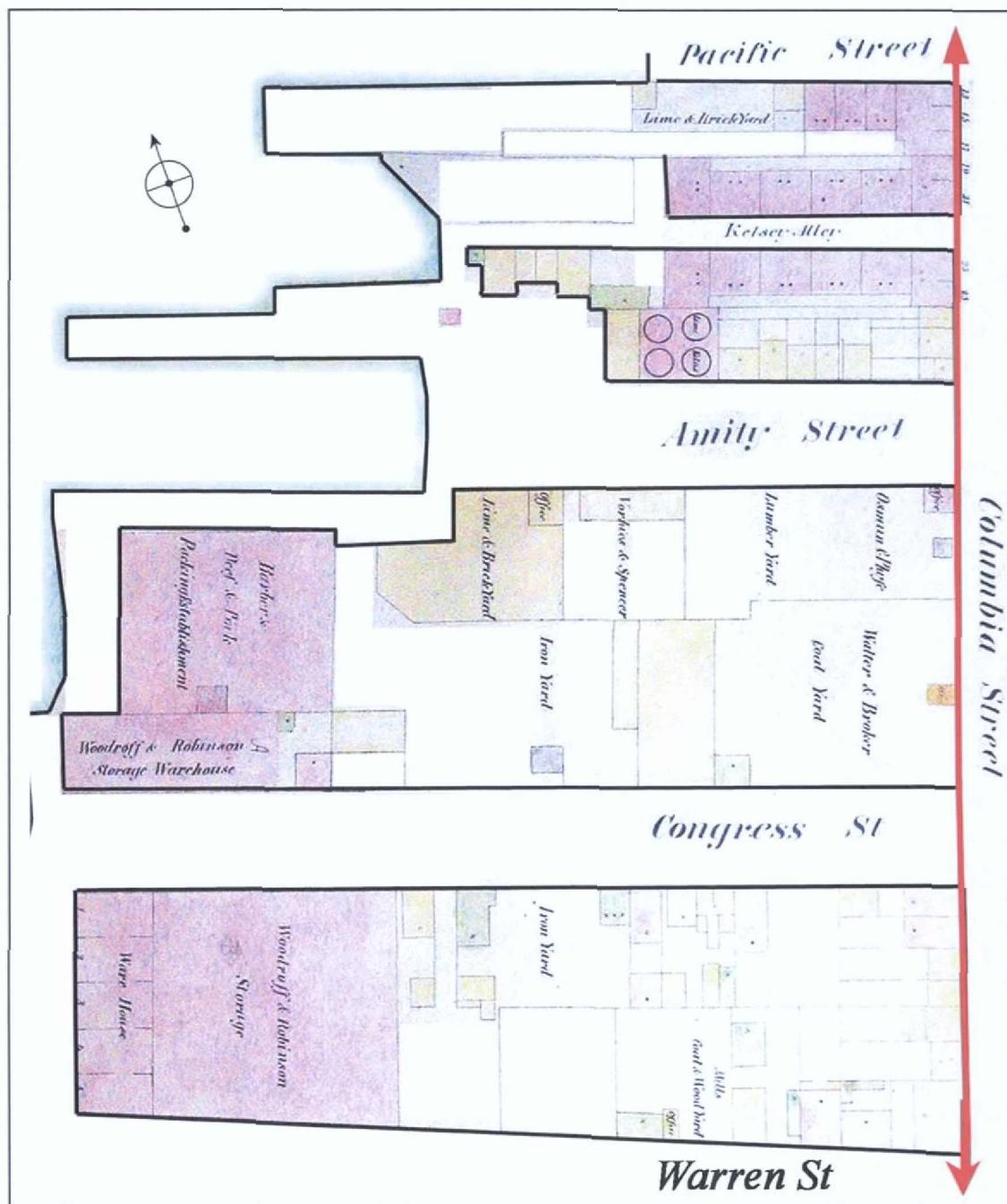


Fig. 27. 1855 Perris map showing the location of the project site on block 281, lot 1, between Pacific and Warren Streets.

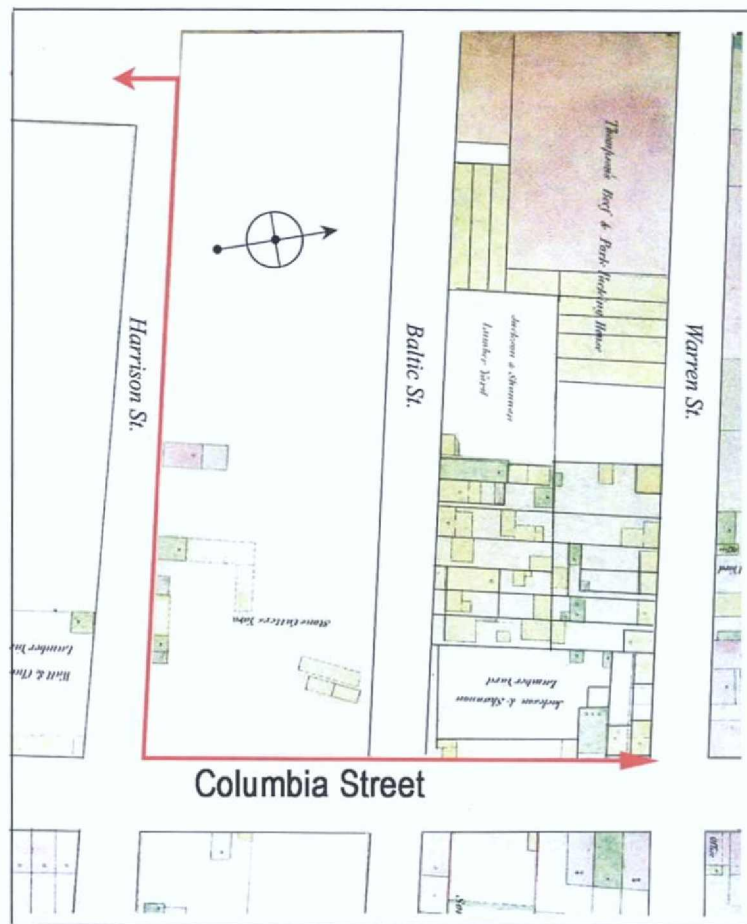


Fig. 28. Fig. 1855 Perris map showing the location of part of the project site on block 281, lot 1, between Warren and Harrison (Kane) Streets.

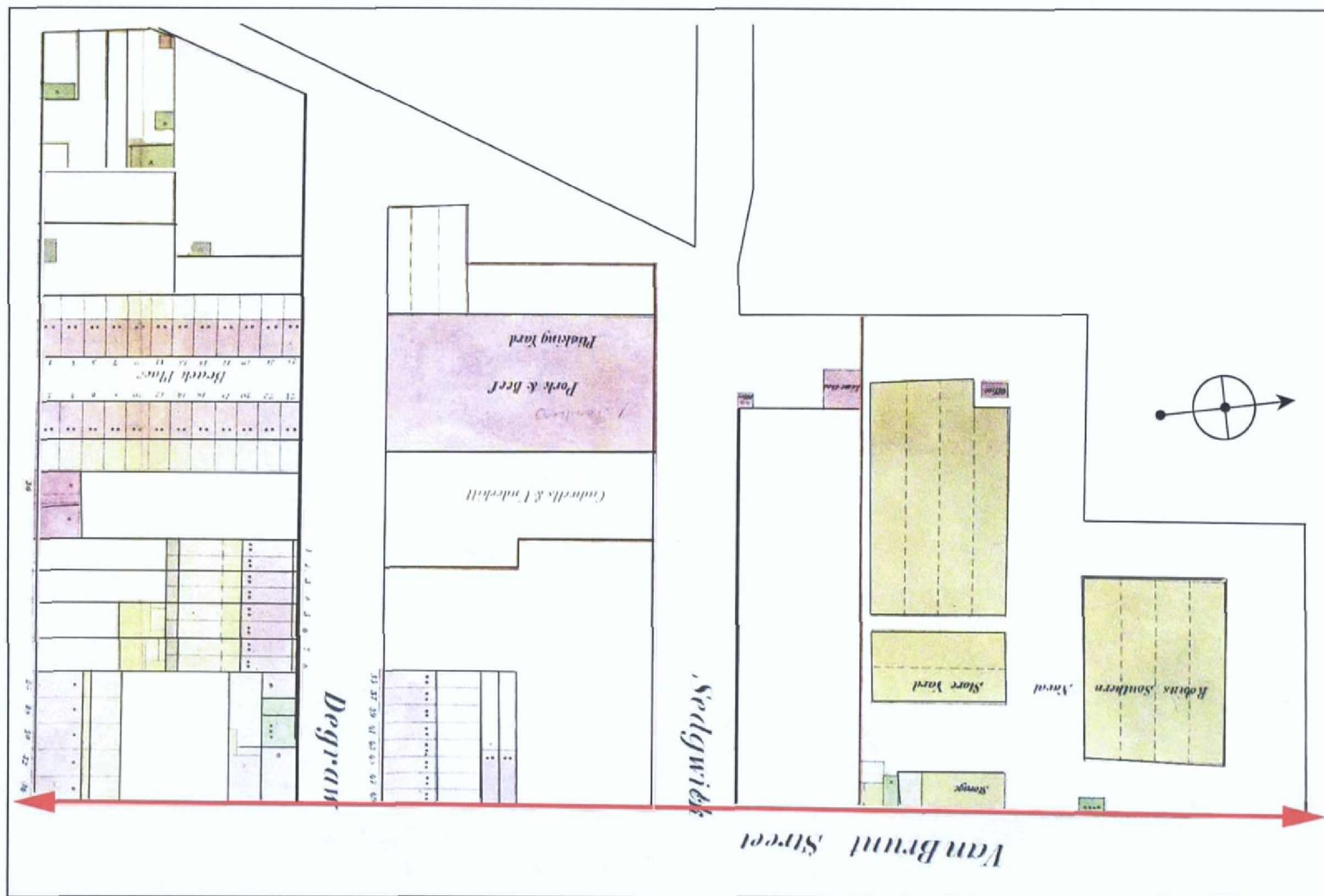


Fig. 29. 1855 Perris map showing the location of part of the project site on block 281, lot 1, between Harrison (Kane) and Sackett Streets.

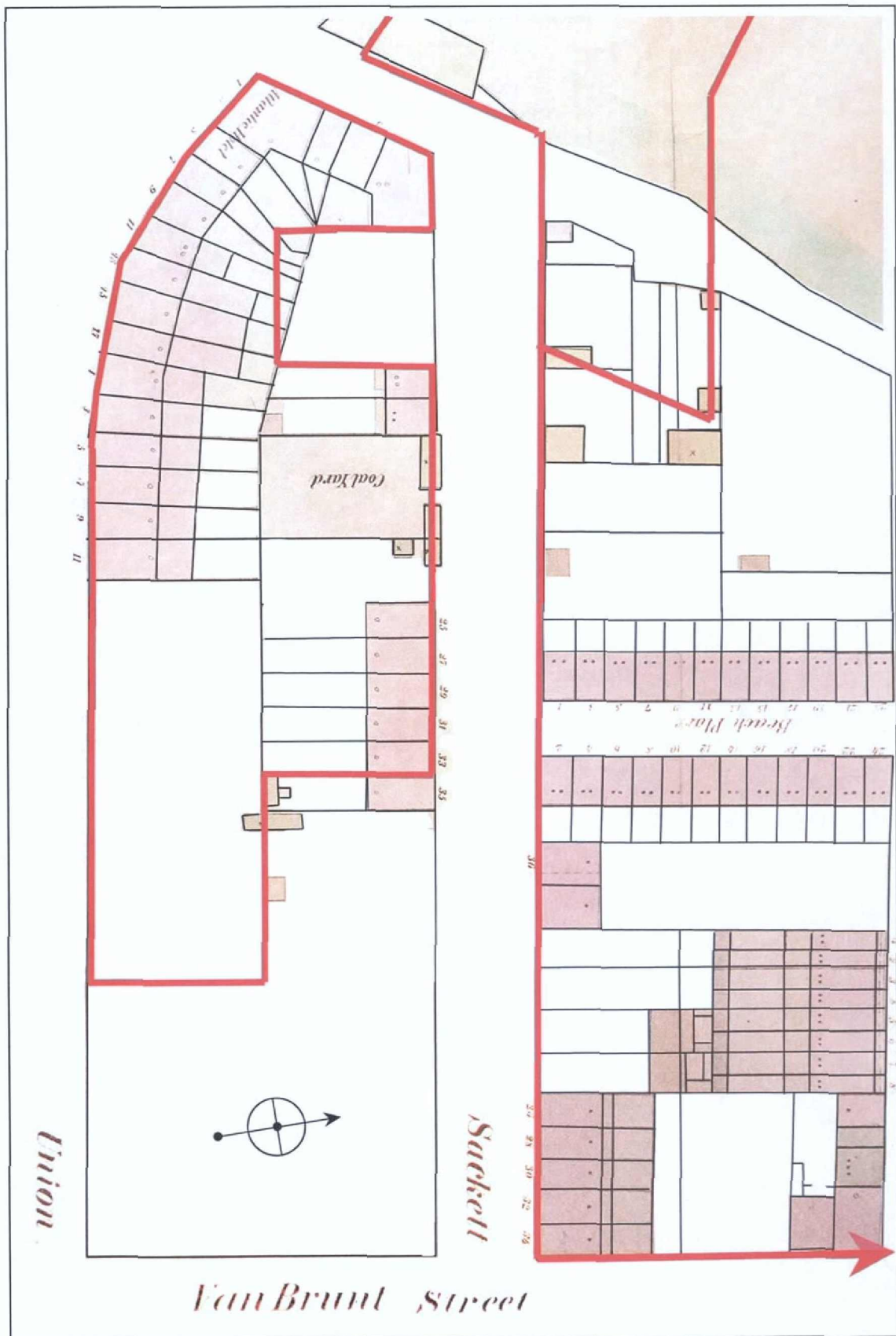


Fig. 30. 1855 Perris map showing the location of the project site on block 334

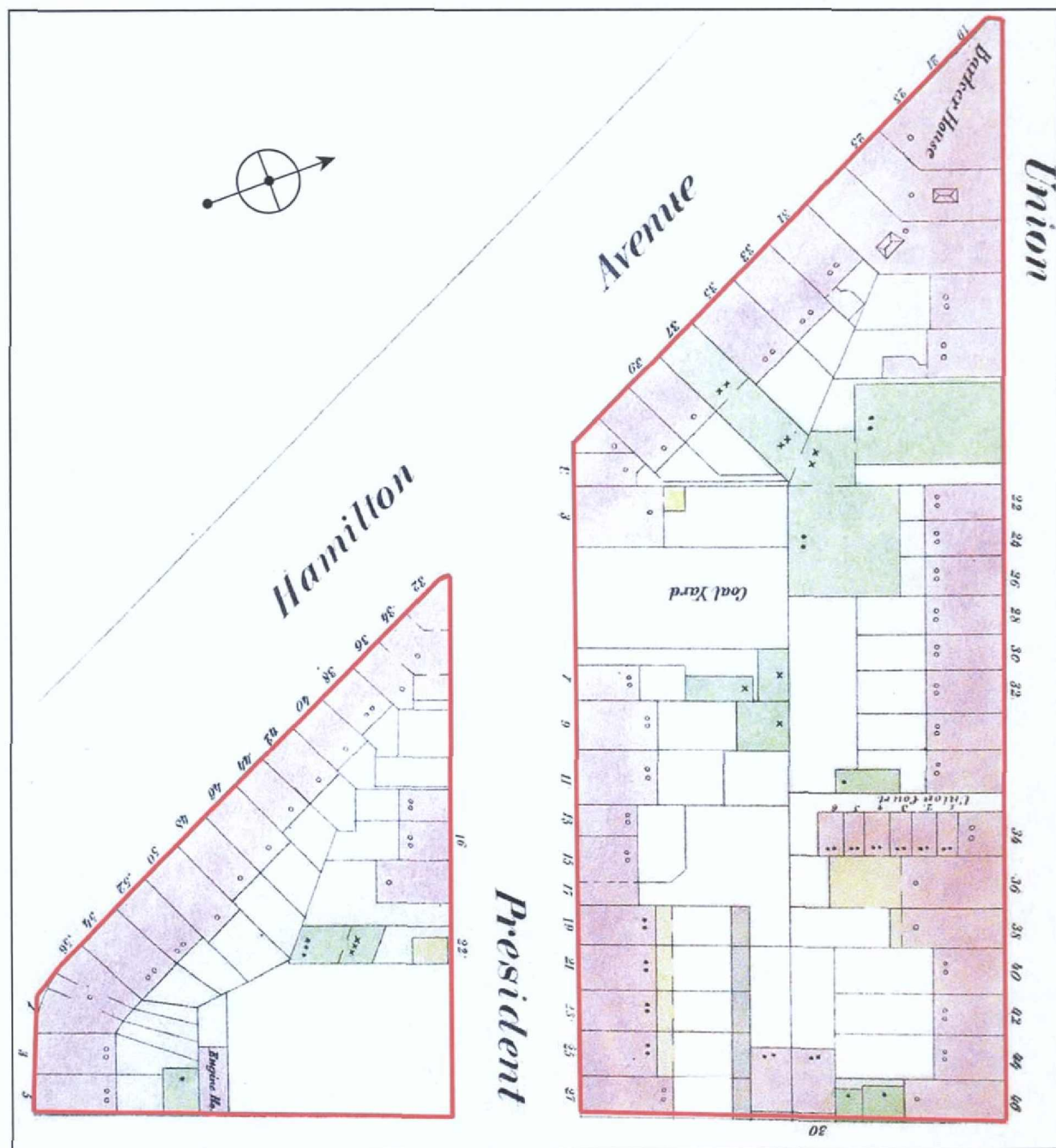


Fig. 31. 1855 Perris map showing the location of the project site on blocks 340 (left) and 346 (right).

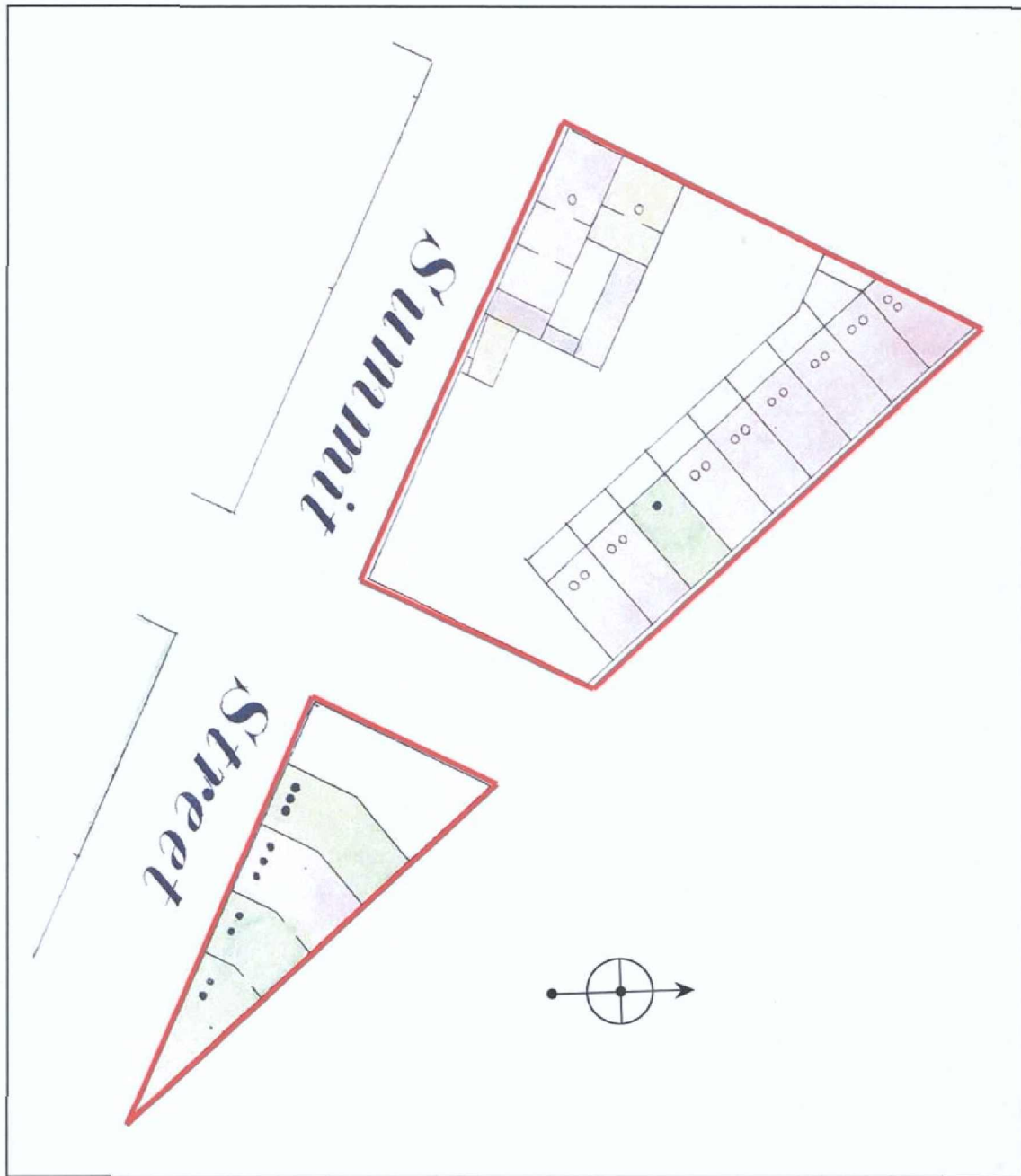


Fig. 32. 1855 Perris map showing the location of the project site on blocks 499 and 500.

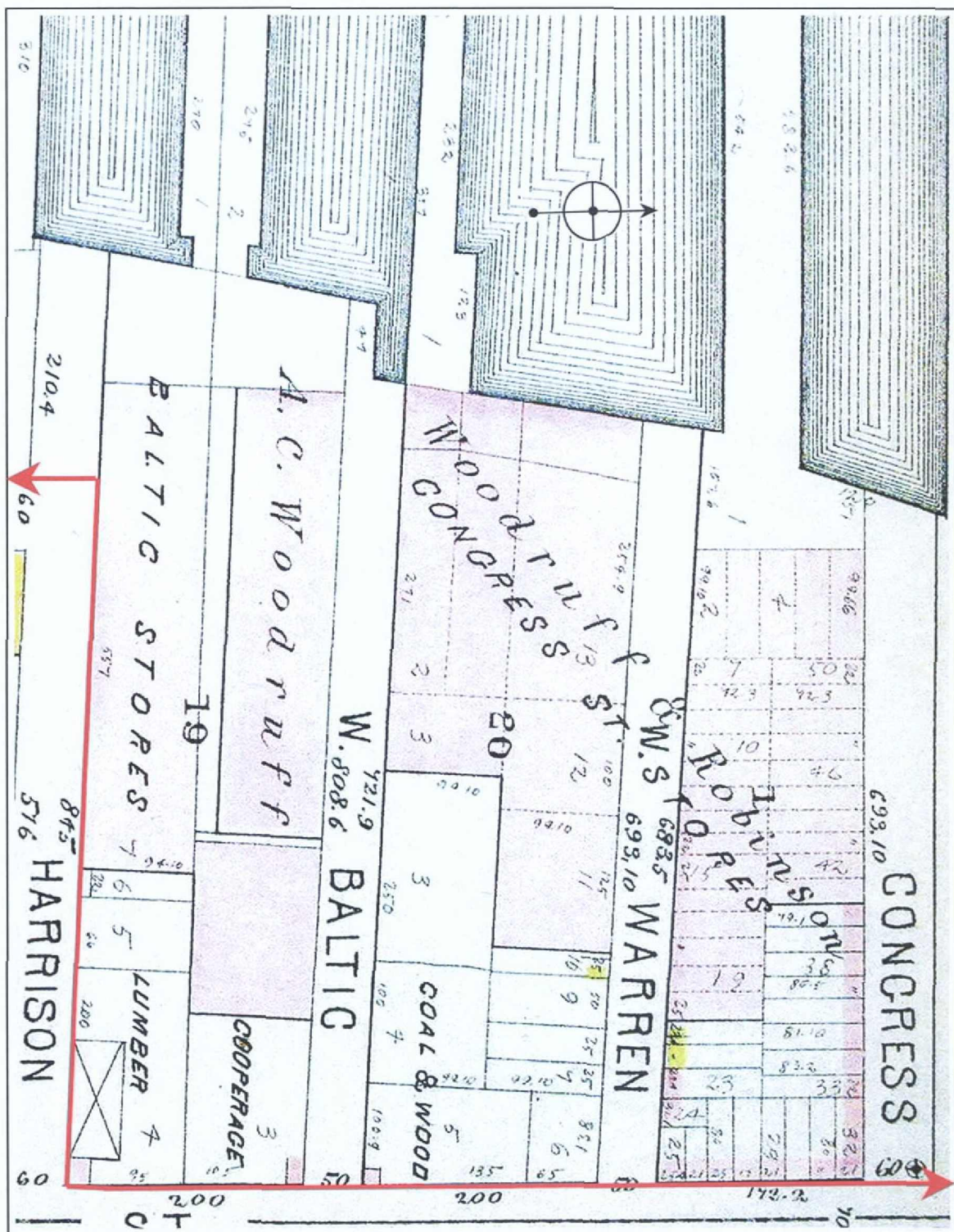


Fig. 34. 1880 Bromley map showing the location of the project site on block 281, lot 1, between Congress and Harrison (Kane) Streets.

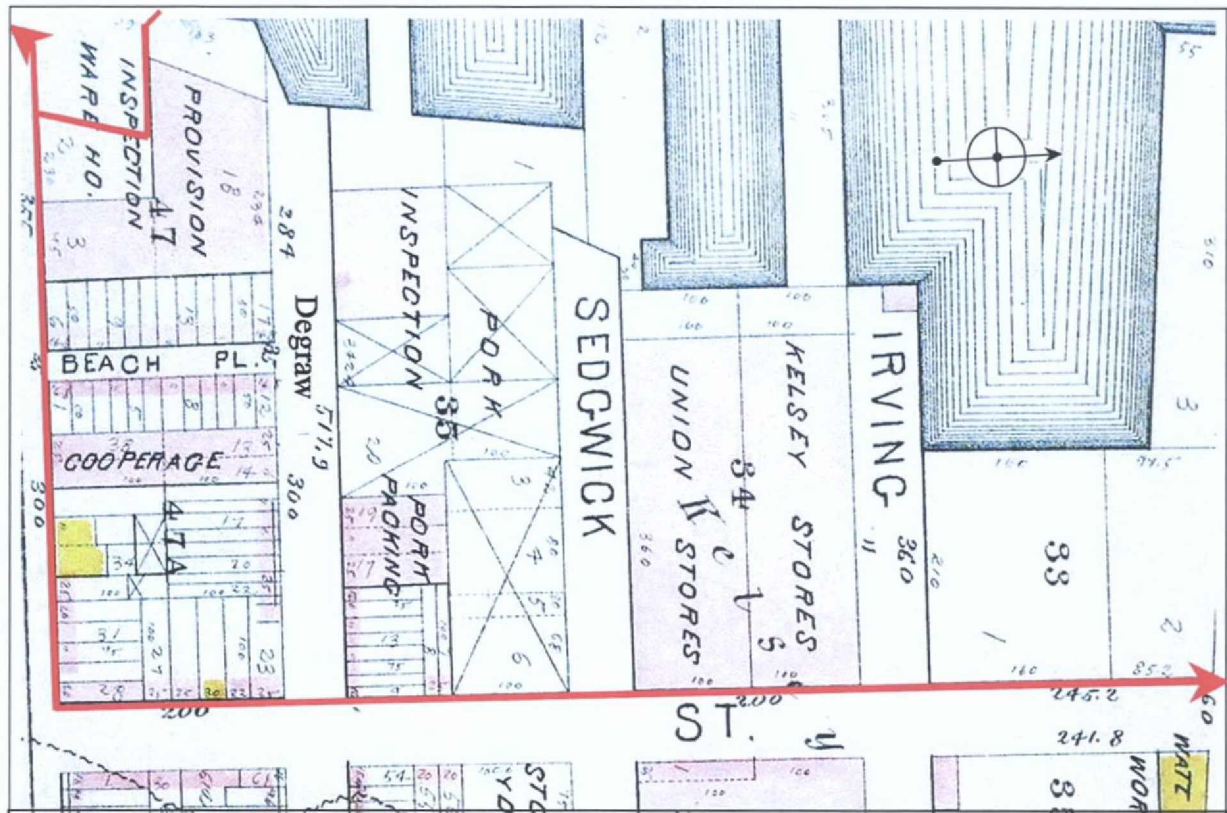


Fig. 35. 1880 Bromley map showing the location of the project site on block 281, lot 1, between Harrison (Kane) Streets and Sackett Streets.

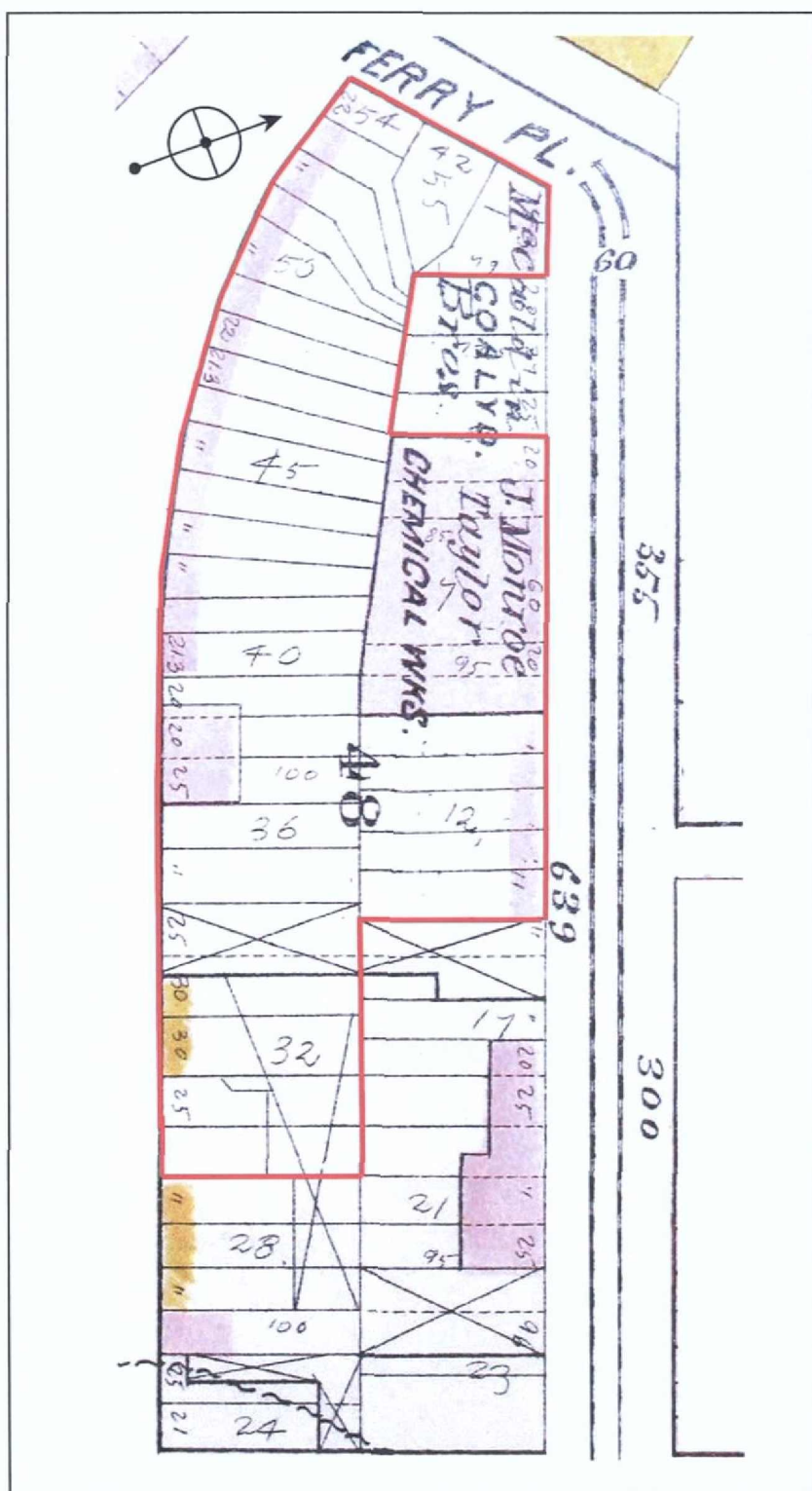


Fig. 36. 1880 Bromley map showing the location of the project site on block 334.

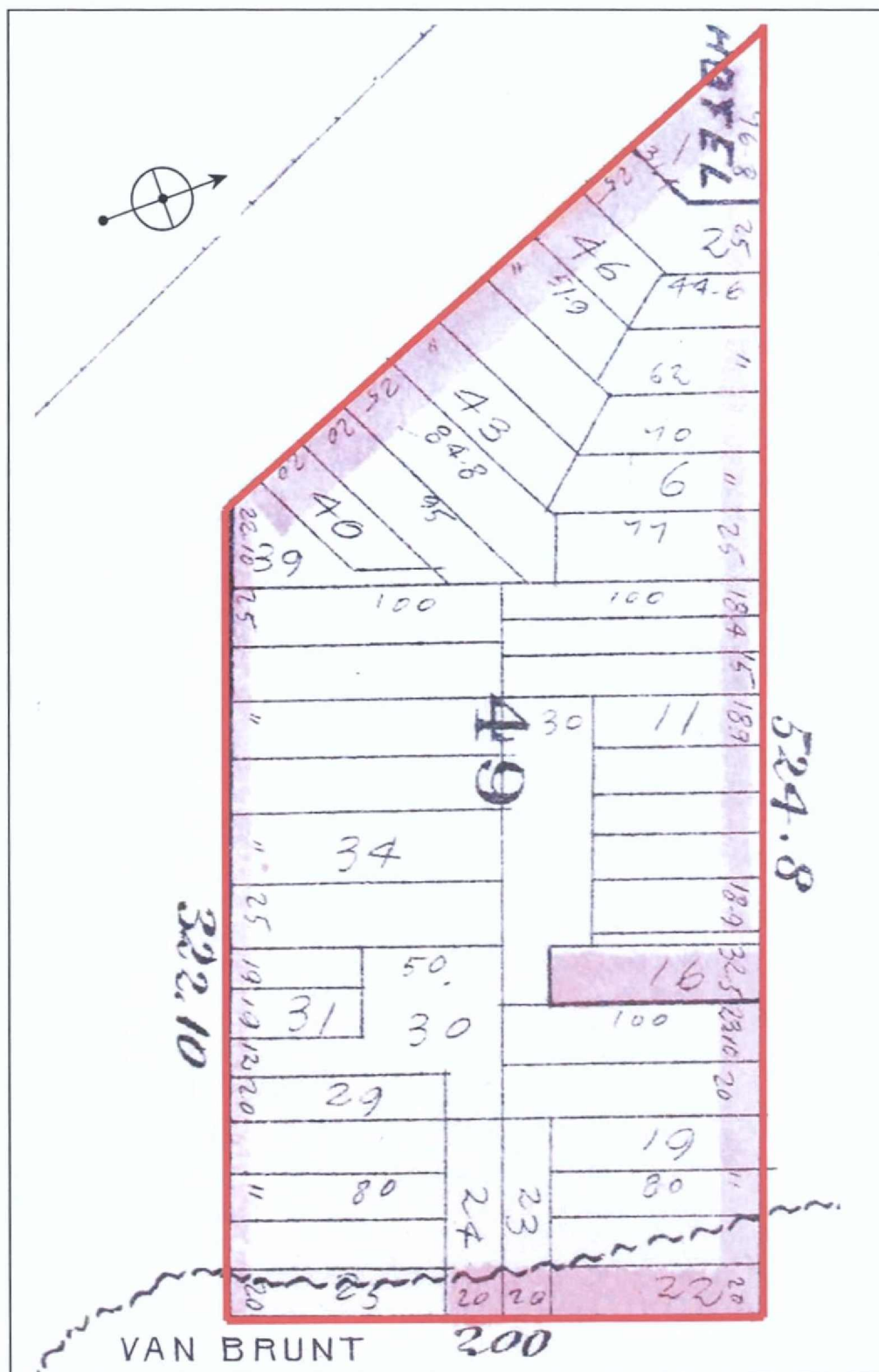


Fig. 37. 1880 Bromley map showing the location of the project site on block 340.

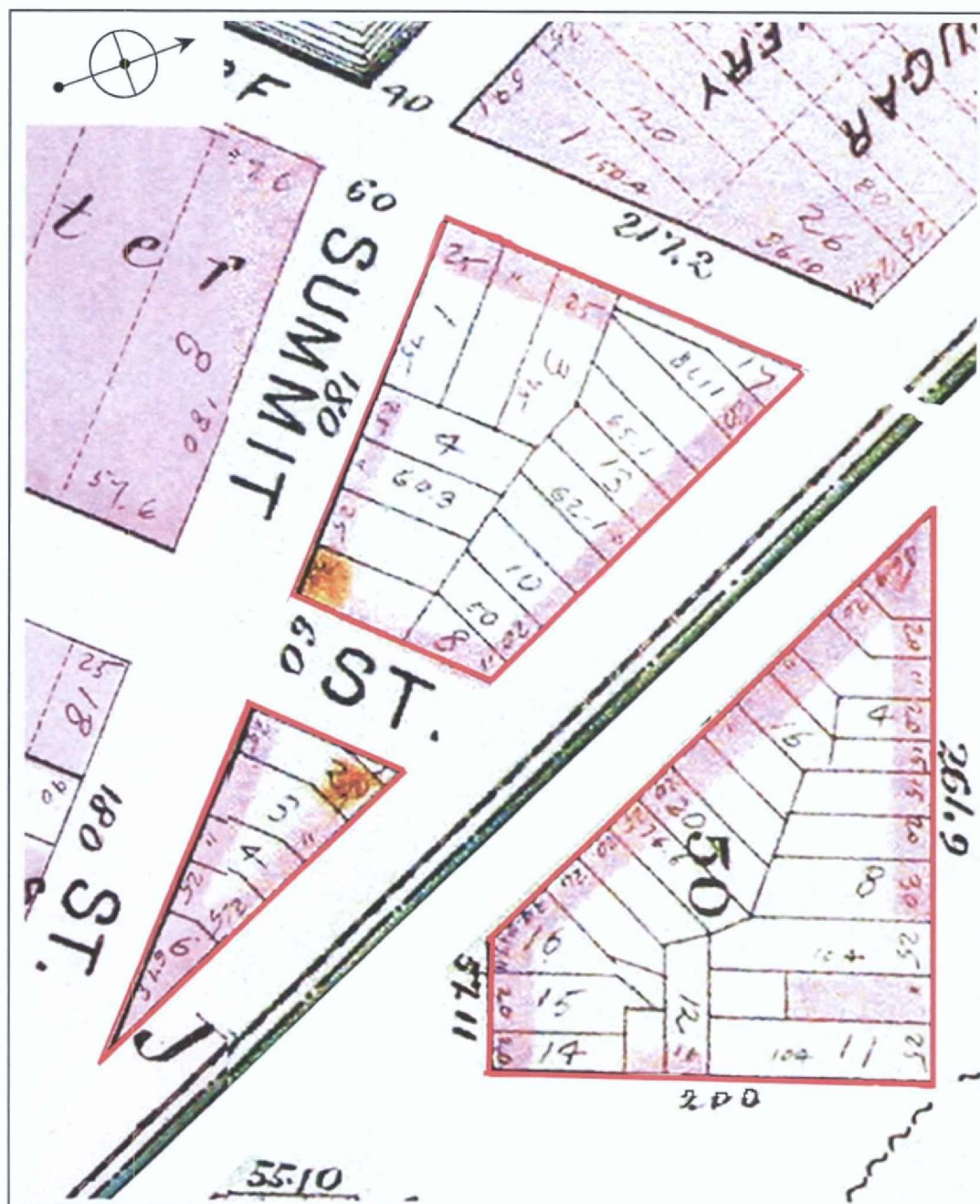


Fig. 38. 1880 Bromley map showing the location of the project site on block 346, 499 and 500.

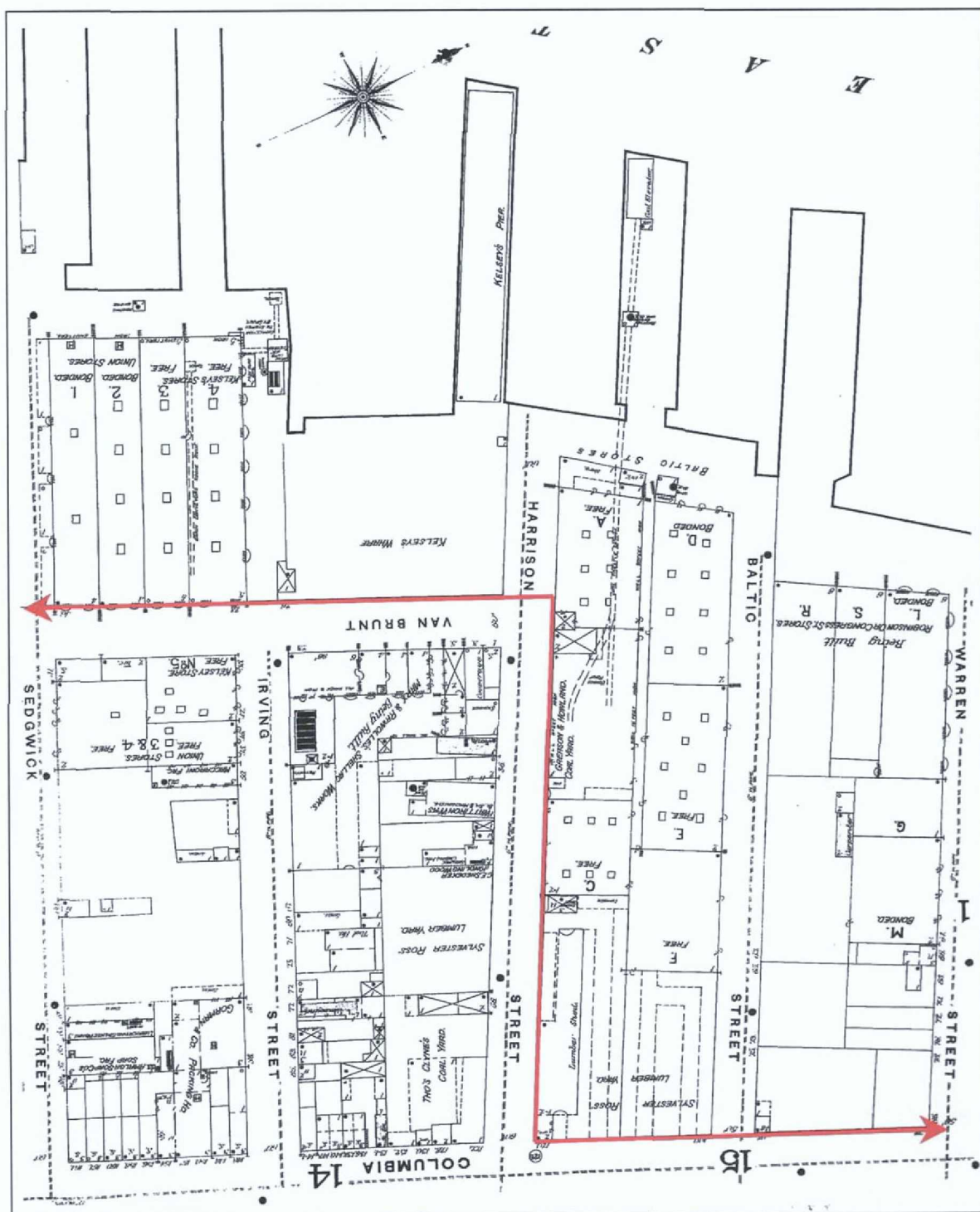


Fig. 40. 1886 Sanborn map showing the location of the project site on block 281, lot 1, between Warren and Sedgwick Streets.

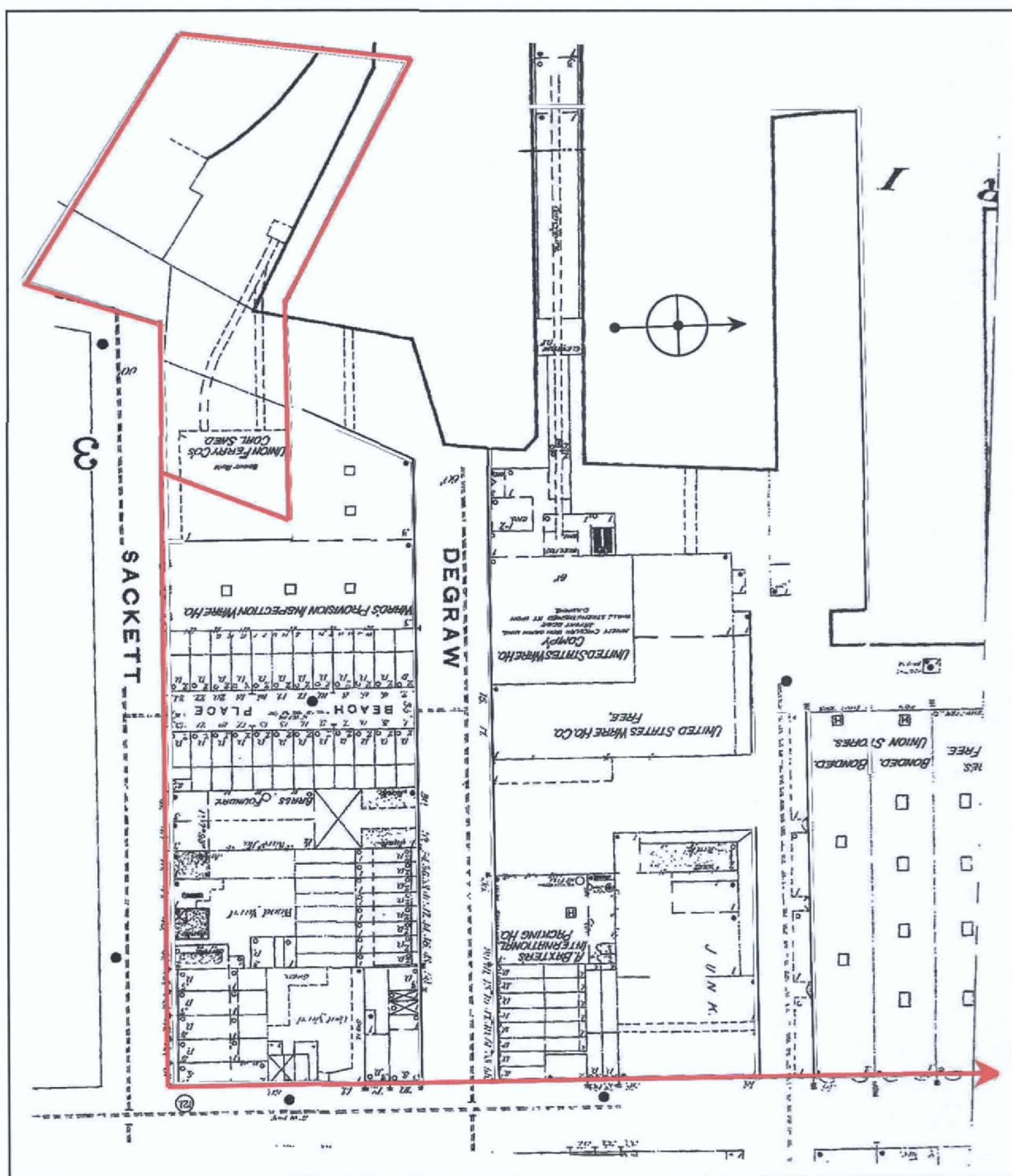


Fig. 41. 1886 Sanborn map showing the location of the project site on block 281, lots 1 and 62, between Sedgwick and Sackett Streets.

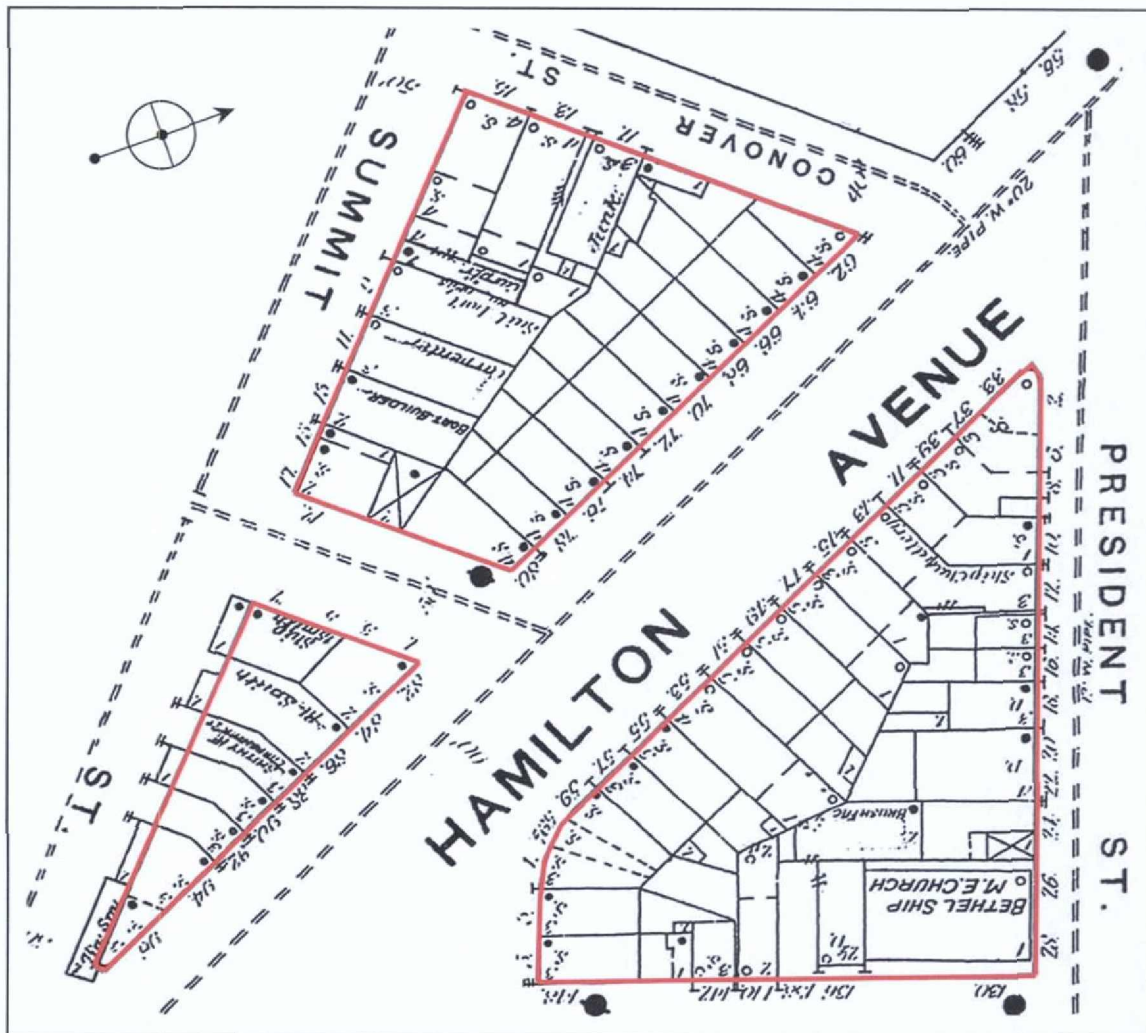


Fig. 43. 1886 Sanborn map showing the location of the project site on blocks 346, 499, and 500.

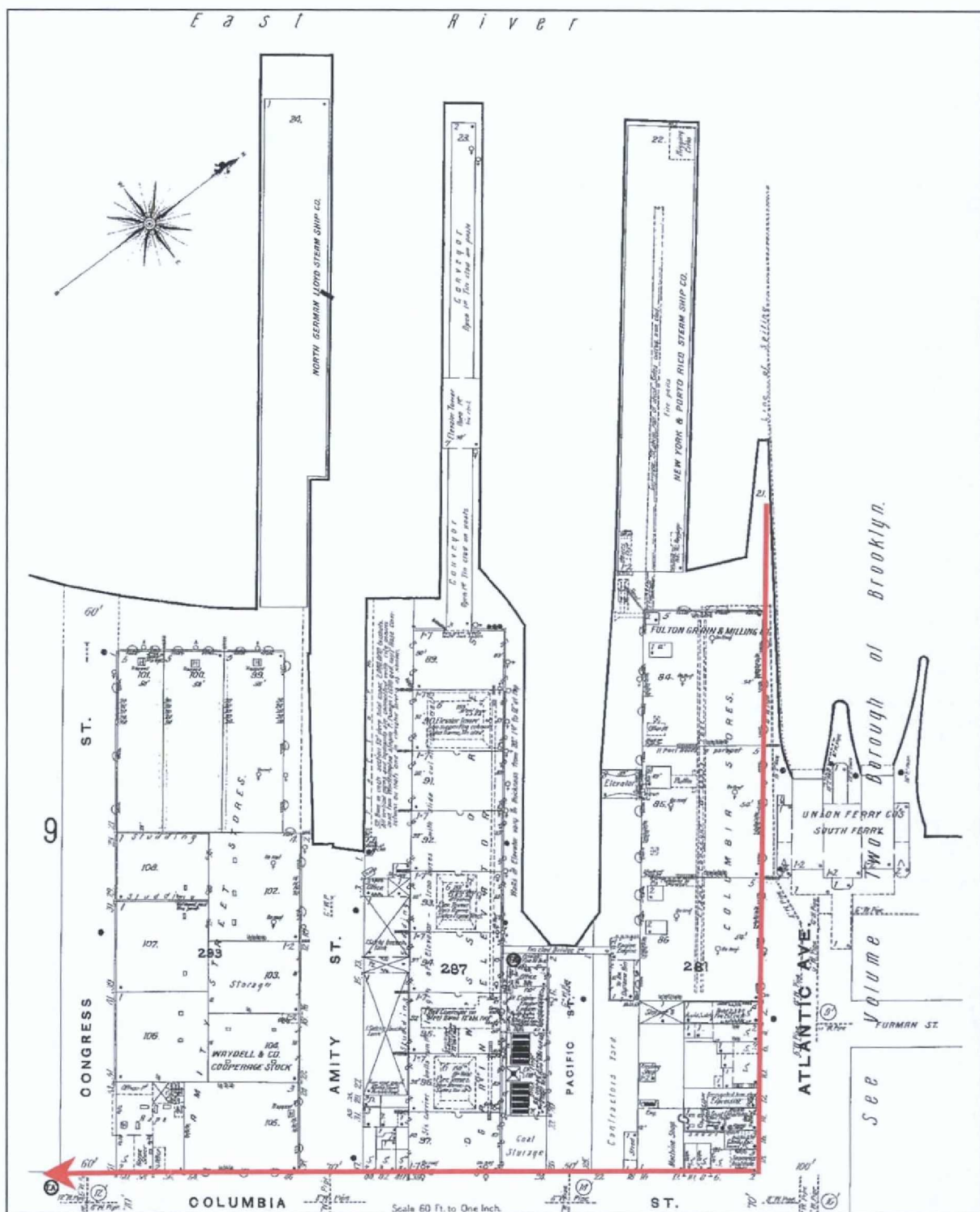


Fig. 44. 1904 Sanborn map showing the location of the project site on block 281, lot 1, between Atlantic and Congress Streets.

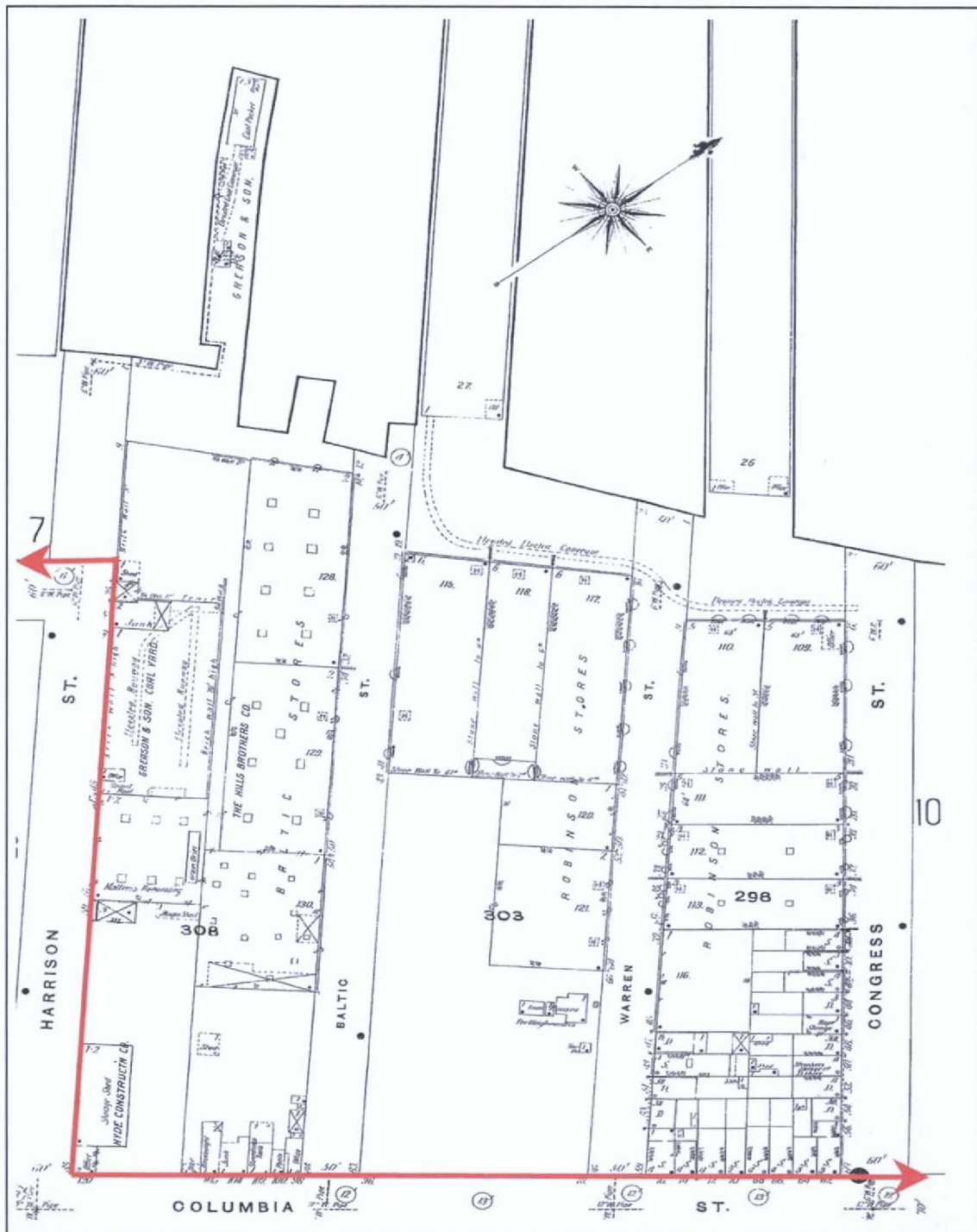


Fig. 45. 1904 Sanborn map showing the location of the project site on block 281, lot 1, between Congress and Harrison Streets.

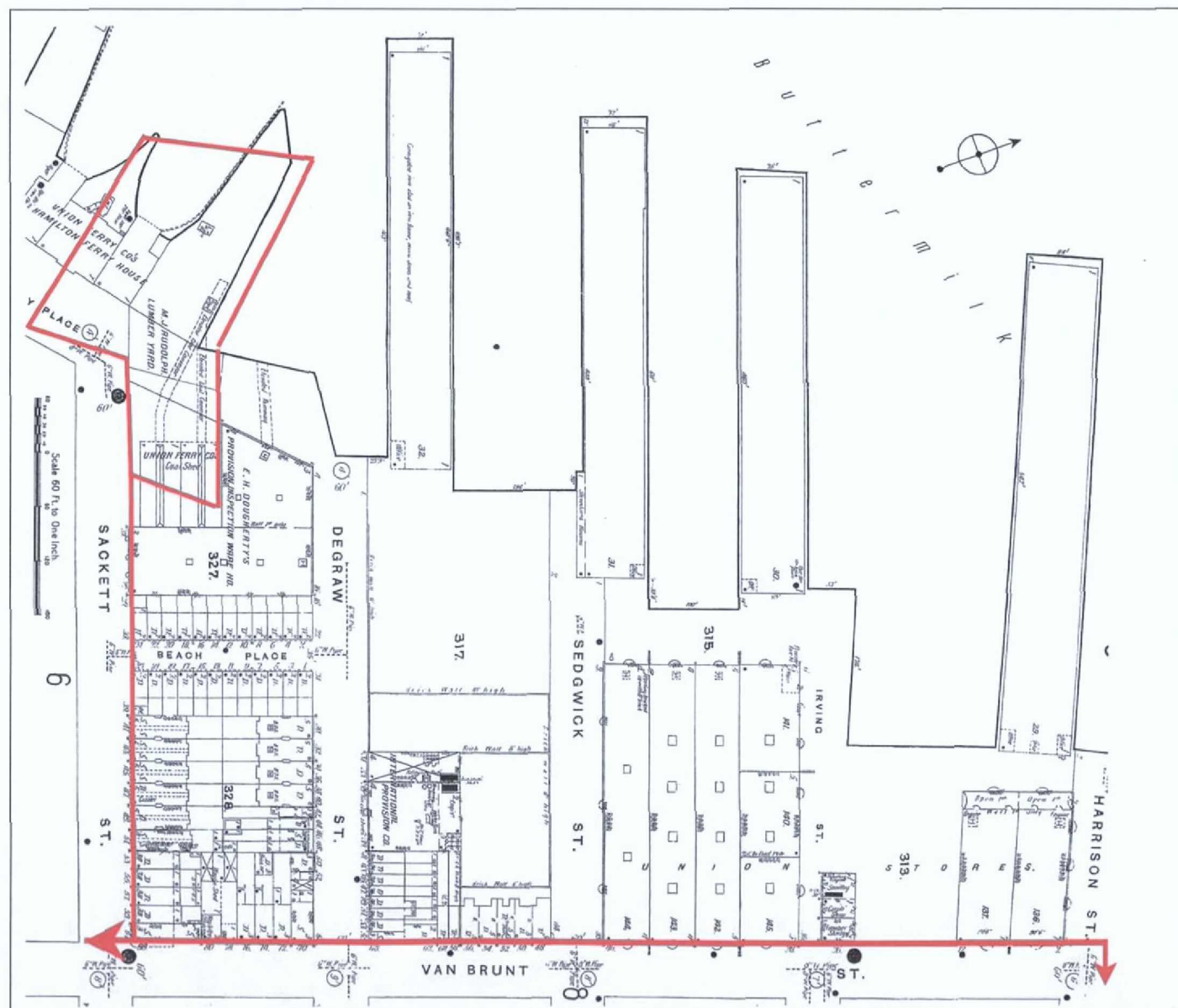


Fig. 46. 1904 Sanborn map showing the location of the project site on part of block 281, lots 1 and 62, between Harrison and Sackett Streets.

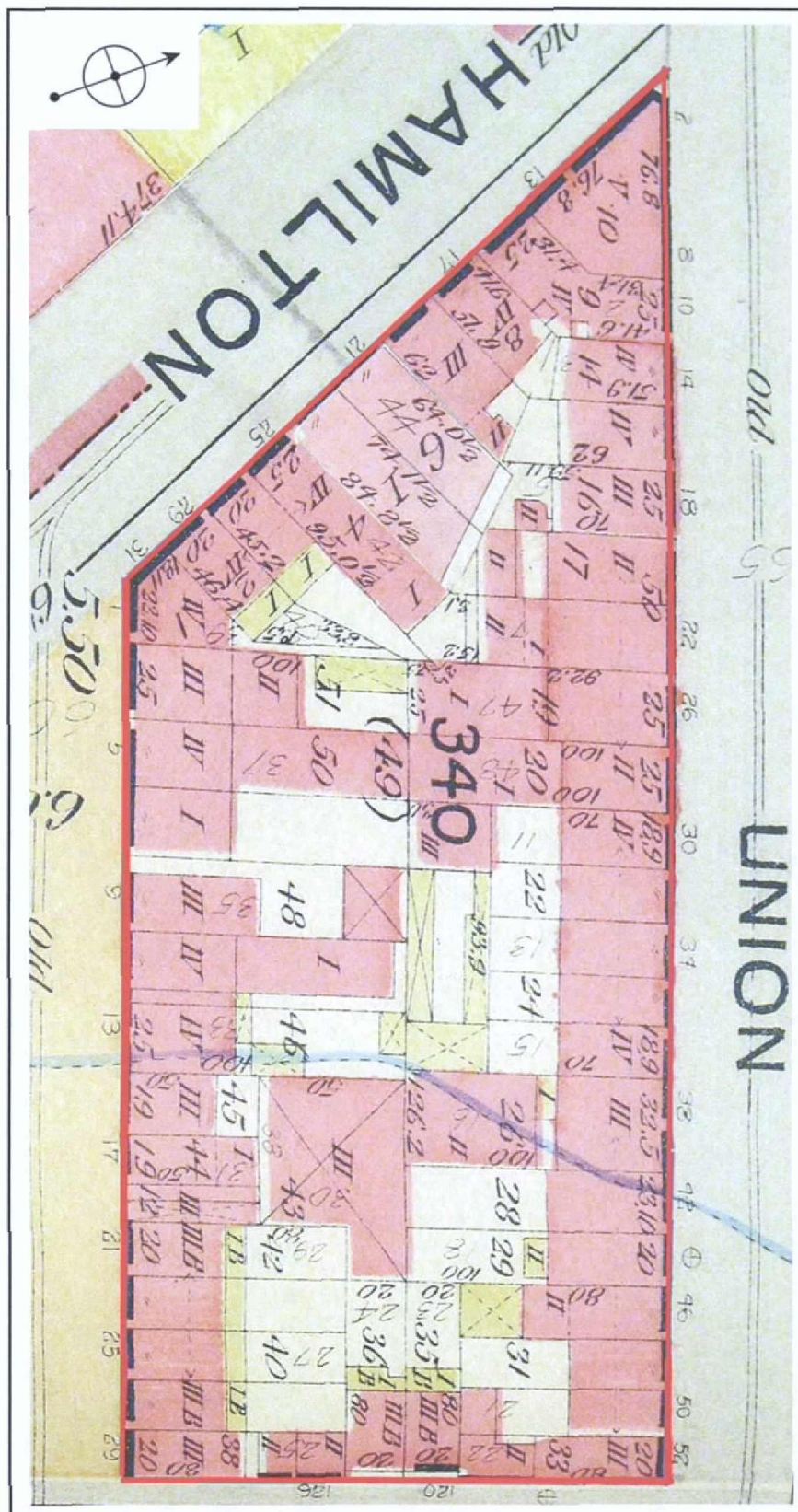


Fig. 48. 1903 Hyde map showing the location of the project site on block 340.

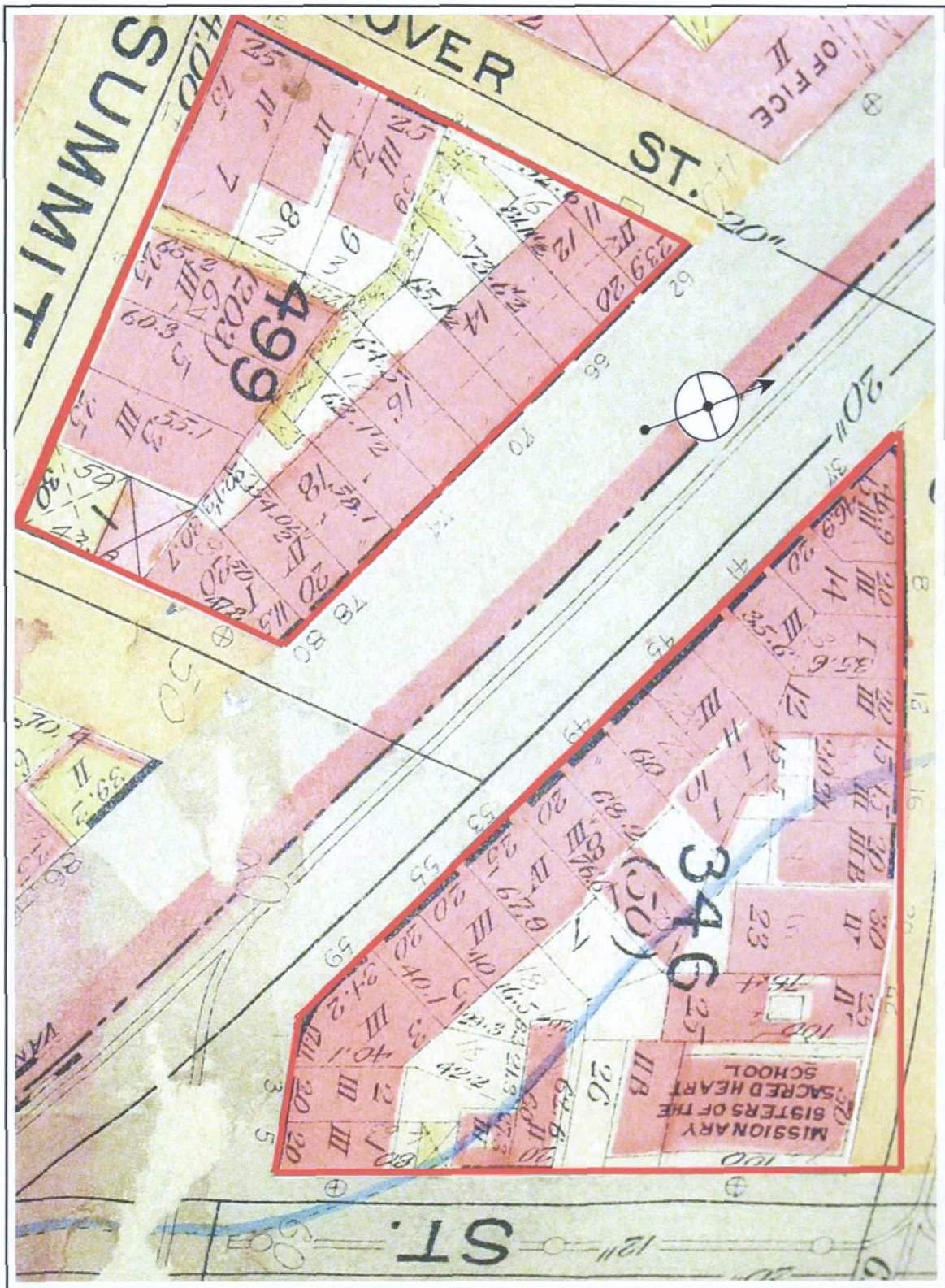


Fig. 49. 1903 Hyde map showing the location of the project site on blocks 346 and 499.

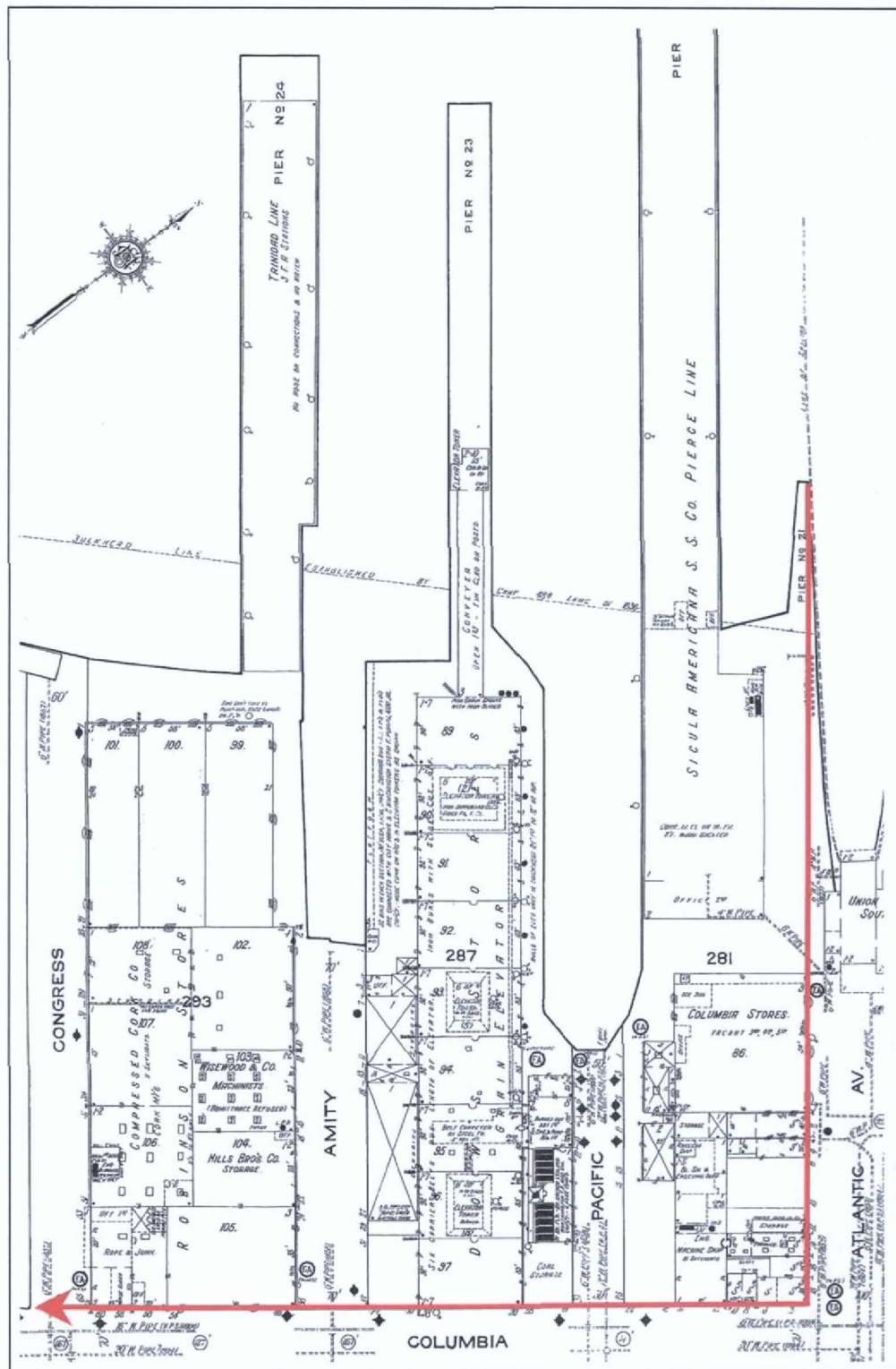


Fig. 50. 1915 Sanborn map showing the location of the project site on block 281, lot 1, between Atlantic and Congress Streets.

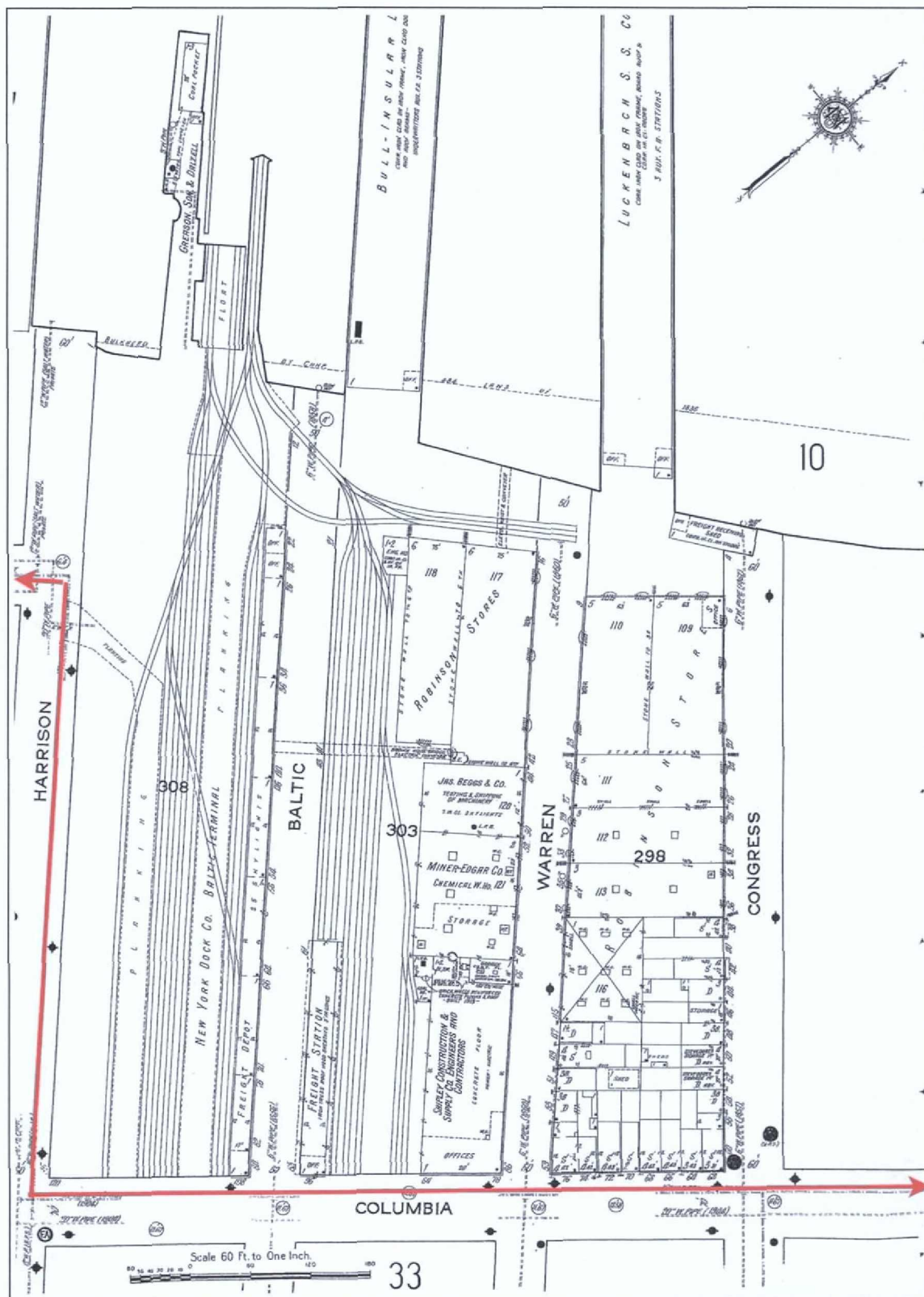


Fig. 51. 1915 Sanborn map showing the location of the project site on block 281, lot 1, between Congress and Harrison Streets.

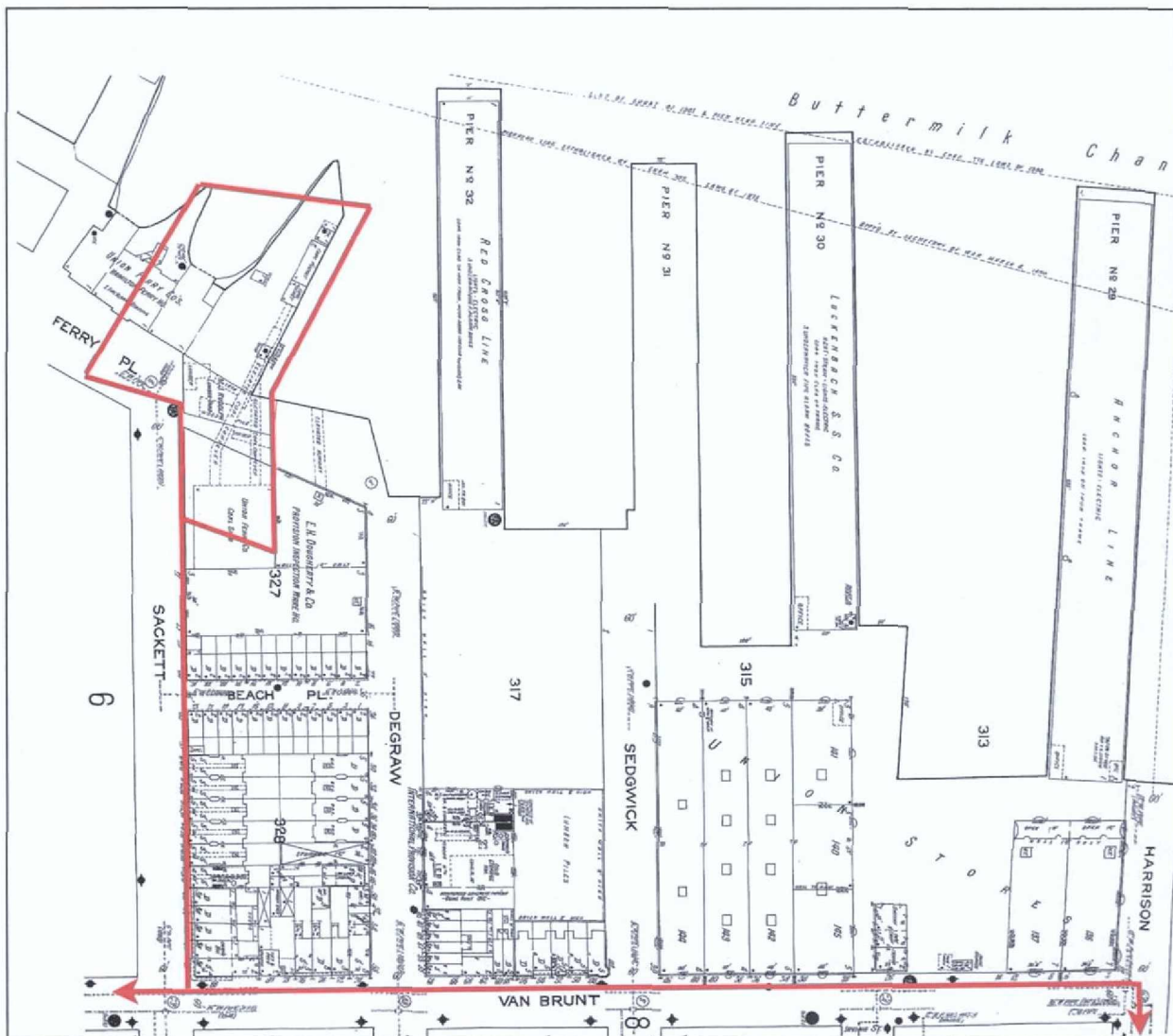


Fig. 52 . 1915 Sanborn map showing the location of the project site on block 281, lots 1 and 62, between Harrison and Sackett Streets.

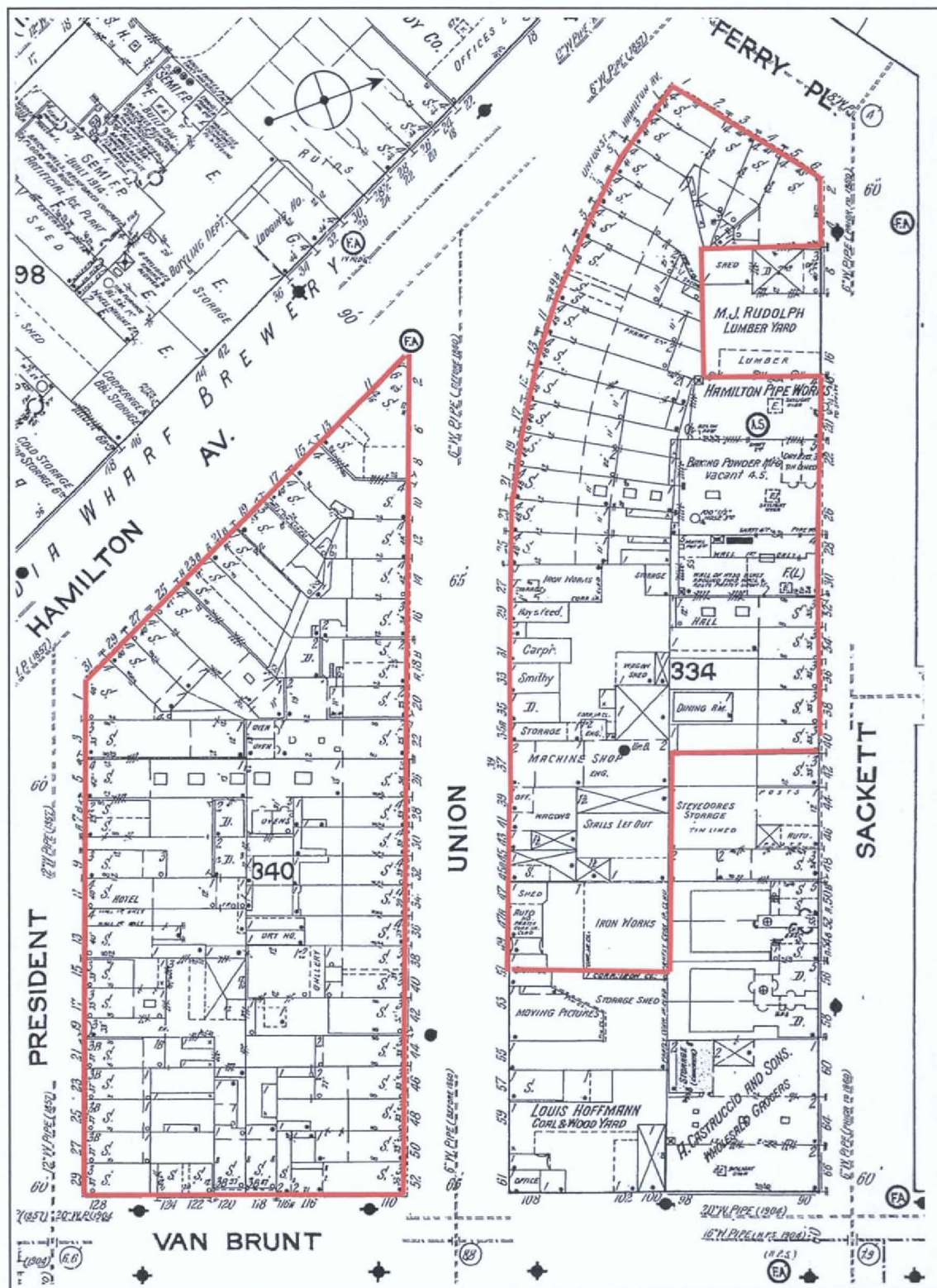


Fig. 53. 1915 Sanborn map showing the location of the project site on blocks 334 and 340.

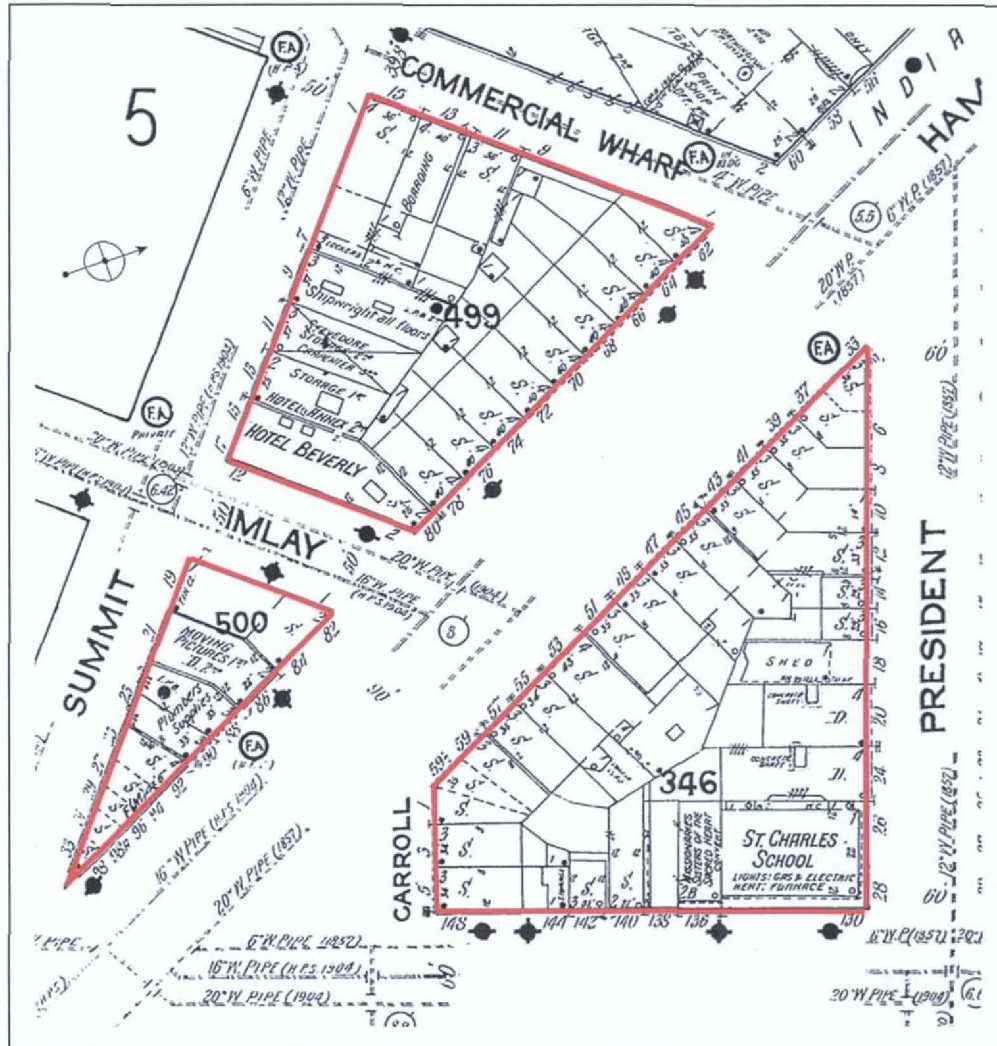


Fig. 54. 1915 Sanborn map showing the location of the project site on blocks 346, 499 and 500.

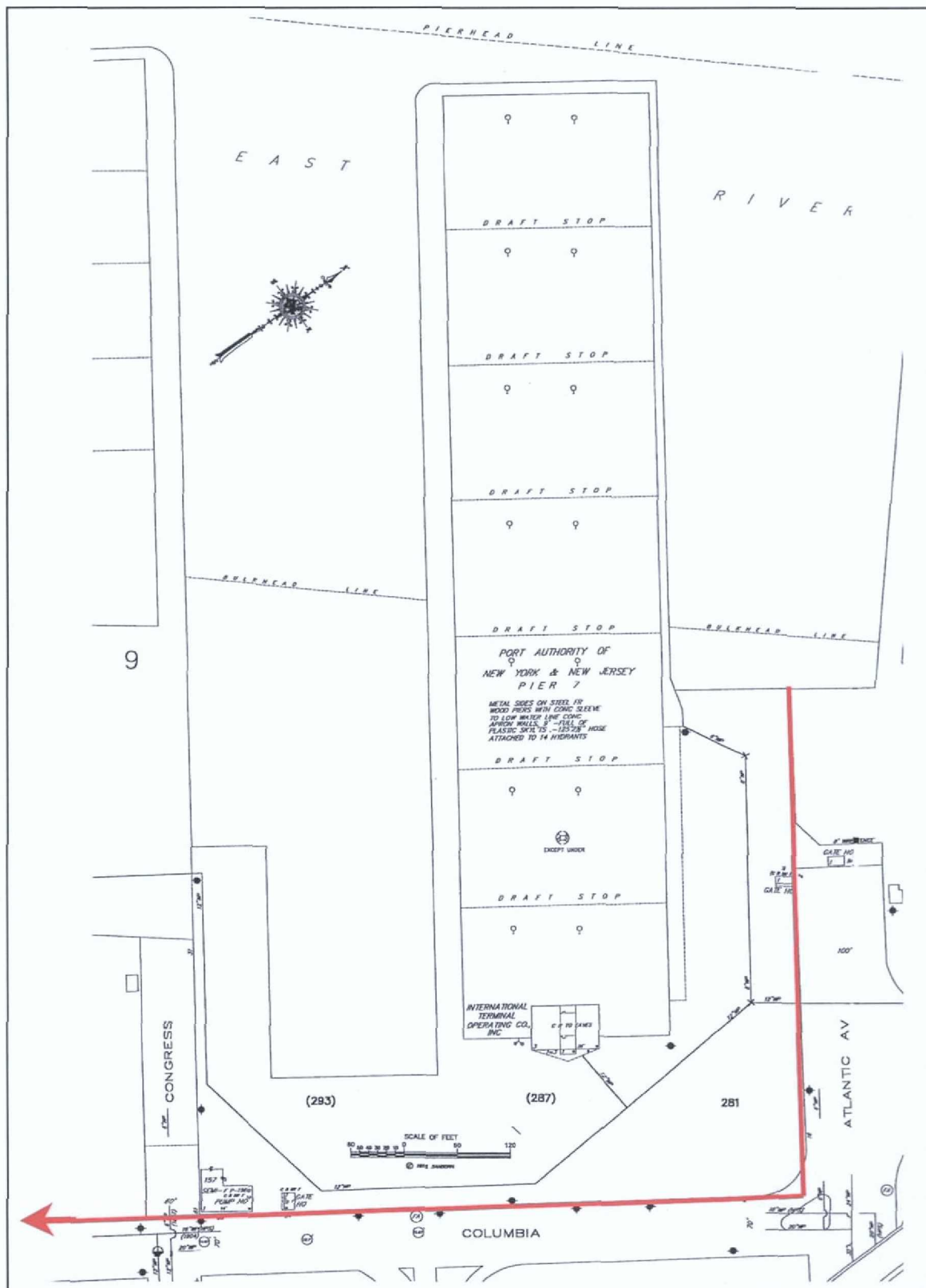


Fig. 55. 1995 Sanborn map showing the location of the project site on part of block 281, lot 1, between Atlantic and Congress Streets

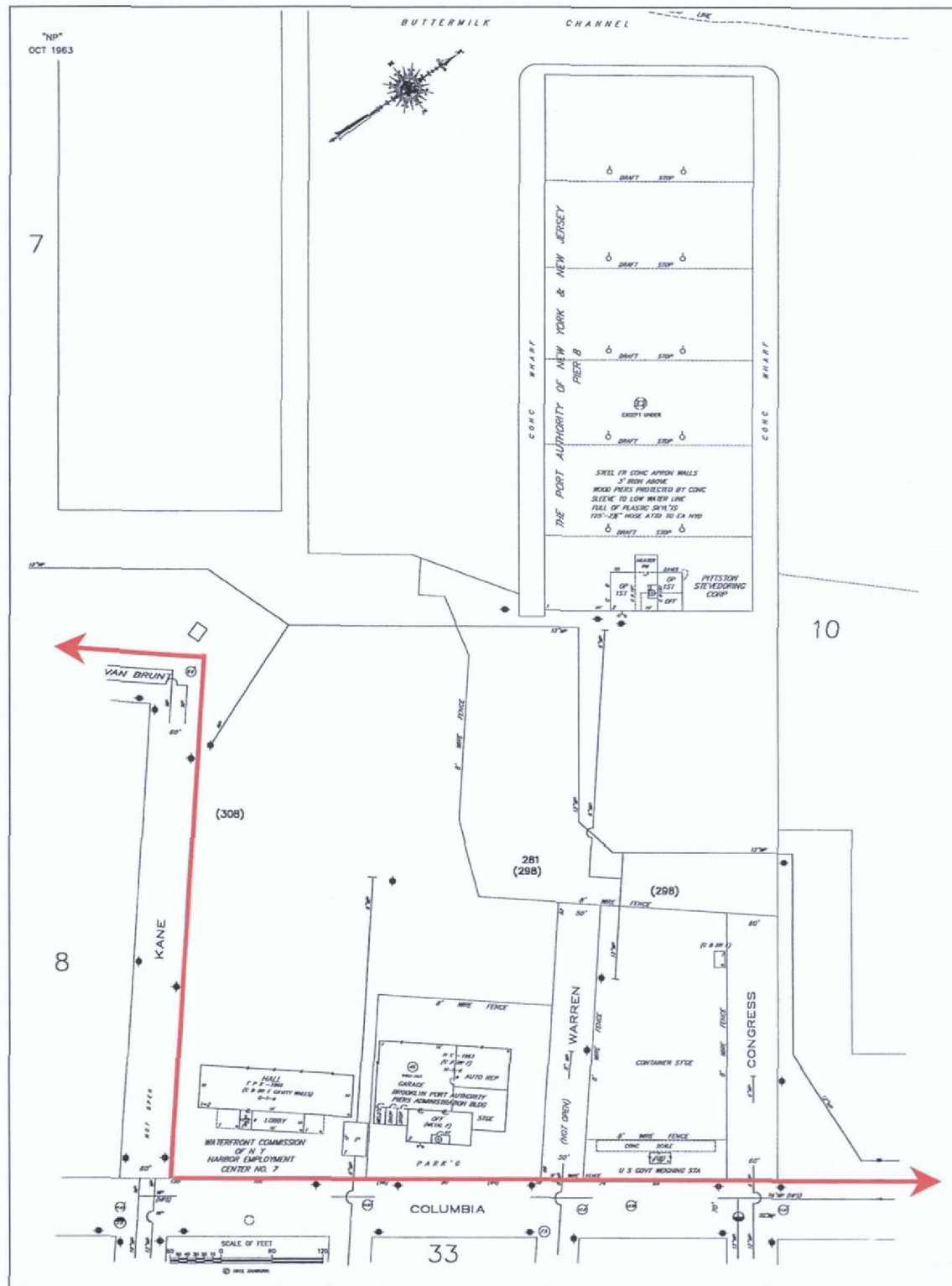


Fig. 56. 1995 Sanborn map showing the location of the project site on part of block 281, lot 1 between Congress and Kane Streets.

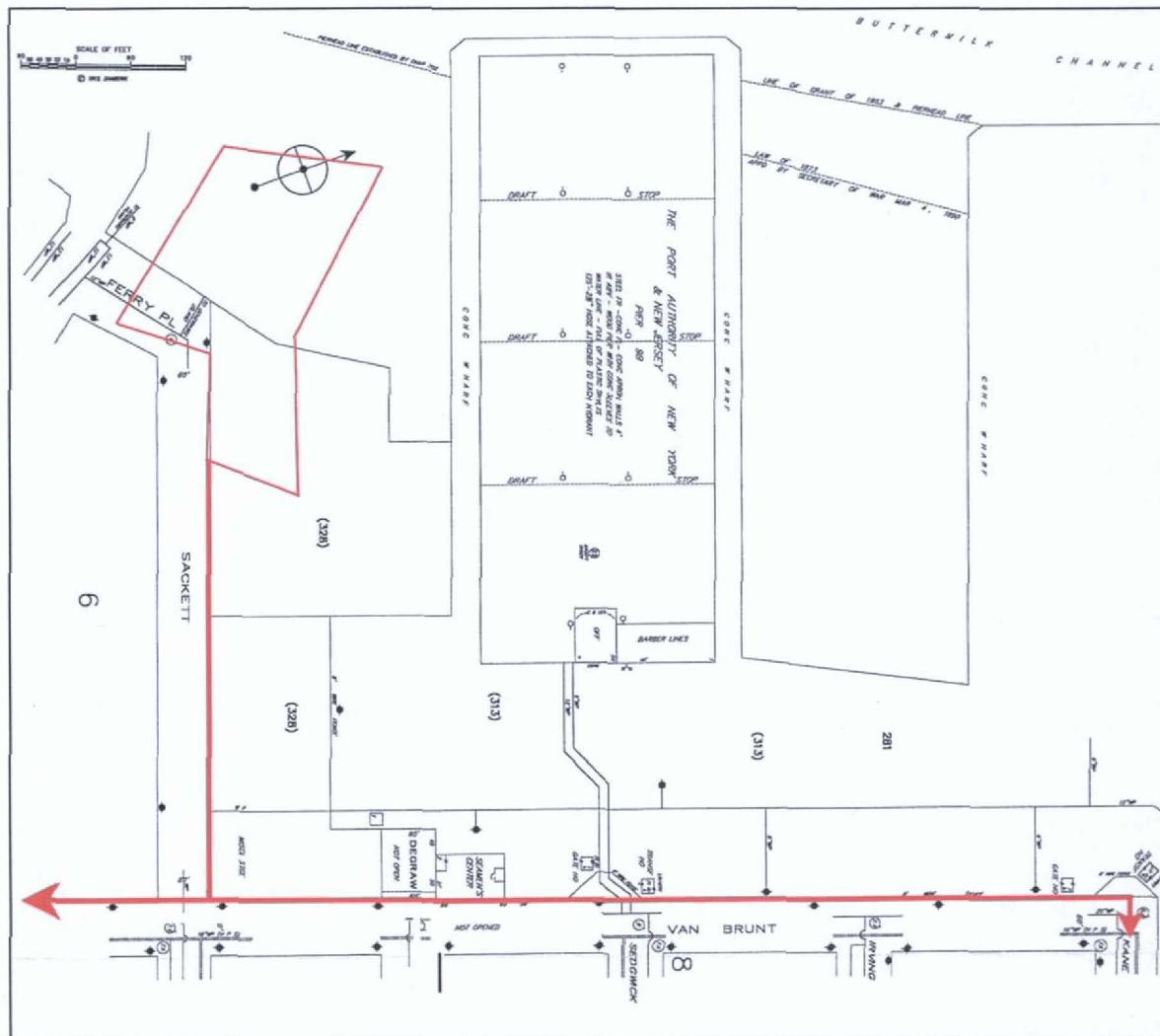


Fig. 57. 1995 Sanborn map showing the location of the project site on part of block 281, lots 1 and 62 between Kane and Sackett Streets.

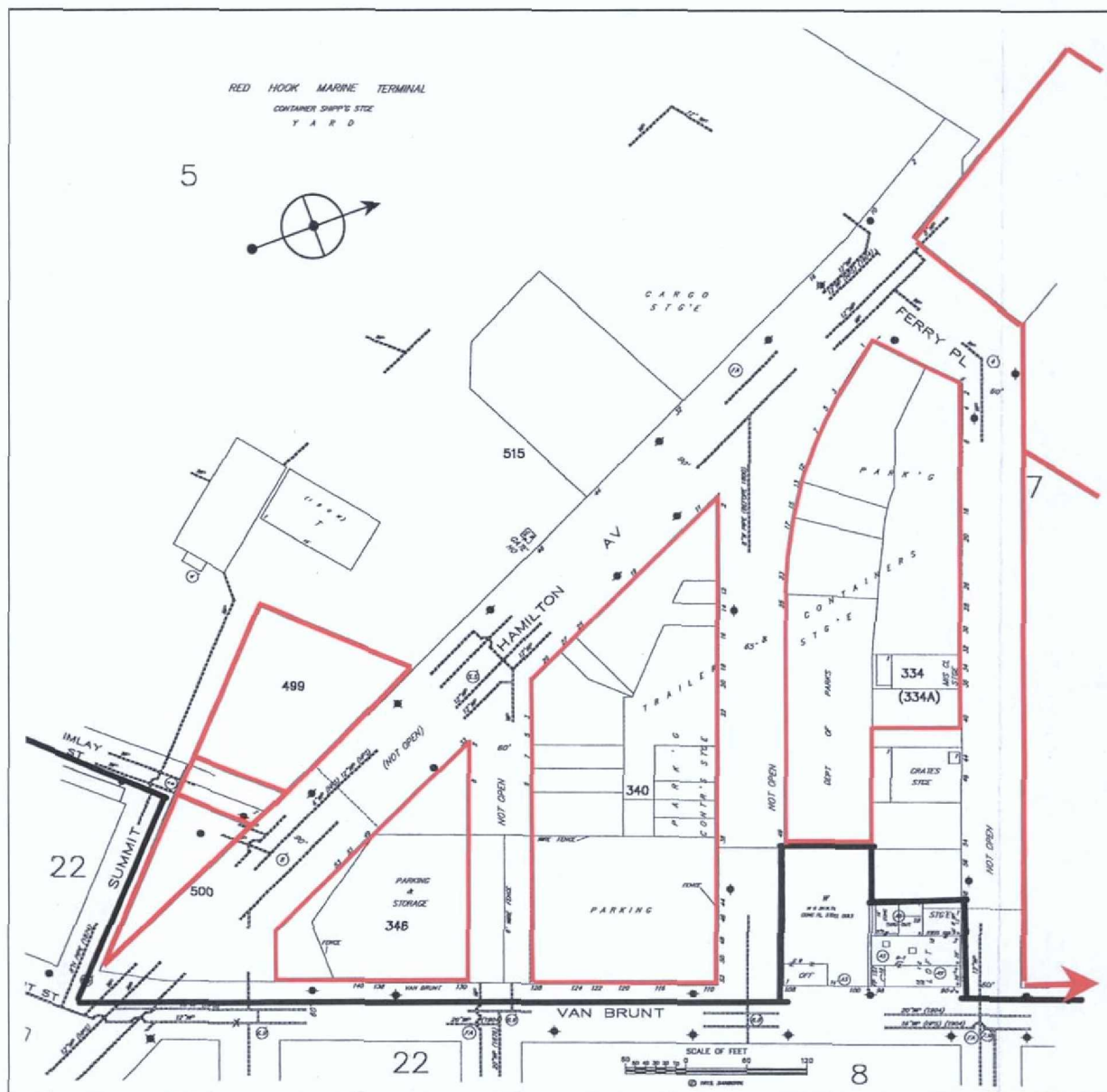


Fig. 58. 1995 Sanborn map showing the location of the project site on blocks 334, 340, 346, 499 and 500.

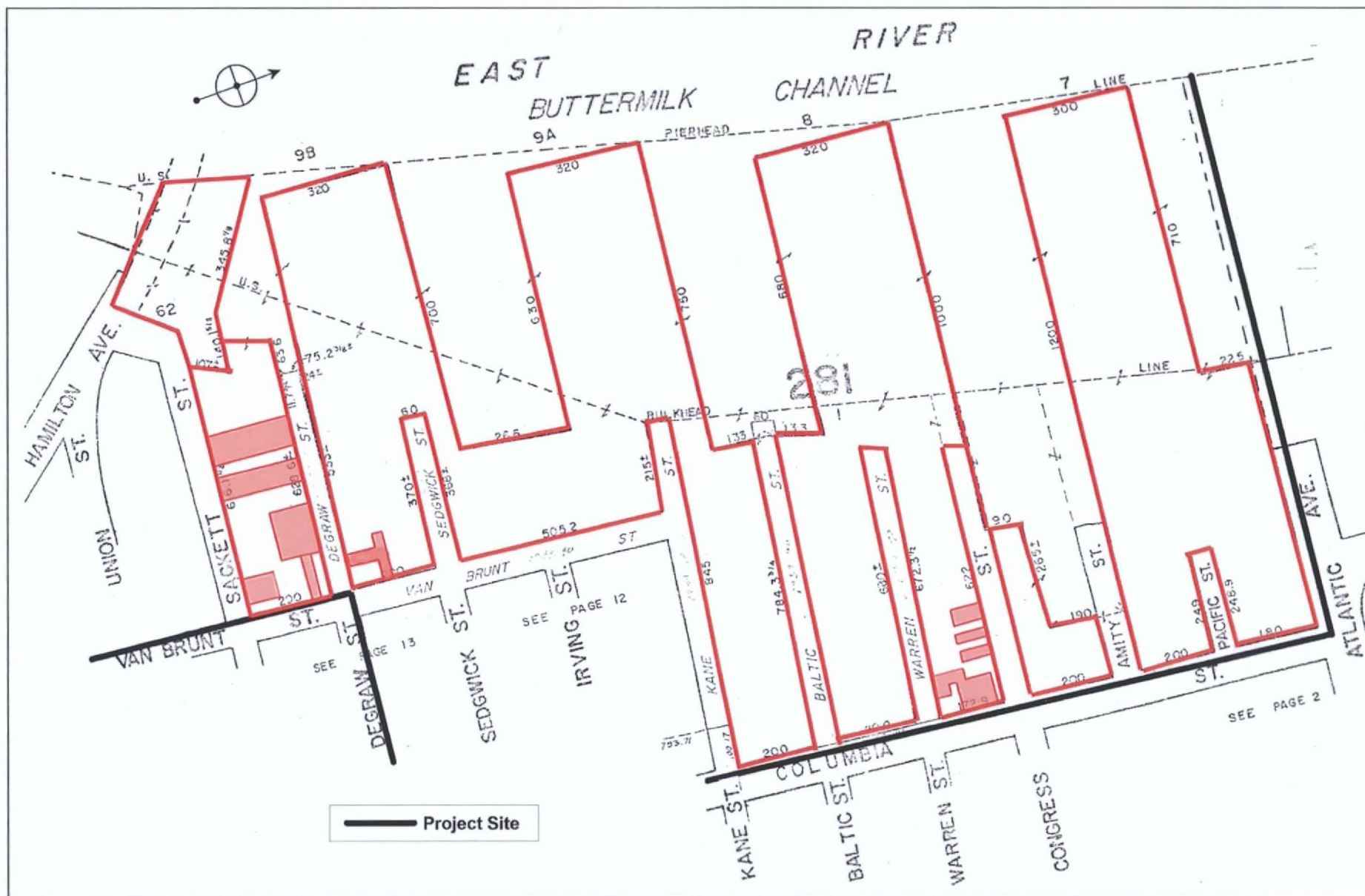


Fig. 59. Plan of block 281, lot 1 showing the location of the old lots containing areas of archaeological sensitivity.

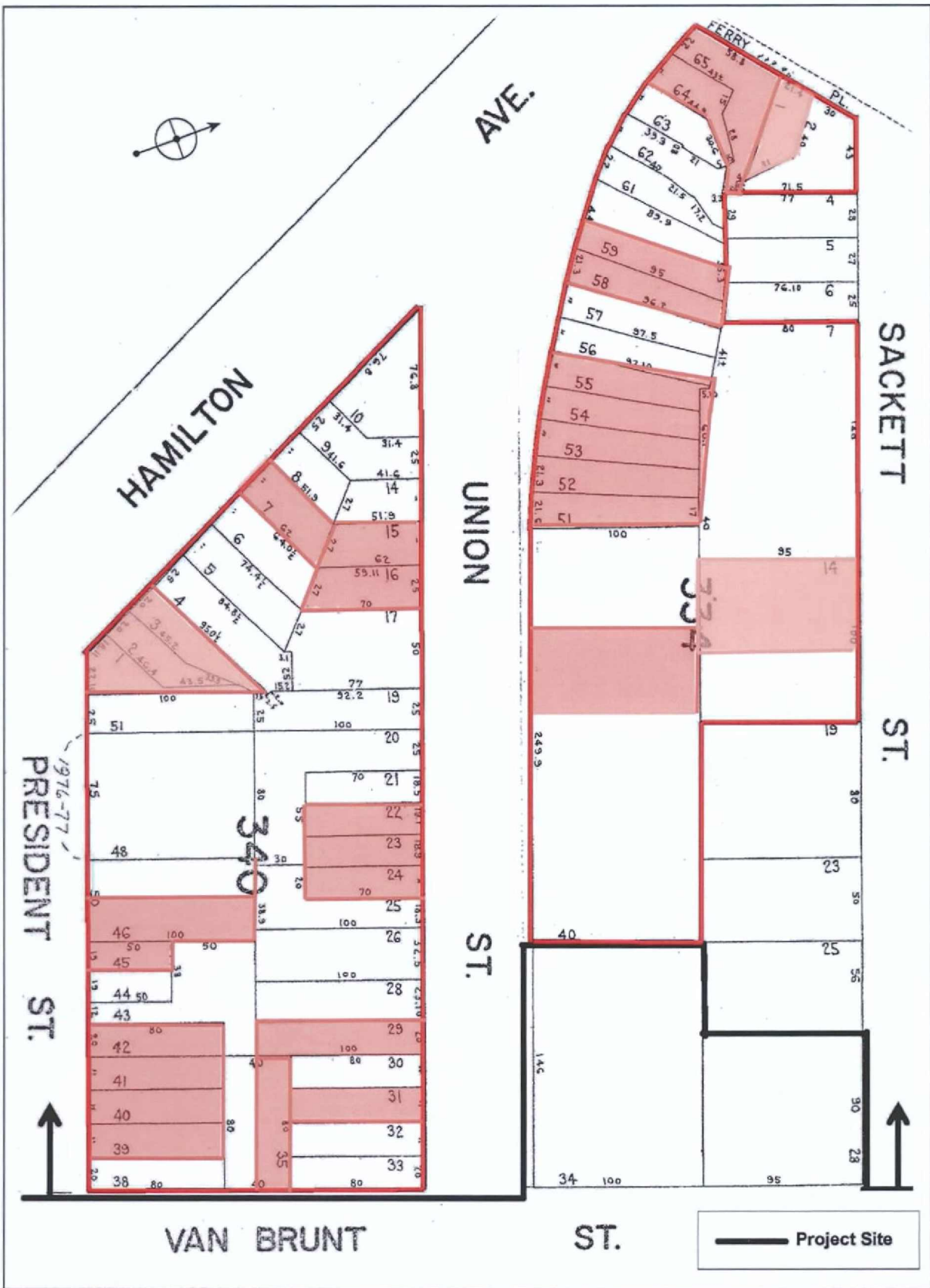


Fig. 60. Plan of blocks 334 and 340 showing the location of the lots containing areas of archaeological sensitivity.

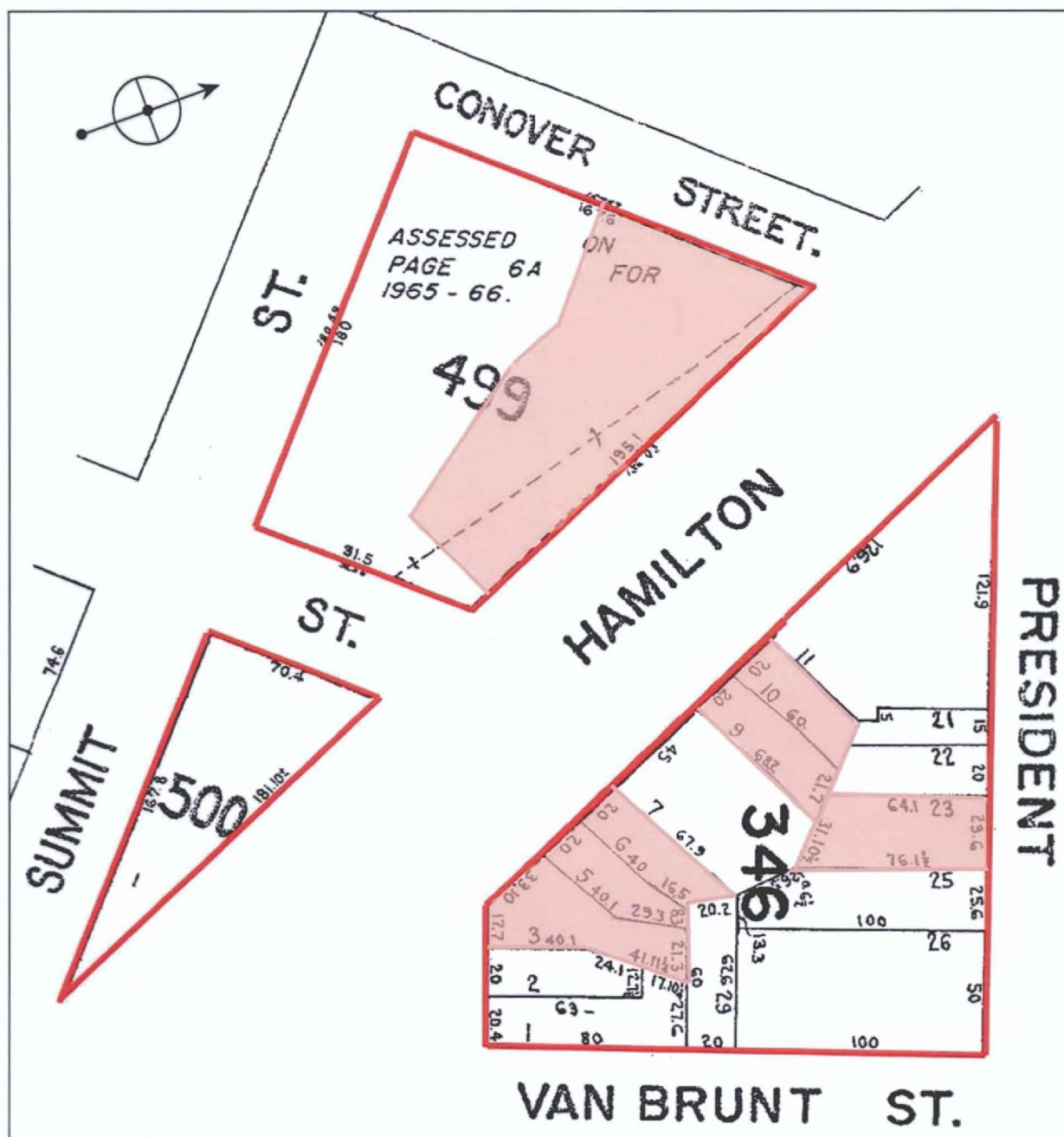


Fig. 61. Plan of blocks 346, 499 and 500 showing the location of the lots containing areas of archaeological sensitivity.