INITIAL ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED WATERFRONT FLOOD MANAGEMENT PROJECT, ALEXANDRIA, VIRGINIA

Stantec

Prepared for:

The City of Alexandria
Department of Project Implementation
301 King Street
Alexandria, Virginia 22314

Prepared by:

Paul Kreisa, PhD, RPA
Eric Griffitts, MA
John Gentry, MHP

November 2018

INITIAL ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED WATERFONT FLOOD MANAGEMENT PROJECT, ALEXANDRIA, VIRGINIA

Prepared For:

The City of Alexandria
Department of Project Implementation
301 King Street
Alexandria, Virginia 22314

Prepared By:

Paul P. Kreisa, PhD, RPA
Stantec Consulting Services Inc.

and

Eric Griffitts, MA
John Gentry, MHP
EHT Traceries, Inc.

Paul P. Kreisa, PhD, RPA
Principal Investigator

Stantec Consulting Services Inc.
6110 Frost Place
Laurel, Maryland 20707

November 2018

MANAGEMENT SUMMARY

This report documents the results of a Phase IA archaeological assessment undertaken by Stantec Consulting Services Inc. (Stantec) with EHT Traceries, Inc. (Traceries) for the City of Alexandria's Waterfront Flood Mitigation (AWFM) project. The City of Alexandria is initiating the Final Design phase of the AWFM project and has contracted with Stantec to complete its design and planning efforts. The Final Design phase for this project consists of numerous tasks, including this archaeological assessment. This initial archaeological assessment was conducted in accordance with the City of Alexandria's *Archaeological Protection Code* (City of Alexandria 2018), the Virginia Department of Historic Resource's (2011) *Guidelines for Conducting Historic Resources Survey in Virginia*, and the standards and guidelines set forth in the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 1983). The components of the project include:

- A complete flood mitigation system protecting the Alexandria Core Area, that will include:
    - A vertical, structural bulkhead to a minimum elevation of 6.0 feet along the Potomac River within the project area. The proposed bulkhead is generally located east of the existing shoreline and in some cases east of the U.S. Army Corps of Engineers bulkhead line.
    - Two pump station sites (located in Waterfront Park and Thompson's Alley), each containing a screen, wet well, pumps, backup generator, backup fuel source, discharge piping, mechanical equipment, controls, and all related infrastructure. Each pump station site will include a pair of park pavilion buildings to elevate the pump station equipment above the flood plain, as well as incorporate related park uses including storage, restrooms, and service areas.
    - A sealed storm sewer network to convey upstream runoff directly to the river, bypassing the pump stations.
    - A new Core Area storm sewer inlet and pipe network to collect and convey runoff to the pump station wet wells.
- A riverfront promenade, 20–25 feet in width, adjacent to the new structural bulkhead from Point Lumley Park to the south to Founders Park to the north. The promenade includes a paved landside component; a riverside, over-water boardwalk constructed on pilings; and areas with a stepped bulkhead, or grand steps, into the water.

The land-use history of the AWFM project area is in many aspects simple, consisting of wharves and associated structures. It is, however, also complex given the changes in ownership and business uses of the wharves and structures. Minimally, portions of 11 wharves (some with cores dating to the late eighteenth century) and remains of up to 22 structures (dating from the late eighteenth to the early twentieth centuries) are potentially present within the AWFM project area. If present, they could be impacted by construction related to the proposed project. While an elevation change analysis was not conducted, twentieth-century infilling between the wharves could have preserved the wharves and structural remains. Indeed, profiles from several geotechnical borings indicate that modern fill of varying depths is present across the project area

and likely covers fill dating to the late eighteenth century. The late eighteenth-century fill was used to infill the mud flat along what was then the Alexandria Potomac River waterfront.

Based on the historical research, the AWFM project area has a high potential for archaeological resources, most likely associated with as many as 11 wharves and 22 associated structures and their use as steamboat/ferry and freight (primarily coal, wheat, and manufactured goods) terminals and warehouses. Such resources could include the wharf structures (portions of which could predate the nineteenth century), fill within the wharves, structure foundations, privies, and artifact deposits associated with each use of the wharves and associated structures. Fill and the existing parking lot cap may have preserved these resources, as has been demonstrated at other wharves in the Old Town neighborhood. Finally, while demolition and the installation of utilities have no doubt impacted archaeological resources within the project area, such impacts appear to be limited in extent. Once again, similar impacts have occurred at other wharf locations within Old Town, and archaeological investigations have demonstrated the continued existence of resources.

Based on the high potential for archaeological resources, Stantec recommends that additional archaeological investigations be conducted within the AWFM project area prior to construction to ensure compliance with both the Alexandria Archaeological Protection Code and Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations. To ensure compliance with both regulations, Stantec recommends that field investigations be undertaken to: 1) determine the presence, nature, and significance of archaeological resources within the AWFM project area (Phases I site survey and II site significance evaluation); 2) provide National Register of Historic Places and Alexandria Archaeological Protection Code evaluation of archaeological resources located (Phase II site significance evaluation); and 3) determine if additional archaeological mitigation or monitoring investigations would be required prior to or during construction (Phase III data recovery and mitigation).

PUBLIC SUMMARY

Since Alexandria's beginnings in 1732, the waterfront has been the heart of the city. From transportation route to industrial manufacturing zone to public recreation area, the waterfront has experienced Alexandria's fluctuating fortunes for nearly 300 years. As the city continues to adapt to an ever-changing world, the Old Town District waterfront remains central to city planners and citizens alike.

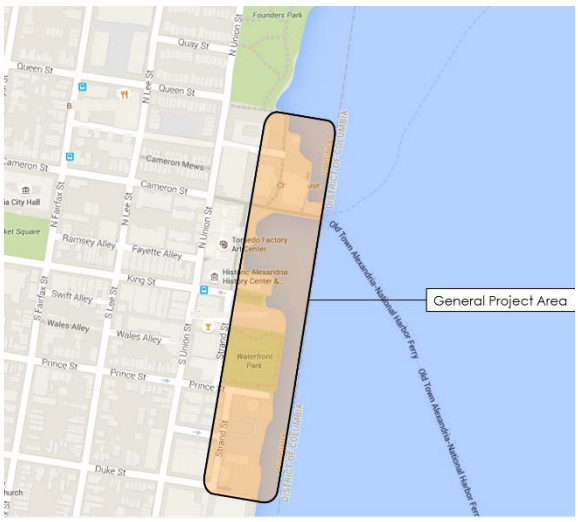
Today, the city plans long-term flood-control measures and recreational development of the area north of Duke Street. These measures include a complete flood mitigation system to protect Alexandria's core area and a riverfront promenade extending from Point Lumley Park to Founders Park.

Existing docks near the Torpedo Factory

Waterfront Park in Alexandria

Before the flood mitigations system and river-front promenade can be built, Alexandria's *Archaeological Protection Code* requires an archaeological assessment to see if important historical resources might still be present under the modern landscape. Stantec Consulting Services Inc. (Stantec) undertook this research with EHT Traceries, Inc. (Traceries). The work included research to identify the previous land use of the property and the potential for the project area to contain archaeological resources relating to that previous land use.

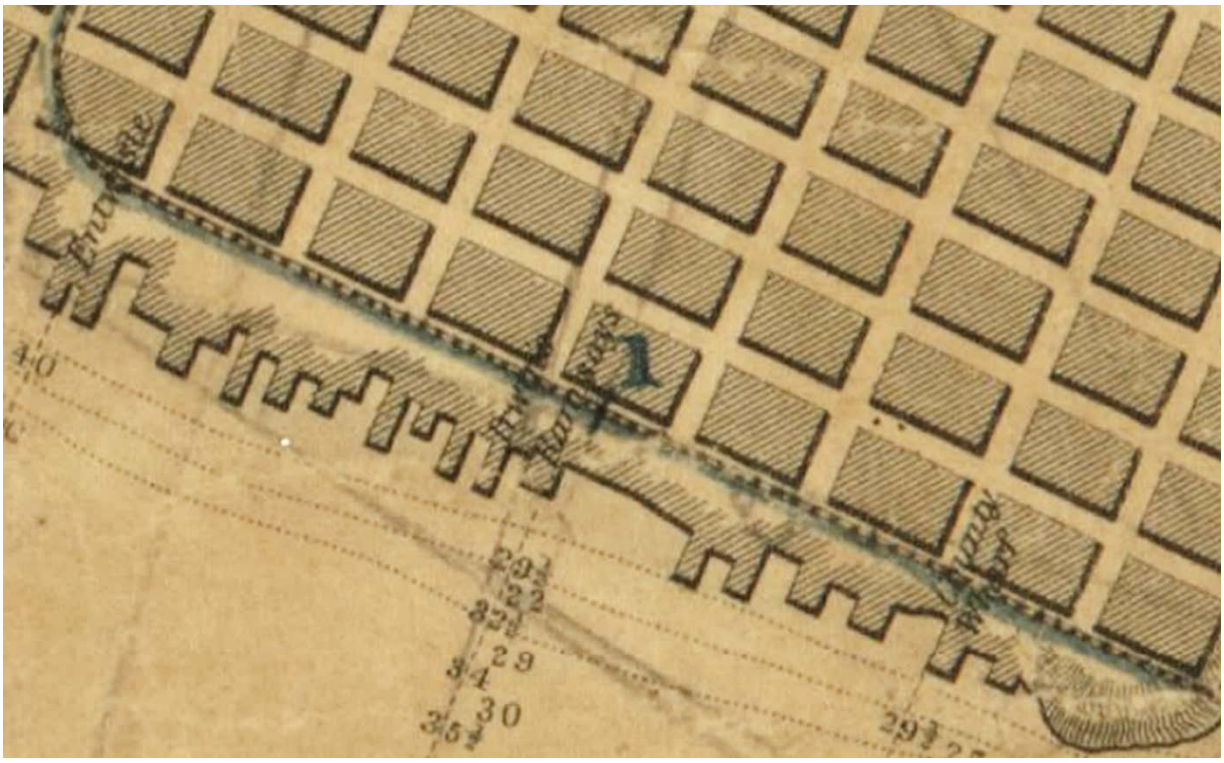
Stantec and Traceries reviewed a variety of historical and archaeological resources for this archaeological assessment. The historical resources included deeds, maps, orphans court and probate records, newspapers, tax records, and census records. The archaeological resources included archaeological reports prepared for nearby areas of the waterfront and identifying previously recorded archaeological sites near the project area. These resources allowed the researchers to develop a historic context for the project area and to determine the types of archaeological resources that might remain below the current ground surface.



The Potomac River was the main means of transportation for people and goods, especially tobacco, Virginia's most important commodity. Alexandria's waterfront was soon home to wharfs and tobacco warehouses and other mercantile establishments offering consumer goods that became available from the tobacco trade.

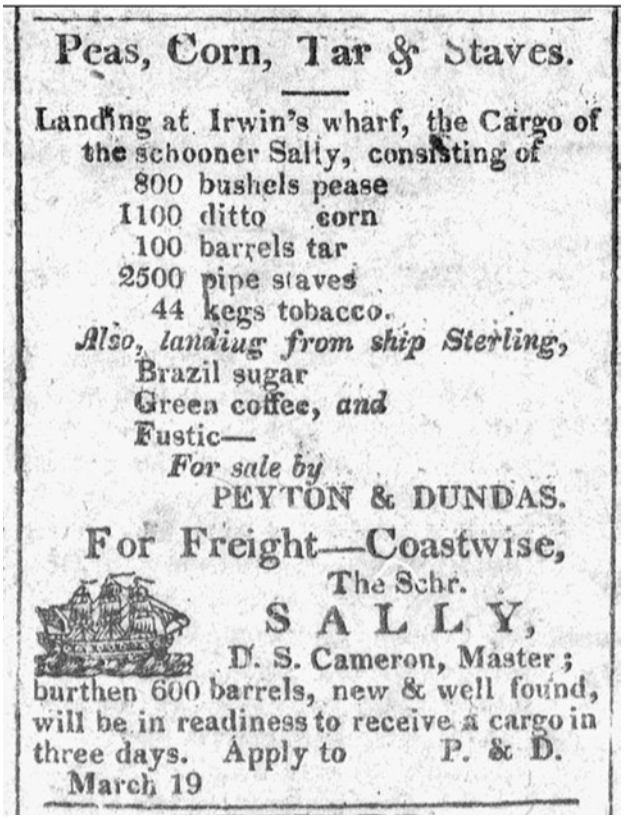
In Alexandria's earliest days, the area of the proposed flood mitigation system and riverfront promenade lay in the Potomac River. However, siltation of the river became a problem early on and threatened the port. Landowners, supported by the town's trustees, began a program of cutting the high riverfront banks and then placing the excavated soils along the river behind wood pilings to prevent erosion. This leveled the shoreline and increased waterfront access and acreage. The city then gave adjacent landowners the rights to develop the newly made land. Within the project area, these landowners included Andrew Jamieson, Jonah Thompson, Joseph Mandeville, Antone Cazenove, John Carlyle, John Fitzgerald, and Valentine Peers.

These men were the first to build wharves and associated facilities for the newly established town. The earliest of these ventures date to the mid-1700s. John Carlyle built the first public wharf in the 1750s between King and Cameron Streets. Early commercial ventures on the waterfront were found at Point Lumley, where the first public warehouse was built in 1753. In 1764, Thomas Fleming built a shipyard at the point. In the 1780s, Robert Hooe and Richard Harrison opened a store and warehouse at the south end of Duke Street where they sold imported goods. Other late eighteenth-century wharfs included Ramsay's, Fitzgerald's, Merchant's/Janney's, Harper's, Vowell's, and Gilpin's.



Detail from an 1838 map showing wharves along Alexandria's waterfront

The waterfront continued to develop in the early nineteenth century. Some businesses changed ownership as the original founders passed away or sold their interests and new enterprises were established. Merchants, such as Captain James Sanderson or Charles Calette, often leased space on wharves for their warehouses and stores from owners like Joseph Mandeville (whose wharf was between Queen and Cameron Streets) or Thomas Irwin (whose wharf was between King and Prince Streets).



Peas, Corn, Tar & Staves.

Landing at Irwin's wharf, the Cargo of the schooner Sally, consisting of
800 bushels pease
1100 ditto corn
100 barrels tar
2500 pipe staves
44 kegs tobacco.
Also, landing from ship Sterling,
Brazil sugar
Green coffee, *and*
Fustic—
For sale by
PEYTON & DUNDAS.

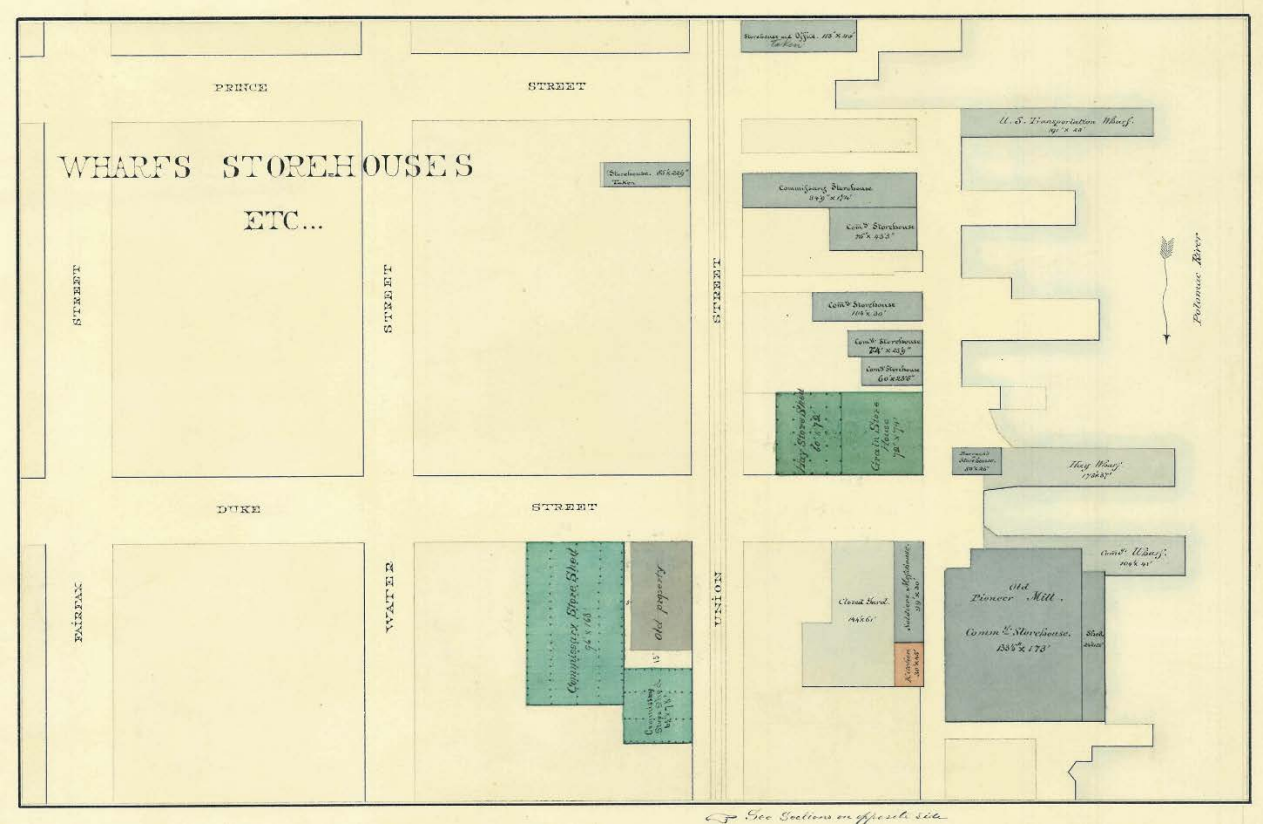
For Freight—Coastwise,
The Schr.
SALLY,
D. S. Cameron, Master;
burthen 600 barrels, new & well found, will be in readiness to receive a cargo in three days. Apply to P. & D.
March 19

1816 Peyton & Dundas advertisement in the Alexandria Gazette (image from www.genealogybank.com)

Sanderson, for example, had a store at the corner of King and Fairfax Streets by 1800, selling such goods as silk waistcoats, cotton clothing, spades, hoes, and shovels. From his store on the wharf, Calette sold items such as Boston beef, window and cut glass, and "India China dining and tea setts." The firm of Peyton & Dundas also rented space on Irwin's wharf (see the advertisement at left from the 28 March 1816 edition of the *Alexandria Gazette*).

During the Civil War, the U.S. Army took control of Alexandria and its wharves. The Quartermaster Corps prepared detailed illustrations of the wharves showing such information as size and construction techniques. These illustrations also show how the U.S. Army used the wharves for cavalry, infantry, and artillery units. The army used this information to prepare detailed maps for each of these wharves that show such information as wharf/building size and their construction techniques. This information helps archaeologists better understand the type of remains that still could be present below the modern ground surface.

Below is the Quartermaster's map for the wharves, storehouses, and other buildings between Prince and Duke Streets at the south end of the Alexandria Waterfront Flood Mitigation project area. This figure shows, for example, how the army used the Pioneer Mill for a commissary storehouse and the wharves for specific purposes such as "U.S. Transportation Wharf," "Hay Wharf," and "Commissary Wharf." Other Quartermaster maps for the area between Queen and Duke Streets show other wharves and buildings served similar functions for the U.S. Army. While this occupation severely affected Alexandria's economy, private businesses reclaimed the waterfront in the years after the war.



U.S. Army Quartermaster Corps map showing the U.S. Army's use of the Alexandria waterfront between Prince and Duke Streets.

While the establishment of cross-continental railroads and continued siltation in the Potomac River had ended Alexandria's use as a deep-water port for cross-Atlantic ships, the waterfront remained an important economic center following the Civil War. New enterprises that made use of the waterfront wharves and warehouses included coal and lumber yards, ice plants, ferry and steamship travel services, and hay and feed suppliers.

As the twentieth century unfolded, the waterfront continued to change. With the country's entry into World War I, the government contracted with the Virginia Shipbuilding Corporation to produce 12 cargo ships at Jones Point and converted the abandoned W.A. Smoot Company Lumber and Coal Yard at the end of King Street to a torpedo factory. But only nine ships were built for the war effort, and no torpedoes were produced until 1920. After only 3 years, torpedo production halted until World War II.

ca. 1880s photograph of McVeigh's Warehouse and Reed's Ice House and wharves between King and Prince Streets (photo courtesy of Alexandria Library, Special Collections, Wm. F. Smith Collection)

In the mid-twentieth century, recreational use of the waterfront began in earnest. Although the Old Dominion Boat Club was founded in the 1880s, similar leisure-oriented services were slow to follow. The Beachcombers Restaurant, one of the first on the waterfront, opened in 1945. While the Old Dominion Boat Club expanded through the 1930s, the City of Alexandria began purchasing other waterfront properties in the 1970s. Several developers also purchased the property in the 1960s and 1970s, later selling their acquisitions to the city.

This historical research shows a high potential for archaeological resources in the project area. The remains of as many as 11 wharves and 22 structures could be preserved under the modern ground surface and paved parking areas. Recent development projects have uncovered such remains, including those of ships that were used to help infill the old mud flats.

Because of this potential, Stantec recommends archaeological excavations before construction begins for this project. Field investigations should be undertaken to see if such historic resources are present and, if so, to determine if they can shed significant light on the history of Alexandria's waterfront. If any resources are found to be historically important, additional investigations are recommended to gather accurate information about the nature of the historical resources that once formed an integral part of Alexandria's economy.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Figure Page

LIST OF FIGURES CONTINUED

Figure Page

LIST OF FIGURES CONCLUDED

Figure Page

LIST OF TABLES

Table Page

1.0 INTRODUCTION

This report documents the results of a Phase IA archaeological assessment undertaken by Stantec Consulting Services Inc. (Stantec) with EHT Traceries, Inc. (Traceries) for the City of Alexandria's Waterfront Flood Mitigation (AWFM) project (Figure 1). The City of Alexandria is initiating the Final Design phase of the AWFM project and has contracted with Stantec to complete its design and planning efforts. The Final Design phase for this project consists of a number of tasks, including survey, environmental site assessment, geotechnical boring, preparation of National Environmental Policy Act and Master Plan documentation, civic engagement, and preparation of landscape, natural resource, and concept plans, among others. Permit plan submittal and preparation of construction documents will conclude the project. This initial archaeological assessment was conducted in accordance with the City of Alexandria's *Archaeological Protection Code* (City of Alexandria 2018), the Virginia Department of Historic Resource's (VDHR) *Guidelines for Conducting Historic Resources Survey in Virginia* (VDHR 2011), and the standards and guidelines set forth in the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 1983).

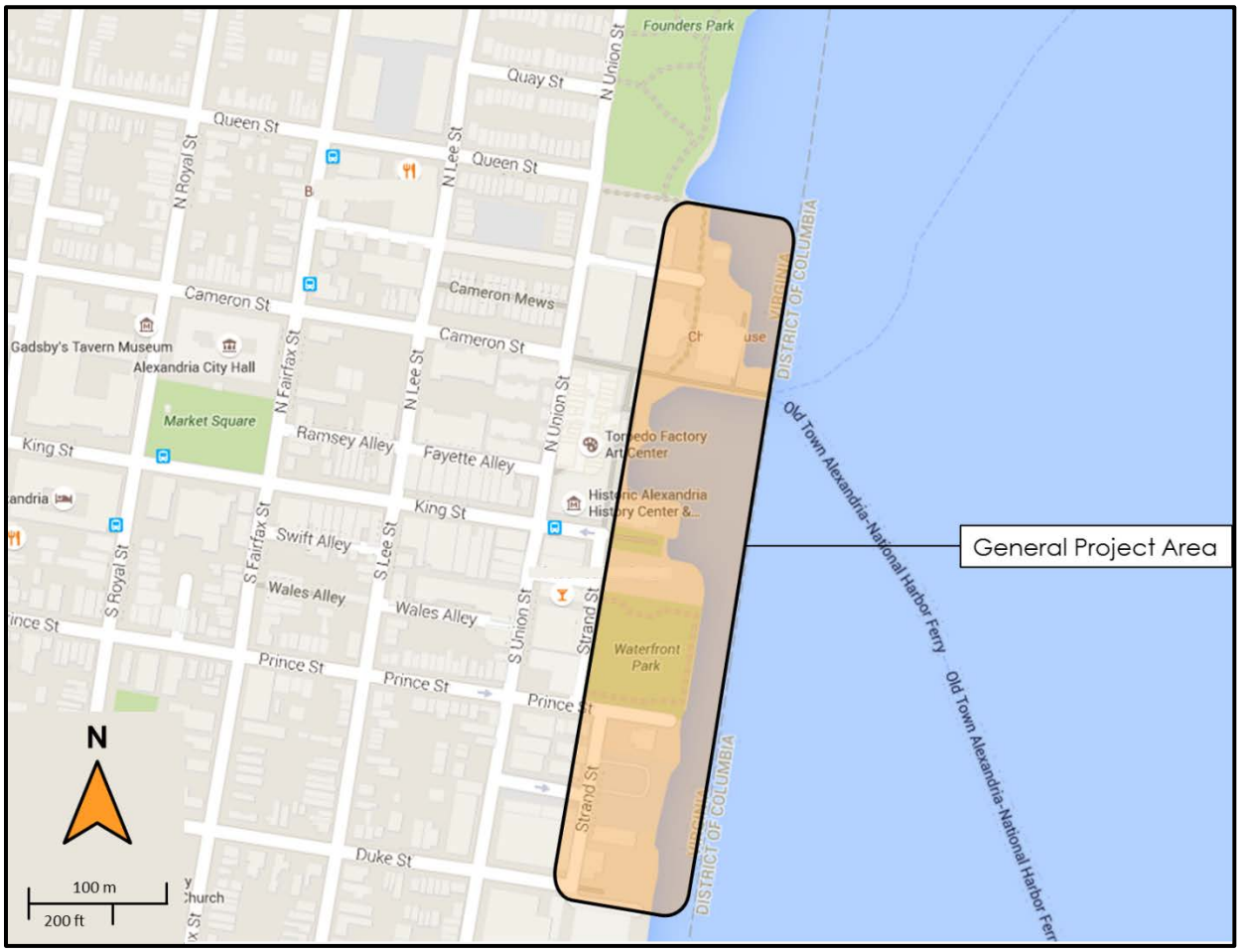


Figure 1. General location of the project area (Google 2016).

1.1 Proposed Undertaking

The City of Alexandria is embarking on a multi-year capital program to reinvent the City's Waterfront as a dynamic gateway to historic Old Town. The $60 million program includes development of a flood mitigation system and creation of a riverfront promenade and the new Fitzgerald Square plaza (Figures 1 and 2). In 2014, the City approved Phase I of the flood mitigation plan, including 15 percent design plans. Now the City of Alexandria is undertaking the Final Design phase for the waterfront flood mitigation project. The components of the project include:

- A complete flood mitigation system protecting the Alexandria Core Area (see Figure 2), that will include:
    - A vertical, structural bulkhead to a minimum elevation of 6.0 feet along the Potomac River within the project area. The proposed bulkhead is generally located east of the existing shoreline and in some cases east of the U.S. Army Corps of Engineers bulkhead line.
    - Two pump station sites (located in Waterfront Park and Thompson's Alley), each containing a screen, wet well, pumps, backup generator, backup fuel source, discharge piping, mechanical equipment, controls, and all related infrastructure. Each pump station site will include a pair of park pavilion buildings to elevate the pump station equipment above the floodplain, as well as to incorporate related park uses including storage, restrooms, and service areas.
    - A sealed storm sewer network to convey upstream runoff directly to the river, bypassing the pump stations.
    - A new Core Area storm sewer inlet and pipe network to collect and convey runoff to the pump station wet wells.
- A riverfront promenade, 20–25 feet in width, adjacent to the new structural bulkhead from Point Lumley Park to the south to Founders Park to the north. The promenade includes a paved landside component, a riverside, over-water boardwalk constructed on pilings, and areas with a stepped bulkhead, or grand steps, into the water.

Preliminary overview of readily available resources indicated that potential historic resources are present within the AWFM Limit of Disturbance (LOD). A shoreline change map provided by the Office of Historic Alexandria (OHA) suggests that the Potomac River shoreline was extended to the eastern boundary of the LOD by 1798. Historical maps and previously conducted research suggest that numerous wharves, smaller piers, structures on wharves, and structures on the shoreline were present within the LOD itself. The river shoreline map also indicates that the shoreline was extended eastward in the 1940s and 1960s to cover the eighteenth to nineteenth century wharves.

This Phase IA archaeological assessment of the AWFM LOD has also been prepared in support of the *Alexandria Waterfront Small Area Plan* (City of Alexandria 2011). The goal of that plan is to ensure that residents and visitors continue to have the ability to access the history, art, and architecture of Alexandria's historic waterfront.

Figure 2. Alexandria 7.5-minute quadrangle showing the general project location (U.S. Department of the Interior, U.S. Geological Survey 2016).

1.2 Project Area Description

The project area is located along the Potomac River waterfront in Alexandria, Virginia, roughly between Duke Street to the south and Queen Street to the north (Figure 3). The east and west boundaries are more irregular (Figure 3). The eastern boundary in all instances extends to the east into the Potomac River. While the boundary extends into the waters of the Commonwealth of Virginia, the final design could extend the boundary eastward into the waters of the District of Columbia. If so, the City of Alexandria must comply with all relevant regulations in all jurisdictions. The western boundary is quite variable. To the south between Duke and King Streets, the western boundary is mainly coincident with The Strand. However, the boundary does extend westward along Duke, Prince, and King Streets to the intersection with Union Street. The western boundary is coincident with the eastern façade of the Torpedo Factory from King to Cameron Street and is coincident with a number of building façades between Cameron and Queen Streets.

Two areas within this larger area have been excluded from the LOD (Figure 3). One, at the base of King Street, is the location of the proposed Interim Fitzgerald Square Park that has been assessed for archaeological potential by Kreisa et al. (2016). The second area is along the waterfront south of Prince Street. The City of Alexandria has excluded this parcel from the Alexandria Waterfront Flood Mitigation LOD.

This project LOD is largely comprised of City of Alexandria parks, boardwalks, parking areas, roadways, and piers. The surrounding area is largely commercial with offices, restaurants, shops, and boating-related facilities. Residential areas are located to the west.

The Office of Historic Alexandria/Alexandria Archaeology identifies the Old Town section of Alexandria as having a high potential for archaeological resources. This section of the city is the original historic core that was incorporated in 1749 and includes numerous historic resources, ranging from residential to commercial and from craft and industrial sites to port facilities. The proximity of this area to the Potomac River also suggests that there remains a potential for Native American resources in one portion of the project area. The Office of Historic Alexandria/ Alexandria Archaeology suggests that as much as 72 percent of Old Town may contain archaeological resources and is of significance because the area has sites mirroring the full range of development of the City of Alexandria.

1.3 General Setting

The AWFM project area is located in the Lowland Subprovince of the Atlantic Coastal Plain Physiographic Province, an area characterized by flat, low relief along major rivers and Chesapeake Bay (Bailey 1999) (Figure 4). According to the *Interactive Geologic Map of Virginia*, the project area is underlain by the Shirley Formation, characterized by interbedded gravel, sand, silt, clay, and peat (Virginia Department of Mines, Minerals, and Energy 2012). The Shirley Formation is of the Quaternary period, specifically Middle Pleistocene, and is composed of basal, gravelly sand that grades upward into a medium gray to reddish-brown fine to coarse sand, and an upper unit of light to medium gray clayey silt or clayey, silty fine-sand (Johnson and Berquist 1989). Immediately adjacent to the east is the Potomac Estuary and Lowlands District of the Western Shore Lowland Region of the Atlantic Coastal Plain (Reger and Cleaves 2008). This area

Figure 3. 2016 aerial photograph of the Alexandria Waterfront Flood Mitigation LOD (Google 2016).

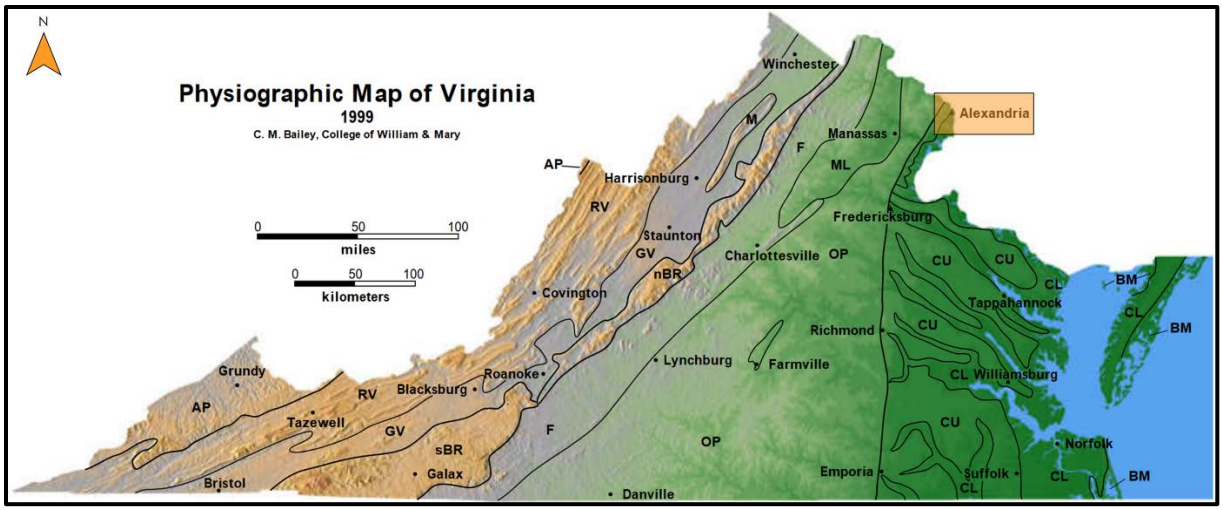


Figure 4. Physiographic provinces of Virginia (Bailey 1999). General project area highlighted in orange.

is characterized by the Potomac River and its terraces lowlands and estuaries within a broader area of low, fluvial and estuarine terraces, beaches, and drowned river mouths.

The AWFM project area lies within the Urban land-Grist Mill soil complex (U.S. Department of Agriculture, Natural Resources Conservation Service [USDA] 2013). According to the *Description and Interpretive Guide to Soils in Fairfax County* (Fairfax County Public Works and Environmental Services and Northern Virginia Soil and Water Conservation District 2013), this complex is found in very densely developed, low elevation areas of the Coastal Plain. The Urban land-Grist Mill soil complex consists of a mixture of impervious man-made materials that comprise Urban land soils and the development-disturbed Grist Mill soils. Grist Mill soils consist of sandy, silty, and clayey sediments of the Coastal Plain that have been mixed, graded, and compacted during development and construction; therefore, characteristics of the soil can vary depending on what materials were mixed in during construction. The Grist Mill subsoil is generally a clay loam, but can range from sandy loam to clay. The Web Soil Survey (USDA 2013) describes a typical Grist Mill soil profile as sandy loam to approximately 15 cm below surface followed by sandy clay loam from 15–152 cm below surface. The soil is well-drained and depth to the water table is between approximately 24 and 79 inches (.61 and 2.0 m) (USDA 2013).

1.4 Report Organization

Following this introduction, the report contains six additional sections: Assessment Methods, Cultural Context, Previous Archaeological Investigations, Archaeological Resource Sensitivity Assessment, Archaeological Assessment Summary and Recommendations, and References Cited. Qualifications of Key Personnel comprise Appendix A. Appendix B contains the deed research conducted for the project.

2.0 ASSESSMENT METHODS

The initial archaeological assessment of the proposed AWFM project area employed a number of research methods. These included background, archaeological, historical, and documentary research; shoreline change analysis; review of geotechnical boring logs; and a site visit.

2.1 Archaeological, Historical, Background, and Documentary Research

Stantec reviewed several sources of information for the archaeological and background research for the AWFM project area. These sources included pertinent soil surveys, the VDHR Virginia Cultural Resource Information System (V-CRIS) and Office of Historic Alexandria/Alexandria Archaeology files to identify previously recorded archaeological sites and previously conducted archaeological investigations near or within the project area.

Traceries conducted historical and archival research to prepare a general history of the Alexandria waterfront that discusses the general themes associated with its development from first settlement in the early eighteenth century to the mid-twentieth century. Much of this general overview, found in Section 3.2, draws from the *Alexandria Waterfront History Plan* (City of Alexandria 2010) and the *Alexandria Waterfront Small Area Plan* (City of Alexandria 2011). These documents also provided leads for additional research that was conducted on the many wharves once present within the study area.

Traceries also conducted research documenting Historic period land use within the project LOD, particularly tracing property ownership of the parcels within the LOD. Historical research was conducted at the Office of Historic Alexandria/Alexandria Archaeology, the Barrett Library, and the Library of Congress. Property research was conducted at the City of Alexandria Clerk's Office, where deed, orphans court, and probate records were investigated. Resources studied as part of the research included previously prepared historical/cultural contexts, local city and site histories, historical maps and aerial photographs, census records, newspapers, land records (deeds and plats), tax records, probate and court documents, tax and census documents, and city directories.

2.2 Potomac River Shoreline Change

Stantec relied on the Alexandria Archaeology shoreline change map provided by the Office of Historic Alexandria to interpret the history of shoreline change within the AWFM LOD.

2.3 Site Visit

Stantec conducted a site visit to field-verify the results of the background research, note visual evidence of past disturbance, and determine a final probability estimate for the presence of archaeological resources. Disturbances not readily apparent from the background research were identified and taken into consideration with regards to the assessment of archaeological potential for the project area.

2.4 Geotechnical Borings

The Office of Historic Alexandria requested that Stantec monitor six geotechnical borings extracted at various locations throughout the AWFM LOD. The borings were extracted primarily

for engineering purposes; however, their extraction provided an opportunity to obtain preliminary information on subsurface conditions within the AWFM LOD. The borings were extracted using a split spoon sampler. The geotechnicians would extract an approximately 2-ft core sample and in part allow the Stantec archaeologist to photograph and describe the stratigraphic profile. The boring machine would then drill generally between 1 and 3 feet, after which another 2-ft long sample would be extracted. In essence, the resultant profile is based on a series of samples with 1–3-ft gaps between the samples. Drilling and sample extraction continued to a base that was determined by engineering requirements. Specific details and results of the geotechnical borings are presented in Section 5.

3.0 CULTURAL CONTEXT

This section presents a general outline of precontact Native American and Euroamerican cultural development in the Mid-Atlantic region in general, and more specifically within northern Virginia. It is based on specific studies that form the sequence of regional Native American and Euroamerican history that is presented below. These contexts provide an interpretive framework for defining the types of archaeological sites and remains that could be present within the AWFM project area.

3.1 Native American Context

Precontact Native American chronology in Virginia is traditionally divided into three broad periods defined by environmental conditions and cultural manifestations of material culture, settlement systems, and social institutions. These broad periods are commonly known as Paleoindian, Archaic, and Woodland. Most archaeologists divide the Archaic and Woodland periods into Early, Middle, and Late components (Figure 5).

3.1.1 Paleoindian Period (12,000 – 9000 BC)

The Paleoindian period reflects a pattern of cultural adaptation based on environmental conditions that marked the shift from the Late Pleistocene to the Early Holocene epoch (Figure 5). During this period of glacial retreat, the climate was probably three to eight degrees colder than at present, and vegetation initially consisted of spruce, pine, fir, and alder (Brush 1986:149; LeeDecker and Holt 1991:72). By the end of this period, vegetation patterns comprised a mosaic of microhabitats, with mixed deciduous gallery forests near rivers, mixed coniferous forests and grasslands in foothill and valley floor settings, and coniferous forests on high ridges (Custer 1984; Kavanagh 1982).

Dent (1995:132–133) suggests that three distinct environmental zones can be identified within the Chesapeake Bay region in the Paleoindian period. The first zone consists of areas along the ancestral Susquehanna River and its tributaries, including those along the modern Potomac and Anacostia Rivers. This zone is seen as providing ample resources to early inhabitants. The second zone, the Inner Coastal Plain region, lies to the west where resources were more diffuse. The third zone is the area where the Inner Coastal Plain transitions to the Piedmont region. Ecotonal diversity would have provided increased potential for subsistence resources while the area also contained ample lithic resources. Dent (1995:133–134) also suggests that the area of the Chesapeake Bay region south of the James River in Virginia differed significantly from those areas to the north. The area south of the James River contained more temperate plant species and had larger wetland areas than did areas to the north, indicating the southern area had a more diverse ecosystem.

Traditional characterizations often suggest that Paleoindian settlements consisted of small hunting camps associated with sources of high-quality lithic raw materials. Gardner (1983, 1989) identifies six different functional categories for Paleoindian sites in the nearby Shenandoah Valley: lithic quarries, reduction stations, quarry-related base camps, base-camp maintenance stations, hunting stations, and isolated point find spots. Custer (1984) suggests that these site types may be applicable to the wider Mid-Atlantic region as a whole. Acquisition of high-quality

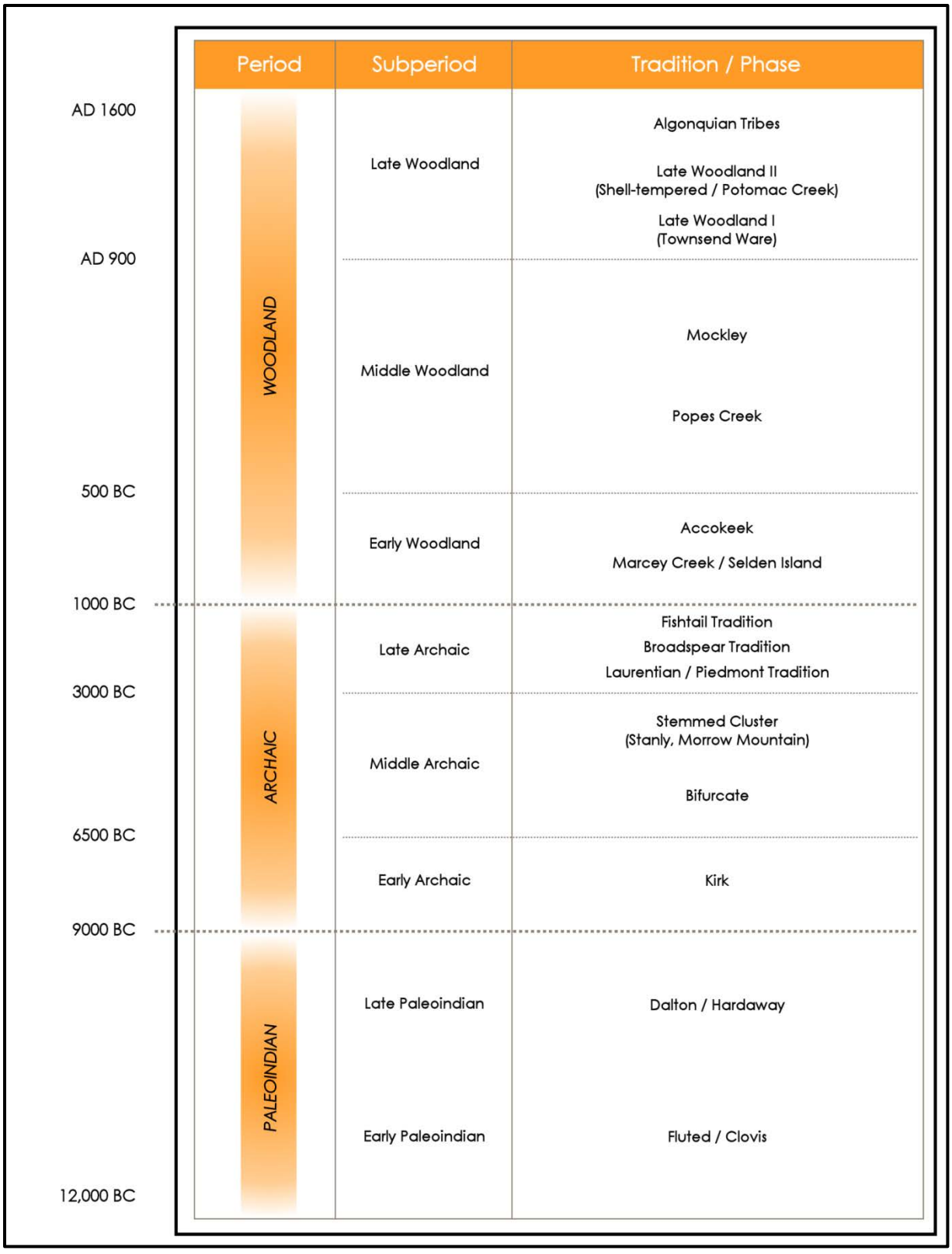


Figure 5. Regional precontact Native American chronology of the northern Virginia area.

lithics served as a focal point for this system with hunting as its subsistence base, which focused on large game such as moose, elk, and deer (Kavanagh 1982). In contrast, the Shawnee-Minisink site provides evidence that other foodstuffs were exploited as well. The remains of fish, edible seeds, and plants were found in Paleoindian deposits at that site (McNett 1985). Dent (1995:128) notes that virtually no evidence for subsistence practices has been found in the Chesapeake Bay region, although he postulates that they were not based on hunting megafauna (Dent 1995:106).

Dent (1995) has reviewed Paleoindian sites and settlement patterns in the Chesapeake Bay region. At that time, attributes of 25 known Paleoindian sites were reviewed as were the characteristics of hundreds of isolated (off-site) finds reported in the Chesapeake Bay region. Most of the sites are surface manifestations, with relatively few intact, buried Paleoindian deposits having been located in the region (Dent 1995:122–124). Most sites and isolated finds have been identified south of the James River while a more moderate number has been found north of the Potomac River. Interestingly, the fewest sites and isolates have been found between the James and Potomac Rivers (Dent 1995:120–121).

In contrast to the highly diverse site type model proposed by Gardner and accepted by Custer as discussed above, Dent (1995:137–138) suggests that only two site types can be defined for the Chesapeake Bay region. Larger residential bases, often with multiple, distinct artifact loci, are situated along the ancestral Susquehanna River and its tributaries and along the western margin of the Inner Coastal Plain. These sites tend to be located in areas where a higher diversity of resources would have been available to site inhabitants. The second site type is the "location." Locations are smaller sites, often located in less productive zones, at which few or specific tasks were being undertaken. While many locations in the Chesapeake Bay region are situated near wetlands, the most extreme example of these sites is the isolated find. Dent (1995:138) suggests that this settlement system indicates a high degree of mobility in Paleoindian culture that perhaps was based on seasonal availability of resources and weather patterns. There is some indication that site locations were selected to maximize solar warming while minimizing exposure to prevailing winter winds (Dent 1995:124). Dent (1995) further suggests that sites deviating from this pattern may indicate an occupation in warm-season months.

In the archaeological record, early Paleoindian sites are usually characterized by the presence of large, fluted, lanceolate-shaped projectile points such as Clovis while later Paleoindian components are identified with projectile point types such as Dalton and Hardaway (Dent 1995:124; Justice 1987). Clovis points have been found throughout North America, from the West Coast to the East Coast, and as far north as Nova Scotia. Most archaeologists suggest that preferred lithic materials for these projectile points were high-quality cryptocrystalline stones such as jasper and chert. Once again, Dent (1995) has questioned the applicability of these generalizations to the Chesapeake Bay region. In reviewing raw material types used at Paleoindian residential bases in the region, Dent (1995:124–127) notes that lower-quality material comprises 25 percent to as much as 75 percent of these assemblages. Quartz, quartzite, silicified wood, slate, and jasper tend to dominate these assemblages. In contrast, high-quality cryptocrystalline materials dominate the location assemblages and are an especially dominant raw material for isolated finds. Paleoindian tool kits in the Chesapeake Bay region include such items as fluted bifaces, end and side scrapers, generalized bifaces, spokeshaves, gravers, awls, drills, denticulates, wedges, and cores (Dent 1995:124–127). Sites with high diversities of tools such as these are most

often associated with residential camps. Dent (1995:127) also notes that utilized flakes are numerous at residential camps.

Paleoindian materials are rare along the Anacostia and Potomac Rivers. In 1988, Turner (1989:80) indicated that fewer than five Paleoindian projectile points per county had been found in the Virginia counties that border the Potomac River. The continuing Virginia Paleoindian fluted point survey documented eight additional points in Fairfax County, six in Loudoun County, and one in Prince William County between 1988 and 2011 (Anderson et al. 2010). The Smithsonian Institution collections, many obtained in the late nineteenth century when the area was more agricultural, include three Paleoindian projectile points from along the Anacostia River (Humphrey and Chambers 1985:8). Also of note, a Clovis point was found near the Aquasco district in south-central Prince George's County in Maryland (Gibb 2006). One reason for the paucity of Paleoindian projectile points and sites along these rivers may be the rise in water levels, in part due to the melting of the glaciers and the subsequent inundation of low-lying areas. While site burial has long been recognized in floodplain and terrace contexts, more recently site burial in upland formations has been demonstrated to have occurred as well (Wagner 2012).

3.1.2 Early Archaic Period (9000 – 6500 BC)

The Pre-Boreal/Boreal climatic episode, dating from 8500–6700 BC, for the most part corresponds to the Early Archaic period (Figure 5). Glacial recession continued and deciduous forests expanded, possibly leading to a greater proliferation of game species in this period. In many ways, this climatic period, and the cultural period as well, marks a transition from late Pleistocene to Holocene patterns. Summer temperatures became warmer while the winters continued to be wetter than at present. This resulted in an expansion of coniferous and deciduous trees at the expense of grasslands. The distribution of forests consisted of pine and hemlock on slopes, mixed coniferous-deciduous forests in valley floors, and hydrophytic gallery forests along rivers (Carbone 1976; Kavanagh 1982:9). Kavanagh (1982:9) suggests that while little faunal evidence exists for this period, the environment most likely supported bear, deer, elk, and a variety of small game that were adapted to a northern climate. Evidence for this view comes from the Cactus Hill site (44SX202) faunal assemblage, which contains species that are still common in the region today (Whyte 1995). After 7000 BC, the spread of deciduous woodlands into upland areas, which had previously been predominantly spruce, hemlock, and pine forests, opened new habitats to be exploited by both animals and humans (Custer 1990).

Some researchers have emphasized that the Early Archaic period in the Mid-Atlantic region evidences continuity in lifeways from the Paleoindian period, with the exception of changes in projectile point styles (see Dent 1995). However, Dent (1995:167) notes that our understanding of the Early Archaic period in the Chesapeake region still depends on information from sites outside this area. With that said, the most distinctive cultural characteristic of the Early Archaic period was the appearance of notched projectile points, most notably the corner-notched types such as the Kirk varieties along with the Palmer, Charleston, and Amos types (Dent 1995:168; Justice 1987). Other point types associated with the initial portion of the Early Archaic period include Hardaway, Kessel, Taylor, and Big Sandy, all side-notched types, although the Palmer Side-Notched type may be more common in the District (Dent 1995:168; Fiedel et al. 2008:9; Justice 1987). These notched projectile points are more characteristic of the initial portion of the Early Archaic period, typically dating between about 10,000 and 8,500 years ago (Dent 1995:157, 168).

Dent (1995:157) suggests that the overall stone-tool assemblages associated with the notched projectile points have similarities with the earlier Paleoindian assemblages, including an emphasis on the use of a core-flake manufacturing process and especially scraper styles (Dent 1995:169–170). Distinctive bifurcate base projectile points, including such types as LeCroy, St. Albans, and Kanawha, characterize the later portion of the period between approximately 9,000 and 7,250 years ago, with some types persisting into the Middle Archaic period (Dent 1995:156–157, 168). Unfortunately, few radiocarbon dates are available for Early Archaic sites in the Chesapeake region. The stone tools associated with these projectile points are less formal and more expedient and appear to evidence use of a bipolar reduction strategy (Dent 1995:157, 170). Utilized flakes also appear to be more common.

The use of high-quality lithic materials also continued until the later portion of this period when quartz and quartzite began to be more frequently used. Archaeological investigations in the Patuxent River drainage show that the majority of Kirk points found are made of rhyolite, possibly obtained from the South Mountain area. This indicates that people either traveled long distances to obtain preferred lithic raw materials or that long-range trade networks had been established by this time (Steponaitis 1980:68). However, Dent (1995:170) suggests that the choice of lithic material changed during this period. Assemblages associated with the notched projectile points, generally in the initial portion of the Early Archaic period, tend to be made from nonlocal materials. The later bifurcate base projectile point assemblages more commonly are made from local materials. Dent (1995:170) suggests that this change may be related to an increasingly restricted social landscape that limited group mobility. Lastly, the first ground-stone tools are associated with the Early Archaic period, including flaked and ground axes, celts, abraders, and adzes (Dent 1995:170).

Early Archaic settlement systems and site locations appear to reflect a dichotomy in landscape use between ecologically diverse floodplains and less ecologically diverse areas, such as uplands. Dent (1995:171) characterizes the distribution of Early Archaic sites in the Chesapeake region as consisting of small sites widely distributed across the landscape. In a wider perspective, settlement appears to include larger residential camps that are located in the ecologically diverse floodplain settings and smaller, short-term occupation camps that are found in less ecologically diverse areas (Dent 1995:165). This bifurcation between floodplain and upland settings continues through the Middle Archaic period and might indicate the initial reliance on aquatic resources. If so, this appears to signal an increasing shift toward a generalized use of many available food resources. Dent (1995:172) also views the widespread distribution of Early Archaic sites in the Chesapeake region as an effort to both feed and integrate peoples through the minimization of risk by information and resource sharing. In the Southeast, subsistence strategies included the collection of a number of mast species, seeds, and fruits, and hunting of amphibians, reptiles, and mammals as well as fish (Dent 1995:165–166). This pattern is mirrored to some extent in the Chesapeake region (Dent 1995:172–173). It has been suggested that the expansion of projectile point styles may be associated with the diversification of the Early Archaic subsistence base.

Dent (1995:163, 170) notes that Early Archaic sites are generally multicomponent, perhaps, in some instances, because of frequent reoccupation. One aspect of the changing environment, increasingly predictable seasonal patterns, may have promoted repeated visits to locations through greater resource predictability (Dent 1995:195). Hearths are more frequent and more formal than in the earlier Paleoindian period. They include more formal prepared hearths and

less formal unprepared hearths, with prepared hearths more common in association with bifurcate point strata. Dent (1995:163, 198) suggests that this change may reflect a shift in lifeways and cooking techniques in the Early Archaic period. The less formal hearths are often clusters of fire-cracked rock measuring less than 1 m in diameter and most likely representing dumps of boiling stones (Dent 1995:171).

Several archaeological sites in the neighboring District of Columbia have yielded Early Archaic projectile points, although intact deposits dating to this period have not been found. McNett (1972:33) and Barse (2002) both identify Kirk Corner-Notched projectile points at the Potomac Avenue site (51NW22) and Fletcher's Boathouse site (51NW13), respectively. Both sites are located on floodplain formations of the Potomac River. Fiedel et al. (2008:9) also suggest that some of the projectile points illustrated by Holmes (1897) date to the Early Archaic period.

3.1.3 Middle Archaic Period (6500 – 3000 BC)

The beginning of the Middle Archaic period coincides with the Atlantic climatic episode, a warm, humid period associated with a gradual rise in sea level that led to the development of inland swamps (Barse and Beauregard 1994:9) (Figure 5). It was a time marked by increased summer droughts, sea level rise, grassland expansion into the Eastern Woodlands, and the appearance of new plant species (Carbone 1976:106; Hantman 1990:138). By 5000 BC, there was the onset of a cooling trend. Gardner (1982) suggests that the climatic changes resulted in a zonally patterned floral and faunal species distribution across the region, leading to an increased emphasis on seasonal availability of resources. Unfortunately, Dent (1995:173) suggests that the Middle Archaic period is one of the least understood periods of precontact Native American history in the Chesapeake region.

Common tool types in Paleoindian and Early Archaic lithic assemblages, including unifacial tools and formal end scrapers, decreased in number in the Middle Archaic period (Dent 1995:175; Egloff and McAvoy 1990:64). Modified flakes increased in number, and projectile points and generalized bifaces, many of which appear to be multifunctional tools, became the dominant chipped-stone tool types (Dent 1995:175). The bifurcate tradition of projectile points, including the LeCroy, St. Albans, and Kanawha types, continued at this time, and ground-stone tools (axes, adzes, mauls, grinding stones, and nutting stones) also became widely utilized as subsistence and settlement patterns changed (Dent 1995:176). Middle Archaic ground-stone tools were completely pecked or ground, in contrast to those associated with the Early Archaic period (Dent 1995:176). The other significant marker of the Middle Archaic period is the stemmed projectile point style (Dent 1995:157). Stemmed projectile points dating to this period include the Stanly Stemmed/Neville, Morrow Mountain I and II, Guilford, and Piscataway types (Justice 1987). In general, these stemmed types date to the initial portion of this period, between about 8,000 and 6,000 years ago (Dent 1995:175). The Piscataway type is found late in this time period and at its earliest dates to the transition from the Middle Archaic to the Late Archaic period (Kavanagh 1982:50). Side-notched projectile points dating to the later portion of the Middle Archaic period, from 6,000–5,000 years ago, include the Halifax, Otter Creek, and Brewerton types (Dent 1995:175; Justice 1987). Dent (1995:175) also notes that Middle Archaic points are less numerous in the northern part of the Chesapeake region. The use of high-quality lithic material for tools was not as common in this period as it was in earlier periods, with the trend toward using local

materials, first noted in the later portion of the Early Archaic period, continuing into this period (Dent 1995:176; Fiedel et al. 2008:10).

While many have characterized the Middle Archaic settlement system as something of an enigma, the riverine base camps/upland short-term camps of the Early Archaic period seem to have continued, although this system generally consisted of numerous small sites scattered across the landscape in the Chesapeake region (Dent 1995:165, 177). Middle Archaic sites in Maryland tend to be clustered along tributaries of rivers and not in the estuarine sections of drainages (Steponaitis 1980). Settlements consisted of small base camps located in or near inland swamps that were convenient to seasonally available subsistence resources, as well as smaller temporary upland hunting camps. Researchers have noted that few components dating to the Paleoindian and Early Archaic periods are present at Middle Archaic sites. Gardner (1989:34) suggests that the immediate local ecology of the Paleoindian and Early Archaic sites became increasingly less suited to the needs of Native American groups as climate and vegetation changed in the Middle Archaic period.

Outside the Chesapeake region, Middle Archaic sites have yielded evidence of prepared floors and post molds, some of the earliest direct evidence for the existence and nature of structures (Dent 1995:164). Formal cemeteries are also known. In the Chesapeake region, sites appear to represent a series of reoccupations. Formal hearths became more common in this period, and researchers have identified discrete activity areas at such sites (Dent 1995:176). Such activities often include tool manufacture or maintenance and subsistence and processing activities. Turning to subsistence, the greater variety of plant resources allowed for an increase in general foraging as a supplement to hunting, continuing a trend first detected at Early Archaic sites (Dent 1995:177; Kavanagh 1982:50). Dent (1995:177) suggests that this Middle Archaic subsistence strategy represents a diffuse adaptation. However, Smith (1986) suggests that populations became increasingly focused on the exploitation of specific resources such as mollusks or oysters.

A few sites in the District of Columbia have yielded diagnostic projectile points dating to the Middle Archaic period, but similar to the Early Archaic period, intact deposits are rare. McNett (1972:33) identifies several projectile points dating to this period from 51NW22, including a LeCroy Bifurcate Base point and an unidentified serrated point found at the site by a local collector. Inashima (1985) reports several projectile points from 51NW80 as dating to the Early Archaic and Late Archaic periods, although Fiedel et al. (2008:24) suggest that these points are better classified as Middle Archaic types. All of these sites are located along the Potomac River in northwest Washington, D.C. Louis Berger & Associates (1986) identify Brewerton and Halifax points from the Howard Road site (51SE34) along the Anacostia River as dating to the Middle Archaic period, although other researchers would identify the point types as Late Archaic. Fiedel et al. (2008:11) also suggest that the bifurcate base points illustrated by Holmes (1897) date to this period and that other illustrated points are examples of the Morrow Mountain and Guilford types.

3.1.4 Late Archaic Period (3000 – 1000 BC)

Dent (1995) views the Late Archaic period as a time when the region's occupants adapted to a number of environmental changes (Figure 5). The environment of the Late Archaic period included a warmer and drier climate, a continued rise in sea level, the expansion of oak-hickory

forests onto valley floors and hillsides, and the reappearance of grasslands (Carbone 1976:189). As well, the distribution of faunal species characteristic of the early Historic period was established at this time. For the Chesapeake Bay region, perhaps the most important change was the establishment of the estuary system, which resembled the modern system only near the end of the Late Archaic period (Dent 1995:199).

Dent (1995:160) suggests that the Late Archaic period can be divided into two time-based segments that may reflect the adaptation of groups to changes in the Chesapeake region environment. The earlier segment is characterized by a predominance of narrow-blade stemmed projectile points such as Bare Island, Lackawaxen, Clagett, Holmes, and Piscataway, along with a few side-notched types more characteristic of the Middle Archaic period such as Brewerton, Halifax, and possibly Otter Creek (Dent 1995:178–180). Dent (1995:180) suggests that these narrow-blade types date to the period of approximately 3000–1500 BC. Beginning at 2200 BC, and thus overlapping with the last half of the narrow-blade tradition, is the broad-blade tradition that continued to approximately 1000 BC (Dent 1995:181). Some researchers have designated this time period as the Terminal Archaic (e.g., Fiedel et al. 2008:11; Kavanagh 1982). Characteristic of this tradition are types such as Savannah River, Susquehanna, Crispin, and Perkiomen, with derivatives such as Orient Fishtail and Dry Brook also present (Dent 1995:180). Dincauze (1976) suggests that the narrow-blade tradition evolved in situ from local Middle Archaic populations while the broad-blade tradition was a result of diffusion from the Southeast. Dent (1995:201–202) appears to support this interpretation as well.

Turning to the remainder of the material culture assemblage associated with Late Archaic sites, Dent (1995:161–162, 181) notes broad similarities between the artifact assemblages of the two projectile-point traditions. Chipped-stone tools were made using both bipolar and bifacial reduction techniques, and projectile points were most likely multipurpose tools. The reliance on multipurpose tools appears to have reduced the diversity of Late Archaic tool types. Specific tool types include generalized bifaces, expedient flake scrapers, drills, perforators, and utilized flakes (Dent 1995:182). Drills and scrapers were often made from exhausted projectile points. Besides the formal chipped-stone tools, the production of expedient tools made from flakes and crude cores appears to have increased (Klein and Klatka 1991:98). Lithic material varies by location, although an emphasis on local materials is characteristic of both traditions, and some preference for quartzite appears to be associated with the broad-blade tradition (Dent 1995:182). Throughout this period, quartz and quartzite were the most frequently used lithics, although rhyolite and argillite were occasionally used. However, large quarries, often centering on quartzite acquisition, such as the Piney Branch quarries in the District of Columbia, appear to be associated with the broad-blade tradition (Dent 1995:203; Fiedel et al. 2008). Nonlocal materials, when present, appear to have been procured from “down-the-line” trading networks (Dent 1995:182). The use of ground-stone tools also increased in the Late Archaic period and especially with the broad-blade tradition, perhaps reflecting an increase in woodworking activities (Dent 1995:182). Ground-stone tools include adzes, celts, gouges, axes, manos, metates, mortars, net weights, and atlatl weights (Dent 1995:182). Steatite or soapstone bowls were also produced in the Chesapeake region, once again more so with the broad-blade tradition (Dent 1995:161, 182–183).

Aside from projectile point styles, Dent (1995) stresses that the greatest differences between the two traditions is in terms of settlement and site structure. Settlement patterns associated with the narrow-blade tradition consist of a large number of relatively small sites that are equally divided

between riverine and upland locations, with wetlands, forests, diverse habitats near streams, and riparian floodplain plant communities offering predictable resources (Dent 1995:185, 197). Because of this, the Inner Coastal Plain was more heavily occupied than the Outer Coastal Plain (Dent 1995:197). Such a strategy also effectively enhanced contact between groups and mitigated risk through information and resource sharing (Dent 1995:197). Sites that appear to be larger are most often the result of a palimpsest of frequent occupations by small groups, with the frequency of reoccupation associated with resource predictability (Dent 1995:199). Subsistence appears to have been based on forest mast, deer, and turkey (Dent 1995:187). Seasonal hunting and foraging continued, but exploitation of riverine resources rapidly became an important part of the subsistence base. Several settlement trends are associated with these changes, including an intensified occupation of the uplands, the initial establishment of large semi-sedentary base camps along rivers and streams, and an overall increase in the number of sites dating to this period. Internally, narrow-blade tradition sites evidence a limited range of features, including discrete activity areas and scatters of fire-cracked rock (Dent 1995:184).

The broad-blade tradition reflects an adaptation to the increased availability of estuarine environments in the Chesapeake region, an adaptation referred to as an intensification effort and characterized as an appropriation of nature (Dent 1995:188, 200). Dent (1995:205) characterizes this adaptational change as a shift to a logistically organized collector strategy. Dent (1995:201) suggests that, like the broad-blade projectile points themselves, the adaptation for intensification, which allowed populations to take advantage of the stabilized, ecologically productive coastal areas, was imported into the Chesapeake region. Reflecting this change is a shift in site location that emphasizes proximity to linear river valleys that allowed an increase in the population and a subsistence focus on estuarine resources (Dent 1995:186, 201). Both site size and total number of sites increased, with sites as large as 2 ha present while smaller sites average 450 square meters (Dent 1995:186). Dent (1995:186) characterizes this settlement system as representing an annual cycle of fusion and fission with settlements including multiband base camps, band camps, and microband foray sites. In contrast, Steponaitis (1986:285) views the settlement pattern of the Patuxent River area as unchanged throughout the entire Late Archaic period. Features associated with the sites also became more diverse. Formal hearths and platform hearths, perhaps having a fish-processing function, are increasingly common. Shell accumulations, pits, and burial pits have also been reported. Definite evidence for structures, though, is lacking (Dent 1995:185). As may be surmised from the shift in settlement toward estuarine environments, greater evidence for fish and shellfish use is associated with the broad-blade tradition (Dent 1995:187). Mast use appears to have been seasonally determined, as perhaps were aspects of hunting (Dent 1995:187).

3.1.5 Early Woodland Period (1000 – 500 BC)

The Early Woodland period, roughly dated between 1000 BC and 500 BC, generally coincides with the Sub-Boreal climatic episode, which approximated modern conditions although attenuated cycles of climatic change have been identified (Carbone 1976) (Figure 5). Johnson and Peebles (1983) and Brush (1986) indicate that, by this time period, forest composition was essentially similar to that of the modern period although differences in the frequency of species may have been present. Similarly, Eshelman and Grady (1986) suggest that a modern array of faunal species was present in the region at this time.

Culturally, ceramic manufacture and increased sedentism traditionally mark the beginning of the Early Woodland period. The earliest ceramic types found along the Coastal Plain of Maryland are the steatite-tempered Marcey Creek and Selden Island wares, which are associated with fishtail-type points, including Orient and Dry Creek. Some researchers have characterized these ceramic types as "experimental" wares (e.g., Dent 1995:225; Wise 1975), and they can be described as trough- or bowl-shaped vessels with flat bottoms molded from slabs of clay (Dent 1995:225). Egloff (1991) suggests the early ware types, such as Marcey Creek and Selden Island, are derived from Southeast pottery traditions. The Marcey Creek and Selden Island wares were replaced by the sand- or crushed-quartz-tempered Accokeek wares. These ceramics are associated with Calvert and Rossville point types (Wesler et al. 1981:183). Accokeek ware is the earliest example of this pottery technology on the Western Shore. By about 900 BC, coil production techniques began to be used, with globular vessels having cord- or net-impressed exterior surfaces being fashioned (Dent 1995:227). Aside from projectile points, much of the Early Woodland lithic assemblage is similar to that of the preceding Late Archaic period (Dent 1995:228).

Researchers have suggested that the Early Woodland settlement pattern reflects an intensification of the logistical-collector strategy adopted in the broad-blade tradition of the Late Archaic period (Dent 1995:230). It appears that part of this intensification included increased sedentism, with larger sites being occupied for longer periods of time (Dent 1995:230; Mouer 1991). Smaller resource-extraction sites serviced these larger sites (Dent 1995:230; Gardner 1982). The larger sites were riverine-based and often located at the junction of freshwater and brackish streams in interior regions. Smaller camps were established seasonally in areas with high potential for the exploitation of numerous and differing resources. Gardner (1982:60) has proposed that the settlement-subsistence system of this period included a series of base camps where populations aggregated to exploit seasonal resources. Groups occupying the base camps harvested anadromous fish in the spring and early summer and exploited estuarine resources in the fall and early winter. Features identified at the large base camps reflect the increased sedentism. The Early Woodland period provides the earliest evidence for food storage. Small food-storage pits are common, as are formal hearths with dense deposits of fire-cracked rock (Dent 1995:230). Other characteristics of the large base camps indicative of increased sedentism include dense midden deposits, including shell middens. However, few remains of structures have been identified (Dent 1995:230).

3.1.6 Middle Woodland Period (500 BC – AD 900)

Dent (1995:235) suggests that the Middle Woodland was a period of technological homogenization in that projectile point type variability decreased in the Chesapeake region. In contrast, a diversification of ceramic vessel sizes, forms, and styles of surface decoration, including net-, cord-, and fabric-impressed, characterizes the Middle Woodland period (Dent 1995:221). The major ceramic type in the region was the shell-tempered Mockley type (characteristic of the Mockley phase), which evolved from the sand-tempered Popes Creek type (Barse and Beauregard 1994:14; Dent 1995:221, 235) (Figure 5). Popes Creek ceramics typically date from about 2,500–1,800 years ago and are thick-walled and sand-tempered with net-impressed exteriors (Dent 1995:235–236). Projectile points associated with Popes Creek ceramics include Calvert and Rossville types as well as unnamed stemmed types (Dent 1995:236). Mockley ceramics date from 1,800–1,100 years ago and are shell-tempered with cord- and net-impressed exteriors (Dent 1995:236). Fox Creek and Selby Bay projectile point types are associated with the

Mockley ceramics (Dent 1995:237). The presence of non-local rhyolite, argillite, and jasper lithics at a few sites suggests that localized exchange networks may have operated between the Coastal Plain and areas in both western Maryland and at the New Jersey fall line (Barse and Beauregard 1994:15; Dent 1995:222, 237). There is some suggestion that the rhyolite was traded into the region in the forms of blanks and preforms (Dent 1995:237; Stewart 1992:21). However, much of the stone-tool assemblage associated with the Middle Woodland period is similar to that of the preceding Early Woodland period, although bone tools are more common (Dent 1995:239).

Middle Woodland settlement continued the generalized pattern of seasonal aggregation and dispersal that perhaps began as early as the Middle Archaic period. In general, it appears that base-camp settlements located at freshwater/brackish water junctions, a common location for Early Woodland camps, were abandoned in favor of broad floodplain sites where maximal resource exploitation of tidal and non-tidal aquatic resources was possible (Davis et al. 1997; Dent 1995:222). Dent (1995:241) discusses the Popes Creek site, which appears to represent a major settlement in the fall and winter seasons. The group would disperse in spring to take advantage of anadromous fish runs and to collect shellfish and hunt in the summer. Potter (1993) suggests that in the later portion of this period, smaller groups would seasonally congregate and disperse, whereas by the end of the period, larger, village-sized groups would seasonally congregate. Custer (1989) presents a similar model for the northern portion of the Chesapeake region. However, he identifies mortuary and exchange centers as additional elements of this system. These sites tend to be located in ecologically unproductive areas but are well-situated along potential lines of trade. Such sites are seen as indicators of increased regional interactions and also the coalescence of distinct territories (Dent 1995:242).

As the previous paragraph implies, Middle Woodland sites exhibit an extensive range in size, in one part of the Chesapeake region from .1 ha to 5 ha, that appears to be correlated with site function (Dent 1995:240). Features associated with Middle Woodland sites include dense midden rings, shell middens, subterranean storage pits, storage pits reused as trash receptacles, hearths, roasting pits, and concentrations of fire-cracked rock (Dent 1995:240). However, structural remains are not well-represented in the archaeological record. Available evidence suggests that houses had prepared floors, interior pits, and a pole-supported structure. Many of the subsistence trends noted for the Early Woodland period continued into the Middle Woodland period, especially the large-scale exploitation of oysters and other shellfish (Dent 1995:242). Deer, turkey, small mammals, and other bird species were important as well. Nuts and seeds were collected, and the increased representation of seeds such as amaranth and chenopod at sites suggests that these species were intensively promoted and harvested (Dent 1995:243). Analyses of human remains indicate an increase in carbohydrate consumption when compared with earlier populations, possibly reflecting the increased consumption of amaranth, chenopod, and wild rice (Dent 1995:243). Dent (1995:243) suggests that the Middle Woodland subsistence strategy can be characterized as a mix of hunting, foraging, and agriculture.

Changes in social systems, such as mortuary rituals, are represented in the region by the Ramp3 site in the District of Columbia (Knepper et al. 2006). An intact oval pit feature located at that site contained a cremation burial and a large number of grave goods, including Popes Creek ceramics. The radiocarbon assays securely date the feature to the Middle Woodland period. The remains were of a female aged forty years, and the grave goods included an elaborate incised antler comb, antler discs, perforated shark teeth, ground-stone pendants, a wooden bead, and a phallic effigy.

Knepper et al. (2006) suggest that the artifacts and burial have similarities with those of the Kipp Island phase of New York and Ontario. The artifacts found with the Ramp3 burial are interpreted to indicate external influences on Middle Woodland populations in the Coastal Plain region, although whether these influences are due to diffusion or population movement is not known. Knepper et al. (2006) favor a movement of Proto-Algonquian speakers from the north into the Middle Atlantic region during the Middle Woodland period.

3.1.7 Late Woodland Period (AD 900 – 1600)

The single most important, and common, element across much of eastern North America in the Late Woodland period was the adoption of agriculturally based subsistence systems (Anderson and Mainfort 2002). In the Mid-Atlantic region, the establishment of a system of stable agriculture in the Late Woodland period led to the development of sedentary floodplain village communities, some of which were fortified by palisades (Turner 1992). For the Monocacy River valley, Kavanagh (1983) notes four major changes that occurred in the Late Woodland period: the appearance of large, permanent or semipermanent villages made possible by the cultivation of maize, beans, and squash; the presence of ceramics at numerous sites, including open camps and habitations; an intensification of riverine orientation through time; and a shift towards the use of local lithic resources, implying a breakdown in procurement networks. Hunting, gathering, and fishing were still practiced but to a lesser extent than before.

The predominant Coastal Plain ceramics of the period include the fabric-impressed Townsend series and the cord-marked Potomac Creek series (Figure 5). The Townsend series ceramics have the same distribution as that of the Middle Woodland Mockley ware, and Dent (1995:244) notes that some archaeologists view Townsend as a derivative of the earlier Mockley ware. Ceramic decoration and embellishment appear to have been important and increasing at this time. Townsend ware has been divided into four distinct types that appear to evidence both temporal and geographic variation, with some types continuing into the Contact period. The Potomac Creek ceramics became abundant after AD 1300 in the western shore of Maryland (Dent 1995:245). Potomac Creek ceramics are believed to have been made by Piscataway groups. Dent (1995:245) also emphasizes that while the Late Woodland ceramic types have been shown to have a core area of use, their area of distribution is often larger. This dispersal is attributed to extensive interaction between regional groups. Triangular projectile points are almost exclusively associated with the Late Woodland period (Dent 1995:245). The stone-tool assemblage largely consists of local materials with tools made from small expedient cores and flakes (Dent 1995:247). The tools include a variety of scrapers, perforators, choppers, and hoes, along with ground-stone items such as axes, mauls, mortars, pestles, grinding stones, and abraders (Dent 1995:248). Bone and antler points were also fashioned, as were other bone tools and ornaments. Clay tobacco pipes and copper beads and pendants are also attributed to the Late Woodland period (Dent 1995:249).

Late Woodland site patterns appear to consist of varying-sized larger sites surrounded by smaller sites, with the size and complexity of the larger sites increasing after about AD 1300 (Dent 1995:250). This site pattern may reflect a larger permanent village that was associated with smaller, resource-extraction hamlets. Village location may have been influenced by proximity to agriculturally suitable soils (Potter 1993). And as across much of eastern North America, Late Woodland groups in the Chesapeake region were becoming increasingly sedentary, with sites described as nucleated or dispersed villages and small hamlets (Dent 1995:249–250). Refuse and

shell middens can be substantial, and ditches, trenches, and palisades were constructed at some sites. While some subterranean storage facilities are found on Late Woodland sites, Dent (1995:249) suggests that the period witnessed a shift toward the use of above-ground storage facilities such as warehouses and granaries. Domestic structures appear variable and include longhouses, semi-subterranean pit houses, and smaller, oval house structures (Dent 1995:249). Some of the variability might be explained by site function. One last site type is the ossuary. Ossuaries are places of secondary interment of large numbers of individuals and are often associated with nearby village sites (Dent 1995:255).

In some respects, the Late Woodland subsistence pattern was similar to that of earlier periods. Faunal resources included deer, smaller mammals, ducks, turkey, and other birds, oysters and other shellfish, turtle, and a variety of fish, especially anadromous species (Dent 1995:251). Nuts, starchy and oily seeds, such as amaranth and chenopod, and tubers were also important. But the archaeological remains also indicate that fundamental changes to subsistence and diet occurred in this period. Eight-rowed flint-variety maize was being grown as early as AD 825 in the region, and evidence for the growing of squash and beans has also been found (Dent 1995:254). Potter (1993) suggests that the emphasis on tropical cultigens intensified after AD 1300.

After AD 1500, social and political activity increased among native tribes in Maryland and Virginia, and some archaeologists suggest that an alliance of coastal plain Algonquian groups had formed prior to European contact (Potter 1993:151) (Figure 5). Dent (1995:267) identifies the date of about AD 1500 as marking the appearance of ranked societies known as chiefdoms in the Chesapeake region. There has been considerable debate among researchers as to the nature of Late Woodland social organization in this region prior to AD 1500. For instance, Turner (1992) characterizes the socio-political organization of groups settled on the Coastal Plain as ranked while Hantman and Klein (1992) indicate that, at least for the Piedmont region, archaeologists have interpreted Late Woodland societies as ranging from egalitarian, to temporary hierarchies, to chiefdoms.

3.2 Historic Period Context

The Alexandria waterfront has experienced nearly three centuries of transition (City of Alexandria 2010). Within a few decades after settlement in the mid-eighteenth century, Alexandria quickly became a mercantile center for trading of tobacco and later grain. The importance of riverfront access was so vital to trade that efforts to reclaim silted land and expand the waterfront into the deeper Potomac River continued through the nineteenth century. The waterfront area continued to thrive despite the volatility associated with two wars and significant changes in technology with the advent of the steamship and railroad. The military's influence on the waterfront helped shaped the continual development in the first half of the twentieth century, a period characterized by waning commercial and industrial use. The latter half of the century saw a marked transition to leisure and recreation activities that characterize how much of the area is used today.

3.2.1 Alexandria Waterfront – Eighteenth-Century Development

Alexandria's beginning as a riverfront settlement occurred as early as 1732, the year Hugh West is believed to have established a tobacco trading post near Hunting Creek. A "rolling house" used for tobacco was established at the banks of the Potomac at the end of rolling road. This road later

became Oronoco Street, which was located at the north end of a bay near Hunting Creek. This area later became the location of several tobacco warehouses, which became known as the Hunting Creek warehouses. West also operated a ferry from this location (Shephard 1989:3). This area, known as West's Point on several eighteenth-century maps, is located approximately 1,150 feet north of the northernmost boundary of the AWFM LOD.

In 1748, George Washington surveyed the bay for the establishment of a new town. In the mid-eighteenth century, the riverfront area consisted of a steep bluff above the shoreline. Washington noted the "shoals or flats are seven feet at high water." He also noted that wharves easily could be constructed that would extend from the banks (Shephard 1989:4).

A year later, in 1749, the Virginia Assembly passed an act for the establishment of a town at the location. The town was laid out in a grid pattern covering 60 acres. Half-acre lots were located between intersecting north-south and east-west streets. Because of the steep bluff, riverfront access was limited to two roadway cuts that extended to wharves located at West Point, at the north end of the town, and Lumley Point, located further to the south (Shephard 1989:5).

Between 1749 and 1779, a select group of Trustees oversaw the governance of the town, which included the development of the waterfront area (Miller 1984:5). They also managed the sale of the 84 1-acre lots. Half of these lots were sold by 1753. The waterfront property represented the most prime real estate offered for sale. William Ramsey, John Carlyle, and John Dalton, Alexandria's leading merchants, acquired the most valuable waterfront lots (Miller 1984:3). In 1759, John Carlyle obtained permission to construct the first private wharf in the new town for his mercantile firm of Carlyle & Dalton, building it at the base of Cameron and Water (modern Lee) Streets (Balas et al. 1994:36).

The mid-eighteenth-century waterfront area consisted of a 10- to 20-ft bank along the bay. Development at the waterfront in the initial years of the town's existence primarily concentrated around these two points. Alexandria at this time served as a supply center during the French and Indian War. General Edward Braddock bivouacked his army in Alexandria in 1755 prior to commencing his ill-fated expedition to Fort Duquesne, which would culminate in his defeat and death (Shephard 1989:4–5).

Reverend Andrew Burnaby who traveled to the area in 1759, described the new town (Miller 1987:13):

> ... a small trading place in one of the finest situations imaginable. The Potowmac [sic] above and below the town, is not more than a mile broad, but it here opens into a large circular bay of at least twice that diameter. The town is built upon an arc of this bay; at one extremity of which is a wharf; at the other a dock for building ships with water sufficiently deep to launch a vessel of any rate or magnitude.

Alexandria's prosperity in the eighteenth century resulted largely from trade. Without a large manufacturing base, the town turned to tobacco as the most lucrative commodity. Manufactured goods and other agricultural produce were also shipped from its wharves. Alexandria benefited significantly from the 1765 tobacco inspection law that required all tobacco to be taken to designated warehouses for inspection prior to shipment. The wharves at West Point remained the principal place of tobacco trade in the town until 1790 (Miller 1984:4). From West Point,

thousands of hogsheads of tobacco were inspected and shipped to English ports at London, Whitehaven, Glasgow, and Liverpool. The town's trustees refrained from selling Lots 9 and 10 in this area to ensure additional land for warehouse expansion, if needed. On 30 December 1769, the town built a second public warehouse at this location for the grain trade. By 1775, wheat was beginning to overtake tobacco as the principal export from Alexandria. Of the twenty major mercantile firms in Alexandria at this time, 12 involved the trans-shipment of wheat. By this time, the road from Alexandria to the Shenandoah had been constructed allowing for better transport to grain-producing areas. The grain warehouse remained in use until destroyed by a fire in the 1890s (Miller 1984:4–6).

Shipbuilding became the most notable lucrative industry outside of agriculture in eighteenth-century Alexandria. The local shipbuilding industry, concentrated in the area around Point Lumley, produced 17 vessels during a 20-year period from 1752 to 1772. The industry's viability was short-lived because by 1774, the shortage of timber and decline in merchant trading put an end to the shipbuilding industry (Shephard 1989:5).

Thomas Fleming was the first shipbuilder to lease land in this area for the purpose of building vessels. It is believed Fleming completed his first ship in 1752. It is known that by 1759, Fleming had constructed a dock at Point Lumley for ship building, as this is noted in Burnaby's travel log. Fleming's shipbuilding industry initially prospered. In 1763, he bought land adjacent to his Point Lumley property for the purpose of expanding his operation. He also took advantage of local measures that allowed waterfront property owners to "bank out" their property, essentially extending land further into the Potomac River as a means to fill in shallows and silted land (Mullen et al. 2014:10).

The silting of the Potomac River became the most challenging issue affecting waterfront trade in eighteenth-century Alexandria. The bay, which had been 4 or 5 feet deep in 1749, increasingly became silted, causing ships to increasingly run aground. To save its port, the town decided to fill the bay, extending land further into the deeper waters of the Potomac. In doing this, the high riverfront banks were cut, and the soil then was deposited in the river behind wood pilings to prevent erosion. This process, known as "banking," not only extended the landmass further out to the river, but it leveled the shoreline, making all points accessible to the waterfront. This filling process was not completed until 1791 (Shephard 1989:4). In 1760, the town ensured private development of the waterfront through ordnances that allowed property owners to extend their property into the Potomac River and build wharves providing access to deeper waters.

Between 1750 and 1800, Alexandria went from a collection of tobacco warehouses to a port city with a population of 5,000. Between 1790 and 1800, the population nearly doubled. In 1794, the waterfront contained 24 wharves that serviced more than 1,000 ships every year. Trade was conducted with more than 25 ports throughout the colonies and later the United States as well as Great Britain, Sweden, France, Germany, Ireland, Italy, Portugal, Spain, Holland, the West Indies, and Bermuda (Shephard 1989:8).

The busy river port largely resulted from efforts to "bank out" to the river, which also changed the physical geography of the town. George Washington described this transformation in a letter to a former aid in 1797 (cited in Miller 1991:97):

> Alexandria you would scarcely know; so much has it increased since you was (sic) there; two entire streets where shallops then laded and unladed are extended into the River and some of the best buildings in the Town erected on them.

3.2.2 Alexandria Waterfront – Nineteenth-Century Development

By the beginning of the nineteenth century, Alexandria was part of the recently established District of Columbia and still thriving from maritime trade. In 1804, the U.S. Congress created a new governing charter for the town that divided Alexandria into four wards to be governed by a 16-member common council (Miller 1995:472). In this same year, Baron Alexander von Rumbolt (quoted in Shephard 1989:9) wrote of his visit to Alexandria, noting banking efforts undertaken since the Revolutionary War:

> It has increased considerably since my last visit to it in the Revolutionary War. It was composed of a few scattered buildings and chiefly along the river and which was bordered by high banks. Said bank is now cut away to make long wharfs, and the streets are here paved...and the homes mostly of brick many of them in a good style (sic) of architecture.

Rumbolt's description notes the waterfront area had seen significant development since his last visit. The fine homes he noted were owned by many of the merchants who constructed warehouses and wharves along the waterfront and prospered from a robust trade network. The 1803 *Plan for Alexandria in the District of Columbia* notes that at this time the waterfront contained 11 wharves (Anonymous 1803).

The new century started well for Alexandria merchants and ship captains. The quasi-naval war with France proved devastating to local trade in the late 1790s. But when hostilities ceased, trade quickly resumed. In 1802, the *Alexandria Advertiser* (quoted in City of Alexandria 2016a) stated:

> Not more than two years since it was a rare thing to see a square rigged vessel in our harbour; we now have our wharves lined with vessels destined for foreign ports. Our merchants have generally received their fall goods, and we sincerely hope they will reap the reward of their labors...

After 1800, wheat replaced tobacco as Alexandria's principal export and would remain as such until 1830. Local merchants were part of a trade network that shipped grain to the West Indies. Peak years in the wheat trade occurred between 1811 and 1820 (Shephard 1989:11). From 1801 to 1810, 613,895 barrels of flour and 233,139 bushels of wheat were shipped out of Alexandria. While Portugal and Spain increasingly became important markets, the West Indies still received nearly one-third of Alexandria's exports at this time. Alexandria's commerce also involved trade with New England ports, which received tobacco, preserved meats, grain, and forest products (City of Alexandria 2016a). Sugar quickly became one of Alexandria's major imports, being received from the West Indies and New Orleans in exchange for flour and tobacco. Raw sugar was processed locally. By 1810, Alexandria ranked third in the nation in the production of refined sugar (City of Alexandria 2016a).

While Alexandria continued to prosper in the early nineteenth century, several events after 1810 marked the decline of fortunes. Fires were a constant threat to eighteenth- and nineteenth-century Alexandria, particularly the waterfront area, which contained a considerable number of wood-built structures. One of the most devastating fires along the waterfront broke out on 24

September 1810. The fire started in a cooper's shop near the wharves adjoining Union Street and destroyed almost every building from Prince Street to Duke Street before it was extinguished (City of Alexandria 2016a).

Alexandria's mercantile fortunes also suffered as a result of the War of 1812. Not only did the war hurt overseas trading, but in 1814, the conflict came directly to Alexandria. In August 1814, a British fleet of fifty vessels sailed up the Potomac River. Commanded by Rear Admiral George Cockburn, the fleet represented a second prong of a British invasion to capture Washington. The first prong consisted of ground forces of General Robert Ross, which routed American forces at the Battle of Bladensburg and sacked the City of Washington. Aware of the approaching flotilla, Alexandria's leaders were determined to do what they could to prevent the same fate befalling upon them, having watched their neighboring city Washington burn. On 28 August 1814, a committee led by Alexandria Mayor Charles Simms set out to meet British Captain James Gordon to request terms of surrender. Accepting the surrender, but refusing to give any conditions, Gordon continued the fleet's progress to Alexandria before arriving in the evening. The following day, with his gunboats in position to level the town, Gordon gave his terms. The British would remove all naval supplies, ships, and agricultural commodities. Simms had no recourse but to accept the terms of surrender. The British looted nearly all of the stores on the waterfront, coming away with more than 16,000 barrels of flour, 1,000 hogsheads of tobacco, 150 bales of cotton and nearly 5,000 dollars of other goods, including wine and sugar (City of Alexandria 2016b). The value of these goods was enormous. In 1826, Anne Newport Royall wrote about this devastating episode (Royall 1826:58):

> The merchants suffered greatly by the late war, particularly in the loss of their shipping. On the day that succeeded the capture of Washington, the British entered Alexandria; the citizens capitulated upon conditions not very favorable, for it seems the British burnt their shipping, and plundered the stores and ware-houses. The citizens, however, were not guilty of abandoning their city, as were those of Washington. It was amusing to all (except the owners) to see with what liberality the British dealt out the sugar, coffee, flour and blankets, to the poor, and the negroes. These articles were turned out into the streets, and all who wished might come and take what they pleased. It is said that the flour taken off by the British was considerable.

Not long after the war ended, misfortune again occurred when the agricultural commodities market significantly declined in 1817 and continued to fall until the 1840s. Both local merchants and farmers sustained significant financial losses. Some mercantile companies operating along the waterfront faced bankruptcy or had to sell their businesses to survive. Compounding this misery was the fire of 1828, one of the most devastating in Alexandria's history. It destroyed nearly forty houses, stores, and warehouses (Shephard 1989:12).

Even with the decline in the grain market, milling activities continued throughout the region. One of the largest grist mill in the region was Pioneer Mills. The six-story mill stood along the waterfront at the end of Duke Street. One of the largest grill mills in the county, Pioneer Mill's 250-horse-powered steam engine turned a dozen mill stones at one time. William Fowle created the American Steam Flour Company in the early nineteenth century. The company acquired waterfront property to easily transport large quantities of grain into the facility and flour out in the days before the Orange and Alexandria Railroad provided links to overland markets. After the mill opened in 1852, it produced nearly 800 barrels of flour per day. Production dropped steeply

with the coming of the Civil War and never fully recovered following the war. A fire destroyed the once prosperous mill in the late nineteenth century (Roberts 2014).

With the trade of agricultural goods failing, Alexandria merchants looked to other markets. One such industry was local fishing. The Potomac River offered a good supply of shad and herring. A fish wharf, located at the north waterfront, salted and barreled local catches for shipping. Fishermen represented some of Alexandria's poorest free African-American families. A collection of shanties housing local fishing families grew up adjacent to the fish wharf, and this area soon became known as "Fishtown." A visitor in 1852 described this scene (Miller 1987:151):

> For nearly a quarter of a mile the dock was lined with crowds of colored men and women, washing and cleaning fish. The women were especially worthy of observation. Covered from head to heals with scales, they stood or sat amongst the piles of fish that lay heaped around them; and in the midst of songs and laughter they performed their tasks with wonderful alacrity and skill...The atmosphere was redolent of fish; fish scales lined the walks and pavements; fish were being cooked in every form; fish were given away; everything was fishified.

The slave trade also became a large industry in Alexandria after 1820. Although slavery existed, the trade of slaves themselves was never a large local industry in the eighteenth century. With the invention of the cotton gin, the demand for slaves on the plantations in the Deep South escalated. In 1828, the firm of Franklin and Armfield was established, eventually becoming the largest slave-trading company in the United States. In the 1820s, Franklin and Armfield sold up to 1,500 slaves per year to agents in Warrenton and Richmond, Virginia, and in Easton, Frederick, and Baltimore, Maryland. These firms in turn arranged for transport to markets in the Deep South. Franklin and Armfield kept the slaves in a slave pen with separate yards for males and females. Although their partnership ended in 1841, three other slave-trading firms operated in Alexandria until the Civil War (Shephard 1989:12). On the eve of the Civil War, Alexandria was a prosperous and bustling port (Figure 6).

The Civil War put an end to the slave trade and had immediate impacts on Alexandria and commercial trade along the waterfront. In May 1861, Union forces occupied Alexandria and imposed martial law until the end of the war four years later in 1865. As a result, Union military forces closely monitored civilian mercantile activity. Upwards of fifty percent of the white residents of the town fled as a result of Union occupation. Much of the population was replaced by free blacks and contraband, who increasingly flocked to Alexandria as the war continued. Union forces used Alexandria as a supply depot, seizing the Orange and Alexandria depot and its linked wharves along the waterfront (Cromwell et al. 1989:15).

The Orange and Alexandria Railroad, chartered in 1848, played an important role in commercial trafficking both before and after the Civil War. Construction of the railroad occurred in the 1850s. When completed, Alexandria was linked with Virginia inland markets at Manassas, Gordonville, and Lynchburg. In the mid-1850s, the railroad constructed a connecting line down Wilkes Street from its freight depot located between Wolfe and Duke Streets to the wharf at the end of Wilkes Street. Following its acquisition by the U.S. government, the wharf and depot became important Union supply centers during the war (Baumgarten 2011).

Figure 6. 1863 bird's-eye view of Alexandria (Magnus 1863).

Understanding that the City of Washington's location on the Potomac River made it vulnerable to naval attack, military officials assigned Major General John G. Barnard to undertake the challenge of planning the defenses of the Washington. In October 1862, Barnard reported to Secretary of War Edward Stanton the need for defensive fortifications along the Potomac River and chose Alexandria as the site for the construction of a riverfront battery (Artemel et al. 1988:21). The battery was completed in 1862 and named Battery Rodger in honor of naval Captain George William Rodgers, who was killed on 17 August 1863 during the Union assault on Fort Wagner. When completed, the earthen fort contained Parrott and Rodman heavy artillery and garrisoned more than 250 men. The fort also contained a small hospital, prison, mess hall, and slaughter house. The fort was located at the corner of present-day South Fairfax and Jefferson Streets (Cooling and Owen 2009:47).

The immediate aftermath of the Civil War proved to be a difficult time for waterfront businesses. Many of the wharves and warehouses were devoid of commercial goods for sale, having been solely servicing the Union's war efforts. Many antebellum merchants who left Alexandria when the war began did not return to the community when the war ended. New businesses were needed to replace failing and abandoned sites along the waterfront.

One business established along the waterfront in the aftermath of the war was the Potomac Ferry Company in 1868. Ferry service had been part of the Alexandria waterfront since the town's founding. Hugh West operated a ferry across the Potomac in the mid-eighteenth century. A generation later, William Ramsey established a schooner line from Alexandria to Potomac Creek. In 1856 until the Civil War, the Alexandria and Steam Ferry Company provided ferry service from Alexandria to Fox Landing in Maryland (Miller 1990a:105).

The Potomac Ferry Company operated for 35 years. Twin steamers named "City of Alexandria" and "City of Washington" traveled to and from Alexandria and Washington on hourly schedules. In 1892, the "City of Alexandria" burned while moored at the docks on King Street. The Potomac Ferry Company constructed a new ferry house at its wharf on King Street in 1891 (Miller 1990a:105). In addition to ferry service to Washington, steamers of other companies provided passage to more distant destinations. The 1877 Hopkins atlas shows the docks at the end of King Street included moorings for steamers that provided passage to Baltimore, Boston, and Philadelphia. In 1890, the Norfolk and Washington Steamship Corporation was established and offered freight and passenger service between Alexandria and Norfolk. The company moored its ships along a wharf at the end of Prince Street. The company provided luxury passenger service on three of its steamships, the Northland, Southland, and Midland (Miller 1991:200).

In 1874, a group of Maine shipbuilders came to Alexandria for the purpose of looking for new sites for their shipbuilding ventures. One of these Maine shipbuilders, Robert Portner, acquired the Alexandria Marine Railway in 1874 and established the Alexandria Marine Railway and Ship Building Company. He enlarged the railyard by purchasing additional lots and eventually came to acquire much of the wharf area at the railroad terminus. The Alexandria Marine Railway and Ship Building Company's main source of revenue became the repair of existing vessels, but the company did engage in the construction of new ocean-going schooners. The first of these was the 150-ft, 631-ton Robert Portner, launched in 1876. In 1881, John Parke Custis Agnew, a wealthy coal merchant, purchased the ship building company and changed the name of the firm to Alexandria Marine Railway (Artemel et al. 1988:28–31).

The lumber and coal yard of W.A. Smoot and Company supported many Alexandria industries. William Allen Smoot was one of the ex-Confederate soldiers who did return to Alexandria after the war and became a successful businessman. After serving as president of the American Fertilizer and Chemical Company, Smoot founded the W.A. Smoot Company, a lumber and coal company, that was located on the waterfront at the end of Princess Street. The company remained prosperous and within the Smoot family hands until the 1960s (Balas et al. 1994:45). Another coal yard was operated in the late nineteenth century by J.R. Zimmerman and was located between Queen and Cameron Streets (Sanborn-Perris Map Company 1896:Plate 9).

By the end of the nineteenth century, Alexandria's waterfront remained a commercially viable location but had seen significant changes through the century. At the start of the century, commerce was still largely a maritime activity. With the advent of the railroad, trains soon overtook ships as the preferred carrier of goods. As commerce declined along the waterfront, more industrial activities, including ferry service and ship building, coal, and lumber soon took the place of the goods merchants.

3.2.3 Alexandria Waterfront – Twentieth-Century Development

America's entry into World War I resulted in significant impacts to industrial activity along the waterfront. In April 1917, the U.S. government contracted with the Virginia Shipbuilding Corporation to produce 12 cargo vessels at its 27-acre shipbuilding facility at Jones Point. The shipyard consisted of four shipways. On 30 May 1918, President Woodrow Wilson visited the shipyard, ceremonially driving the first rivet into the first ship, the *Gunston Hall*. The shipyard constructed a total of nine ships. But the company could generate little business for private commercial shipbuilding and filed for bankruptcy in 1921 (Pulliam 2011:50).

In 1918, the U.S. government selected the location of the abandoned Henry Knox Field and Lumber Company, which had acquired the W.A. Smoot Company Lumber and Coal Yard in the early twentieth century, at the end of King Street as the site for a factory to produce torpedoes as part of the war effort. Other than access to the Potomac River, the prime consideration for selecting the site was its open terrain. The Alexandria Torpedo Station consisted of two buildings. Building #1 was the assembly plant and Building #2 was the storage facility (Balas et al. 1994:45) (Figure 7). Ironically, because the facility was completed so late in the war, the plant produced no torpedoes to assist the war effort. The plant did not produce torpedoes until 1920 and ceased production only three years later in 1923, becoming a storage facility until World War II (Pulliam 2011:50).

Figure 7. 1935 aerial photograph of the Alexandria Torpedo Factory. The view is to the west.

With the onset of World War II, the Alexandria Torpedo Station began production, this time contributing munitions to the war effort. The plant produced two distinct types of torpedoes, the Mark XIV, a submarine-borne torpedo and the Mark III aircraft torpedo. Production at the facility was intensified to the point that ten additional buildings were constructed to assist with the facility's needs (Torpedo Factory Art Center 2016).

Production at the Torpedo Station ceased after the end of the war in 1945. For the next 24 years, the government used the building as a storage facility, warehousing everything from congressional documents to Smithsonian artifacts. In 1969, the City of Alexandria purchased the site. In 1974, the city opened Building #2 as the Torpedo Factory Art Center (Torpedo Factory Art Center 2016).

The adaptive reuse of the Torpedo Factory was part of another transformation of the Alexandria waterfront that occurred after World War II. With industries supporting shipbuilding and munitions manufacturing ceasing operation and other large commercial operations having left years earlier, the waterfront for the second half of the twentieth century would be largely redeveloped to support leisure activities such as tourism and recreation.

One of the first recreational enterprises to make its way to the Alexandria waterfront was the Old Dominion Boat Club. The club was founded in the 1880s and purchased the site at the waterfront between Duke and Prince Streets for its first clubhouse. The building was described as a two-story structure located a short distance from a floating wharf that was accessed by a plankway (Cobean 2005:4) (Figure 8). The club eventually acquired the rights to redevelop the old ferry house at King Street. In 1922, a fire destroyed the old ferry house and significantly damaged the original clubhouse. The Old Dominion Boat Club decided to redevelop the old ferry house at King Street with the construction of a new clubhouse, which was completed in 1923 (Cobean 2005:15–17). A history of the Old Dominion Boat Club and associated properties can be found in Maas and Stoll (2017).

One of the first waterfront restaurants was established in 1945 by Edward C. Wayne, John G. Bethea, and Thomas A. Hulfish, Jr., who acquired waterfront property at the end of Prince Street. On 26 November 1945, they applied to the City of Alexandria for a permit to build a two-story restaurant that would be set on concrete piles in the Potomac River. The Beachcombers Restaurant was completed a year later (Riker 2008a:3).

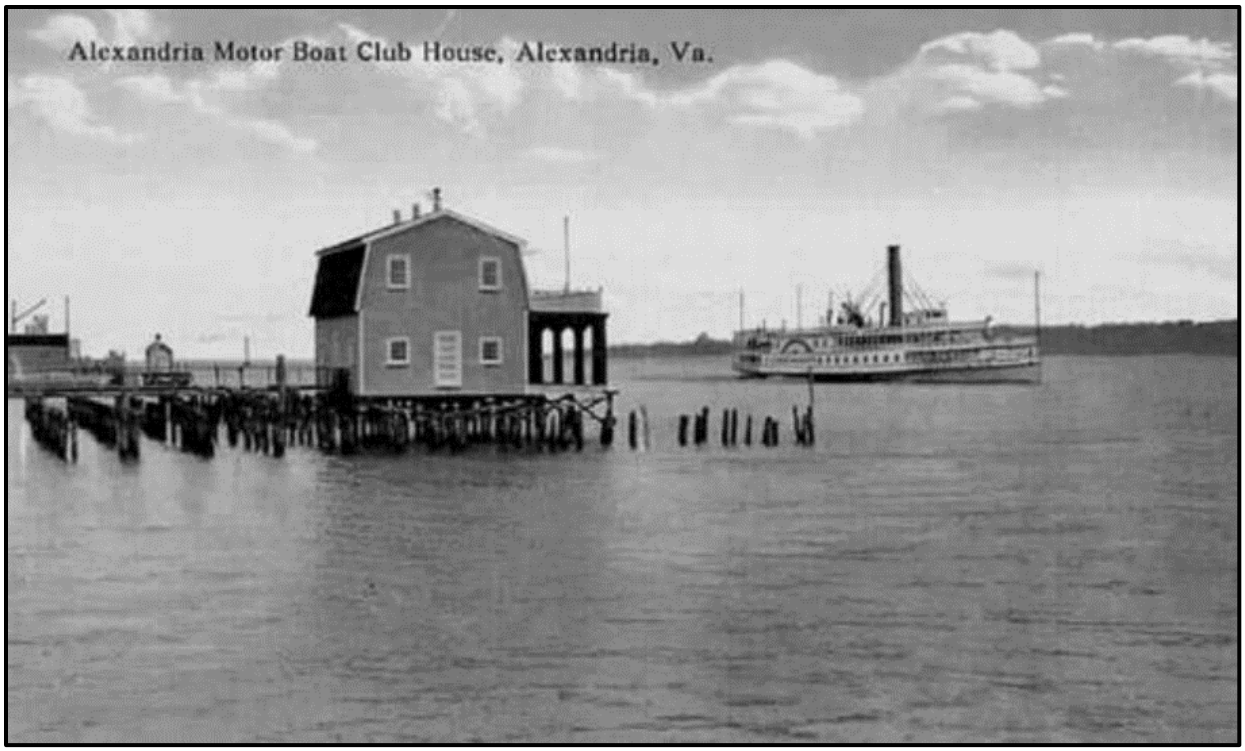


Figure 8. Undated postcard image of the original Old Dominion Boat Club building. The view is to the north/northeast.

4.0 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Review of archaeological surveys at the Office of Historic Alexandria/Alexandria Archaeology and in the VDHR V-CRIS online database system indicates that a number of archaeological investigations have been undertaken within or adjacent to the project area, with four archaeological sites recorded immediately adjacent to or within the AWFM LOD. Of more importance for the likely archaeological resources present within the AWFM project area, a number of wharves and wharf-related structures have been investigated in Alexandria. The discussion below centers on those projects and resources associated with wharves.

4.1 Previous Investigations near the Project Area

No archaeological investigations have been conducted within the project area to date although several studies have been conducted within the blocks adjacent to the project area (Cheek and Zatz 1986; Stevens et al. 1996). Additionally, archival research was conducted for the property located at 101 Wales Alley, located just across The Strand from the AWFM project area (Hurst 2000). This property, containing what was known historically as Fitzgerald's/Irwin's warehouse was associated with the Fitzgerald's/Irwin's wharf. Riker (2008b) also discusses the history of this building. The history of this area is discussed in Section 5.3. The Cheek and Zatz (1986) report documented investigations for the widening of Duke Street. Given that the research potential of this project is for wharves and related buildings, this discussion focuses on wharf studies that have been conducted in Alexandria.

Mullen et al. (2014) summarize the current state of wharf-related archaeological investigations in Alexandria as part of a documentary study prior to development of the Robinson Terminal South property, adjacent to the south end of the AWFM project area. A more complete property history for Robinson Terminal South can be found in Claypool (2014). Four studies were discussed by Mullen et al. (2014).

Sections of the Carlyle-Dalton wharf were identified in 1982 during investigations for the Torpedo Factory condominiums, located adjacent to the center of the AWFM project area (Heinztelman-Muego 1983). The Lee Street wharf was later identified near the north end of the AWFM project area (Shephard 2006). The surface of Roberdeau's wharf was encountered at the end of Wolfe Street (one block south of the AWFM project area) in 1989 during investigations for the Harborside Development (Knepper and Prothro 1989). Finally, Keith's wharf was discovered at the end of Franklin Street, four blocks south of the AWFM project area (Engineering-Science 1993). These earlier investigations revealed some of the techniques used in constructing the wharves as well as associated facilities and derelict vessels. The Carlyle-Dalton wharf was of crib (also called cob) construction while Roberdeau's wharf consisted of timber bulkheads with piled supports. Keith's wharf was of a bulkhead type with tie back braces. Mullen et al. (2014:67) also note that a variation on the bulkhead wharf, pile wharves, might also be found. Although such construction became more common in the nineteenth century with the development of steam-powered pile drivers, the technique also was used to repair earlier wharves, such as the Fish wharf at the foot of Oronoco Street.

Two archaeological sites with wharf-related features have been recorded just to the west of the AWFM project area that are not discussed in Mullen et al. (2014). Site 44AX0098 was identified

during monitoring of utilities trenching by Alexandria Archaeology staff in 1987. The site, located on the west side of South Union Street, represents the remains of a possible Historic period bulkhead or wharf and three visible building foundations. The foundations date from the late nineteenth and early twentieth centuries. White salt-glazed stoneware and oyster shell were associated with the bulkhead/wharf, suggesting an eighteenth-century affiliation for that feature. The site has not been investigated for NRHP eligibility. Site 44AX0146 represents a three-story stone and brick warehouse abutting a wharf that dates to the eighteenth century. The site was reported to Alexandria Archaeology staff in 1986 by a local informant using historical map research and was located just west of the project area on the west side of The Strand. The site has not been investigated for NRHP eligibility.

The other archaeological sites in proximity with the project area registered with VDHR include 44AX0120, 44AX0123, and 44AX0229. Site 44AX0120 is the location of the twentieth-century Smoot & Company lumber yard that is discussed in Section 5.1. Lot 20 had been defined at this location by 1785 and warehouses and wharves were present throughout the nineteenth and twentieth centuries. The site definition appears to be based on historical map research as well as information from an informant who observed a brick and stone foundation wall (6–7 feet in height) during excavations for foundation repair.

Site 44AX0123 is located at the north end of the AWFM LOD to the northeast of the Torpedo Factory. During construction of a building in 1984, excavators encountered waterlogged timber between 10 feet and 15 feet below surface. The timbers were thought to be portions of a wharf. Aside from photographing the timbers, no other investigations were undertaken. The final site, 44AX0229, is the location of the 1755 Carlyle warehouse near the northeast corner of the intersection of Duke and Union Streets. Remains of the warehouse and eighteenth- and nineteenth-century privies were investigated by WSSI archaeologists in 2016, and the partial remains of an eighteenth-century ship, used as fill, were recovered as well (see Mullen et al. 2014 for the initial archaeological assessment of this site).

4.2 Summary

The previous archaeological investigations and number of recorded sites indicate a high potential for archaeological deposits and features in the Old Town District of Alexandria, especially for Historic period resources associated with numerous wharves and associated structures dating from the eighteenth through twentieth centuries. Archaeological investigations have demonstrated that both the wharves and associated structural remains, such as warehouses, are present below the Alexandria waterfront. In contrast, as most of the project area encompasses land created within the Potomac River after the Revolutionary War, there is a generally low potential for Native American resources. The one exception to this statement is the project LOD along Duke Street, which is depicted as being on Point Lumley, not within the Potomac River, on the original 1749 city plan map. This would indicate that there remains a potential for the presence of Native American archaeological resources within the Duke Street portion of the AWFM project LOD. A lower probability for pre-Paleoindian and Paleoindian sites also exists on the bottom of the Potomac River.

5.0 ARCHAEOLOGICAL RESOURCE SENSITIVITY ASSESSMENT

For the purposes of this assessment, Stantec has divided the AWFM LOD into four segments defined by major east/west-running streets. From north to south these segments are: Queen Street to Cameron Street; Cameron Street to King Street; King Street to Prince Street; and Prince Street to Duke Street. For each segment, the LOD is described, including a discussion of the anticipated subsurface impacts that will take place during implementation of the AWFM project. An overview of the history of that segment is provided including relevant chain-of-title research results. Known archaeological sites and previous archaeological investigations are detailed, and potential archaeological resources and their locations are identified. The results of monitoring of geotechnical borings are presented for each segment, with the locations depicted on Figure 9. Segment-by-segment recommendations for additional archaeological investigations are also provided in this section. The potential for submerged resources, regardless of segment, is addressed in the final subsection.

To enhance the flow of the report text, all maps dating to 1864 or later are presented at the end of the subsection describing the particular project segment. Those maps dating before 1864 represent the entire LOD and are not divided by segment. This is largely because structures are not illustrated on these maps. The pre-1864 maps are presented with the 1864 and later maps in the Queen Street to Cameron Street segment. Tables summarizing the structures depicted on the historical maps consulted for this assessment, both wharves and building, are presented at the end of each segment subsection.

For each of the four LOD segments current (as of September 2016) 15 percent to 30 percent plan maps depicting proposed AWFM facilities are presented. Onto each of these base plan maps has been overlain the location of historic wharves, buildings, and railroad lines as depicted on a series of maps included in the appropriate segment subsections that date from the second half of the nineteenth century to the middle of the twentieth century. Maps predating this range generally do not include locations of structures, although wharves are depicted. Areas of overlap between the proposed AWFM facilities and the historic wharves, building locations, and railroad lines are identified on these figures as “Areas of Potential Impact.” Without preliminary field investigations, these areas are likely to have the highest potential for the presence of intact archaeological resources associated with Alexandria’s waterfront.

5.1 Queen Street to Cameron Street Segment

For this segment, Table 1 is provided on page 47. Figures 12–32 (historical maps) follow Table 1 on pages 49–69.

5.1.1 Area Overview

The Queen Street to Cameron Street segment represents the northernmost of the four AWFM project LOD segments (see Figures 3 and 10). It is bounded to the south by Cameron Street and its eastward extension to the Potomac River and to the north by the boundary of Founder’s Park, located just south of the intersection of Queen and Union Streets. The western boundary is formed by several adjacent buildings, namely (from north to south) Harbor Center, Torpedo Factory Building 3, Blackwall Hitch, and the Chart House. The eastern boundary in general extends to the

Figure 9. Aerial photograph showing locations of geotechnical borings.

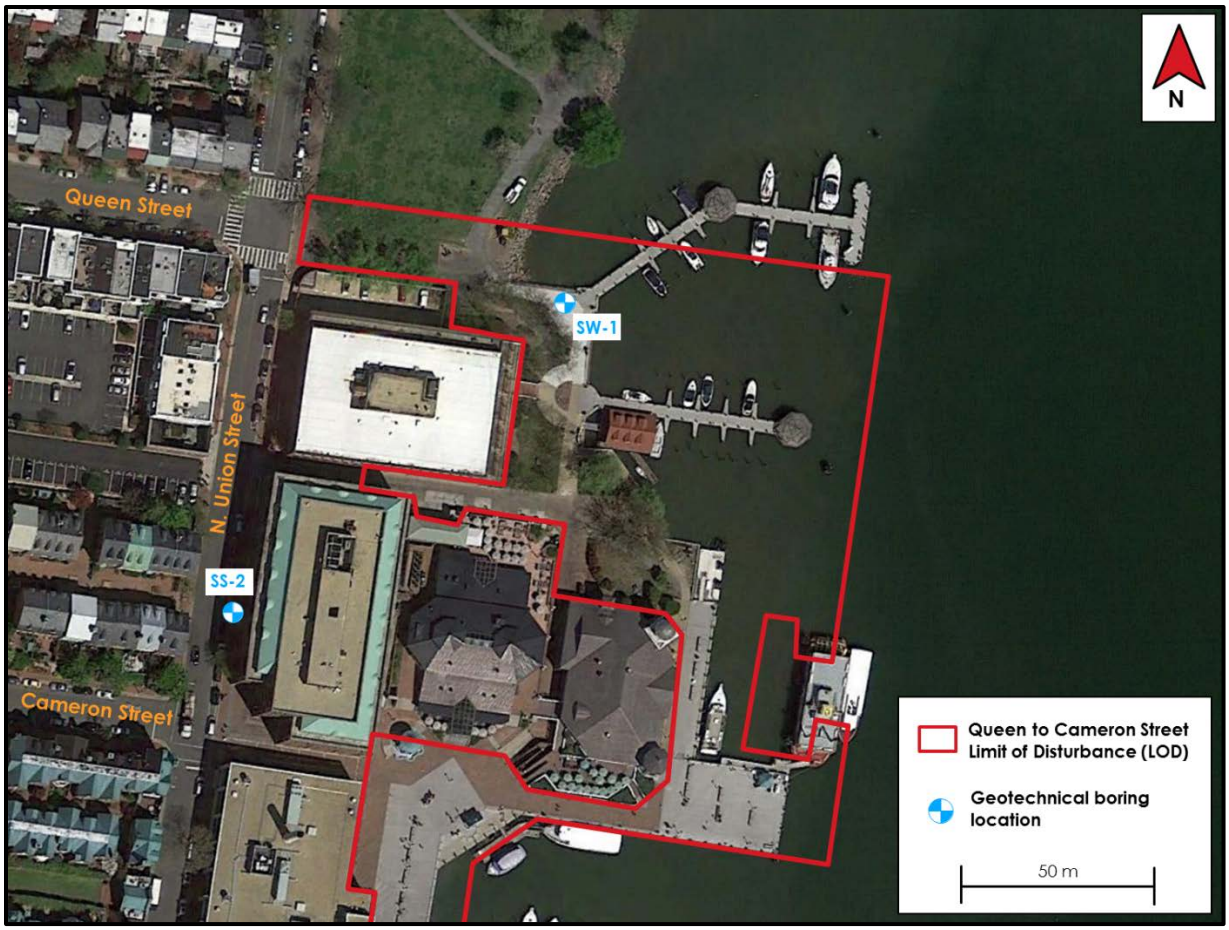


Figure 10. 2016 aerial photograph of Queen Street to Cameron Street segment (Google 2016).

boundary of the Commonwealth of Virginia. A small segment of the eastern boundary, at the southeast corner of the LOD, extends into the District of Columbia. Finally, Thompson's Alley divides the Queen Street to Cameron Street segment north to south. The eastern half of this alley is included in the LOD.

Most of the Queen Street to Cameron Street segment consists of a riverfront promenade with a small green space present at the north (Figure 11). As mentioned, several commercial enterprises form the western boundary of the segment. A wharf and a smaller boat dock extend from the promenade into the Potomac River.

5.1.2 Project Impacts

The 15 to 30 percent plans identify a number of construction-related activities associated with the AWFM project between Queen Street and Cameron Street. At the southwest corner of the area, the existing pavilion will be renovated and water jets will be installed. The existing bulkhead along the north façade of Old Town Alexandria Harbor will remain, but benches will be installed along the adjacent promenade. A new bulkhead will be constructed along the Potomac River to Queen Street. A number of trees will be planted along Queen Street, and a sculptural artifact will be

Figure 11. General view of the Queen Street to Cameron Street segment. The view is to the south.

placed at the base of the street. The base of Thompson's Alley will be significantly reconfigured, including construction of a pump house and restrooms and an ADA-accessible ramp. Finally, a number of new floating docks will be installed along the riverfront, a dock master station building will be constructed, and benches and a shade structure will be installed at the existing wharf. Stormwater pipes and bioretention facilities will be placed along the waterfront between the two streets.

5.1.3 Queen Street to Cameron Street Historic Context

The waterfront area between Queen and Cameron Streets was initially developed by merchants Andrew Jamieson, Jonah Thompson, Joseph Mandeville, and Antone Cazenove. These individuals were the likely owners who "banked out" the waterfront property. All three men owned piers in the early nineteenth century. After the Civil War, their waterfront property was largely consolidated by coal and lumber interests. Historical maps (Figures 12–32), presented on pages 49–69, illustrate the changes to the Queen Street to Cameron Street waterfront during a 200-year period from 1749 through 1959. These changes are also summarized in Table 1, presented on page 47.

5.1.3.1 Jamieson's Wharf

Andrew Jamieson was one of the first merchants to own waterfront property between Queen and Cameron Streets. He was a baker who in 1785 started a bakery in Alexandria located at the corner of modern Lee Street and Thompson's Alley. Jamieson also owned a wharf near Queen Street (Miller 1989:20). In 1814, Jamieson placed notices in the *Alexandria Gazette* advertising his desire to sell his wharf (*Alexandria Gazette* [AG], 19 May 1814). Andrew Bartel acquired Jamieson's wharf sometime by 1816. Bartel was involved in the bridge-building industry and arrived in Alexandria in 1812 (Miller 1989:20). This wharf is not named and potentially not depicted on any maps consulted for this project. The location and period of use of this early wharf is uncertain.

5.1.3.2 Thompson's Wharf

Jonah Thompson constructed a wharf on his property by the early nineteenth century at the foot of Thompson's Alley. Thompson's wharf was primarily used by some of the first steamship ferries that provided service to the City of Washington. In 1822, *The Independence* made two trips per day from Thompson's wharf to Bradley's wharf in the City of Washington (Miller 1989:20). Iterations of Thompson's Wharf continued into the twentieth century, although vastly changed. This wharf was depicted on all maps consulted for this project and was denoted as a covered grain wharf on an 1865 U.S. Army Quartermaster's Corps map (see Figure 22). Later maps depict the transition of this wharf into a lumber yard.

5.1.3.3 Mandeville/Sanderson's Wharf

Joseph Mandeville constructed a wharf on property he acquired between Queen and Cameron Streets in the early nineteenth century. Mandeville was a merchant who at one time had a store at King and Fairfax Streets (Miller 1987:51). It is likely that Captain James Sanderson also used Mandeville's wharf and had a store nearby. Sanderson was a merchant marine who is known to have operated a wharf between Queen and Cameron Streets. Sanderson established his own mercantile business in Alexandria as early as 1800, when the *Alexandria Gazette* noted his wholesale store at the corner of King and Fairfax Streets. Sanderson sold an assortment of items, including silk waistcoats, cotton clothing, spades, shovels, hoes, and ironware. Sanderson also maintained a large brick warehouse at the corner of King and West Streets. He likely either moved his business or acquired a second location with a wharf between Queen and Cameron Streets prior to his death in 1830 (Miller 1989:20).

Following his death in 1837, Mandeville's estate was sold off. Nathan Wells acquired the property containing the wharf in 1858 (City of Alexandria Clerk's Office [ACO] 1858: Deed Book [DB] T-3:179). A year later, Wells sold the property to Frederick Baretta (ACO 1859:DB U-3:191).

Baretta leased the wharf to the New York and Virginia Steamship Company. The wharf was expanded to accommodate the steamship line, which also built a 142-x-350-ft station house on the wharf (Miller 1989:22).

5.1.3.4 Cazenove's Wharf

Antone Charles Cazenove (1775–1852), a French immigrant merchant, operated a wharf at the foot of Queen Street (Figure 18). Cazenove acquired the waterfront property sometime after his arrival in Alexandria in 1797. Cazenove was a Huguenot from Nîmes, France. Sometime in his youth, his family moved to Geneva, Switzerland. In July 1794, Antoine, his brother Jean-Paul, and his father Paul became prisoners during the revolution in Geneva that was inspired by the French Revolution. After securing their release, both Antoine and Jean-Paul immigrated to the United States, arriving in Philadelphia in November 1794. Antoine Cazenove settled in Alexandria in 1797 and soon established himself as a successful merchant. Likely because of his familiarity and connections in France and Switzerland, Cazenove was known for importing some of the finest European goods, including fine wines. His reputation was such that Cazenove imported wines for President James Madison (A. Cazenove to J. Madison, letter, 6 June 1810 [Cazenove 1810]). Cazenove married Anne Hogan and together they had nine children. Cazenove's sons, Louis and William, started the Potomac Flour Mill (Hurst 1991:24). In the late nineteenth century, F.A. Reed acquired the wharf and used it for his own barrel making business. The wharf remained in Reed's possession until the 1890s, when the Smoot and Company Lumber Company acquired the property as part of the expansion of its facilities (Sanborn-Perris Map Company 1896) (Figures 24, 25, and 33).

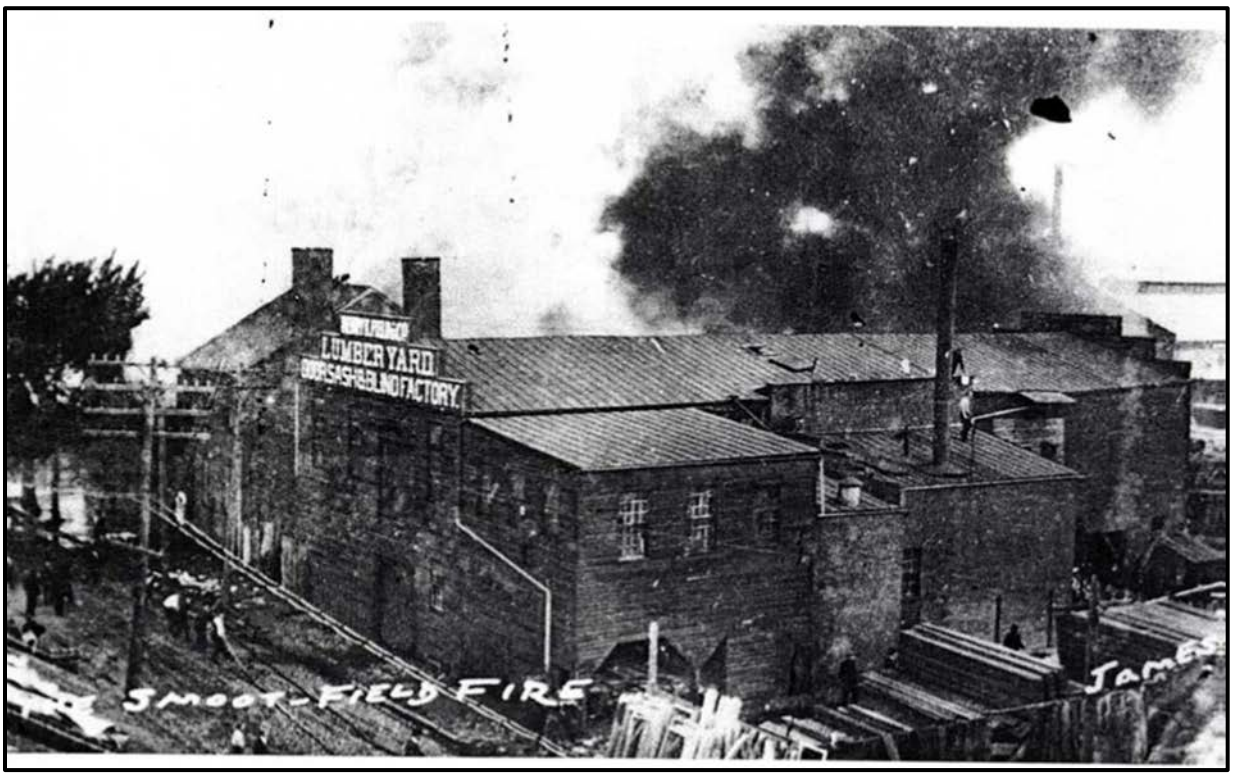


Figure 33. 1912 fire at Smoot lumber yard. The view is to the northeast (Photography courtesy of Alexandria Library Special Collections, Wm. F. Smith Collection).

5.1.3.5 Daingerfield Wharf

Henry Daingerfield (1800–1866) was Alexandria's most prosperous merchant in the Antebellum era. He was one of the sons of Captain Bath Daingerfield who came to Alexandria in 1800 and accepted the positon of Surveyor of the Port, a position he held until his death in 1827 (Hurst 1991:18). Henry Daingerfield began his career as a merchant at the age of seventeen, when he partnered with his two brothers, John and Edward, in starting an import/export business. Henry soon went his own way and became very successful (The Story of Ravensworth 2016). By 1834, Daingerfield was one of the largest landowners in Alexandria and had acquired nearly all of the warehouses between Cameron and Queen streets. He also invested in local railroads and industries, including the Mount Vernon Cotton Factory.

In the early nineteenth century, Daingerfield acquired waterfront property and constructed a wharf at the foot of Queen Street from where he imported much of his merchandise. Henry bequeathed the waterfront property to his daughter Ellen Daingerfield following his death in 1866. Ellen sold the property to John Zimmerman in 1895 (ACO 1895:DB 42:95).

5.1.3.6 Civil War Occupation and Return to Civilian Use

On 24 May 1861, Colonel Elmer Ellsworth led the 11th New York across the Potomac River to take down a Confederate flag in Alexandria that was in view from Washington D.C. The Union troops landed at Cazenove's wharf and disembarked to the Marshall House where a confrontation led to the death of Ellsworth. This small excursion turned out to become one of the most infamous events of the first months of the war (City of Alexandria 2016d).

With Alexandria securely within Union control, the army took over the entire waterfront area for its own operations. Maps of the Quartermaster Corps detail the location of four wharves (Cazenove, Thompson, Mandeville, and Daingerfield) and two warehouses belonging to Henry Daingerfield along the waterfront (Figure 22). The Union army used the northern warehouse, near Queen Street, as a grain depot, and the southern warehouse, near Cameron Street, as a commissary warehouse (U.S. Army Quartermaster Corps 1865:Cameron to Queen).

Private businesses reclaimed the waterfront area in the years following the Civil War. At this time, the waterfront area between Queen and Cameron Streets became a storage facility for a number of industries. By 1885, F.A. Reed and Company, dealers in barrels and staves, occupied the warehouse complex at the southern end of the block along the east side of Union Street just north of Cameron Street (Figure 24). H. Bryant occupied a warehouse on the east side of Union Street, just south of Queen Street. Between these two locations was the Hampshire and Baltimore Company Coal Yard.

5.1.3.7 Hampshire and Baltimore Coal Company Coal Yard

In 1871, the Hampshire and Baltimore Coal Company acquired a property from Frederick and Mathilde Laverrerie Barreda consisting of a 110-ft strip of land located 50 feet south of Queen Street that was once part of the estate of Joseph Mandeville (ACO 1871:DB 1:574). Frederick Barreda acquired the property from Nathan Wells in 1859 (ACO 1871:DB U-3:191). Wells acquired the property a year earlier from Francis Smith and Louis Ringer (ACO 1858:DB T-3:179), joint trustees who sold the property following a default of a deed of trust between Smith and Ringer

and Solomon Masters (ACO 1857:DB R-3:516). Masters had acquired the property in 1852 from the estate of Joseph Mandeville (ACO 1852:DB O-3:433).

The Hampshire and Baltimore Coal Company was one of many coal industry businesses that used portions of the waterfront for coal storage in the mid- and late nineteenth century. Two Scottish brothers, Alexander and Thomas Gimmel, founded their mining company in the 1850s and opened mines in Hampshire, West Virginia, and Pent-Land Hills and Midland, Maryland. They soon expanded their company, setting up their headquarters in Baltimore with sales offices in New York and Boston. The company had storage locations in Baltimore and Alexandria from where it shipped its orders (Saward 1875).

The Alexandra coal yard was located at the waterfront between Queen and Cameron Streets. The location provided a wharf and a railroad connection from which the Hampshire and Baltimore Coal Company could transport coal in and out of the facility. The 1885 Sanborn map shows that the company's wharf was located south of Zimmerman's coal wharf, which was located at the end of Queen Street. The company also had a small one-story office fronting on Union Street (Sanborn Map and Publishing Company 1885:Sheet 3). In 1883, the Hampshire and Baltimore Coal Company sold its waterfront property to Silas Hamilton (ACO 1883:DB 12:552). Hamilton died within 13 years of this purchase. In 1896, the executors of his estate sold the property to John Zimmerman (ACO 1896:DB 36:89).

5.1.3.8 Zimmerman's Wharf

In the 1890s, John Zimmerman purchased the north half of the waterfront area between Queen and Cameron Streets. In 1895, he purchased the property containing Henry Daingerfield's wharf from Ellen Daingerfield (ACO 1895:DB 42:95). A year later, in 1896, Zimmerman purchased the old Hampshire and Baltimore Company coal yard from the estate of Silas Hamilton (ACO 1896:DB 36:89).

John Zimmerman was born in 1838 and grew up in Alexandria. In the years before the Civil War, Zimmerman served as a clerk in C.C. Berry's dry goods store and later in James Stewart's dry good's store on King Street. When the war began, Zimmerman enlisted in Company A of the 17th Virginia Volunteers and served the entire war for the Confederacy until Lee's surrender at Appomattox Court House (Miller 1989:22).

Following the war, Zimmerman returned to Alexandria and started working at T.J. Mehaffey's coal yard located on the south side of Queen Street between Union and Lee Streets. For several years, Zimmerman moved up in the organization from junior to senior positions. By 1884, he purchased Mehaffey's old coal yard and began to set his sights on expanding toward the waterfront (Miller 1989:22). The 1885 Sanborn map shows "Zimmerman's wharf" located at the south end of Queen Street near the former location of Daingerfield's wharf (Sanborn Map and Publishing Company 1885:Sheet 3). This was likely a new wharf constructed for the coal business by either Zimmerman or his predecessor Mehaffey. Ellen Daingerfield owned the property and likely leased its use to the coal business before finally selling it to Zimmerman in 1895.

Zimmerman imported coal from mines in Pennsylvania and West Virginia. Coal was brought in by rail and was often exported by barges to coastal cities such as New York and Philadelphia. However, Zimmerman also had markets in the Deep South as well. After acquiring the Hampshire

and Baltimore Coal Yard, Zimmerman's yards could hold up to 8,000 tons of coal at one time. His main office was located in a small one-story building at the southwest side of the intersection of Union and Queen Streets. Zimmerman also had an uptown office at 112 South St. Asaph Street (Miller 1989:22–23). In 1903, Zimmerman sold the waterfront property, consisting of Parcels 4 and 5 of Block 7 to the First National Bank (ACO 1903:DB 51:70). In 1905, the bank sold the property to lumberman Henry Field (ACO 1905:DB Liber 53:232). Following Henry Field's death, his heirs sold the property to W.A. Smoot and Company (ACO 1919:DB 68:235), one of many Smoot family lumber and coal businesses that acquired waterfront property in Alexandria. W.A. Smoot and Company retained possession of the property and adjoining parcels until 1964 (ACO 1964:DB 597:143). The property changed hands several times and was eventually subdivided before being acquired in its entirety by the City of Alexandria between 1975 and 1981 (ACO 1975:DB 796:390; ACO 1980:DB 1000:826; ACO 1981:DB 1026:757).

5.1.3.9 Reed/Smoot's Wharf

F.A. Reed and Company occupied the waterfront on the north side of Cameron Street in the years following the Civil War. Reed was born in Massachusetts and arrived in Alexandria in 1856, where he became a clerk at Captain Eldridge's commission house. Reed married Eldridge's daughter and in doing so, inherited his business, which was dissolved in 1870 (Miller 1989:34). Reed soon created his own company, F.A. Reed and Company, which manufactured barrels and staves. In 1885, the company had a one-story manufacturing building, storage building, and operational wharf near the end of Cameron Street (Sanborn Map and Publishing Company 1885:Sheet 3). Reed had a prosperous merchant relationship with the West Indies in the 1880s, but his business began to decline in the 1890s. The downturn in his business was so great that it likely contributed to Reed's suicide in 1893 (Miller 1989:34).

By 1896, the Smoot and Company lumber business, not to be confused with W.A. Smoot and Company, had purchased the southern half of the waterfront area between Cameron and Queen Street. Cazenove's wharf was renamed or rebuilt entirely as Smoot's wharf. Part of Smoot's lumber yard was located east of Union Street adjacent to the wharf. The area south of the wharf at the end of Cameron Street was the location of the Alexandria Ice Manufacturing steam plant (Sanborn-Perris Map Company 1896:Sheet 8). By 1902, the Ice Plant was known as the J.W. Hammond and Sons Ice Factory and occupied the lower section of Smoot's Warf (Sanborn Map Company 1902:Sheet 9) (Figure 26). By 1907, Smoot's wharf was significantly widened and was primarily used by the Hammond Ice Factory for shipping and receiving. By this time, Hammond had partnered with William Reardon to form the Mutual Ice Company and had expanded to construct an ice house located just north of its factory by 1907 (Sanborn Map Company 1907:Sheet 9) (Figures 27 and 34). The Mutual Ice Company produced 40 tons of ice daily. In 1916, the company constructed a new plant at the 1200 block of North Henry Street, which was closer to rail lines (Miller 1989:34). The Mutual Ice Company continued to own the waterfront property into the 1920s (Sanborn Map Company 1921:Sheet 8) (Figures 28 and 29). The factory was demolished by 1941, and the property by this time was acquired by W.A. Smoot and Company (Sanborn Map Company 1941: Sheet 8) (Figure 30).

5.1.4 Known Archaeological Resources

Two archaeological resources have been registered with VDHR that are within or adjacent to the Queen Street to Cameron Street segment. Archaeological site 44AX0120 is adjacent to the north and west boundaries of the segment. Site 44AX0120 was found during an inspection of ongoing construction when remains of a wharf and a brick and stone foundation were exposed. The second site, 44AX0123, is located near the base of Thompson's Alley and extends into the segment LOD. Waterlogged timber interpreted to be from a wharf was noted as present during construction of a parking garage at this location.

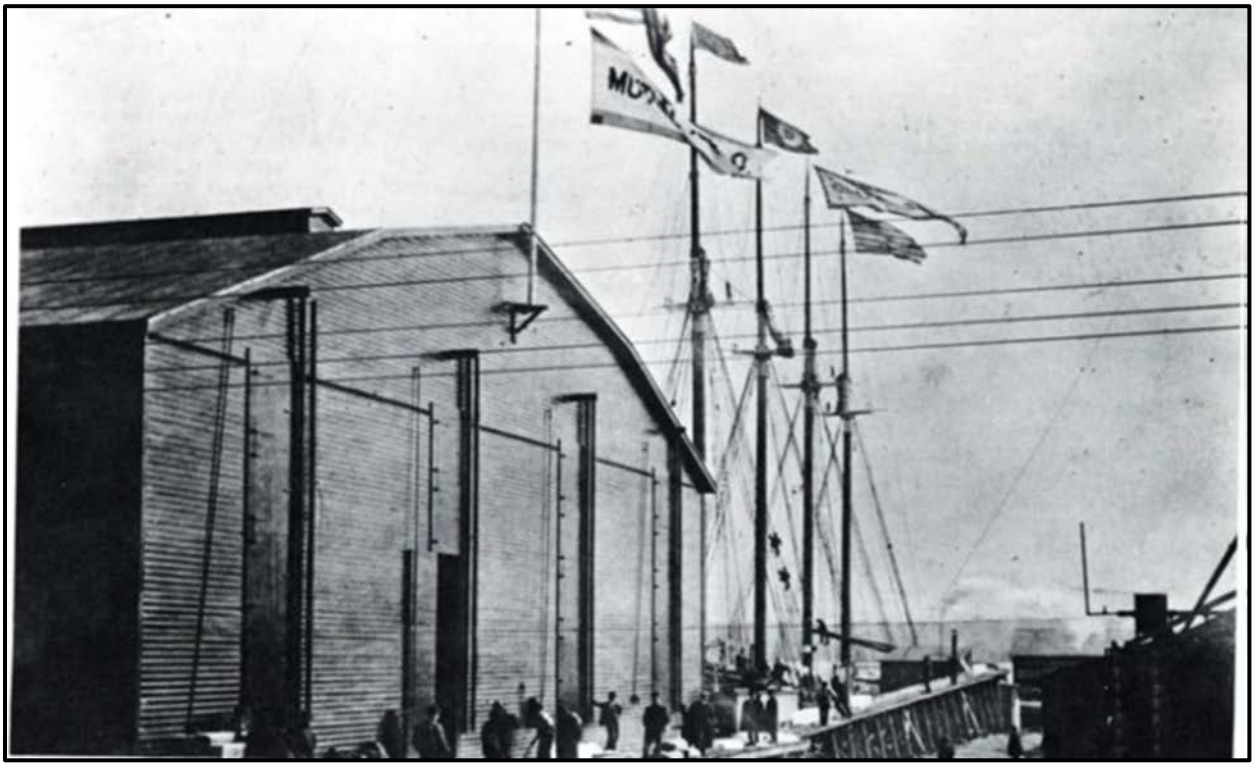


Figure 34. April 1904 photograph of the Mutual Ice Company plant (photograph by Corinne Reardon).

The Office of Historic Alexandria has identified two other potential archaeological resources within this segment. Both are located in the southern portion of the segment and include Casanove's wharf and Carlyle and Dalton's wharf. To the north and adjacent to the western LOD boundary is the landing for the horse- and steam-powered ferries to Georgetown and Washington, D.C.

5.1.5 Potential Archaeological Resources

Historical map research indicates that the Queen Street to Cameron Street segment was within the Potomac River at least through 1749 (Figure 12). Given that this segment was within the Potomac River at and prior to 1749, there is a low potential for Native American resources. An

exception may be that the current river bed was exposed during the last glacial period and could have provided a living surface for pre-Paleoindian and Paleoindian groups.

By the late eighteenth century, the riverfront was being infilled; however, no obvious wharves are depicted on maps through 1803 (see Figures 12–15). While not explicitly depicted on the 1803 map, Cazanove's wharf was likely present at that time, if not earlier. Another wharf was added before 1845 (Figures 16 and 17), and four wharves are depicted on maps between 1845 and 1885 (Figures 18–24). After that time, only two or three wharves are depicted on maps through 1941 (Figures 25–30), after which the wharves were infilled (Figure 31). While a number of structures are depicted just west of the LOD boundary within this segment, few structures are actually present in the segment itself. These include railroad tracks and a small unnamed structure on the Baltimore and Hampshire Coal Company wharf (Figure 23), a wagon shed on the northernmost wharf (Figures 26–28), and small sheds and an office associated with the Smoot lumber yard in the twentieth century (Figures 27–32).

For reference, Table 1 provides a summary of the presence and number of wharves and structures within the Queen Street to Cameron Street LOD as depicted on maps dating between 1749 and 1959.

With the area known to have been filled, both early in the history of the waterfront in the late eighteenth century and in the early to mid-twentieth century, there remains a high potential for archaeological resources within the Queen Street to Cameron Street segment. The potential for Native American resources is generally quite low, while Historic period resources associated with transportation and the waterfront are likely present throughout the segment. Undoubtedly, infrastructure installation has impacted these resources. However, given the scale of such impacts in relation to the size of the resources, there remains a high potential for the presence of intact archaeological resources within the Queen Street to Cameron Street segment.

5.1.6 Geotechnical Borings

Boring SW-1 was placed adjacent to Founder's Park in the Queen Street to Cameron Street segment (Figure 10). The SW-1 profile consisted of fill to at least 12 feet below surface and grayish brown (10YR3/2) sandy clay with wood fragments to at least 30 feet below surface. The final sample, between 32.5 feet and 35 feet below surface, had significantly fewer wood fragments. Boring SW-1 was located near the easternmost end of Wharf No. 6 as depicted on the 1864 Scholl map, which appears to be an extension of the earlier Daingerfeld wharf. The wood fragments in the boring samples (between 12 and 30 feet below surface) appear to be consistent with the original fill of the pre-1749 cove.

Boring SS-2 was located to the west within Union Street west of 201 North Union Street (Figure 10). Eighteenth-century maps indicate that this position was a mud flat within the Alexandria waterfront cove to the west of the main channel of the Potomac River. The boring profile included a modern fill deposit to between 6 and 8 feet below surface. Below 8 feet, to the base of the boring at 25 feet, was dark brown (10YR3/3) and dark yellowish brown (10YR4/4) silty and sandy clay with wood fragments. This deposit likely represents the eighteenth-century infilling of the mud flat that fronted the Alexandria waterfront.

5.1.7 Recommendations

Figure 35 (page 70) depicts an overlay of proposed above-surface improvements and the location of potential archaeological resources between Queen and Cameron Streets onto a 15 to 30 percent Design Schematic. This figure indicates that at least six potential resources could be impacted (if present) and if construction-related excavations are of sufficient depth. Figure 36 (page 71) depicts an overlay of proposed storm sewer and bioretention improvements and the location of potential archaeological resources between Queen and Cameron Streets onto a 15 to 30 percent Design Schematic. In this instance potential resources could be impacted at eight locations. The impacted resources include portions of all four wharves present in this segment and buildings minimally dating between 1877 and 1959 at or adjacent to the wharves. Both geotechnical borings conducted within this segment suggest that 8–12 feet of modern fill are likely present between the ground surface and deposits associated with the eighteenth-century filling of the river front. Resources could be present within this upper fill deposit.

As planning advances, potential depth of construction-related excavations should take into account the potential presence of archaeological resources in this area. If excavation depths are planned within the initial 8–12 feet below surface, preliminary identification excavations conducted by a qualified archaeologist should be conducted to provide a baseline for expectations during the construction stage of the AWFM project. If construction-related excavations are expected within this initial 8–12 feet below surface, monitoring of the construction excavations and archaeological documentation of identified resources may be required by both OHA and VDHR. If archaeological resources are present, the City of Alexandria would be required to consult with VDHR and OHA on the NRHP eligibility of the archaeological resource. If eligible, data recovery or other mitigation measures would be implemented under terms of a Memorandum of Agreement.

Finally, while it is likely that most if not all mapped resources were constructed on the surface of (or perhaps to some extent into) the late eighteenth-century infilling (or banking out) of the waterfront cove and its associated mud flat, additional unknown resources could in fact be present within the fill. Resources such as part of an eighteenth-century ship were found in the late eighteenth-century fill deposits near the south end of the AWFM LOD. While the estimated maximal depth of deposits based on resources depicted in maps and through historical record documentation, undocumented resources, both within the initial fill deposits, and in the earlier fill, could be present.

Table 1. Historical map overview for Queen Street to Cameron Street.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1749	City Plan	LOD in river and mud flats	None depicted	
1775	City Plan	LOD in river	None depicted	
1798	Thomas	Extensions at base of Queen and Cameron Streets infilled, otherwise area within river; no obvious wharfs present	None depicted	
1803	City Plan	No obvious wharf	None depicted	Labeled Wilson "Verbeal's" at south end of area
1838	Kearny	Two wharves depicted	None depicted	
1842	U.S. Coast Survey	Three wharves depicted	One structure partially within project LOD	Named north to south: Mandeville; Thompson; Cazanoves
1845	Ewing	Four wharves depicted, southernmost outside project LOD	None depicted	Northernmost wharf labeled "Daingerfeld", next is labeled "Thompson's Alley"; next is "Thompson's wharf", southernmost labeled "Cazanove's"
1862	U.S. Coast Survey	Three wharves depicted	None depicted	
1863	U.S. Coast Survey	Three wharves depicted	Two structures depicted	
1864	Scholl	Four wharves depicted labeled north to south No. 6, No. 7, No. 8, and No. 9	None depicted; No. 6 denoted cavalry or infantry loaded onto 3 vessels; No. 7 is cavalry or infantry loaded onto 2 vessels; No. 8 is cavalry or infantry loaded onto 3 vessels; No. 9 (not in project LOD) is cavalry or infantry loaded onto 3 vessels	Daingerfeld' wharf is No. 6; Thompson's Alley is No. 7; Thompson's wharf is No. 8; Cazanove's wharf is No. 9.
1865	Quartermaster's	Four wharves depicted	No. 6 is grain wharf; No. 7 is covered grain wharf; No. 8 is Chief Commissary depot; No. 9 is commissary depot	Wharf No. 7 is east of "Chief Grain Depot"
1877	Hopkins	Four wharves depicted	No. 7 railroad tracks and structure at east end of wharf	No. 7 is Baltimore & Hampshire Coal Co.; No. 8 denoted as Henry Daingerfeld Estate; No. 9 not in project LOD
1885	Sanborn	Three wharves depicted; southernmost wharf infilled or removed	None depicted	No. 6 denoted Zimmerman's coal wharf, with H. Bryant's Fertilizer warehouse to south but outside project LOD; No. 8 denoted Reed's wharf, F. Reed & Co. dealers in barrel stock; No. 9 area denoted as Lumber Yard, warehouses to north but outside project LOD
1896	Sanborn	Three wharves depicted; southernmost wharf infilled or removed	None depicted	No. 7 J.R. Zimmerman's Coal Yard; No. 8 Smoot's wharf; No. 9 area denoted as Alexandria Ice Manufacturing property (warehouses outside LOD)
1902	Sanborn	Two wharves depicted; northernmost two (Nos. 6 and 7) infilled between wharves to combine; southernmost wharf infilled or removed	No. 6 with "wagon shed"	Nos. 6 and 7 denoted as Alexandria Overall Co.; No. 9 as J.W. Hammond & Sons Ice Factory (factory to north and outside project LOD)
1904	U.S. Coast and Geodetic Survey	Two wharves depicted	None depicted	

Table 1. Concluded.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1907	Sanborn	Two wharves depicted; northernmost two (Nos. 6 and 7) infilled between wharves to combine; No. 8 appears to have expanded; No. 9 infilled or removed	No. 6 with "wagon shed"; No. 8 with shed or platform	Nos. 6 and 7 denoted as Harry K. Field & Co. (lumber); No. 8 J.W. Hammond & Sons Mutual Ice Co.; No. 9 Smoot's wharf
1912	Sanborn	Same as 1907	Same as 1907	Same as 1907 except that No. 8 denoted as Mutual Ice Co.
1921	Sanborn	Same as 1907	No. 7 with "sawing" shed	Nos. 6 and 7 denoted W.A. Smoot & Co. Lumber Yard; No. 8 same as 1907; No. 9 unlabeled
1923	U.S. Army Corps of Engineers	Two wharves depicted	One structure depicted	
1941	Sanborn	Same as 1907	Nos. 6 and 7 with Finishing Shed, Nos. 8 and 9 with Auto Parking	No. 6 denoted as W.R. Smoot & Co. Inc.
Revised 1959	Sanborn	Wharves are infilled and used as work spaces, two small wooden piers on wood piles present	Two lumber sheds and small portion of warehouse	North half is N.A. Smoot & Co. Inc. Planning Mill & Warehouse; south half unnamed work space

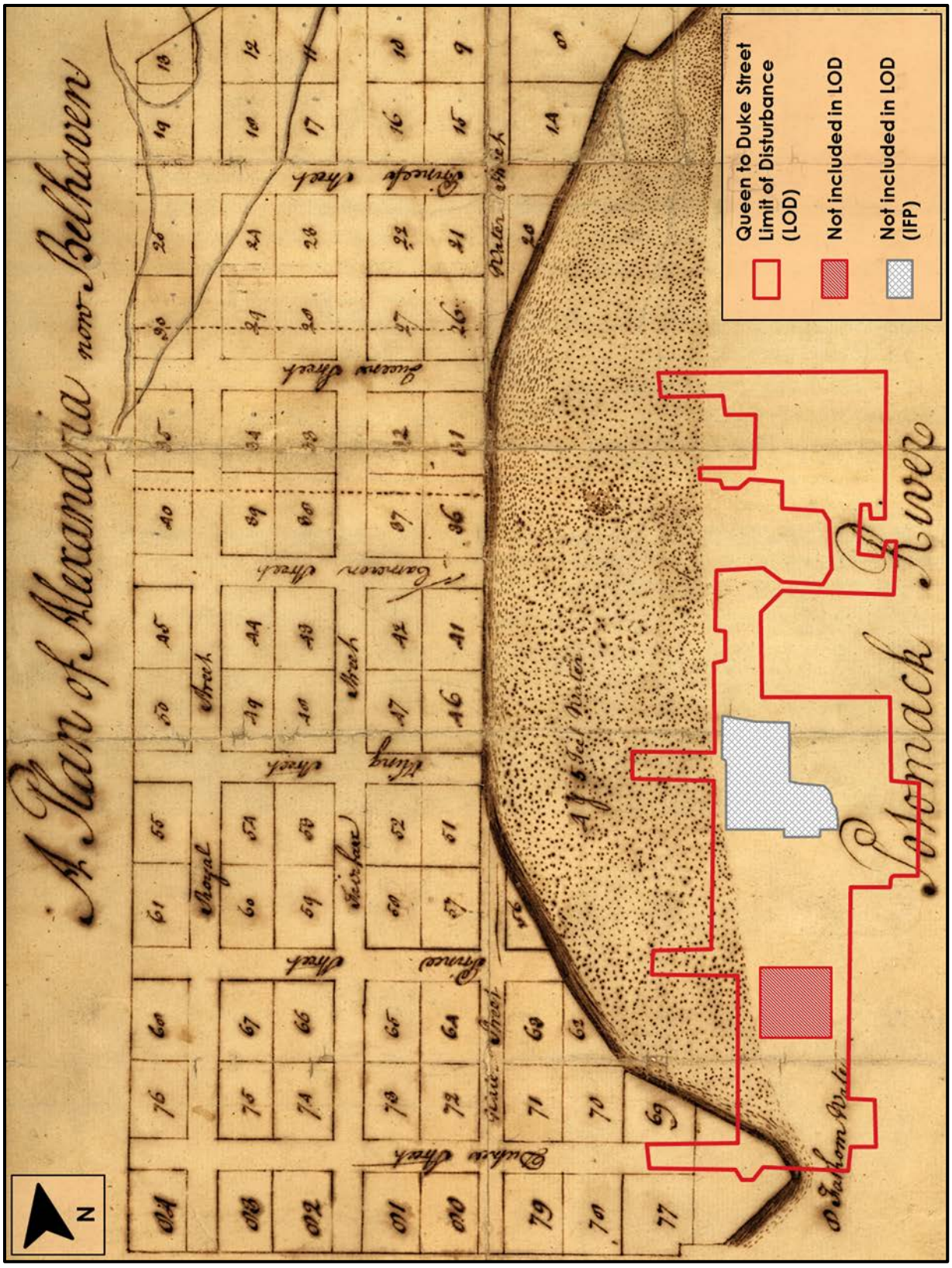


Figure 12. 1749 plan map of the City of Alexandria (Washington 1749).

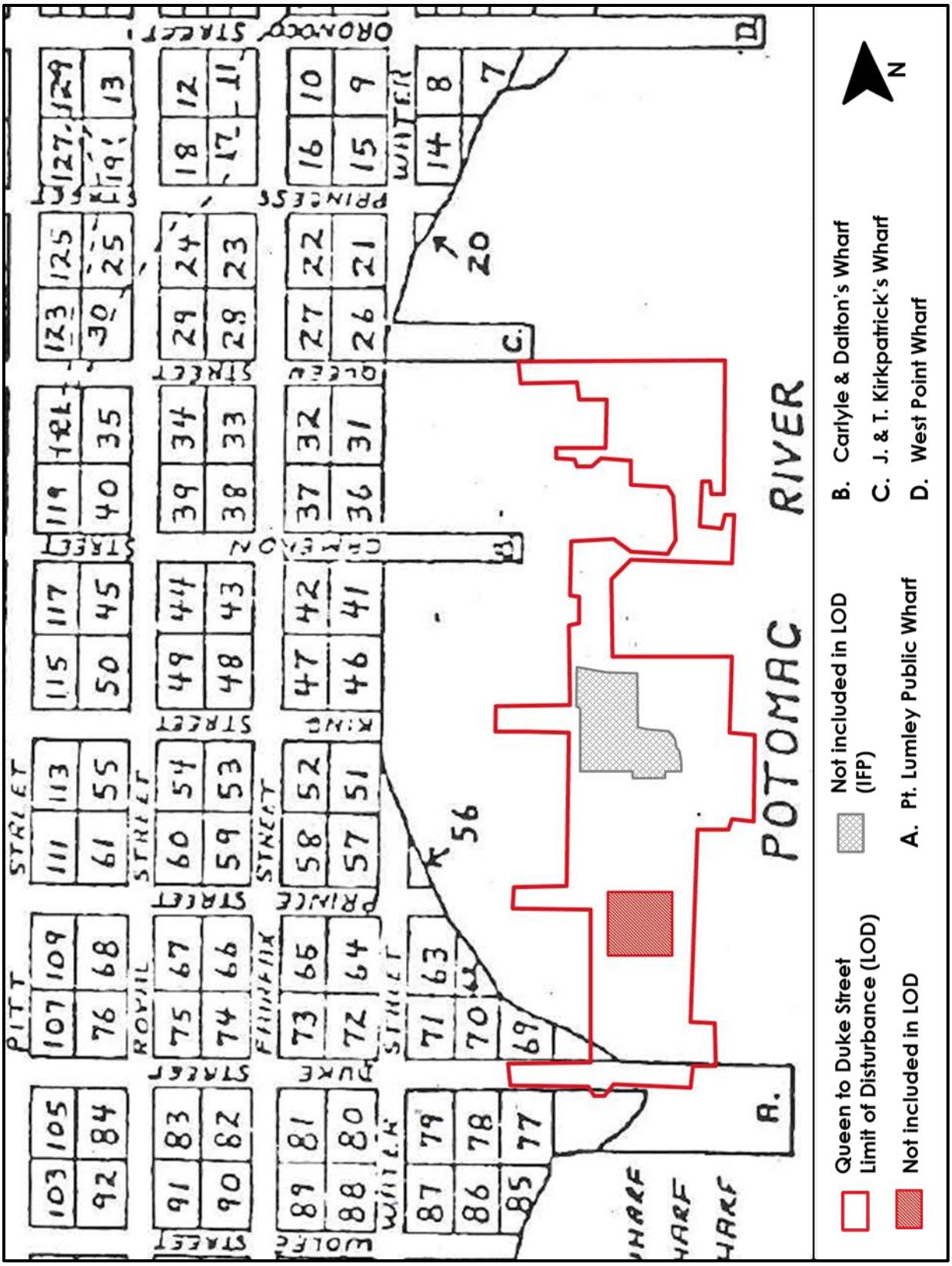


Figure 13. 1775 plan map of the City of Alexandria (compilation map on file, Alexandria Archaeology).

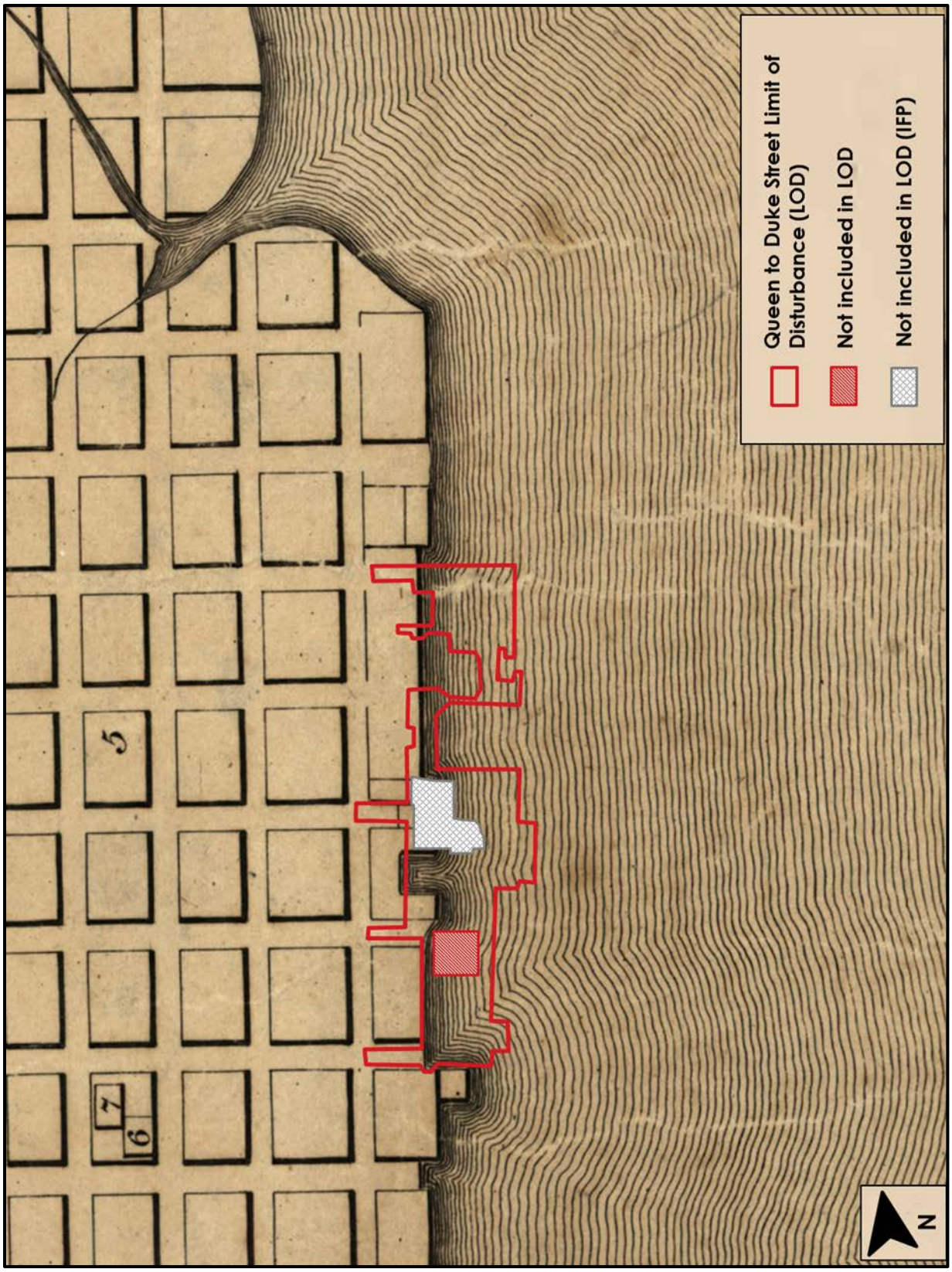


Figure 14. 1798 Thomas plan map of the City of Alexandria (Gilpin 1798).

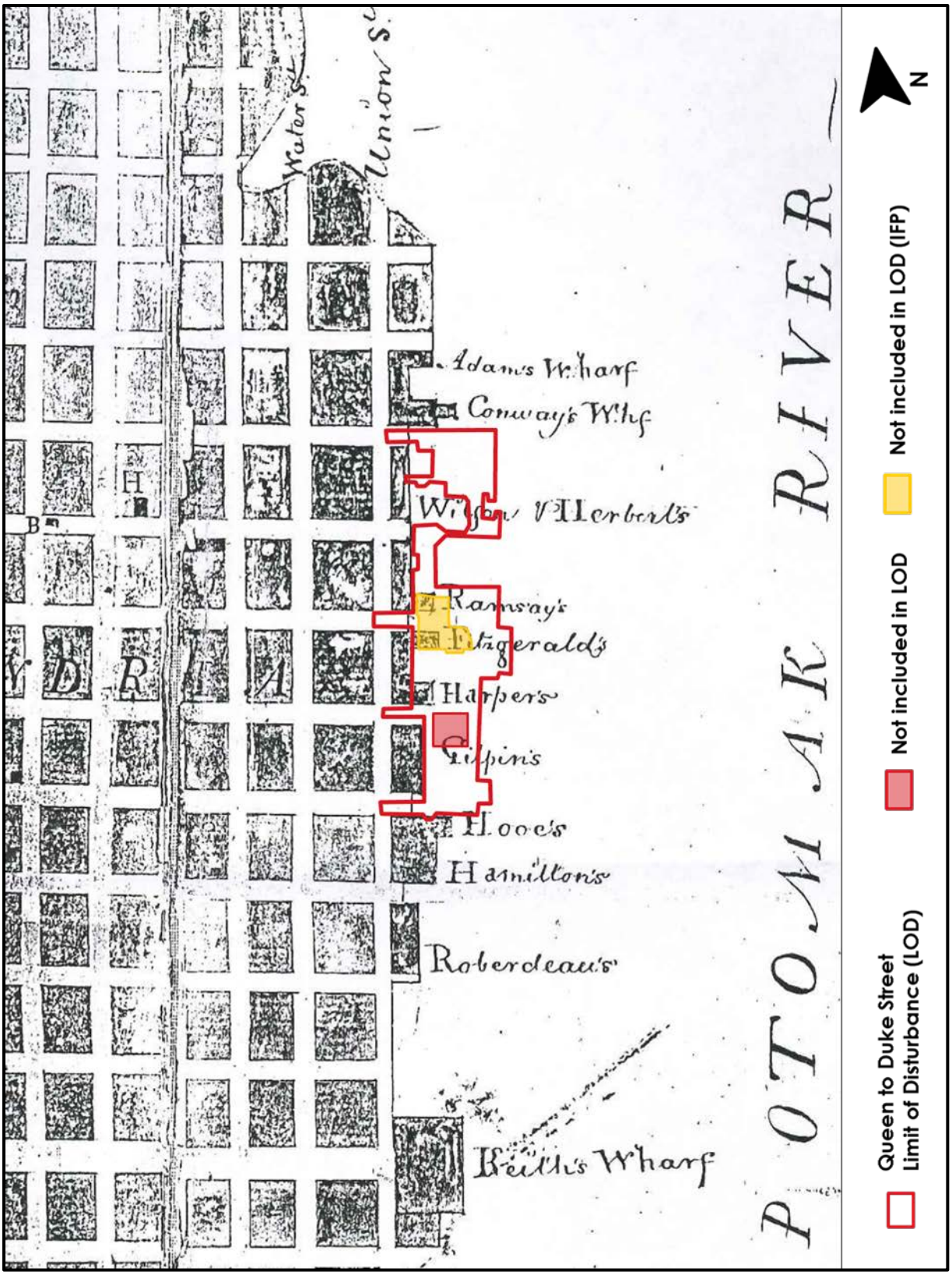


Figure 15. 1803 plan map of the City of Alexandria (Anonymous 1803).

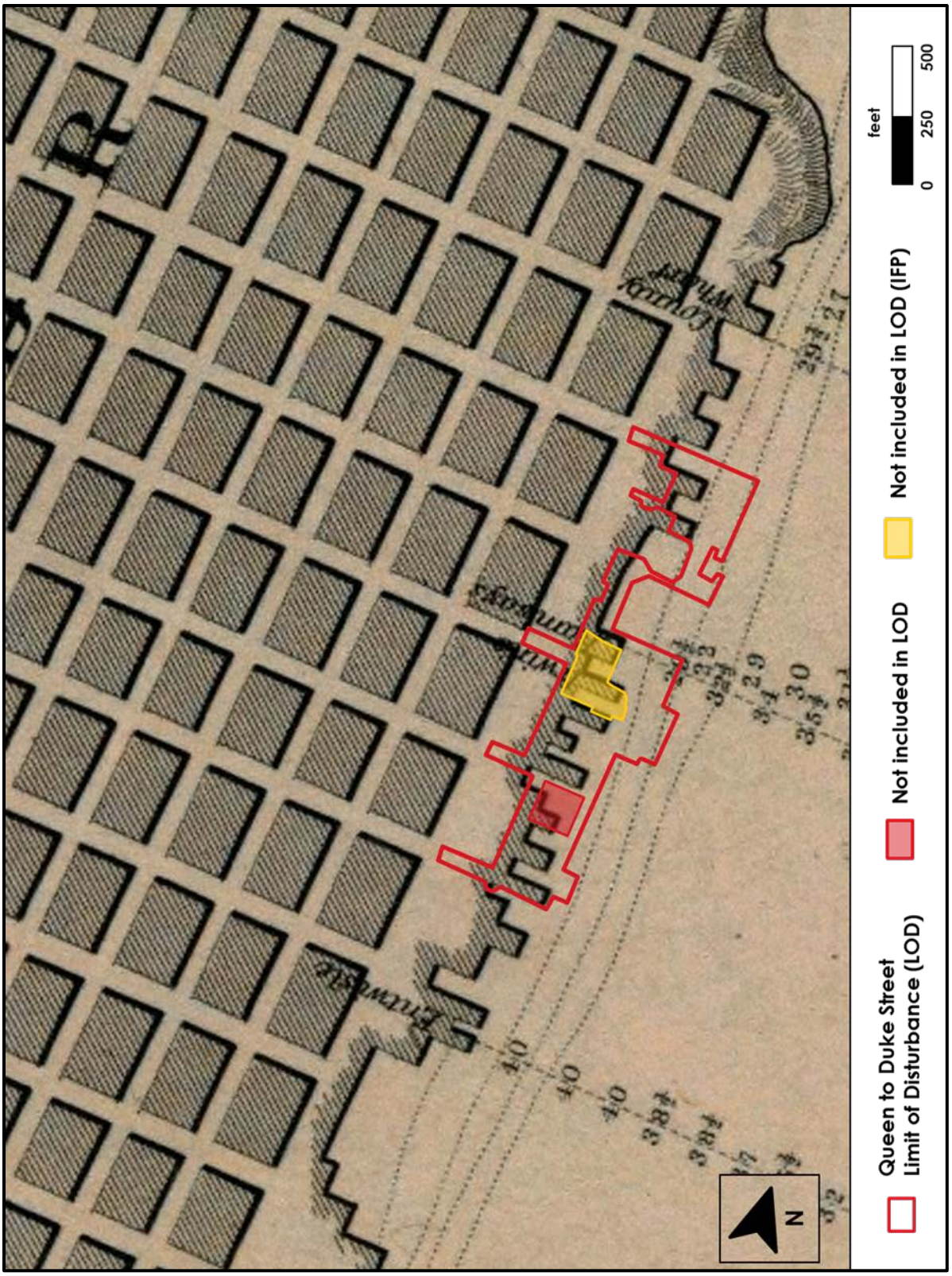


Figure 16. 1838 Kearny plan map of the City of Alexandria (Kearney et al. 1838).

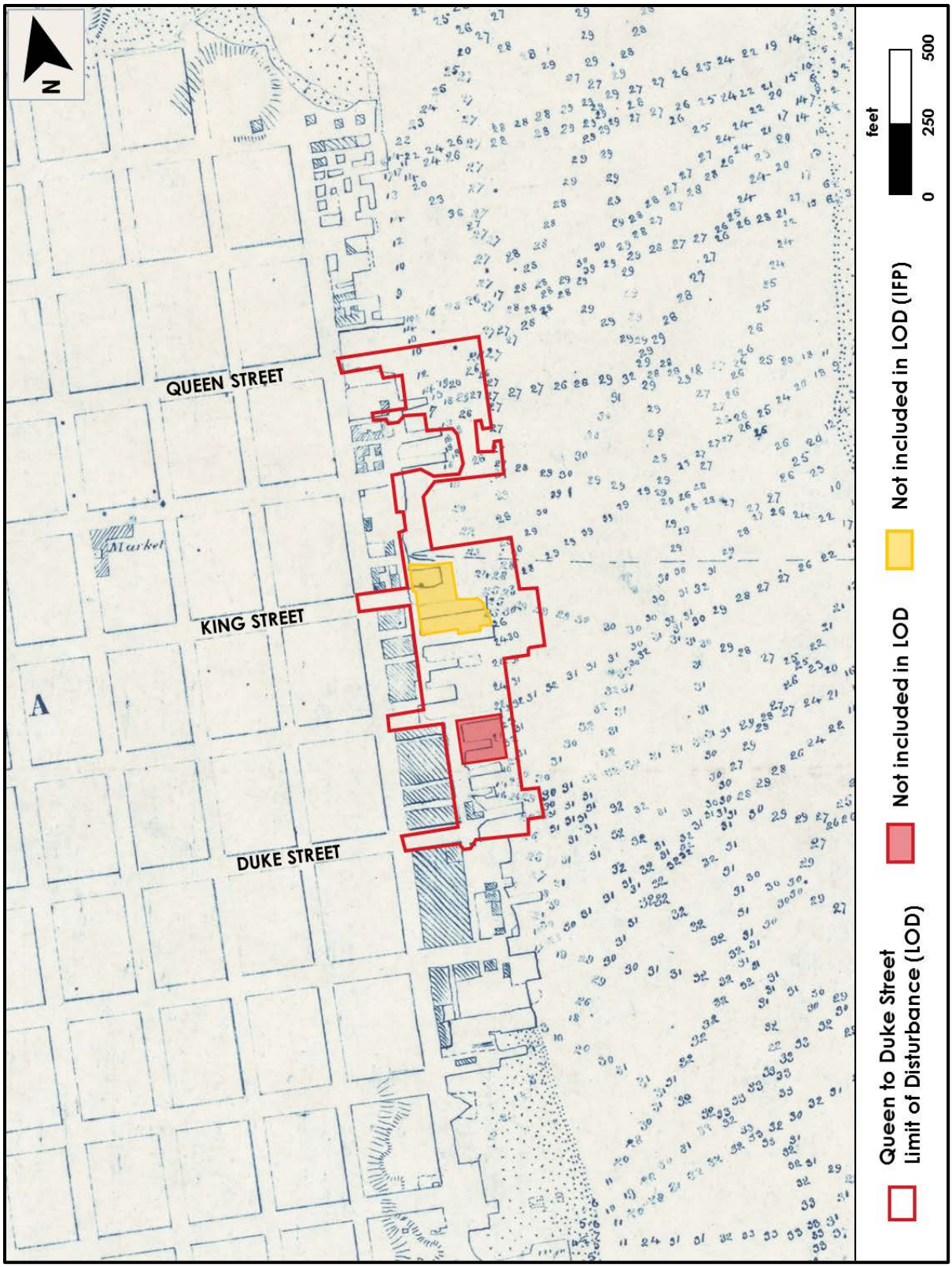


Figure 17. 1842 (published 1857) U.S. Coast Survey map of the Potomac and Anacostia Rivers between Washington and Alexandria (U.S. Coast Survey 1857).

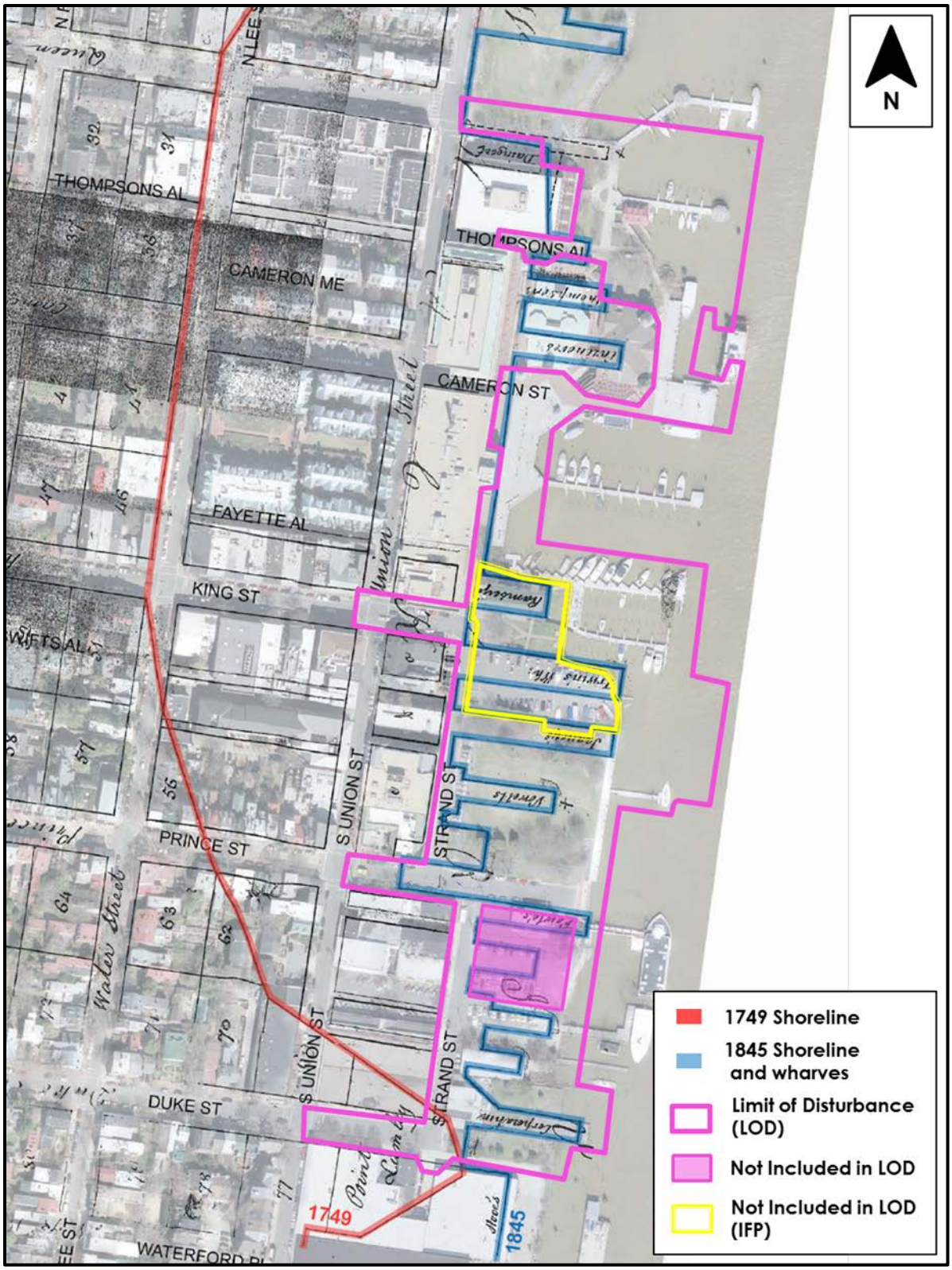


Figure 18. 1845 plan map of the City of Alexandria (City of Alexandria 2016c).

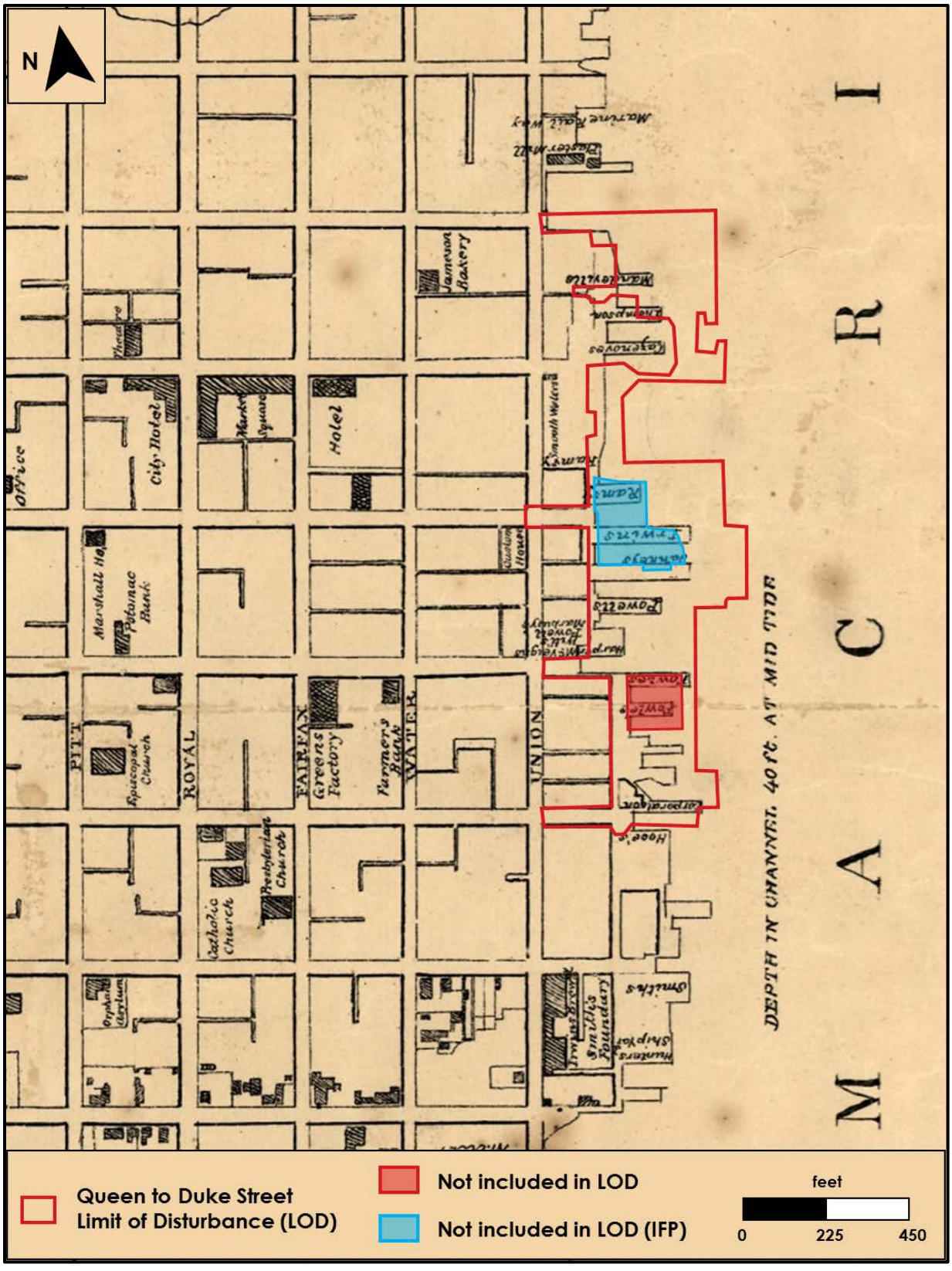


Figure 19. 1862 U.S. Coast Survey plan map of Alexandria (U.S. Coast Survey 1862).

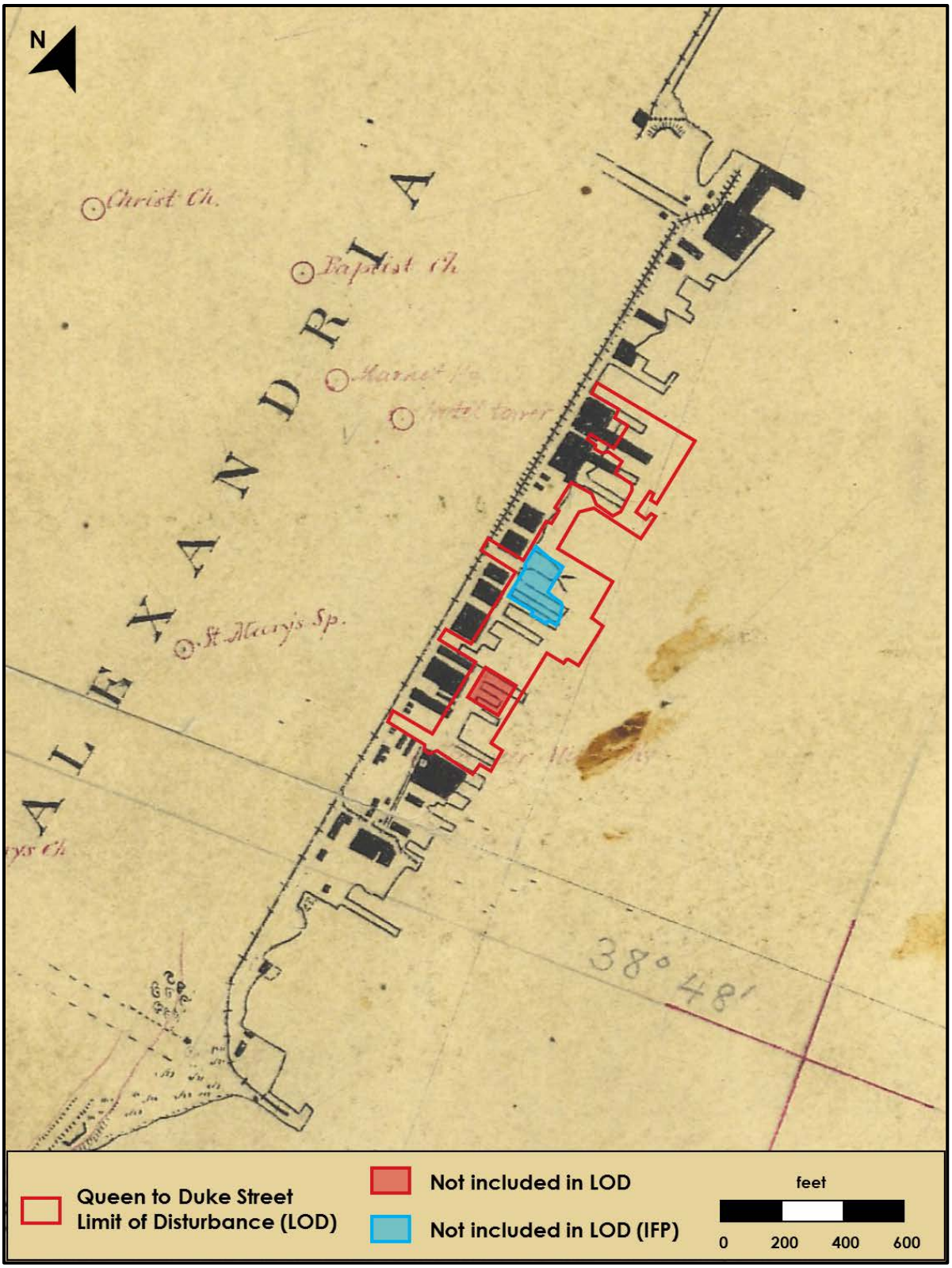


Figure 20. 1863 U.S. Coast Survey map of the Potomac River from Jones' Pont to Little Falls Bridge (U.S. Coast Survey 1863).

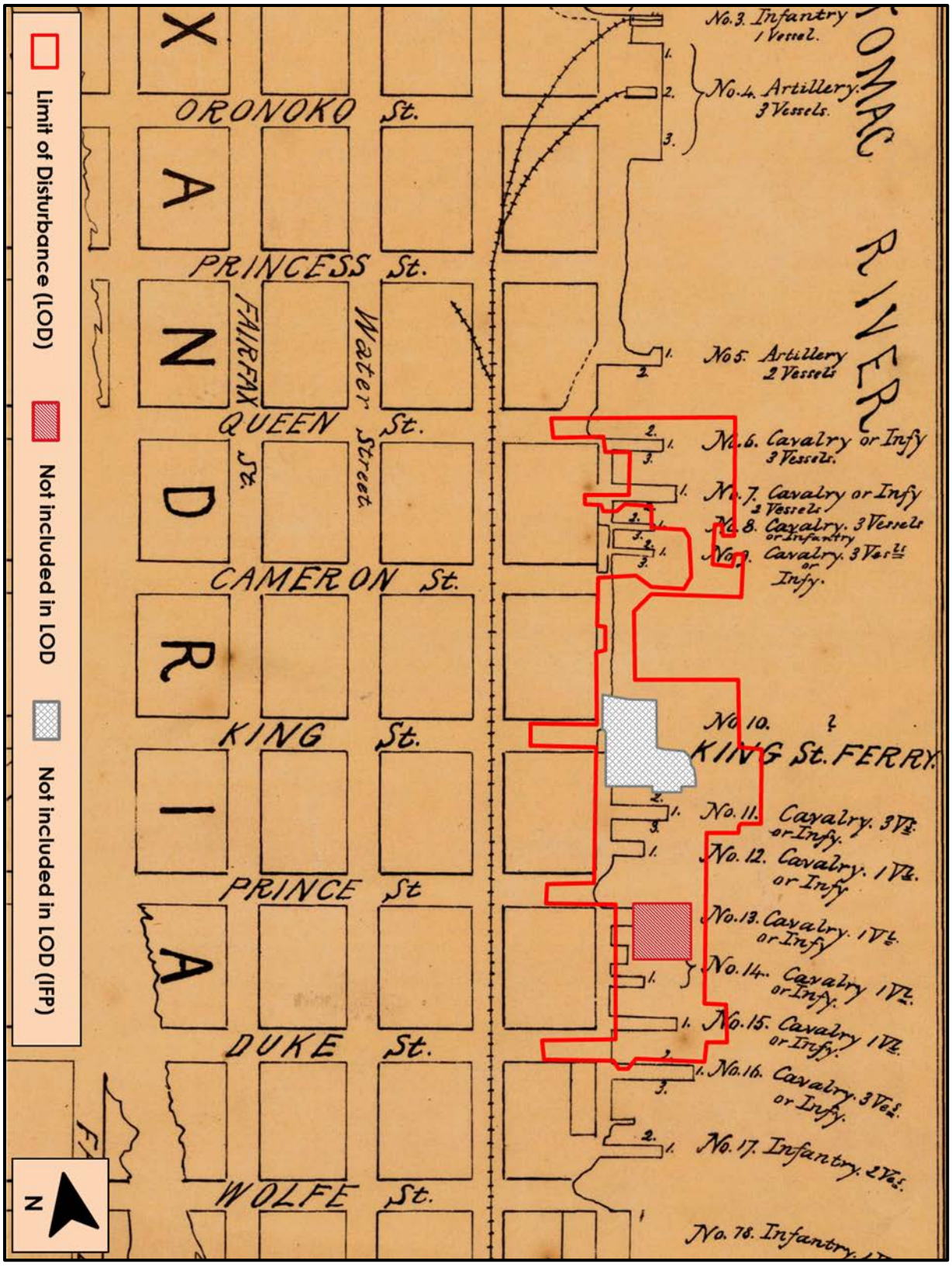


Figure 21. 1864 Scholl map depicting City of Alexandria wharves (Scholl 1864).

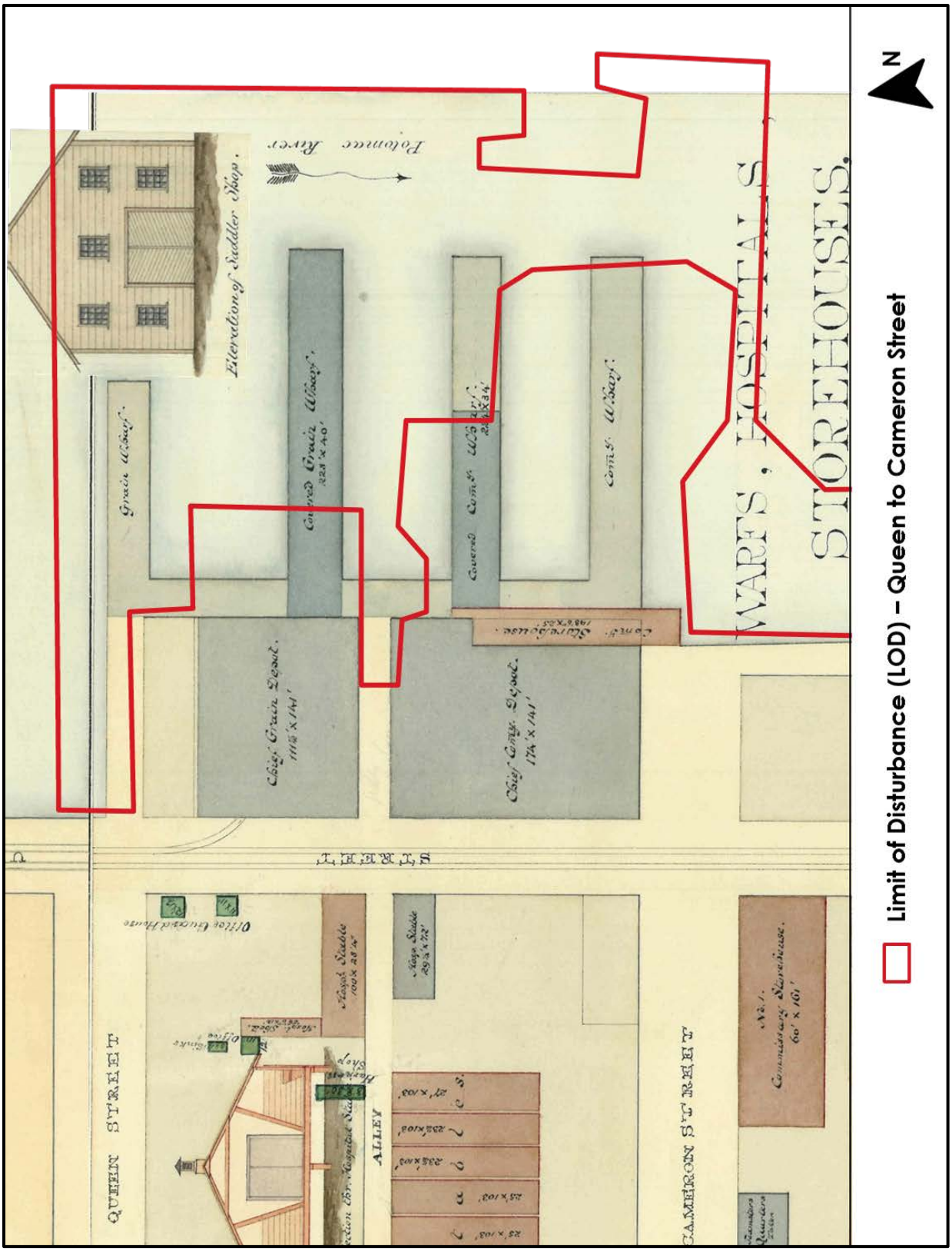


Figure 22. 1865 Quartermaster's map of the Queen Street to Cameron Street wharves and military facilities (U.S. Army Quartermaster Corps 1865).

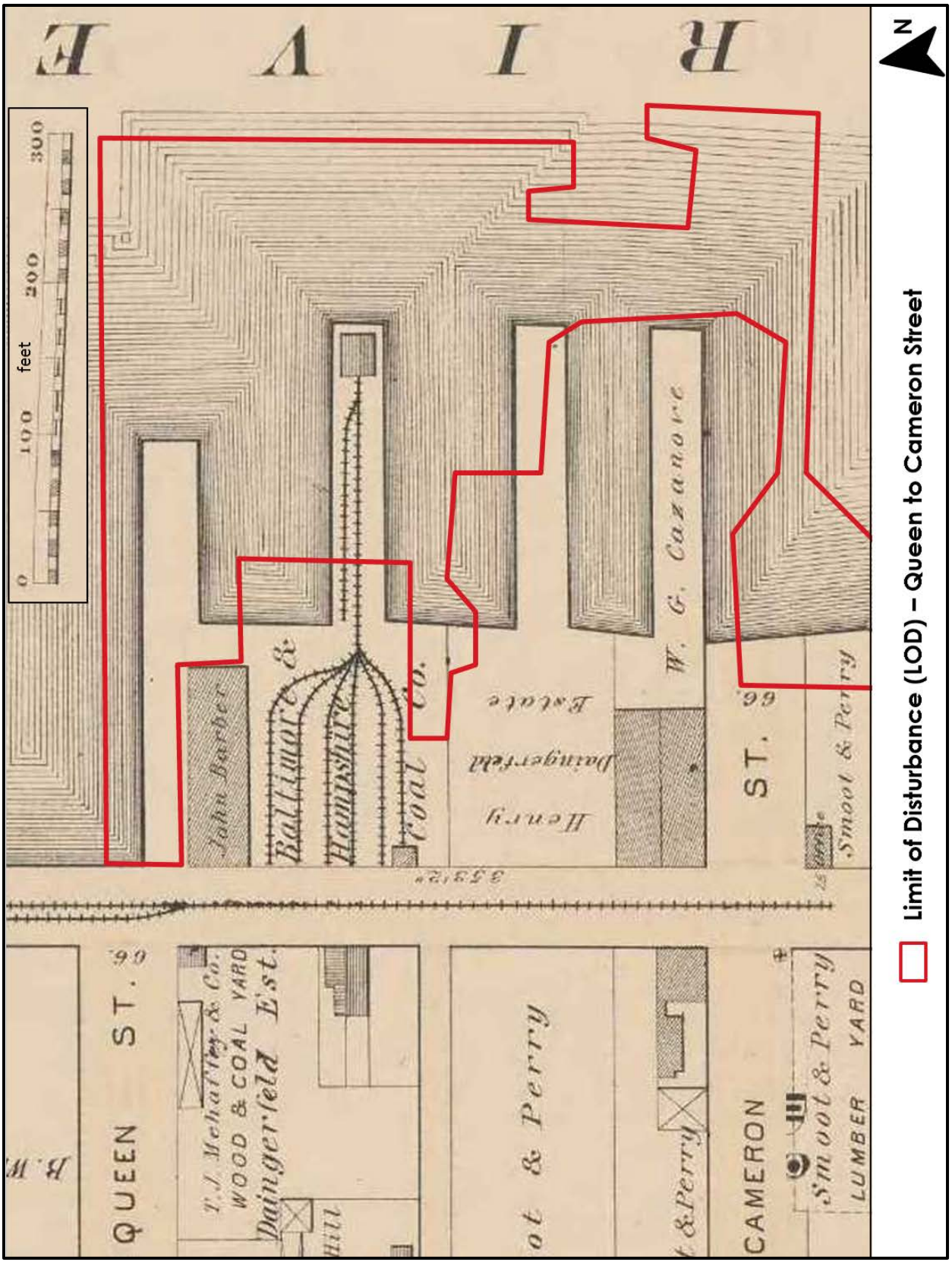


Figure 23. 1877 Hopkins map depicting the Queen Street to Cameron Street segment (Hopkins 1877).

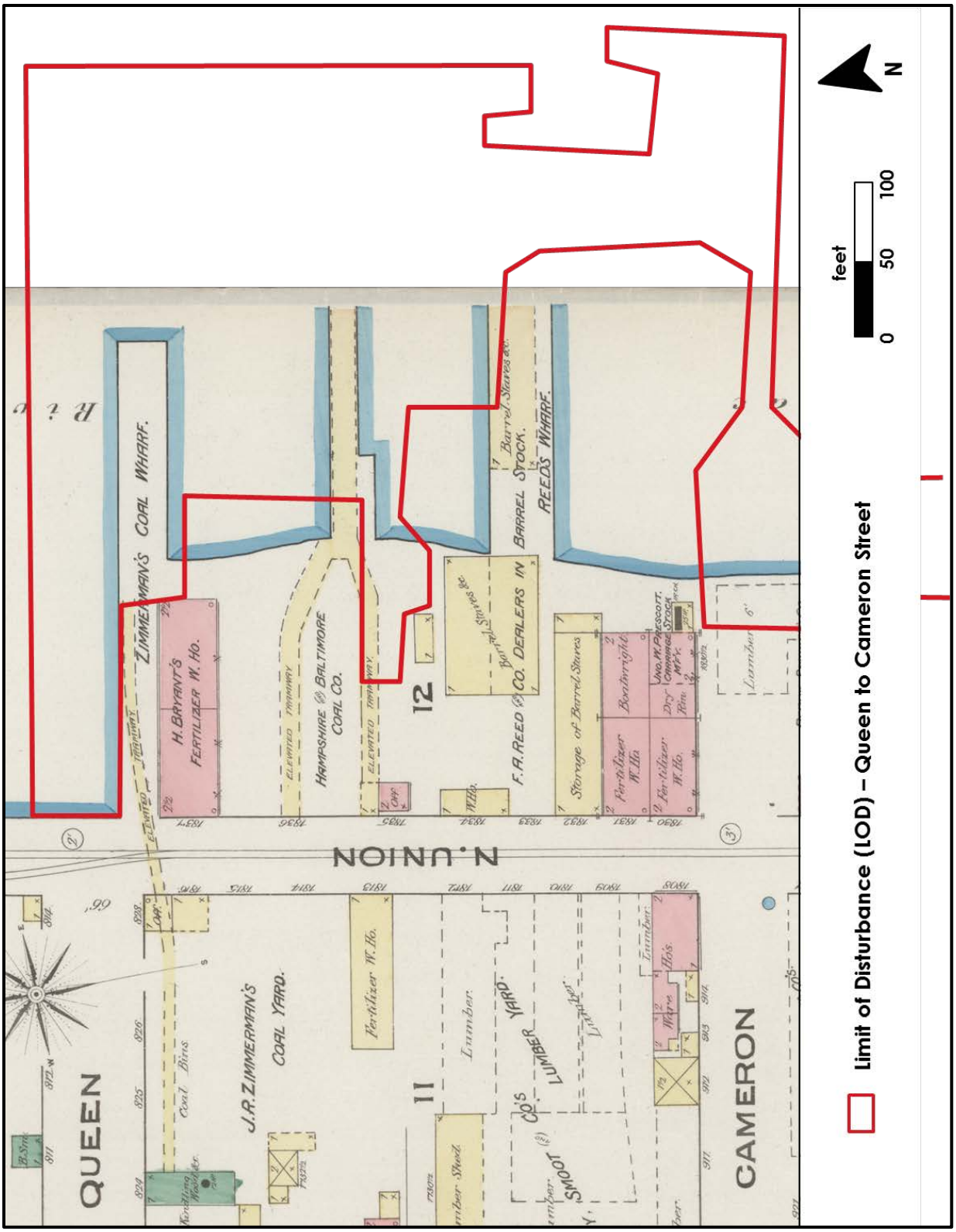


Figure 24. 1885 Sanborn map (Sheet 3) depicting the Queen Street to Cameron Street segment (Sanborn Map and Publishing Company 1885).

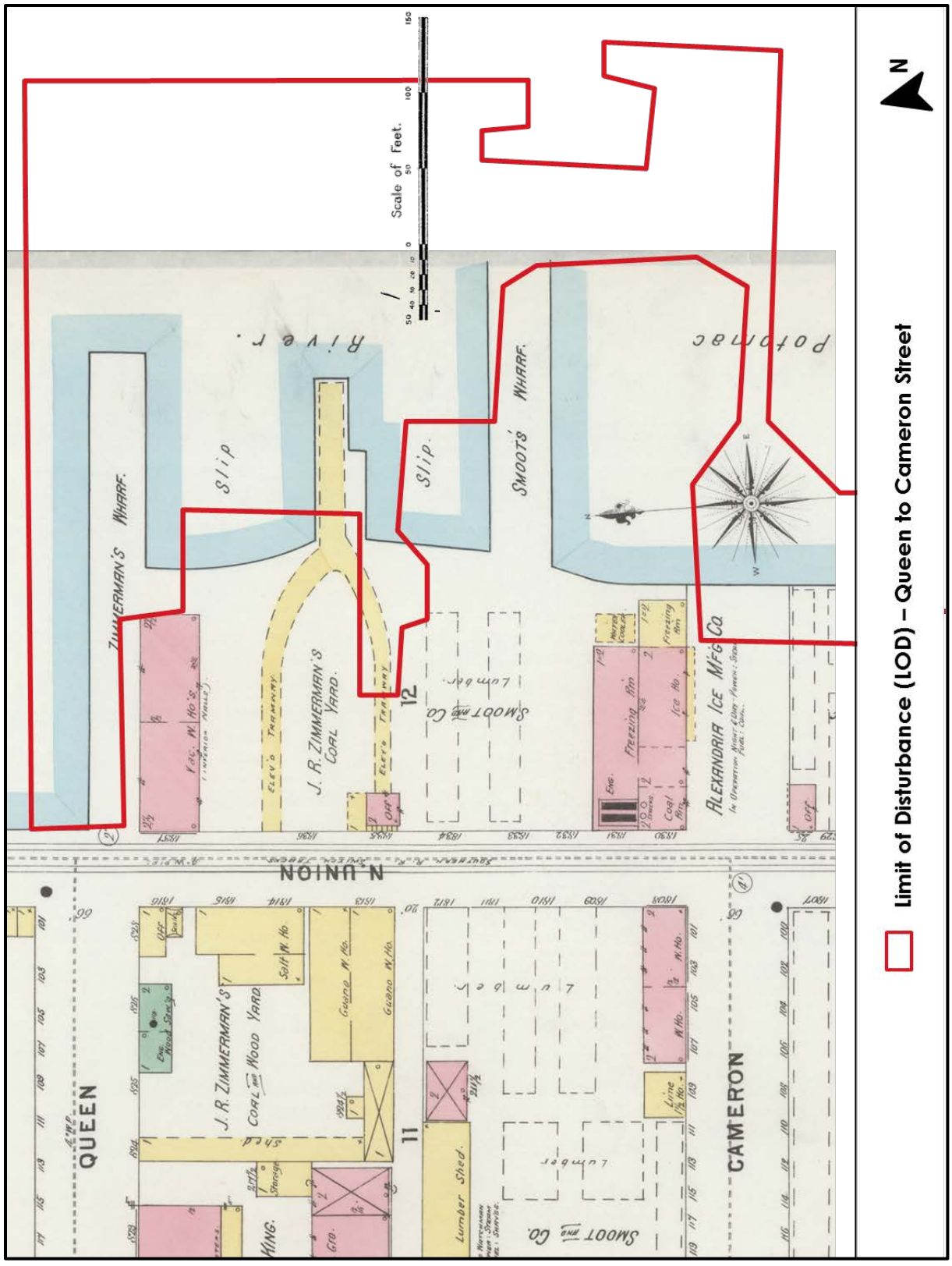


Figure 25. 1896 Sanborn map (Sheet 9) depicting the Queen Street to Cameron Street segment (Sanborn-Perris Map Company 1896).

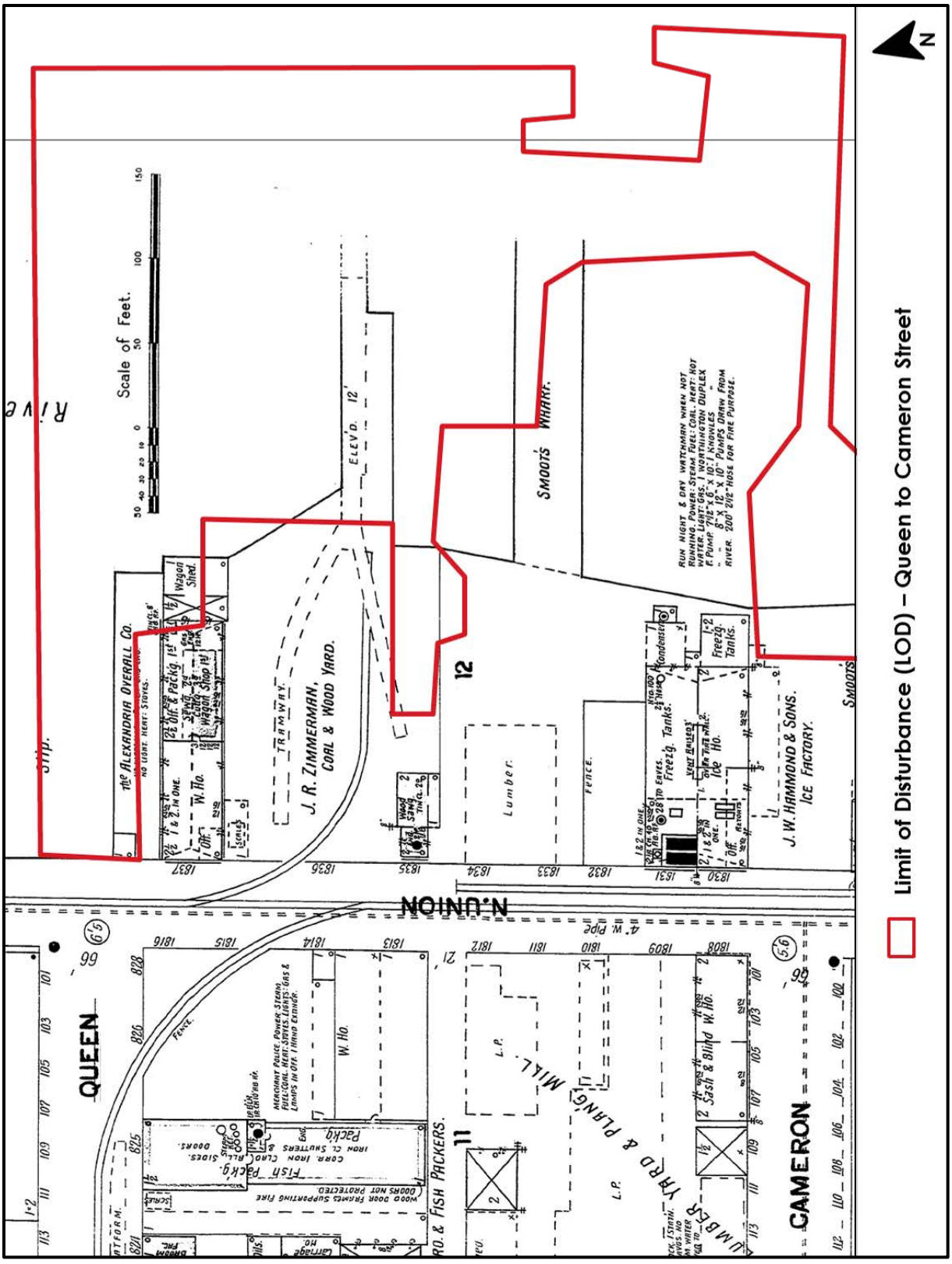


Figure 26. 1902 Sanborn map (Sheet 9) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1902).

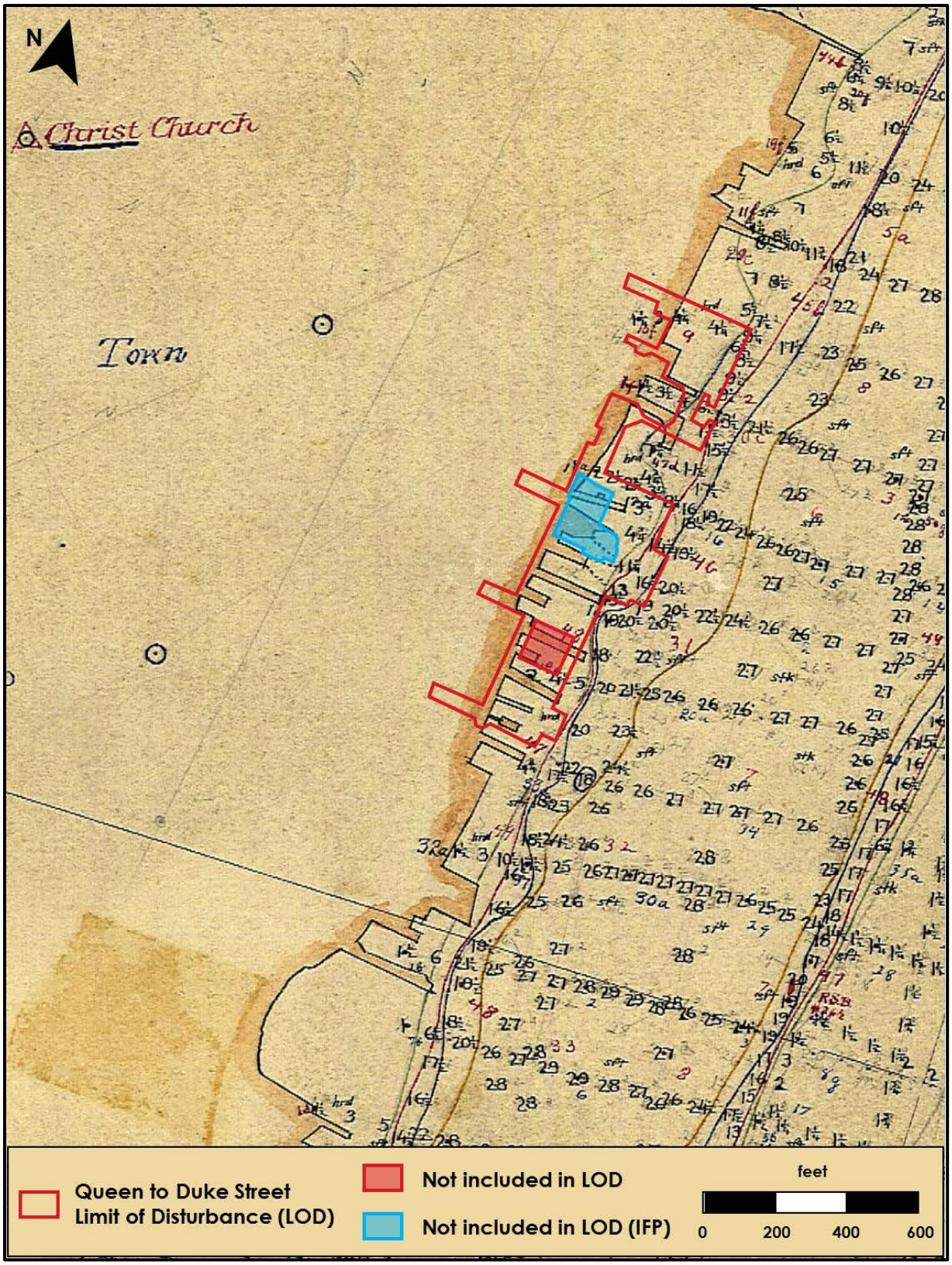


Figure 27. 1904 U.S. Coast and Geodetic Survey map of the Potomac River from Rozier Bluff to Gravelly Point (U.S. Coast and Geodetic Survey 1904).

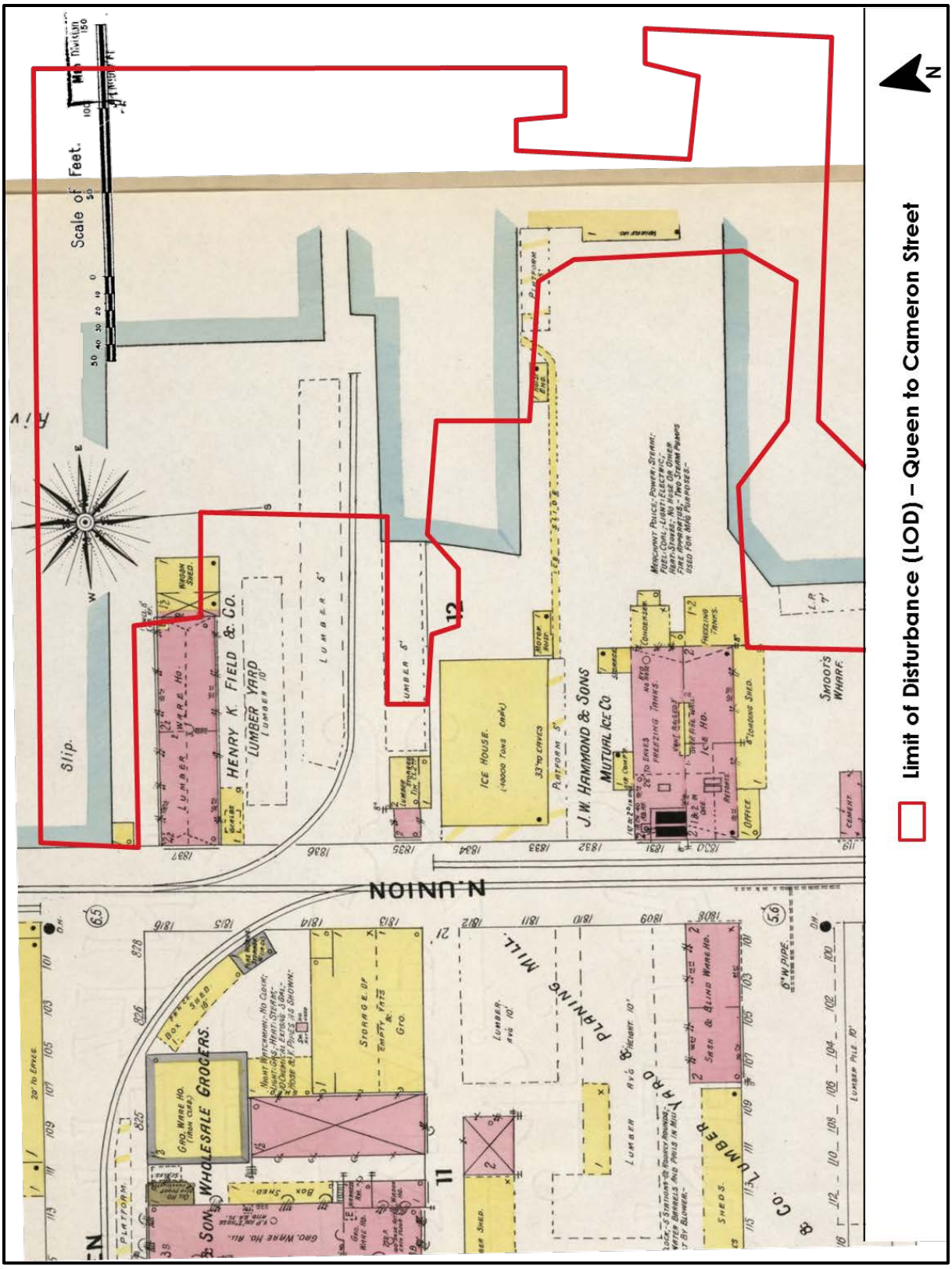


Figure 28. 1907 Sanborn map (Sheet 9) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1907).

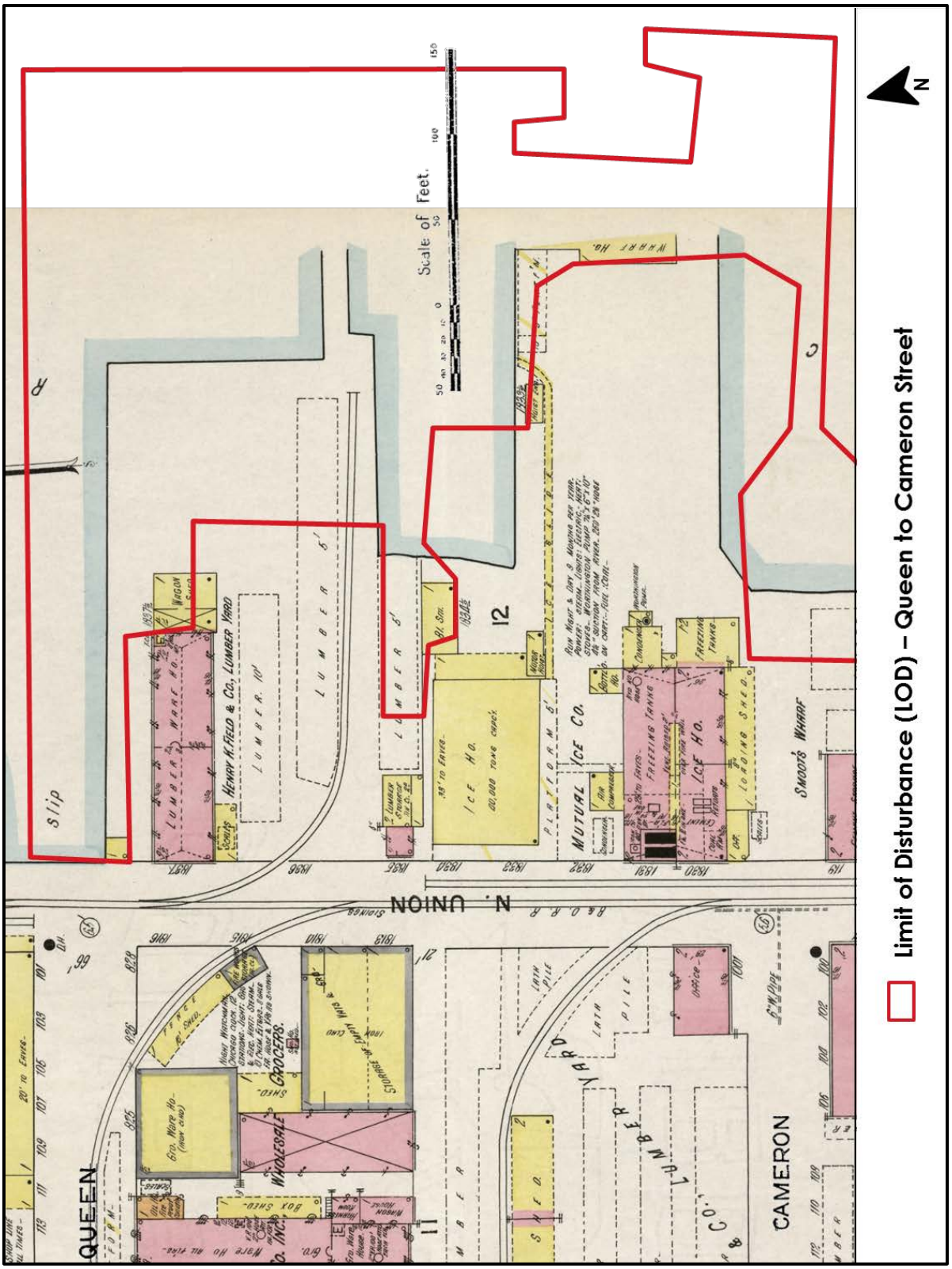


Figure 29. 1912 Sanborn map (Sheet 9) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1912).

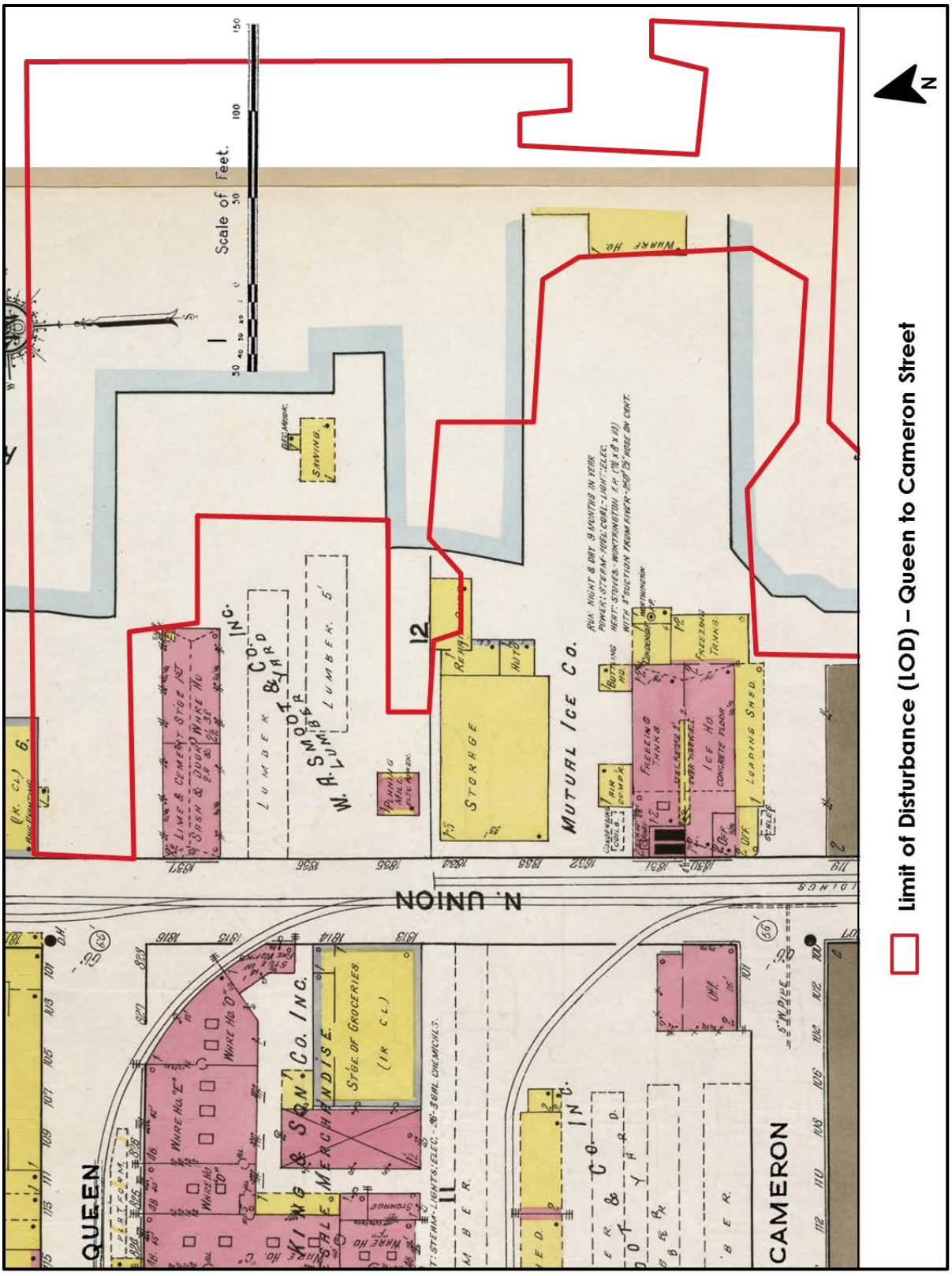


Figure 30. 1921 Sanborn map (Sheet 6) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1921).

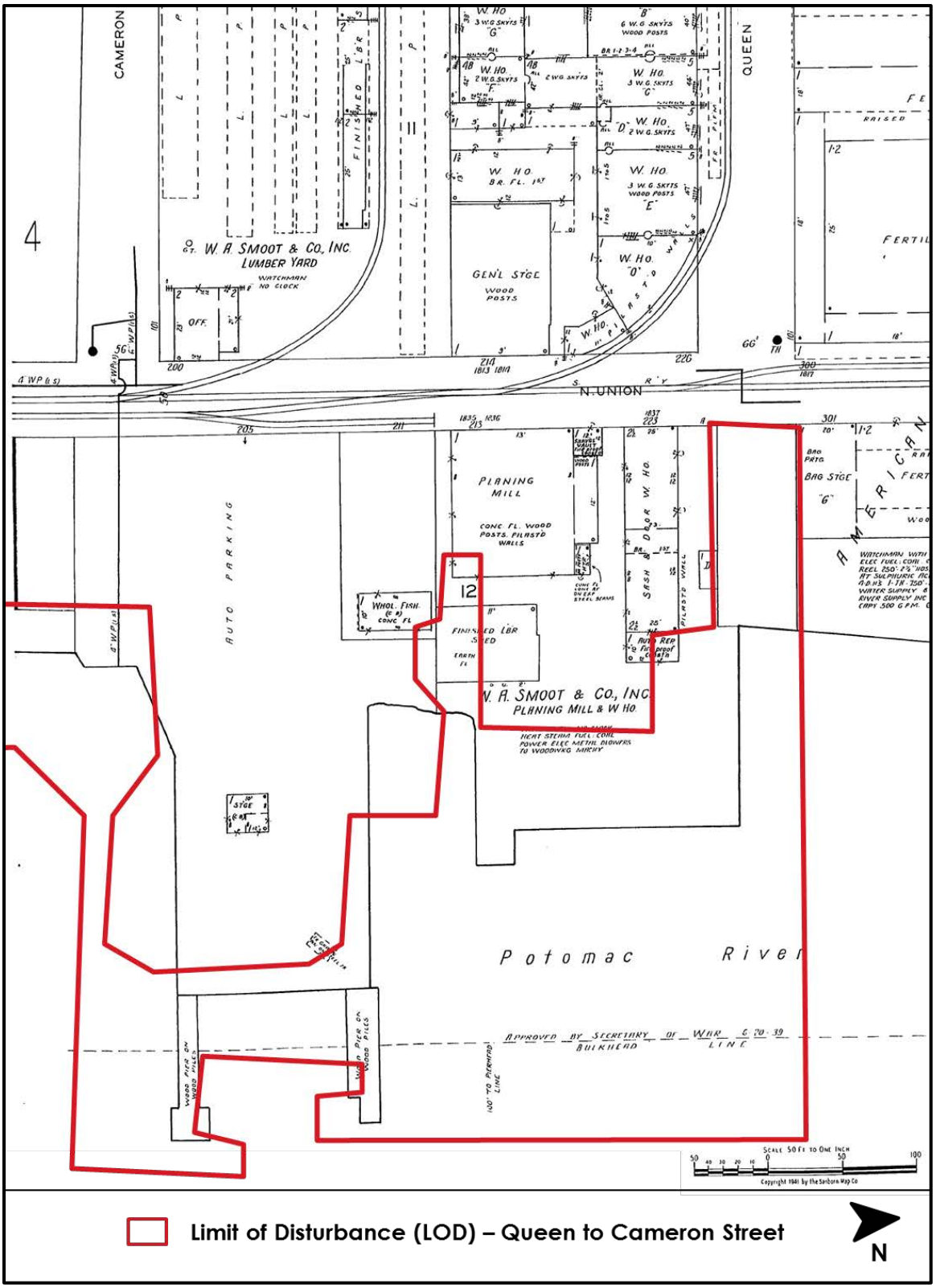


Figure 31. 1941 Sanborn map (Sheet 8) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1941).

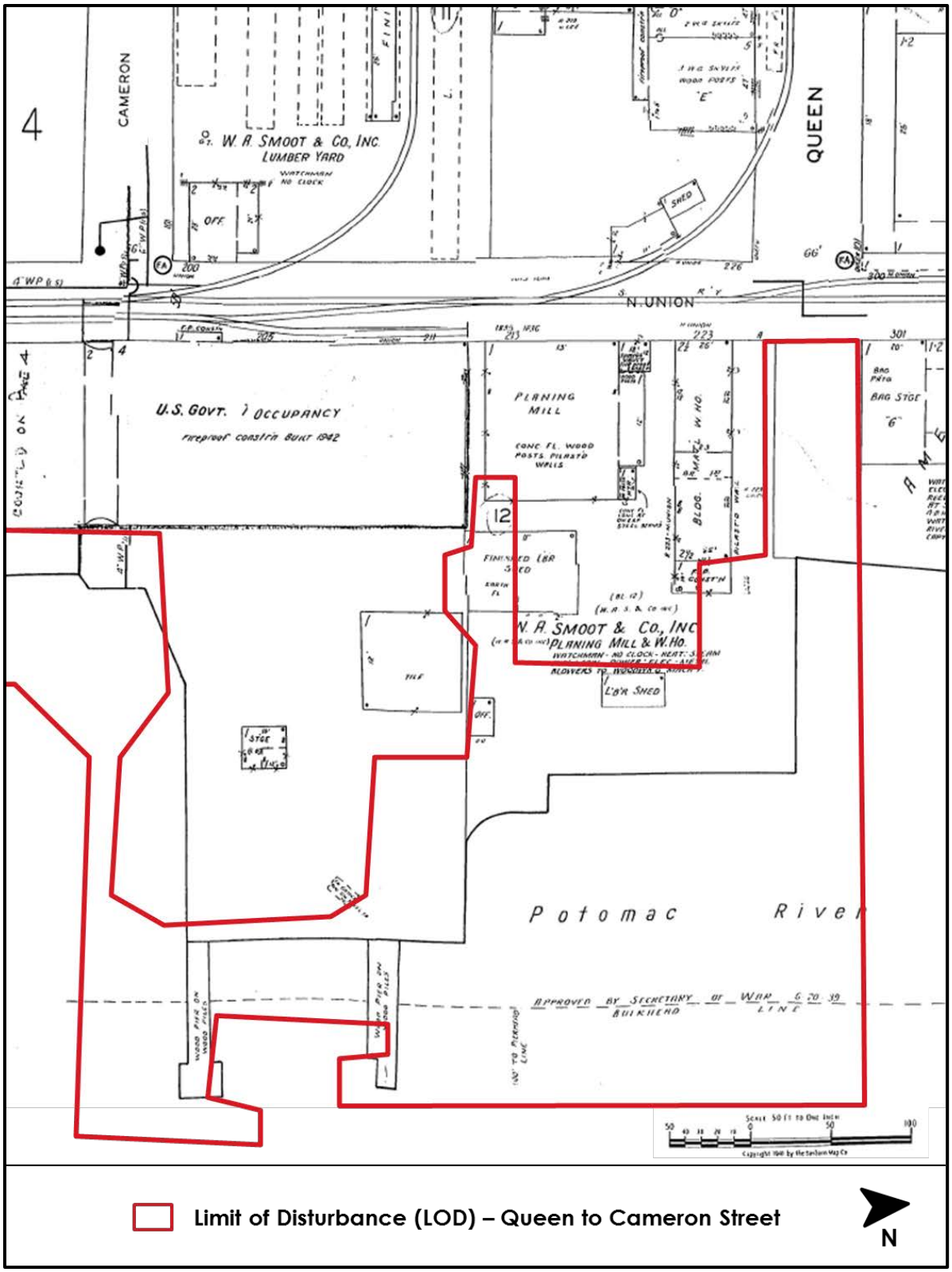


Figure 32. 1941 revised 1959 Sanborn map (Sheet 8) depicting the Queen Street to Cameron Street segment (Sanborn Map Company 1941/1959).

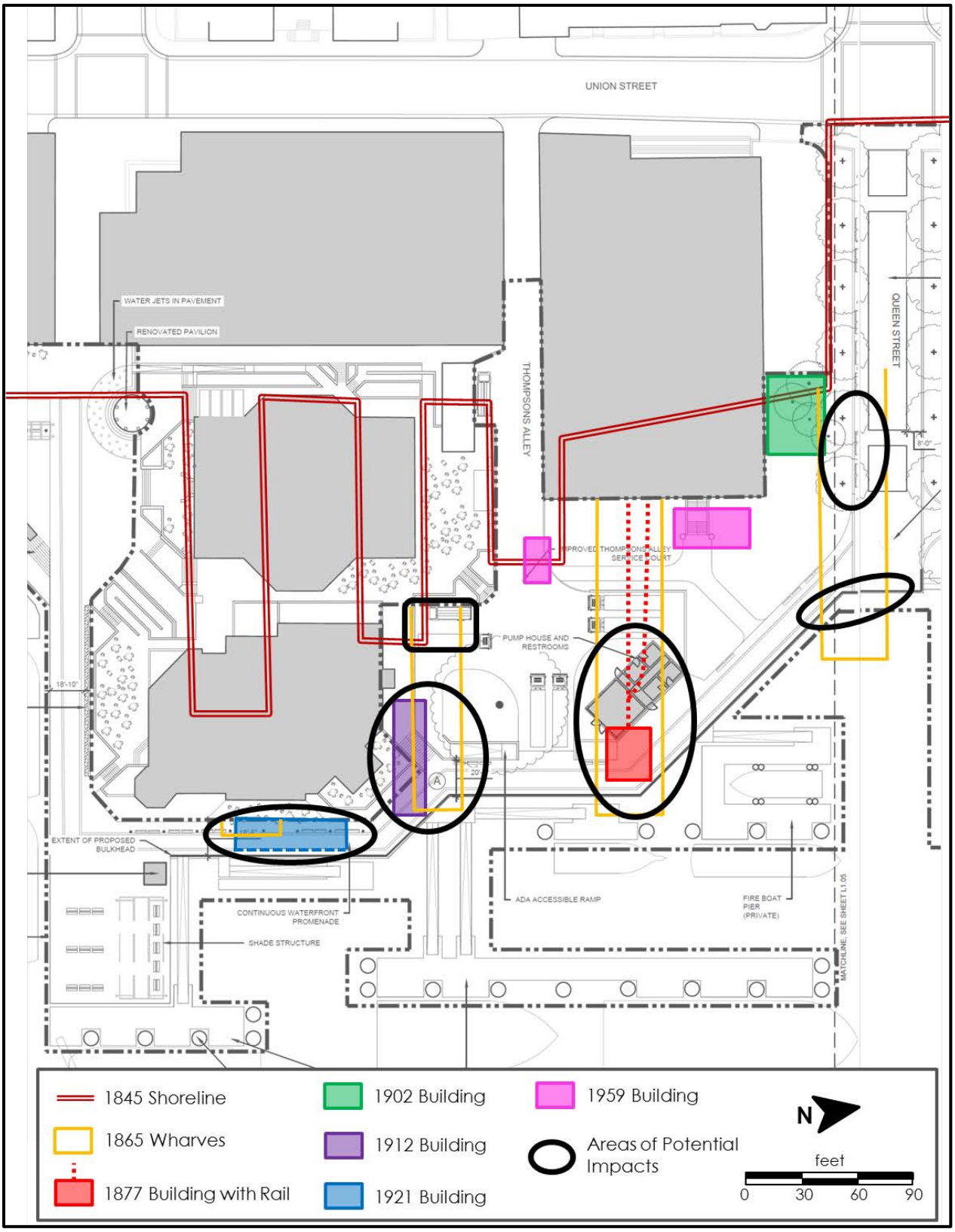


Figure 35. Overlay of potential archaeological resources (Queen Street to Cameron Street) onto 15 to 30 percent plan map.

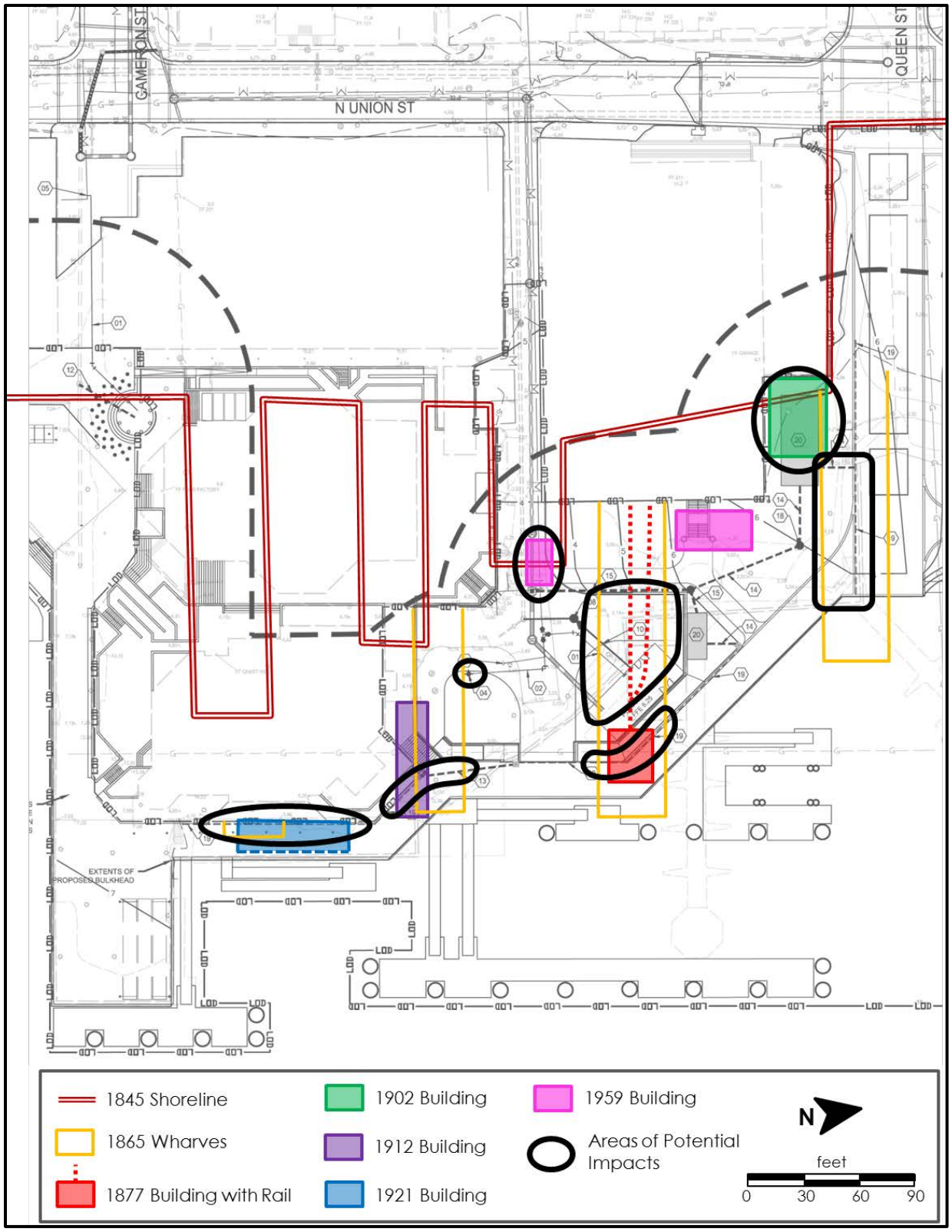


Figure 36. Overlay of potential archaeological resources (Queen Street to Cameron Street) onto 15 to 30 percent plan map for stormwater facilities.

5.2 Cameron Street to King Street Segment

For this segment, Table 2 is provided on page 81. Figures 39–48 (historical maps) follow Table 2 on pages 82–91. Please refer to Figures 12–21 for maps that depict the project area during the period from the 1740s through the 1860s (pages 49–48).

5.2.1 Area Overview

The Cameron Street to King Street segment is the northernmost of the two middle segments within the AWFM LOD (Figures 3 and 37). This segment is bounded by King Street and its eastward extension to the Potomac River to the south, Cameron Street and its eastward extension to the Potomac River to the north, and a boardwalk adjacent to the Torpedo Factory building to the west. The LOD extends between 25 feet and 200 feet eastward into the Potomac River and is within the Commonwealth of Virginia with the exception of a small segment along the southern portion of the east boundary which lies within the District of Columbia.

Figure 37. 2016 aerial photograph of the Cameron Street to King Street segment (Google 2016).

The western boundary of this segment is dominated by the Torpedo Factory while to the east is the Old Town Alexandria harbor with three docks for boats (Figure 38). The southeast corner of the LOD includes King Street Park and the adjacent former Old Dominion Boat Club property, which is included in the Interim Fitzgerald Square Park and is not discussed in this assessment. A promenade fronts the Torpedo Factory and continues to a wharf at the northeast corner of the LOD.

Figure 38. General view of the Cameron Street to King Street segment.
The view is to southwest toward the Torpedo Factory.

5.2.2 Project Impacts

The 15 to 30 percent plans identify numerous construction-related activities associated with the AWFM project area between Cameron Street and King Street. The proposed bulkhead will continue from King Street to the south façade entranceway to the Torpedo Factory. Shade structures will be installed to either side of this entrance. To the east along the riverfront is a lower boardwalk. Finally, a two-story tower for flexible programming will be constructed just north of the base of King Street. Associated stormwater infrastructure will be installed along King Street and along portions of the promenade.

5.2.3 Cameron Street to King Street Historic Context.

The waterfront portion of Alexandria on the original town plat between King and Cameron Street consisted of Lots 41 and 46. These lots were initially acquired by two men who played a significant role in the eighteenth-century development of Alexandria. In 1749, John Carlyle acquired Lot 41 and William Ramsey acquired Lot 46 (Figure 12).

5.2.3.1 Carlyle Property (North Half of Block Between King and Cameron)

Most of land that was eventually owned by John Carlyle comprised the northern half of the block between King and Cameron Streets. John Carlyle was a merchant who immigrated to the colonies in 1741. He settled near the tobacco warehouse near West Point around the time of the founding of the town of Alexandria. His marriage to Sarah Fairfax, cousin of Lord Thomas Fairfax, provided him significant political influence. Soon after the town was platted, Carlyle constructed a new house on Lot 46, which still stands today as a local landmark known as the Carlyle House. He also received permission to construct the first public wharf, which he constructed on his property at what was then the foot of Cameron Street, which in the 1750s was west of Union Street (Miller 1990a:100).

Carlyle continued his mercantile business venture, trading with both England and the West Indies prior to the Revolutionary War. Like his friend George Washington, Carlyle also invested in western lands and served during the French and Indian War, being appointed Commissary of the Virginia militia (NOVA Parks 2016)

Following Carlyle's death in 1780, his estate was divided among his descendants. His daughter, Sarah Carlyle Herbert, inherited the Carlyle House. The original waterfront location of Lot 41 passed onto his grandson, Carlyle Fairfax Whiting, the son of his second daughter, Anne Fairfax Carlyle Whiting, who died two years earlier in 1778 (Spencer 1910:286).

Carlyle Fairfax Whiting was only two years old when John Carlyle died in 1780. While it is known through deed records that he did come into possession of the waterfront property between King and Cameron Street, it is unknown who managed the property in the decades after John Carlyle's death until Carlyle Fairfax Whiting came into adulthood. It is possible his father, Henry Whiting, who died in 1786, or one of the other Carlyle descendants, may have had a role in the management of the property. It was in the 1780s that the area between King and Cameron Streets was likely "banked out" into the Potomac River, creating the additional property east of Union Street.

In 1822, Carlyle Fairfax Whiting sold the waterfront property to Robert Hunter. The deed describes the property as located between King, Cameron, and Union Streets, with a wharf that extended into the Potomac River (ACO 1822:DB N-2:17). A condition of the transaction required Hunter to continually pay Whiting a sum of money for the property on an annual basis. Hunter defaulted on this condition and as a result, in 1831, Whiting reclaimed the property in the same year he died (ACO 1831:DB X-2:176). The property passed onto Whiting's daughter, Ellen, following his death. Tax records indicate that Ellen Whiting still owned the property in 1871.

A devastating fire in 1872 destroyed nearly all of the warehouses located between King and Cameron Streets. The *Alexandria Gazette* reported (AG, 31 December 1872):

> One of the most extensive and destructive conflagrations which has ever visited Alexandria occurred this morning in the large block of three-story warehouses on the east side of Union Street, next to Hutton's coal depot...
>
> The five warehouses were occupied as follows, beginning at the corner of Cameron street: The first by W.A. Moore as a commission house and for the storage of grain, many thousand bushels of wheat were stored here, some of which was not injured at all by the fire and other parcels of which were saved, but in a damaged condition. Mr. Moore who was uninsured does not estimate his loss at over $1,500. The next warehouse was used for the storage of grain and fertilizers by R.M. Lawson, whose place of business was elsewhere. Here was stored 400 bushels of wheat and a large amount of phosphates and other fertilizers. The next large centre building was occupied by the commission house of Wattles, Knox & Co. (John S. Knox & H. Star Wattles) and was stored with a very large amount of grain, flour etc. all of which was destroyed by the flames. The stables of the firm were also within the building and two valuable horses, with the carts, harness were burned, the stock reaching $20,000. The next building was used for storage by Geo. R. Shinn & Co. whose place of business was elsewhere. This building contained grain and a large amount of guano, amounting to some thousand dollars, and other fertilizers. The next building, being the northern one of the block, was used as a warehouse by Wm. H. May & Co., whose place of business is on Fairfax St. Here were stored a large and valuable stock of Agricultural implements, of which but little was saved. The stock destroyed is estimated at $18,000.

The fire resulted in the redevelopment of much of the waterfront area between King and Cameron Streets. By 1877, the entire north half of the block became the site of two lumber yards, the Smoot and Perry Lumber Yard and the Josiah H.D. Smoot Lumber Yard.

Advertisements in the *Alexandria Gazette* note that James Rector Smoot and his partner John Perry had a lumber yard at 30 North Union Street as early as 1867, where they sold lumber, nails, lime, cement, and calcined plaster (AG, 2 May 1867). Both the 1877 Hopkins atlas and the 1885 Sanborn map shows that Perry and Smoot had a lumber wharf located at the waterfront at the end of Cameron Street (Figures 40 and 41). The lumber yard contained a one-story office located at the southeast corner of Union and Cameron Streets (Sanborn Map Company 1885:Sheet 3). The Smoot and Perry Lumber yard remained in operation at this location until the site was acquired by the U.S. government for the construction of the Torpedo Factory (Miller 1990a:103).

Immediately south of the Smoot and Perry Lumber Yard was the Joshua H.D. Smoot Lumber Yard. Joshua Smoot, born in 1831, served on Alexandria's board of health and was the town's fire warden. He also served as President of the Mechanics Building Association and Director of the Alexandria Water Company. The 1885 Sanborn map show Joshua Smoot's lumber yard was located north of the commissary merchant warehouses that were adjacent to the grocery warehouse complex of John Lannon, which fronted the north side of King Street. The Smoot Lumber Yard contained a two-story office on the east side of Union Street (Sanborn Map Company 1885:Sheet 3) (Figure 41).

Following Joshua Smoot's death in 1888, Henry Field took over operation of the lumber mill. However, the land remained in the Smoot family for several years. In 1907, Minnie Jones, Smoot's sister, finally sold the property to Field, who died shortly thereafter. Field's heirs would sell the property to the U.S. government for the construction of the Torpedo Factory in 1919 (ACO 1919:DB 68:225).

5.2.3.2 Ramsay's Wharf (South Half of Block Between King and Cameron)

Ramsay's wharf, located at King Street and The Strand, was historically an important part of Alexandria's waterfront, and over time functioned as a commercial wharf and as a terminal for various regional ferry lines. The wharf was built on land that was created in the late eighteenth century, and it was later enlarged in the 1920s and 1930s. Much of this area is located with the Interim Fitzgerald Square Park which is not included as part of the AWFM assessment.

Ramsay's wharf was first developed after the American Revolution by William Ramsay (1716–1785), a merchant and native of Galloway, Scotland. Ramsay became a founder of the town and one of Alexandria's first merchants. For a time, he and another of Alexandria's early merchants, John Carlyle, were business partners. Ramsay aided his community in various leadership roles, serving on the committee dedicated to build the first courthouse in 1751, serving as the Fairfax justice of the peace a number of times in 1770, 1781, and 1782, and serving as Alexandria's postmaster in 1772 (Miller 1984:99).

Ramsay initially purchased Lot 46, located at the northeast corner of King and Water (Lee) Streets, around 1749 (Miller 1984:10) (Figure 12). Ramsay's lot fronted directly onto the high clay bank of the Potomac River, approximately 450 feet inland from the channel of the river, overlooking the mudflats that extended between Duke and Oronoco Streets (Figure 10) (Washington 1749). By the 1780s, the town's trustees had filled and graded the shallow bay of mud flats east of Water (Lee) Street, laid out Union Street, and had granted the original waterfront property owners development rights for the newly created riverfront land (Shephard 1989:4–5). William Ramsay began the construction of a wharf north of King and east of Union Street, which following his death was completed by his son Col. Dennis Ramsay by 1794. Col. Ramsay was a respected local merchant who led the Fairfax militia during the Revolutionary War. A close friend of George Washington, Ramsay married Jane Allen Taylor, daughter of Jesse Taylor, a merchant from Belfast, Ireland, in 1785 and became Mayor of Alexandria (Alexandria Public Library, Special Collections [APL SC] n.d.: "Col. Dennis Ramsey").

Col. Dennis Ramsay died intestate in 1810, and the Orphans Court of Alexandria appointed Jane Ramsay as the administrator of his estate (CCC 1810: Orphans Court Records [OCR] Will Book [WB] C, Folio 489). The wharf property remained in the possession of the Ramsay family until 1841, when the chancery court of the District of Columbia, Alexandria County, ruled that it be sold at public auction in order to settle outstanding Taylor family debts dating from the 1820s. The wharf is depicted on the 1838 Kearny city plan map (not illustrated). The property, which included the wharf and a substantial wooden pier extending into the channel of the Potomac, was subsequently purchased at auction on 25 November 1845 by Benoni Wheat of Alexandria, a local merchant and shipping agent (ACO 1845: DB G-3:162). Ewing's 1845 plan of Alexandria shows the pier, which was separated by a wide slip from Irwin's wharf to the south.

The Wheat family owned a store and warehouse located at King Street and The Strand and leased the use of the pier to various commercial shippers. Under the terms of his will, Wheat's executor sold the property at public auction on 1 February 1853, and the winning bidder, Benjamin H. Lambert, the day of the sale, transferred the parcel back to Wheat's sons, John J., Robert, and Benoni Wheat, who comprised the firm J. J. Wheat and Bro., grocers and commission merchants (ACO 1853:DB P-3:612). Following the death of Robert Wheat in 1865, John and Benoni Wheat

continued to operate under the name of Wheat and Bro (AG, 2 May 1865:3; 27 September 1865:3). Their establishment at 1 King Street, and the associated Ramsay's wharf which they owned, is clearly pictured on a bird's eye view of Alexandria produced by Charles Magnus in 1863 (Figure 6) (Magnus 1863).

On 25 August 1869, John J. Wheat sold the property to Henry D. Cooke of Georgetown (ACO 1869:DB Z-3:492). Cooke was one of the most prominent and influential citizens of late nineteenth-century Washington. A native of Ohio, he made and lost multiple fortunes in his lifetime in the areas of shipping, law, railroads, and banking. Cooke also served as the first territorial governor of the District of Columbia from 1871–1873. Beginning in 1861, he joined the banking firm of his brother Jay Cooke (*Washington Post* [WP] 25 February 1881). On 16 May 1876, Henry Cooke, his wife Laura, and Edwin N. Lewis, trustee in bankruptcy of the estate of Jay Cooke & Co., sold the wharf and warehouse property to Henry Remsen of New York City (ACO 1876:DB 5:477).

Remsen was secretary of the Washington Steamboat Company, Ltd. In 1881, the company began operating a daily ferry between Washington and Alexandria from the wharf (Dodge 1881:844). A 1908 photograph, looking east from King Street, shows the ferry wharf and terminal, rebuilt in 1891, to have been a fairly substantial structure (Cobean 2005:10–15) (Figure 49). On 20 August 1909, the Washington Steamboat Company sold the property to the Norfolk and Washington, D.C. Steamboat Company (ACO 1909:DB 58:525). Organized in 1890, the company provided daily freight and passenger service between Norfolk and Washington (Prince 2000:47).

The Old Dominion Boat Club owned the wharf between 1921 and 2015 (Figures 46–48). In May 1921, club trustee George D. Hopkins first broached the idea of acquiring the property as a new location for the boat club. On 9 June 1921, Hopkins, along with trustees E.E. Carver, and J.T. Preston, purchased the wharf property from the Norfolk and Washington, DC Steamboat Company (ACO 1921:DB 72:362). In March 1922, both the former ferry office of the Washington Steamboat Company on Ramsay's wharf and Old Dominion's clubhouse at Duke Street and The Strand were destroyed in separate fires. The club built a new 2.5-story clubhouse on Ramsay's wharf, which was completed in 1923. In 1924, the club removed the old ferry slip pilings. A comparison of Sanborn's 1921 and 1941 insurance map shows that the wharf was expanded during this period, possibly at the time the pilings were removed (Sanborn Map Company 1921:Sheets 6 and 11; Sanborn Map Company 1941:Sheets 6 and 11). In 1933, the club constructed an addition onto the clubhouse building and in 1935 purchased the Irwin's wharf property, which is now used as a parking lot and boat ramp (Cobean 2005:15–17). On 27 May 2015, the club sold its wharf properties to the City of Alexandria (ACO 2015:DB Instrument 150008516).

5.2.3.3 Lannon's Wharf

John Lannon and his wife Joanna Lannon acquired a portion of William Ramsey's property north of King Street. It is uncertain how the Lannons came into ownership of the parcels, but they did own the property in the second half of the nineteenth century. Various advertisements and notices in the local newspapers refer to "Lannon's wharf." The *National Republican* reported in 1882 that John Lannon constructed a new wharf (*National Republican* [NR], 3 October 1882). In 1884, the *Alexandria Gazette* reported on the lengthening of Lannon's wharf (AG, 27 March 1884). It was

Figure 49. 1908 photograph of the rebuilt Ramsay wharf ferry terminal building. The view is to the east.

likely that the lengthening of the wharf occurred to allow ferry traffic. After this time, various notices appear in the *Alexandria Gazette* advertising steamship passenger services to various locations. The 1885 Sanborn map illustrates Lannon's wharf as a "steamship wharf" (Figure 41). The wharf contained a one-story building that was likely a ferry house. The Sanborn map also shows that the warehouses to the west of the wharf were grocery warehouses (Sanborn Map Company 1885:Sheet 3). These warehouses likely accommodated John Lannon's grocery business. *Alexandria Gazette* advertisements note that John Lannon was a wholesale grocer and liquor merchant who also acted as an agent for the Potomac River Steamers (AG, 4 January 1883).

John Lannon died on 25 May 1886, having survived two wives (AG, 26 May 1886). However, it was the 1883 will of his wife Joanna that devised the property to their children. In 1919, the heirs of Joanna Lannon sold the property to the U.S. government for the construction of the Torpedo Factory (ACO 1919:DB 68:227).

5.2.4 Known Archaeological Resources

There are no known archaeological resources present within the Cameron Street to King Street segment registered with VDHR. No potential archaeological resources have been identified by OHA within the segment. At the southeast corner of the segment is Ramsay's wharf (and later

iterations) that is included in the Interim Fitzgerald Square Park and is not part of this assessment.

5.2.5 Potential Archaeological Resources

Historical map research indicates that the Cameron to King Street segment was within the Potomac River at least through 1749 (Figure 12). Given that this segment was within the Potomac River at and prior to 1749, there is a low potential for Native American resources. An exception may be that it is likely that the current river bed was exposed during the last glacial period and could have provided a living surface for pre-Paleoindian and Paleoindian groups.

The Cameron Street to King Street segment appears to have the fewest potential Historic period resources of the four segments that comprise the project LOD. Only two wharves were present from the late eighteenth to the twentieth century, and of these, Ramsay's wharf is not, for the most part (except for the eastern end of the wharf), within the current project LOD (Figures 39–48). The other wharf postdates the Civil War but was removed by 1921. A wooden pier was subsequently constructed. Few structures were ever present in the LOD, aside from those on Ramsay's wharf and the northernmost wharf that was removed. A small boathouse was depicted along the waterfront by the early twentieth century.

For reference, Table 2 provides a summary of the presence and number of wharves and structures within the Cameron Street to King Street LOD as depicted on maps dating between 1749 and 1959.

Based on the paucity of mapped structures within this segment, and that the only wharf fully within the segment was removed (not infilled), there is a low probability for the presence of archaeological resources between King Street and Cameron Street. The one exception may be the eastern end of Ramsay's wharf which may extend into the project LOD. A shed/warehouse is depicted at the end of the wharf between 1885 and 1902. The east end of the wharf may also be present at this location.

5.2.6 Geotechnical Borings

Boring RCP-1 was placed in an extension of King Street east of its intersection with The Strand (technically within the Interim Fitzgerald Square Park LOD) (Figure 37). Historical maps suggest that the boring was located between Ramsay's wharf to the north and Janney's wharf to the south. This boring yielded fill deposits to 12 feet below surface followed by dark brown (10YR3/3) trending to very dark grayish brown (10YR3/2) sandy clay with wood fragments. The wood fragments, soil color, and soil texture in the boring sample 12 feet below surface appears to be consistent with the presence of the original filling of the pre-1749 cove along the Alexandria waterfront.

5.2.7 Recommendations

Figure 50 (page 92) depicts an overlay of proposed above-surface improvements and the location of potential archaeological resources between Cameron and King Streets onto a 15 to 30 percent Design Schematic. This figure indicates that at least three potential resources could be impacted if present and if construction-related excavations are of sufficient depth. Similarly, Figure 51 (page 93) depicts an overlay of proposed storm sewer improvements and the location of potential

archaeological resources between Cameron and King Streets onto a 15 to 30 percent Design Schematic. In this instance, only one structure and the associated Ramsay's wharf would be impacted. The potentially impacted archaeological resources include portions of two wharves that are present in this segment and buildings minimally dating between 1885 and 1912 at or adjacent to the wharves. The geotechnical boring conducted within this segment suggest that 10 to 12 feet of modern fill is likely present between the ground surface and deposits associated with the eighteenth-century filling of the river front. Resources could be present within this upper fill deposit.

As planning advances, potential depth of construction-related excavations should take into account the potential presence of archaeological resources in this area. If excavation depths are planned within the initial 10 to 12 feet below surface, preliminary identification excavations conducted by a qualified archaeologist should be conducted to provide a baseline for expectations during the construction stage of the AWFM project. If construction-related excavations are expected within the initial 10 to 12 feet below surface, monitoring of the construction excavations and archaeological documentation of identified resources may be required by both OHA and VDHR. If archaeological resources are present, the City of Alexandria would be required to consult with VDHR and OHA on the NRHP eligibility of the archaeological resource. If eligible, data recovery or other mitigation measures would be implemented under terms of a Memorandum of Agreement.

Finally, while it is likely that most if not all mapped resources were constructed on the surface of (or perhaps to some extent into) the late eighteenth-century infilling (or banking out) of the waterfront cove and its associated mud flat, additional unknown resources could in fact be present within the fill. Resources such as part of an eighteenth-century ship were found in the late eighteenth-century fill deposits near the south end of the AWFM LOD. While the estimated maximal depth of deposits based on resources depicted in maps and through historical record documentation, undocumented resources, both within the initial fill deposits, and in the earlier fill, could be present.

Table 2. Historical map overview for Cameron Street to King Street.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1749	City Plan	Within river	None depicted	
1775	City Plan	Within river	None depicted	
1798	Thomas	Some portions of LOD on made land, no obvious wharves	None depicted	
1803	City Plan	Ramsay's wharf (outside project LOD)	None depicted	
1838	Kearny	Ramsay's wharf (outside of project LOD)	None depicted	Ramsay's wharf in Interim Fitzgerald Square Park LOD
1842	U.S. Coast Survey	Ramsay's wharf (outside of project LOD)	None depicted	
1845	Ewing	Ramsay's wharf (outside project LOD)	None depicted	
1862	U.S. Coast Survey	One wharf depicted	None depicted	Outside of project LOD
1863	U.S. Coast Survey	One wharf depicted	None depicted	Outside of project LOD
1864	Scholl	Ramsay's wharf (outside project LOD)	None depicted	
1865	Quartermaster's	Within river or shoreline, south portion not depicted	None depicted	None depicted
1877	Hopkins	Ramsay's wharf (outside project LOD)	None depicted	Owner's (north to south): Smoot & Perry; Josiah H.D. Smoot Lumber Yard; Fox's Ferry slip
1885	Sanborn	2 wharves present in south half of area: steamboat wharf; Ramsay's wharf, with east end and ferry slip potentially within project LOD	Ramsay's wharf warehouse	Owner's (north to south): Perry, Smoot & Co. Lumber Yard; Josiah H.D. Smoot lumber wharf
1896	Sanborn	2 wharves present in south half of area: steamboat wharf; Ramsay's wharf, with east end and ferry slip potentially within project LOD	Steamboat wharf with shed; Ramsay's wharf with warehouse	Owner's (north to south): Alexandria Ice Mfg. Co.; J.W.D. Smoot lumber wharf
1902	Sanborn	2 wharves present in south half of area: "dilapidated" pier; Ramsay's wharf, with east end and ferry slip potentially within project LOD	Boat house north of "dilapidated" pier	Owner's (north to south): Smoot's wharf; Lumber dock
1904	U.S. Coast and Geodetic Survey	Two wharves partially within project LOD	None depicted	
1907	Sanborn	Same as 1902	Same as 1902	Same as 1902 except that Ramsay's wharf titled The Norfolk & Washington Steamboat Co.
1912	Sanborn	Same as 1907	Same as 1907	Same as 1907 except that large brick office and waiting room built on Ramsay's wharf
1921	Sanborn	300-ft long pier adjacent to "Torpedo Station"; Ramsay's wharf	Torpedo Station (Factory) adjacent	Ramsay's wharf labeled "Old & Vacant Ferry Wharf"
1923	U.S. Army Corps of Engineers	Two wharves partially within project LOD	None depicted	
1941	Sanborn	Torpedo Factory pier present; Ramsay's wharf infilled, 2 small boat docks present	Torpedo Factory adjacent; Old Dominion Boat Club House (outside project LOD)	
Revised 1959	Sanborn	Former Ramsay's wharf (not within project area) and wood pier on piles	Unnamed shed near The Strand; Old Dominion Boat Club (outside project LOD)	"U.S. Government occupied"

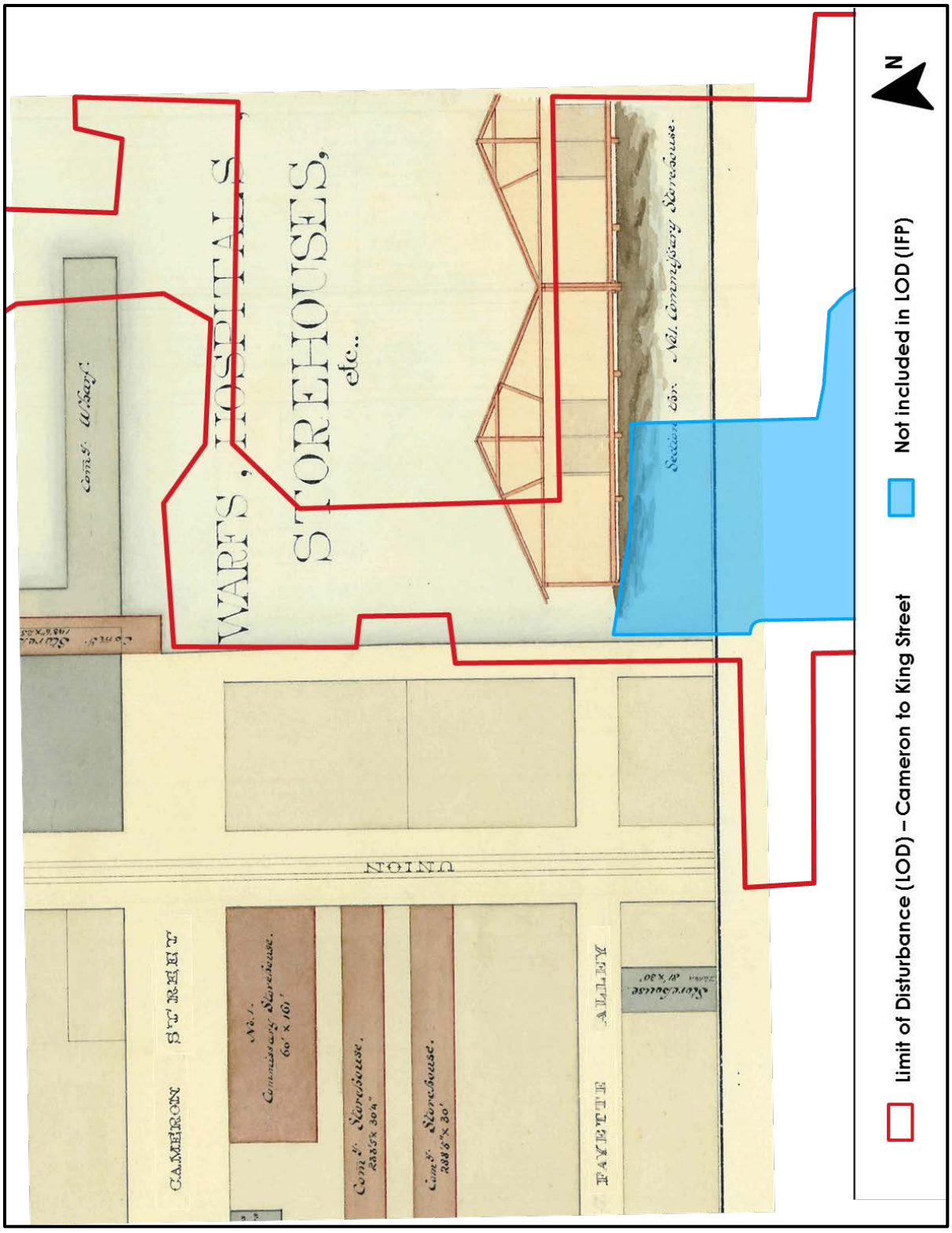


Figure 39. 1865 Quartermaster's map depicting the Cameron Street to King Street segment (U.S. Army Quartermaster Corps 1865).

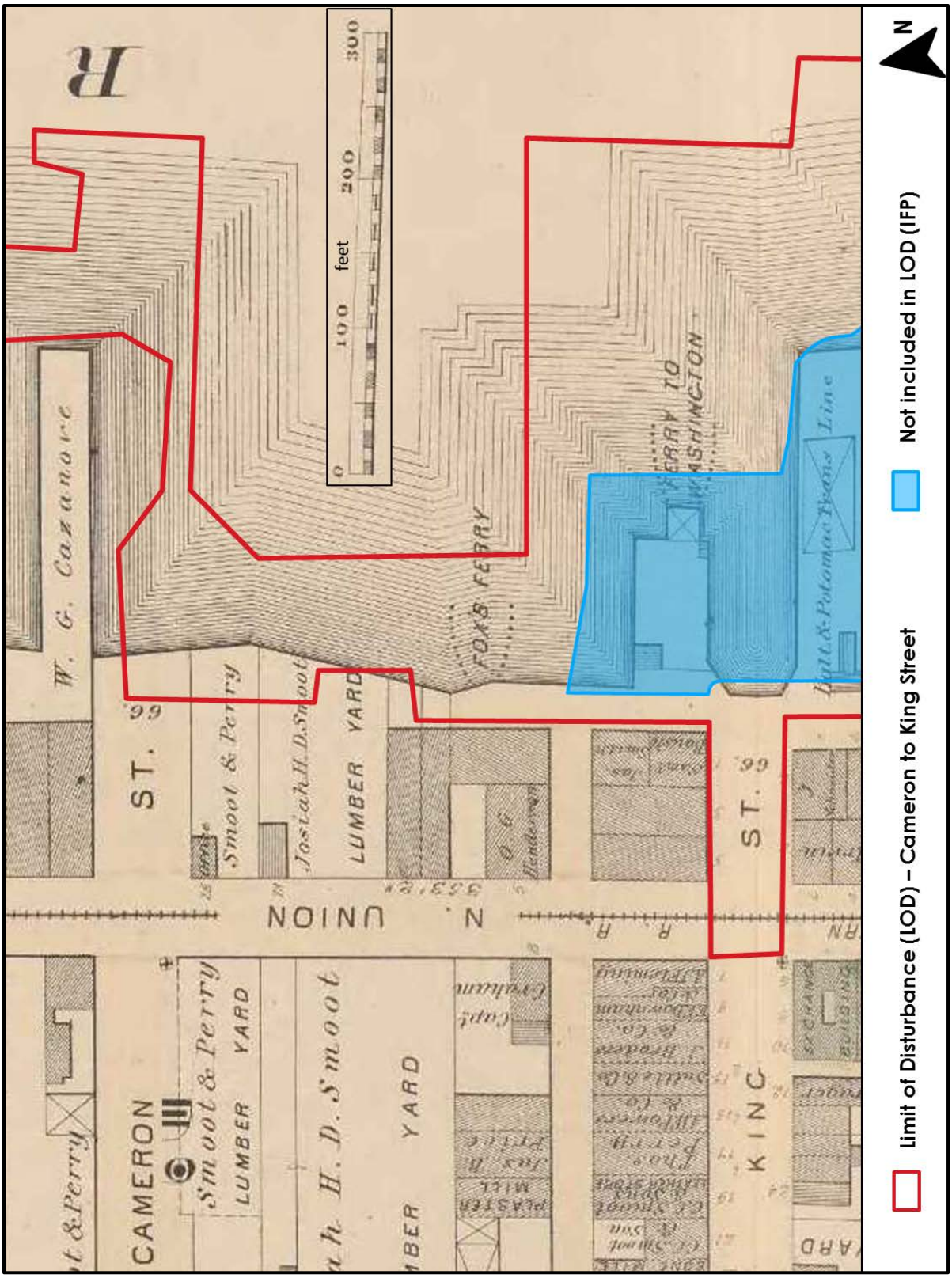


Figure 40. 1877 Hopkins map depicting the Cameron Street to King Street segment (Hopkins 1877).

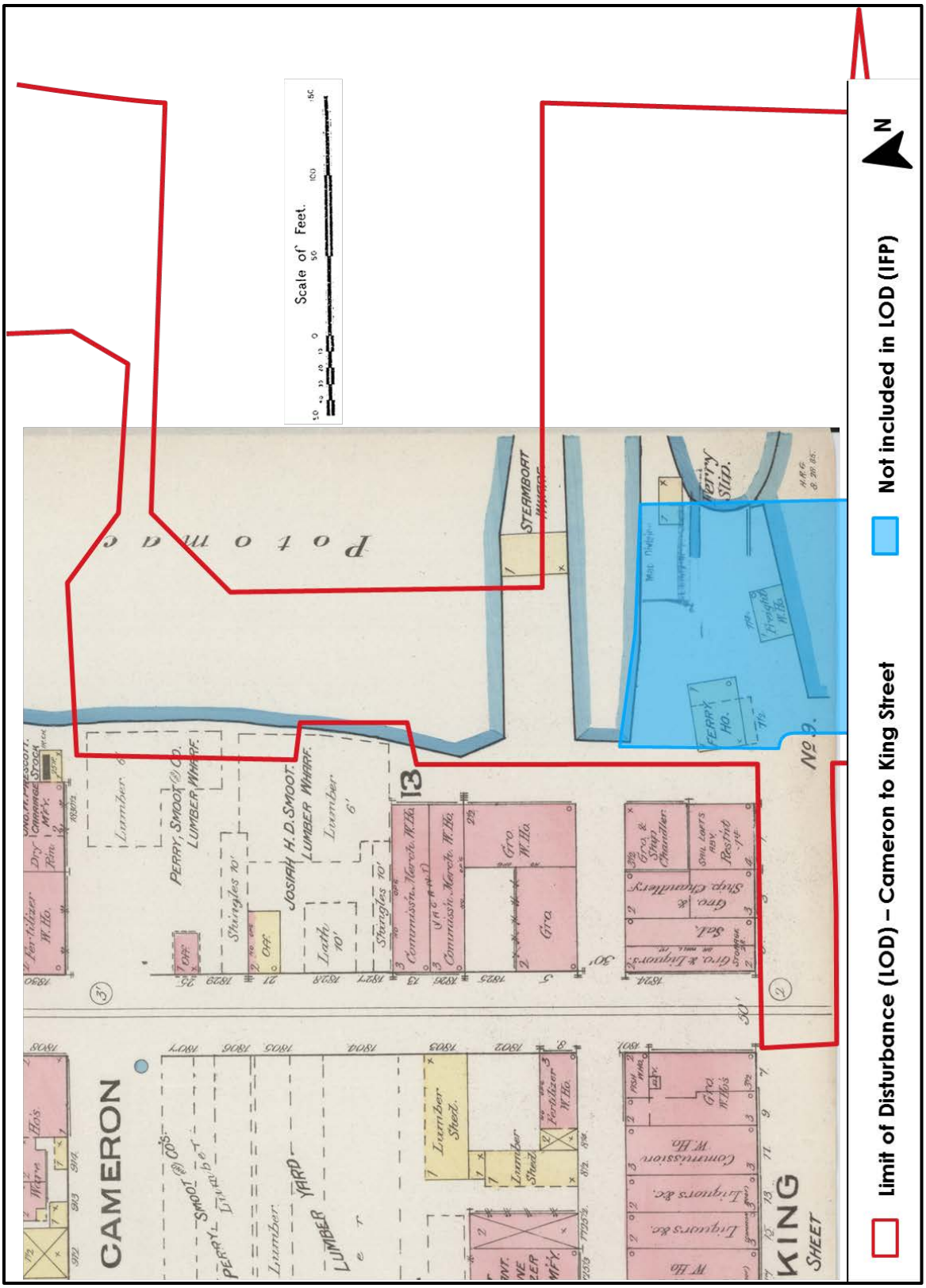


Figure 41. 1885 Sanborn map (Sheet 3) depicting the Cameron Street to King Street segment (Sanborn Map and Publishing Company 1885).

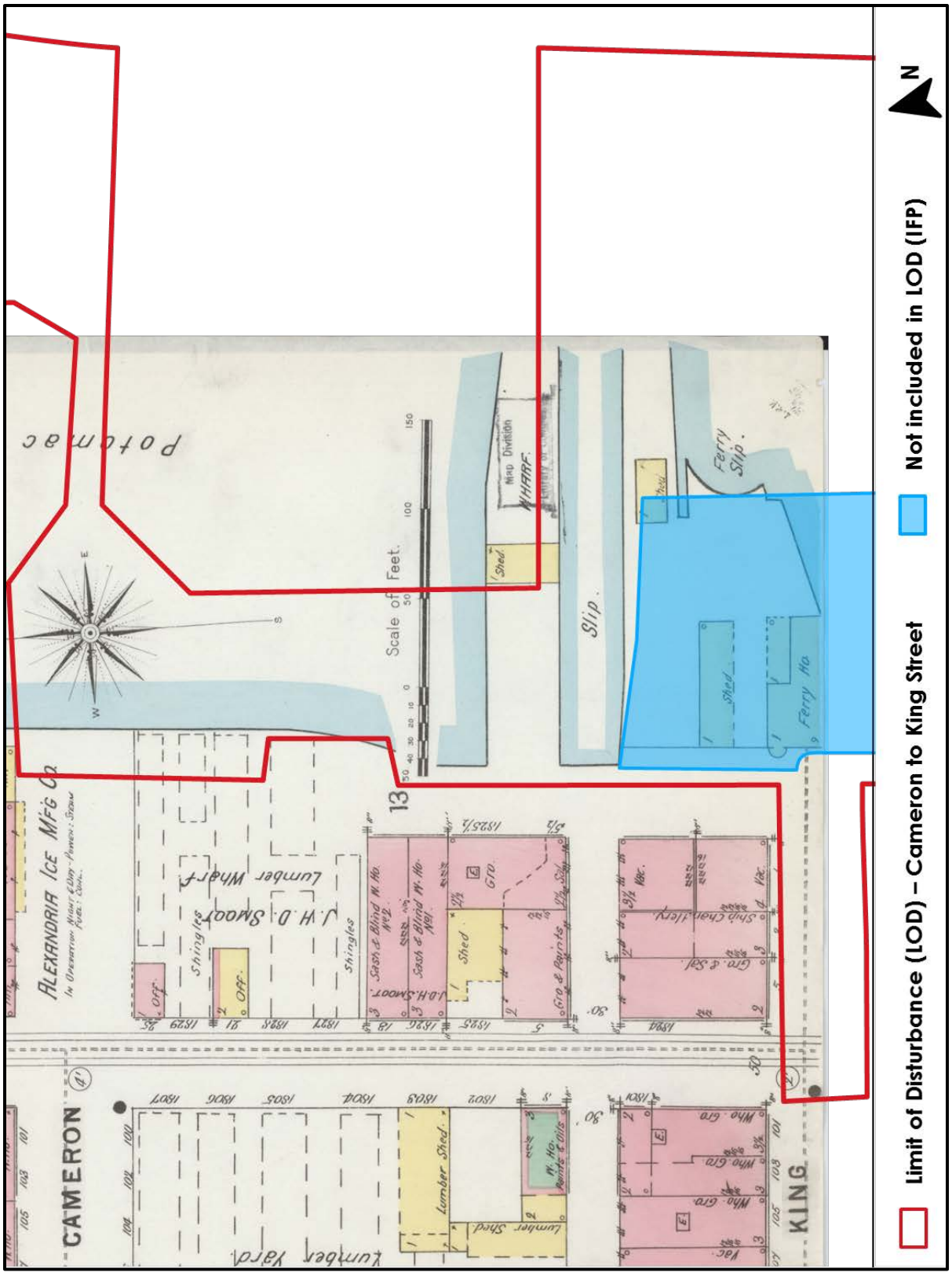


Figure 42. 1896 Sanborn map (Sheet 9) depicting the Cameron Street to King Street segment (Sanborn-Perris Map Company 1896).

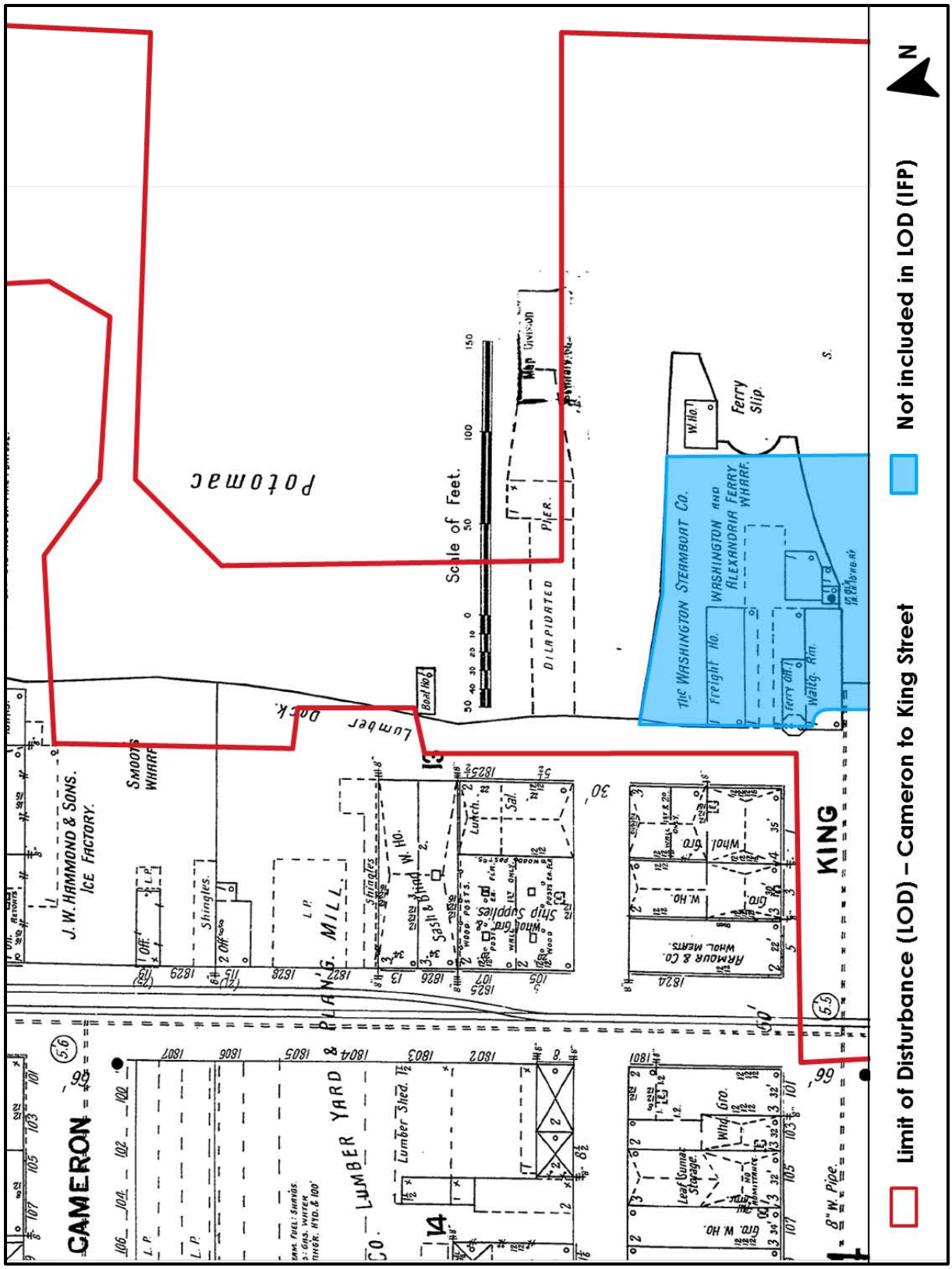


Figure 43. 1902 Sanborn map (Sheet 9) depicting the Cameron Street to King Street segment (Sanborn Map Company 1902).

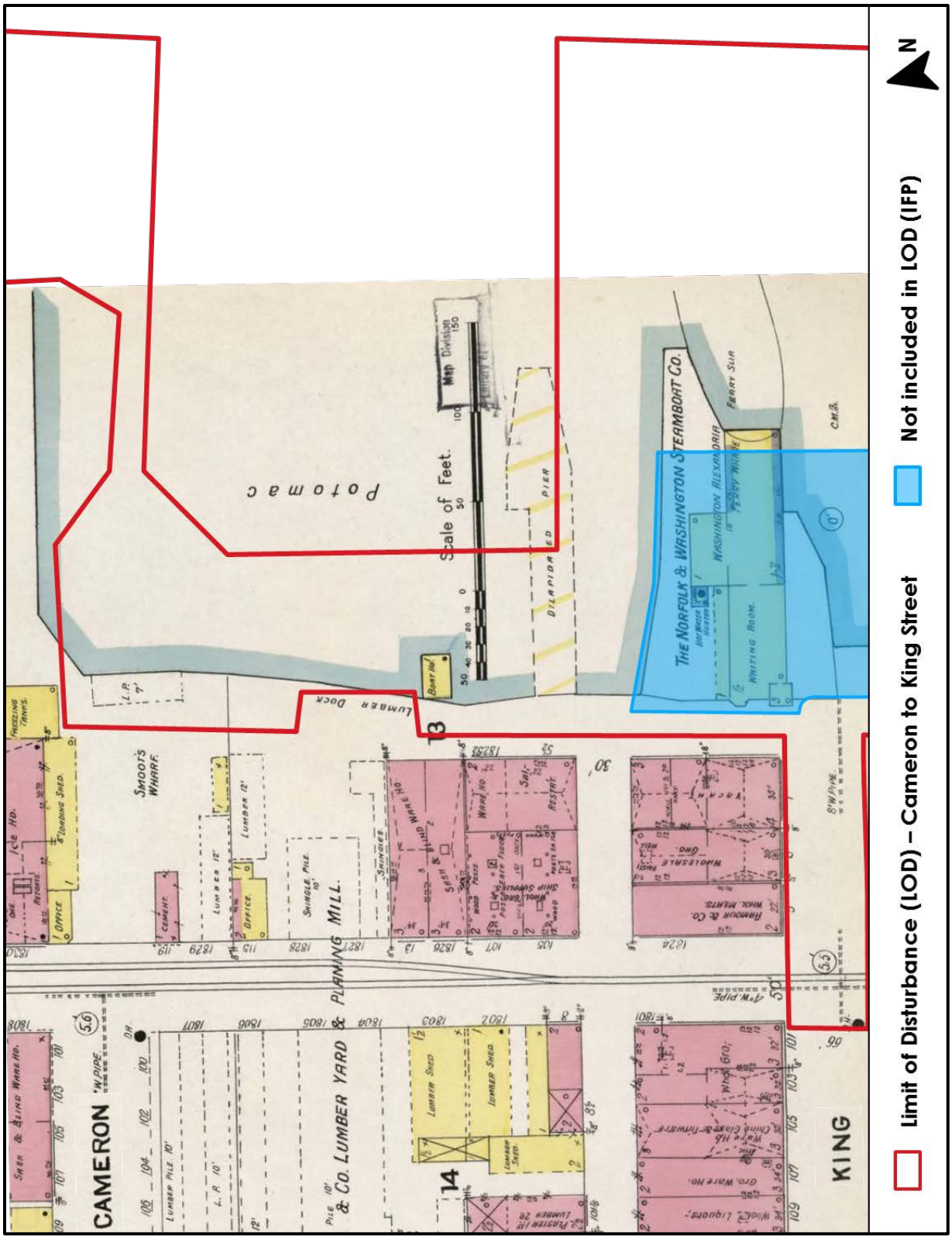


Figure 44. 1907 Sanborn map (Sheet 9) depicting the Cameron Street to King Street segment (Sanborn Map Company 1907).

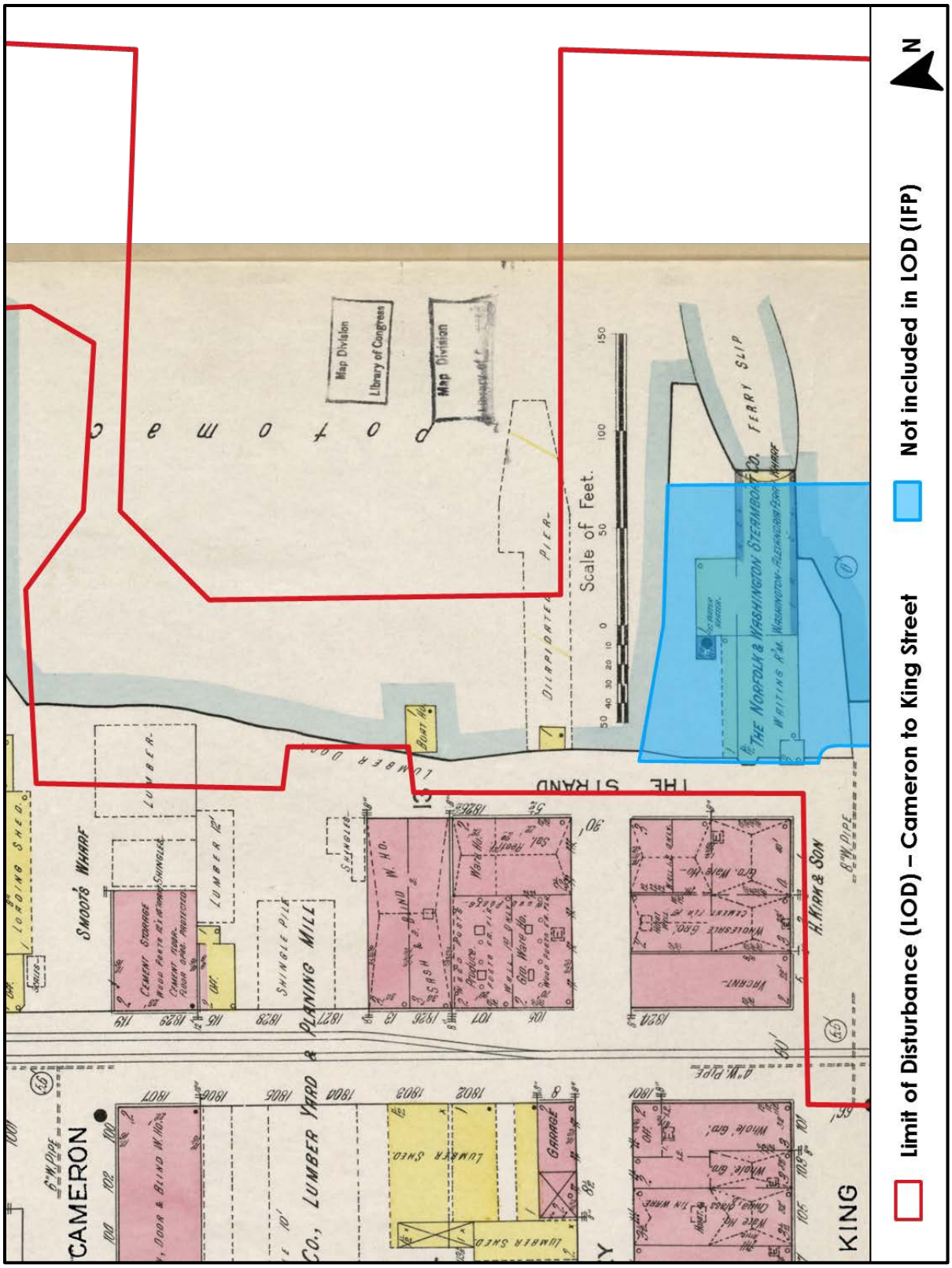


Figure 45. 1912 Sanborn map (Sheet 9) depicting the Cameron Street to King Street segment (Sanborn Map Company 1912).

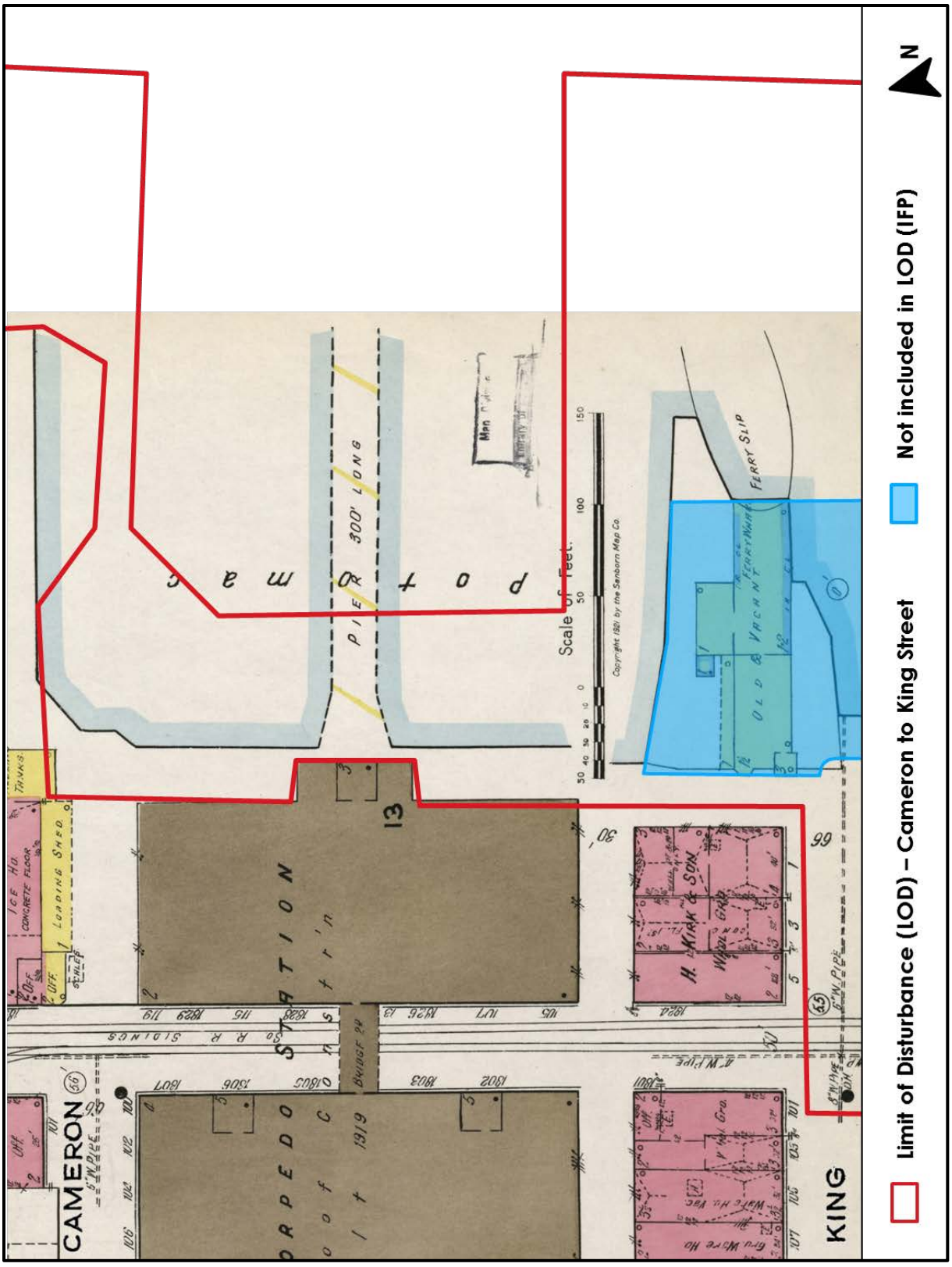


Figure 46. 1921 Sanborn map (Sheet 6) depicting the Cameron Street to King Street segment (Sanborn Map Company 1921).

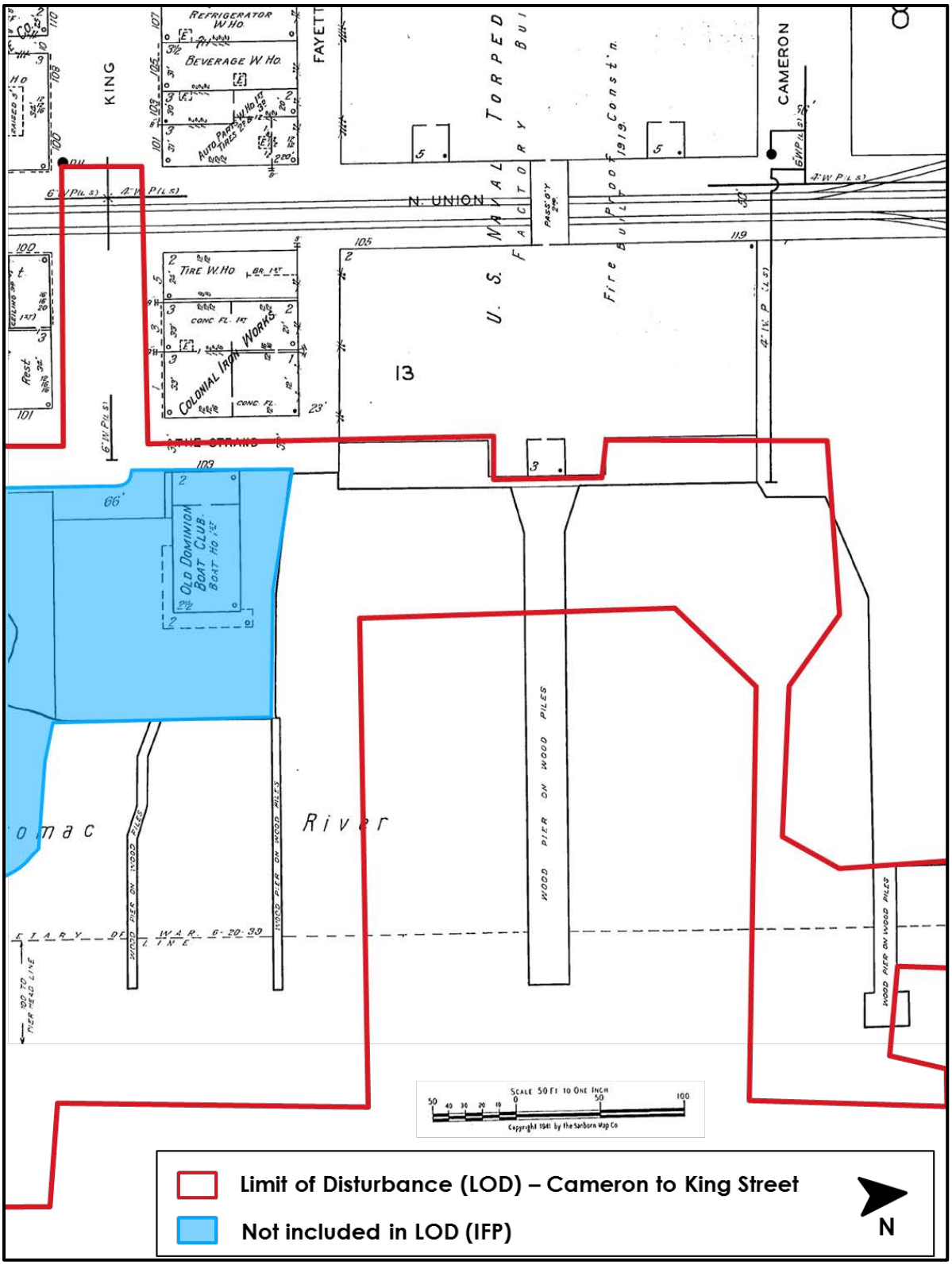


Figure 47. 1941 Sanborn map (Sheet 4) depicting the Cameron Street to King Street segment (Sanborn Map Company 1941).

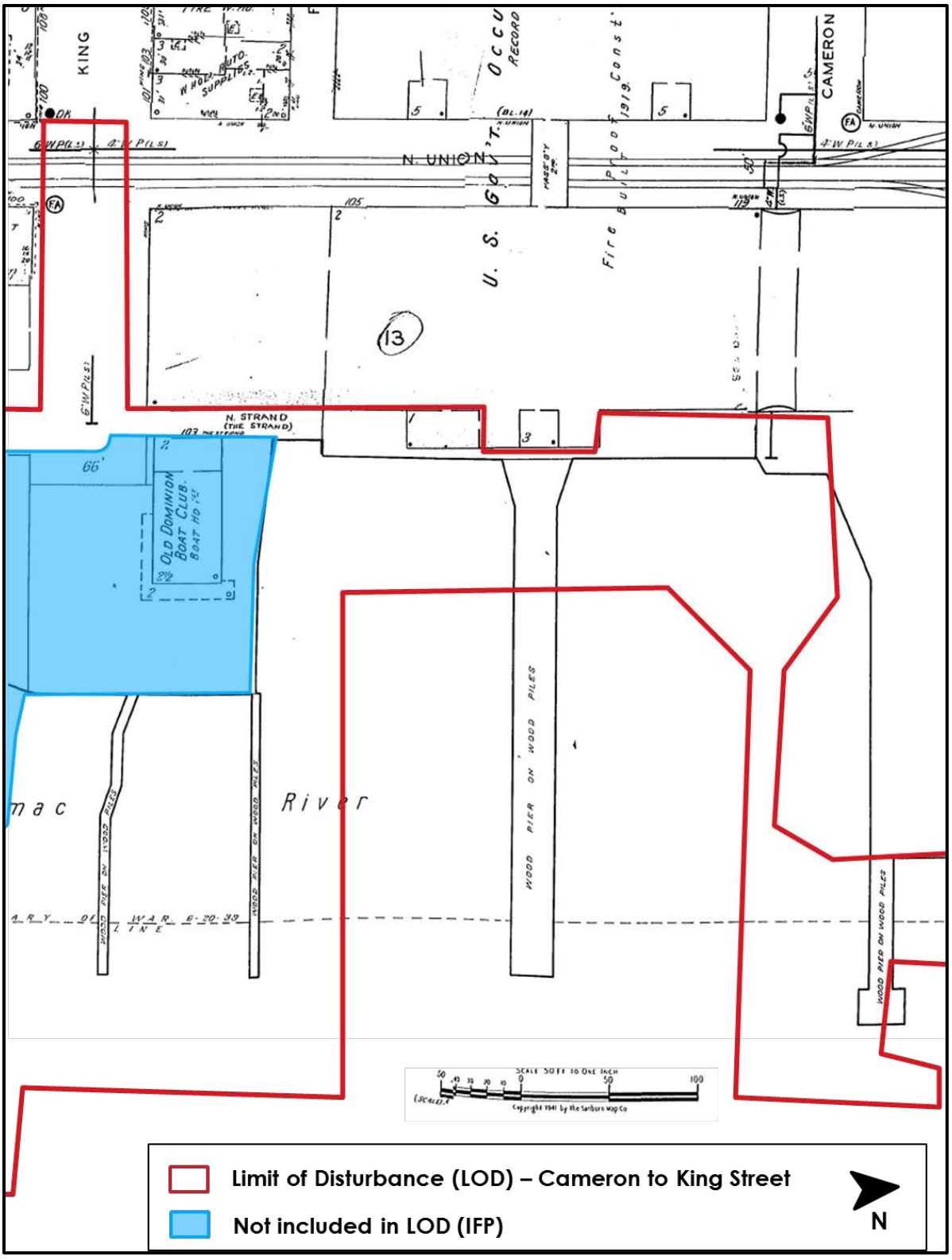


Figure 48. 1941 revised 1959 Sanborn map (Sheet 4) depicting the Cameron Street to King Street segment (Sanborn Map Company 1941).

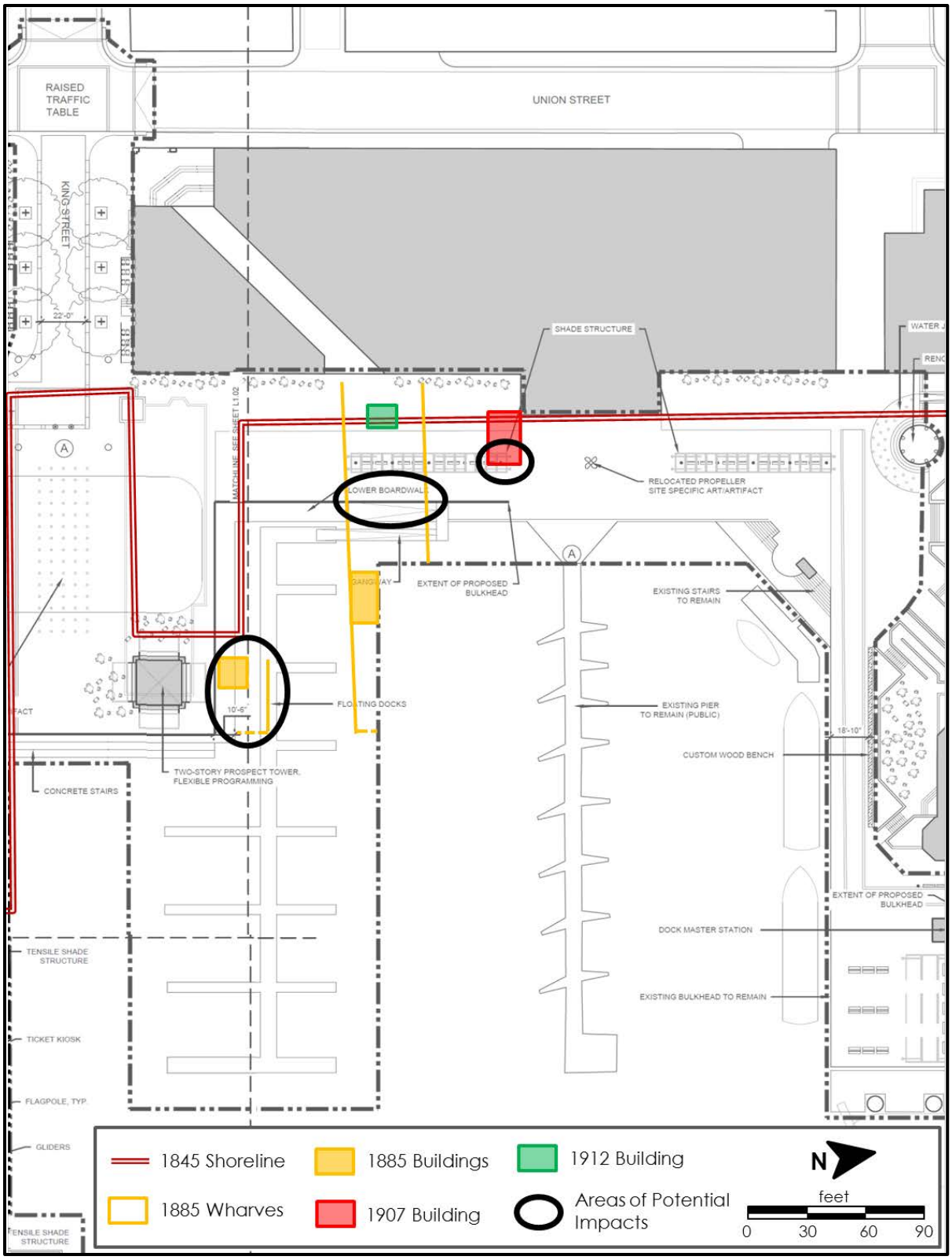


Figure 50. Overlay of potential archaeological resources (Cameron Street to King Street) onto 15 to 30 percent plan map for above-ground development.

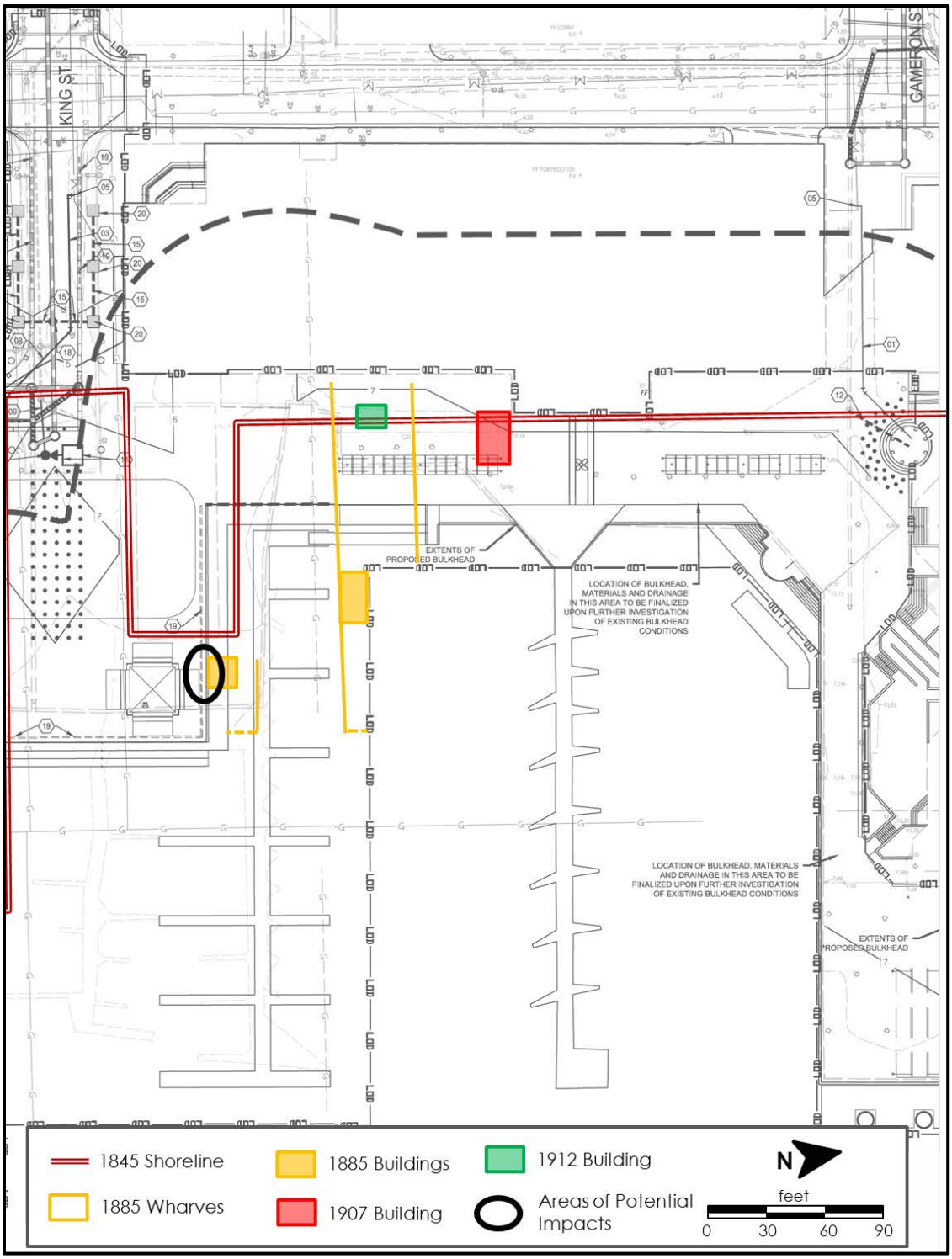


Figure 51. Overlay of potential archaeological resources (Cameron Street to King Street) onto 15 to 30 percent plan map for stormwater facilities.

5.3 King Street to Prince Street Segment

For this segment, Table 3 is provided on page 105. Figures 54–62 (historical maps) follow Table 3 on pages 107–115. Please refer to Figures 12–21 for maps that depict the project area during the period from the 1740s through the 1860s (pages 49–58).

5.3.1 Area Overview

The King Street to Prince Street segment is the southernmost of the two middle waterfront segments included in this assessment (Figures 3 and 52). It is bounded to the south by Prince Street and to the north by King Street. The Strand forms the western boundary of this segment with the exception of King and Prince Streets, where the LOD continues west to the intersection with Union Street. The eastern LOD boundary extends from 40 feet to more than 250 feet eastward into the Potomac River. The northern half of the eastern LOD boundary extends beyond the boundary of the Commonwealth of Virginia into the District of Columbia.

Figure 52. 2016 aerial photograph of the King Street to Prince Street segment (Google 2016).

Most of the King Street to Prince Street LOD is covered by Waterfront Park (Figure 53). To the north of Waterfront Park is a parking lot and King Street Park, both of which are situated within the Interim Fitzgerald Square Park LOD that is not part of this assessment. Various commercial enterprises are located to the west of the LOD along The Strand. Wales Alley, not within the LOD, intersects with The Strand along the western LOD boundary. A single boat dock is present along the river shoreline within Waterfront Park.

Figure 53. Waterfront Park. The view is to the southeast.

5.3.2 Project Impacts

The 15 to 30 percent plans identify numerous construction-related activities associated with the AWFM project between King Street and Prince Street. To the north of The Strand along King Street, several trees will be planted and a raised traffic table installed at the intersection of King and Union Streets. An in-ground water jet feature will be installed at the base of King Street. The proposed bulkhead and lower boardwalk continues throughout the King Street to Prince Street segment. Within Waterfront Park, two pump stations will be constructed just east of The Strand while numerous trees will be planted and planters and benches installed throughout the park area. A new dock will also be placed at the northeast corner of Waterfront Park. This dock will include

two small structures, a shade structure, benches, and a floating dock for a public water taxi. A historic ship attraction will be berthed at this location. Bioretention and stormwater infrastructure will be placed along both King and Prince Streets, The Strand, and much of the waterfront.

5.3.3 King Street to Prince Street Historic Context

The waterfront between King and Prince Streets became a center of mercantile activity in the late eighteenth century. John Fitzgerald owned much of the waterfront at the foot of King Street and likely constructed the first wharf at this location. Other merchants, including Johnathan Swift, John Harper, and Thomas and William Vowell also "banked out" property and constructed wharves and warehouses. By the mid-nineteenth century, many of the wharves were being used by steamship lines. By the early twentieth century, both recreational and building industries had acquired much of the waterfront.

5.3.3.1 Fitzgerald/Irwin's Wharf

The development of Fitzgerald's/Irwin's wharf originated from the sale of town lots located along Water (Lee) Street, which in the mid-eighteenth century fronted on the high bank of the Potomac River. The lots, 51 and 52, were purchased in 1749 at the initial sale of town lots by George Washington's half-brother, Lawrence Washington (Figure 10). Following Washington's death from tuberculosis, the two lots were briefly owned by John Patterson, a local carpenter. In 1778, Patterson's widow sold the property to Irish merchants John Fitzgerald and Valentine Peers. That year, town trustees granted Fitzgerald and Peers the "rights to the mudflats" east of their Water (Lee) Street property (Riker 2007:1–6).

Fitzgerald and Peers arrived in Alexandria before the Revolution and set up a mercantile partnership importing Irish linens and exporting Virginia wheat. Both served in the Continental Army during the war. Fitzgerald was a close personal friend and confidant of George Washington, rising to the rank of Colonel and even serving as Washington's aide-de-camp (Riker 2007:1).

In 1781, Fitzgerald and Peers dissolved their partnership, with Fitzgerald becoming the sole owner of the lots on Water (Lee) Street and the adjacent reclaimed land south of King Street and east of Union Street, which was created in the 1780s. A 1789 map accompanying the deed of partition between Fitzgerald and Peers shows that by this date, the wharf had been created, and the foot of King Street extended 115 feet east of Union Street. Fitzgerald constructed the brick and stone warehouse located at the southeast corner of King and Union Streets around 1795 (Riker 2007). In 1787, Fitzgerald leased part of his waterfront property to another mercantile company—Jenckes, Windsor, and Company—which primarily traded for sugar, European textiles, and New England potatoes. Fitzgerald and his tenants handled a variety of goods and merchandise in the last two decades of the eighteenth century, including freemasons' aprons, bark (medicinal), barley, beef, blankets, candles, castor oil, cheese, chocolate, coffee, cordage, fabrics, fashions (hats and parasols, shoes and stays), grain, gunpowder, indigo, ochre, iron, laudanum, lead, leather, limestone, lumber, millstones, molasses, nails, oils in hampers, olives in jars, vinegar in hogsheads, pepper, port, potatoes, rope, rum, sails, salt, shad, soap, sugar, tables, tea, wines, and writing paper. It is also known that Fitzgerald stored some of George Mason's tobacco in his warehouse (Riker 2007:3).

In 1793, President Washington appointed Fitzgerald Collector of Customs for the Port of Alexandria. Fitzgerald soon grew ill, however, and during his illness the collector's office became deeply indebted to the United States government. In order to secure loans to pay the debt, John and Jane Fitzgerald entered into a deed of trust with William and John Herbert in 1799 involving the wharf property. Fitzgerald died in 1799, and the warehouse and wharf passed to his estate (Riker 2007:7). Later, the property was forfeited to the government and was purchased at public auction in June 1802 by Thomas Irwin and John Dunlap (ACO 1802:DB C:73). An advertisement for the sale describes the property as including three brick warehouses on The Strand, the wharf, and a pier extending 100 feet into the river (*Alexandria Advertiser*, 29 July 1801).

The Irwin family owned the wharf throughout the nineteenth century, which became locally known as Irwin's wharf (Riker 2007). John Dunlap died in 1806, and on 6 May 1809 his heir, James Dunlap, sold the family's interest in the property to Thomas Irwin (ACO 1809: DB R:259).

Thomas Irwin was a successful and respected business man in early nineteenth-century Alexandria. In addition to his mercantile business, Irwin was a director of two Alexandria banks and was part owner of the City Hotel (today Gadsby's Tavern). His prestige in the town allowed Irwin to take part in several ceremonial and special events. When President James Monroe passed through town one day in November 1817, he arrived and departed from "an elegant barge" at Irwin's wharf (Riker 2007:9).

Like Fitzgerald, Irwin also leased part of his waterfront property to other merchants. Charles I. Calett and the firm of Peyton & Dundas had stores at Irwin's wharf. In 1815, Charles I. Catlett sold Boston beef, window and cut glass, and "India China dining and tea setts." The *Alexandria Gazette* (cited in Riker 2007:9) indicates Peyton & Dundas imported a variety of goods including:

> candles, cider, codfish, green coffee, elegant furniture, Curacao goatskins and Spanish hides, molasses, whale and tanners' oils, potatoes and rice, West Indies rum, salt and sugar, barrels of tar, and casks of Madeira wine.

Irwin died in 1827. In 1835, his heirs divided up his estate according to his will, and the wharf property passed to his son William H. Irwin on 15 January 1835 (ACO 1835:DB V-2:305). The wharf continues to be depicted on maps of this period, including the 1838 Kearny plan map of the city (not illustrated). A mid-century court case involving William Irwin provides a detailed description of the property and its owner (Riker 2007:9):

> At one period of time, a very large trade was carried on in these premises, and for years the whole business of the house was transacted through a door in the east front, looking to the river... That part of the open space lying immediately adjacent to the east ... was paved with brick to the width of about four feet, beyond which, running along the line of this pavement and from King Street to Fitzgerald's Alley, there is a passage for carts and passengers...
>
> He and his son were accustomed to use this open space for other private purposes, such as piling wood and lumber, anchors, tobacco &c. as well as for a passage to and from their wharf. Horses standing there with drays and carts stamped the ground into holes: and in fly-time created great annoyance. He would take a whip and go and drive off some half dozen of the carts and drays and, if the drivers grumbled at it, he would tell them to go and stand on the corporation grounds, for which they paid taxes.

Advertisements in the *Alexandria Gazette* reveal that James Irwin's warehouses housed many fine goods, including cheeses and chocolates, "segars" and champagne. Irwin made considerable efforts to lease space on his wharf. An 1844 advertisement, in which William H. Irwin was seeking to lease the wharf and pier, describes the pier as being 250 feet in length and 53 feet in width (AG, 3 July 1844. The mercantile firm of Massey & Cox leased part of Irwin's wharf around mid-century and imported goods from the West Indies. Irwin also leased part of the wharf to steamship companies. The schooner "Mapsco" left from Irwin's wharf to Norfolk, as did the Baltimore packet line, on Sundays and Thursdays (Riker 2007:9). After the Civil War, the wharf served as a landing for the Baltimore and Potomac Transportation Line, which operated a fleet of steamships that moved fright and passengers between Baltimore, Georgetown, and Alexandria (AG, 19 May 1865).

The property remained within the Irwin family for the remainder of the nineteenth century (Figures 16 and 17). On 19 June 1905, the heirs of William H. Irwin conveyed the property to Park Agnew (ACO 1905:DB 54:259). In early October, the *Evening Star* announced that Agnew had planned to improve the wharf with modern office and warehouse buildings, with the intention of leasing the property to a steamboat company (*Evening Star* [ES], 1 October 1905:3). On 14 October 1905, however, Agnew sold the property to Fred Wagner (ACO 1905:DB 54:305). It does not appear as though the wharf was redeveloped under Wagner's ownership. Sanborn's 1902 insurance map shows a one-story structure at the west end of the wharf and a pier that is labeled vacant (Figure 57). Later maps in the series show the wharf and pier devoid of structures (Figures 58–62).

On 4 December 1935, Wagner's widow, Elizabeth H. Wagner, sold the property to the Old Dominion Boat Club (ACO 1935:DB 125:285). The sale included the wharf and the land that today serves as the club's parking lot (Cobean 2005:23). The boat club owned the property for eighty years before selling the property to the City of Alexandria on 27 May 2015 (ACO 2015:DB Instrument 150008516).

5.3.3.2 Merchant's/Janney's Wharf

In 1796, Johnathan Swift acquired a 67-x-113-ft lot located 170 feet south of King Street. Deed records indicate that this property extended into the Potomac River. Alexander and Rachel Smith, who sold the property to Swift, acquired the same property earlier that year from Philip Fendall (ACO 1796:DB H:107; DB H:64). By the terms of another executed agreement, Swift obtained the right to construct what would be known as the "Merchant's wharf" on this property. The wharf was completed by 1801 when he began leasing lots on his wharf to other merchants. Several merchants relocated to the wharf by 1802, including William J. Hall, a hardware merchant who moved from his store on Prince Street to Merchant's wharf. In 1810, a portion of the site was leased to Joseph Rowen, a cordage merchant. By 1814, much of Merchant's wharf became the home of Gird and Entwisle, a retail establishment that sold bacon, lard, sugar, and spinning cotton (Miller 1991:100).

In 1815, Phineas Janney acquired from Johnathan Swift the 67-x-113-ft parcel that contained Merchant's wharf (ACO 1815:DB Z:331). Thereafter, the wharf became known as Janney's wharf, the site of Janney's mercantile enterprise. Phineas Janney was a prosperous Quaker merchant. After being employed at his father's store for several years, Janney left for Alexandria where he became a clerk in a mercantile house. Born in 1778 in Loudoun County, Janney married Ruth

Lumpton in 1799. After Ruth's death, Janney married his second wife, Sarah Hartshorne, in 1811. Shortly after he married, Janney went into business on his own. He went to Europe in search of trading partners at the height of the French Revolution. He found success importing iron from Sweden. Soon thereafter, he started importing fine wines from Europe (An Association of Friends 1885:328–329). According to the *Alexandria Gazette*, Janney was a merchant who specialized in rare wines, including Madeira and ports.

The site remained in Janney's possession at the time of his death in 1852 and would remain under ownership of his heirs until the end of the nineteenth century. During this time, Janney's heirs leased the wharf to a number of steamship lines. In 1852, the steamship *Phenix* provided daily ferry service from Janney's wharf to Washington, D.C. (AG, 27 April 1852). A decade later, the steamship Planter provided passenger service between Janney's wharf and Baltimore (AG, 15 August 1862). In the years after the Civil War, the wharf was the site of the Philadelphia and Boston Steamship Line (Hopkins 1877) (Figure 54). By 1885, the wharf was known as the F.A. Reed Steam Packet wharf, and it contained a one-story wharf house (Sanborn Map Company 1885) (Figure 50). Ten years later the wharf was known as the Clyde Line Steam Ship wharf (Sanborn Map Company 1896) (Figure 56).

In 1899, Phineas Janney, descended of his namesake who acquired the property, sold the wharf and waterfront property to Edmund Hunt (ACO 1899:DB 44:288). Hunt bequeathed the property to Walter Roberts. Robert's heirs sold the property to the Columbia Granite and Dredging Company in 1925 (ACO 1925:DB 85:199). In 1932, the Smoot Sand and Gravel Company acquired the property (ACO 1932:DB 109:411) and would retain ownership until selling the property to the City of Alexandria in 1977 (ACO 1977:DB 845:449).

5.3.3.3 Harper's Wharf

Harper's wharf was constructed in the late eighteenth century as an extension of original Town Lots 56, 57, and 58 (Figure 12). In 1771, Robert Adam conveyed a portion of the lots, located at Prince and Union Streets, to John Hough of Loudoun County. John Harper of Philadelphia purchased them from Hough in 1773. Later deeds described the property as a 44-ft portion of Lots 56–58 located on the north side of Prince Street, which extended into the Potomac River (ACO 1827:DB Q-2:298).

Captain John Harper (1728–1804) was a noted sea captain, merchant, and early resident of Alexandria known for building the houses at 209, 211, and 213 Prince Street, often called "Gentry Row." He also came to own the entire north side of Prince Street between Lee and Union Streets, which he subsequently subdivided and sold. In the nineteenth century, the 100 block of Prince Street became known as "Captains Row," becoming the home of many sea captains (Madison 2003; Norglobe, Inc. 2011). Captain Harper moved his family from Philadelphia to Alexandria before the Revolutionary War. He was a Quaker and father of 29 children by two wives. He made much of his fortune from the West Indies trade while living in Philadelphia. He continued his trading after moving to Alexandria. John Harper became a prominent citizen in Alexandria and served on the Fairfax Committee of Correspondence along with John Carlyle, William Ramsey, and George Gilpin. Either because he was a Quaker or because of his advanced age, Harper did not actively serve in the Continental army, but he did contribute to the patriot cause. He helped

equip both the Fairfax and Prince William militias with supplies acquired from Philadelphia (Kenzie 2016).

Like many Alexandria waterfront property owners, Harper "banked out" his property after the war. In 1785, Captain John Harper constructed a warehouse on a portion of his property at the northwest corner of Prince and Union Streets where he sold an assortment of goods, including hardware, cutlery, tea, coffee, chocolate, gin, dry goods, and cheese (Madison 2003). By 1785, Harper was constructing a wharf at the foot of Prince Street, which was extended in 1798 following a directive of the Alexandria City Council (Miller 1991:102–103).

It is evident from advertisements in the *Alexandria Gazette* that Harper leased space on his wharf to other merchants as early as 1789. An advertisement from October notes that Evan M'Lean had opened an oyster house on Harper's wharf (cited in Shomette 1985:86). In the 1780s and 1790s, Williams, Carey, & Co. sold English and Dutch clothing and shoes, iron monger, drugs, shot, sail cloth, glass, and earthenware from the wharf while Josiah Watson sold rum and molasses. Isaac Entwisle & Co. offered yeast and hops from their store on Harper's wharf in 1807. Between 1813 and 1820, Thomas M. Davis sold pickled oysters, corn, flax, and vinegar from the wharf (Miller 1991:103–104).

When John Harper died in 1804, his son William inherited the property and wharf and continued the family's mercantile business. The property stayed within the Harper family well into the nineteenth century. In 1827, John Harper's heirs mortgaged the property through a deed of trust to Robert Taylor (ACO 1827:DB Q-2:298). The 1865 Quartermaster map shows a 113-x-40-ft warehouse labeled "Storehouse and Office" as being located behind or west of the wharf, which is outside the LOD (map not included in this report). Warehouses still occupied the site west of the wharf in the 1870s and 1880s (Hopkins 1977; Sanborn Map and Publishing Company 1885:Sheet 9) (Figures 54 and 55).

The Norfolk and Washington Steamboat Company acquired a portion of the old Harper's wharf location for its operation in 1890. The company, which provided passenger service between Washington and Norfolk, Virginia, constructed a new wood plank wharf that extended further into the Potomac (Sanborn-Perris Map Company 1896:Sheet 11) (Figure 56). C.W. Wattles served as the company's Alexandria agent. Initially, the local office was located a block to the south at the foot of Duke Street. The steamship company eventually constructed an office and waiting room on the Prince Street wharf in 1908 (Miller 1993:200). This building is depicted on the 1912 Sanborn map as a one-story office and freight house (Sanborn Map Company 1912:Sheet 14) (Figure 59). The steamship company continued to operate from the wharf until the 1950s (Miller 1993:200) (Figures 60–62). In 1965, Robinson Reality acquired the property (ACO 1965:DB 642:94).

5.3.3.4 Vowell's Wharf

The town trustees sold Lots 56 and 57 to George William Fairfax on 1 March 1753. Both lots were located at the waterfront between King and Prince Streets (Figure 12). Fairfax sold this land to Robert Adam in 1772, who sold the property to Andrew Wales a year later (Miller 1991:101). Wales, a brewer and merchant, "banked out" this location to construct the first wharf on the site. When Wales sold the property to Jesse Sims in 1796, deed records cite the property's location as being

132 feet north of Prince Street. Boundaries for the property extended 38 feet north of this point and into the Potomac River (ACO 1796:DB G:493). Sims sold the property to John and Thomas Vowell in the same year (ACO 1796:DB G:499). Two years later, the Vowell brothers acquired an adjacent 44-ft lot owned by Robert McRae and Robert Mease (ACO 1798:DB K:329).

From this time forward, the wharf became known as Vowell's Warf. John and Thomas Vowell were brothers and mercantile partners. In 1790, Thomas Vowell was proprietor of a store at Harper's wharf, where he traded with both New England and West Indies merchants and sold West Indian and New England rum, molasses, teas, and coarse and fine salts. It is likely he went into business with his brother to buy waterfront property to construct a wharf of their own. By the turn of the nineteenth century, the Vowell's leased portions of their wharf to other merchants. In 1806, the firm of Wadsworth and Butler sold pork, beef, rum, gin, cognac, candles, and wines from their store at Vowell's wharf. In 1854, the Vowell heirs sold the waterfront property to Lewis McKenzie (Miller 1991:104).

During the time McKenzie owned the wharf, it was known as the "Oyster wharf" (Hopkins 1877). Both the 1877 Hopkins and 1885 Sanborn maps show a warehouse located between the Strand and Vowell's wharf (Figures 54 and 55). The warehouse was used by various merchants and was the location of F.A. Reed's office (Sanborn Map Company 1885: Sheet 9) (Figure 55).

F.A. Reed acquired the Eldridge and Company ice manufacturing business, renaming the enterprise F.A. Reed & Company. While the ice factory was located at the waterfront near Cameron Street, Reed had an ice house west of Vowell's wharf, which in 1885 was known as "Reed's Ice Wharf" (Sanborn Map and Publishing Company 1885:Sheet 11) (Figures 55 and 63). The wharf at this time contained a one-story engine house that likely contained machinery that operated the ice run depicted on Sanborn maps, which loaded ice from the ice house onto moored ships at the wharf. Reed's company became one of the largest ice dealers in the state and carried on its trade as far south as Winston, North Carolina (Miller 1991:108). In 1882, William Reardon became Reed's partner in the business (Miller 1991:108).

In 1896, William Reardon acquired the waterfront property from McKenzie's estate. In the early twentieth century, the warehouse west of the wharf was being used for hay and feed storage (Sanborn Map Company 1921:Sheet 11) (Figures 59 and 60). The property remained within the Reardon Family until 1936 when Reardon's widow, Nora Reardon, sold it to Thomas W. and Clarence J. Robinson (ACO 1936:DB 127:534). In 1946, Thomas and Clarence Robinson conveyed the property to George H. Robinson Sons, Inc. George H. Robinson Sons operated a coal and lumber yard near the south end of the block just north of Prince Street in the mid-twentieth century (ACO 1946:DB 237:83) (Figures 61 and 62). The coal yard was located west of The Strand. The masonry materials yard was located on a wharf at the waterfront that was adjacent to the Norfolk and Company Steamship wharf (Sanborn Map Company 1941:Sheet 4). Robinson Reality sold the property to the City of Alexandria in 1977 (ACO 1977:DB 845:443).

5.3.3.5 McVeigh's Wharf

McVeigh's wharf was located between Harper's and Vowell's Wharves near Prince Street. The property was part of the original lots acquired by William Fairfax. Josiah Watson acquired the property in the eighteenth century, which in 1797 he sold to George Slocum. Deed records described

the property as located 44 feet north of Prince Street and extending to Harper's wharf (ACO 1797:DB I:300). The property remained in possession of the Slocum family until the 1850s. The chancery case of Brisco v. Slocum's Heirs resulted in the sale of the property to William McVeigh in 1853 (ACO 1853:DB P-3:174).

McVeigh was a merchant who constructed new warehouses west of The Strand in the early 1850s at the time he acquired Slocum's waterfront property (Figure 63). It is not known if McVeigh constructed the wharf at the waterfront, or if it existed prior to his purchase of the property. Deed records make no mention of a wharf in the property description. It is known that McVeigh had a wharf just north of Prince Street by 1877 (Hopkins 1877) (Figure 54). The property remained among McVeigh's heirs until it was divided into two parcels and sold in the early twentieth century. What deed records refer to as "the first parcel" contained the middle of three warehouses and extended into the Potomac River. John Nolan acquired this property in 1909 (ACO 1909:DB 60:37) and sold it to George and James Burroughs in 1911 (ACO 1911:DB 60:498). In 1928, George H. Robinson Sons acquired both parcels of the McVeigh property (ACO 1928:DB 96:531). After this time, the property was used as part of the George Robinson Son's coal and building supplies business (Figures 61 and 62).

Figure 63. Ca. 1880s photograph of McVeigh's Warehouse and Reed's Ice House and wharves. The view is to the west. (Photograph courtesy of Alexandria Library, Special Collections, Wm F. Smith Collection).

5.3.4 Known Archaeological Resources

One archaeological resource within this segment, 44AX0146, has been registered with VDHR. The VDHR site form provides little information aside that the site is the location of an eighteenth-

century warehouse and wharf. This site is present adjacent to and west of the western King Street to Prince Street boundary near Wales Alley and may extend into the LOD. The location appears to be based on historical map research.

The Office of Historic Alexandria also identified several potential archaeological resources within this segment. These include Harper's wharf, Reed's Ice Wharf, and the Oyster wharf to the south and Fitzgerald's wharf to the north. Most of Fitzgerald's wharf is situated within the Interim Fitzgerald Square Park LOD and is not discussed in this assessment.

5.3.5 Potential Archaeological Resources

Historical map research indicates that the King Street to Prince Street segment was within the Potomac River at least through 1749 (Figure 12). Given that this segment was within the Potomac River at and prior to 1749, there is a low potential for Native American resources. A single caveat may be that it is likely that the current river bed was exposed during the last glacial period and could have provided a living surface for pre-Paleoindian and Paleoindian groups.

By 1838, four wharves were present within this segment (Figure 16), with that number continuing at least through the 1920s (Figures 54–60). One of these wharves, Fitzgerald's, is outside the current LOD. Three wharves were present before 1838, with at least one wharf present before the nineteenth century (Figures 12–15). The number of wharves decreased in the mid-twentieth century as the area was infilled (Figures 61 and 62). Numerous structures were built on or at the base of these wharves in the nineteenth and twentieth centuries, ranging from small, unnamed sheds or structures to larger ware or freight houses, engine houses, hoists, and conveyors. Smaller docks with sheds, often built on wooden piers, were also interspersed between the larger wharves. Finally, a railroad line was constructed within Union Street in the nineteenth century. This line potentially intersects with the project LOD.

For reference, Table 3 provides a summary of the presence and number of wharves and structures within the King Street to Prince Street LOD as depicted on maps dating between 1749 and 1959.

With the area known to have been filled, both early in the history of the waterfront in the late eighteenth century, as well as in the early to mid-twentieth century, there remains a high potential for archaeological resources within the King Street to Prince Street segment. The potential for Native American resources is generally quite low, while Historic period resources associated with transportation and the waterfront are likely present throughout the segment. Undoubtedly, infrastructure installation has impacted these resources. However, given the scale of such impacts in relation to the size of the resources, there remains a high potential for the presence of intact archaeological resources within the King Street to Prince Street segment.

5.3.6 Geotechnical Borings

Boring PS-1 was placed along The Strand just north of its intersection with Prince Street (Figure 52). Historical maps place this boring in the vicinity of McVeigh wharf. This boring was only excavated to 14 feet below ground surface. Shell and asphalt were observed in the 12–14-ft sample. This likely indicates that the entire 14-ft profile consisted of modern (post 1700s) fill deposits.

A second boring (SS-1) was placed to the west, just east of the intersection of Prince and Union Streets (Figure 52). That location appears to have been a road since the late 1700s when the mud flat along the Potomac River shore was infilled. Fill deposits were identified to 4.5 feet below surface after which pieces of wood, brick, metal, and shell were observed in the samples to a depth of 35 feet below surface. These soils were very dark grayish brown (10YR3/2) sandy or silty clay. At 33 feet below surface the size and number of wood fragments decreased and a single brick fragment was observed. By 38 feet below surface no materials were present and the soil had transitioned to yellowish brown clayey sand. Much of the material between 4.5 feet and 35 feet below surface likely represents eighteenth- and nineteenth-century fill deposits.

5.3.7 Recommendations

Figure 64 (page 116) depicts an overlay of the proposed above-surface improvements and the location of potential archaeological resources between King and Prince Streets onto a 15 to 30 percent Design Schematic. This figure indicates that at least seven potential resources could be impacted if present and if construction-related excavations are of sufficient depth. Figure 65 (page 117) depicts an overlay of proposed storm sewer improvements and the location of potential archaeological resources between King and Prince Streets onto a 15 to 30 percent Design Schematic. In this instance, proposed storm sewer and bioretention areas could impact seven areas, including buildings and wharves. Regardless of improvement, impacted resources would include portions of three wharves and eight buildings minimally dating between 1877 and 1941 that are located at or adjacent to the wharves. Both geotechnical borings conducted within this segment suggest that 5 feet to more than 14 feet of modern fill is likely present between the ground surface and deposits associated with the eighteenth-century filling of the river front. Resources could be present within this upper fill deposit.

As planning advances, potential depth of construction-related excavations should take into account the potential presence of archaeological resources in this area. If excavation depths are planned within the initial 5–14 feet below surface, preliminary identification excavations conducted by a qualified archaeologist should be conducted to provide a baseline for expectations during the construction stage of the AWFM project. If construction-related excavations are expected within this initial 5–14 feet below surface, monitoring of the construction excavations and archaeological documentation of identified resources may be required by both OHA and VDHR. If archaeological resources are present, the City of Alexandria would be required to consult with VDHR and OHA on the NRHP eligibility of the archaeological resource. If eligible, data recovery or other mitigation measures would be implemented under terms of a Memorandum of Agreement.

Finally, while it is likely that most if not all mapped resources were constructed on the surface of (or perhaps to some extent into) the late eighteenth-century infilling (or banking out) of the waterfront cove and its associated mud flat, additional unknown resources could in fact be present within the fill. Resources such as part of an eighteenth-century ship were found in the late eighteenth-century fill deposits near the south end of the AWFM LOD. While the estimated maximal depth of deposits based on resources depicted in maps and through historical record documentation, undocumented resources, both within the initial fill deposits, and in the earlier fill, could be present.

Table 3. Historical map overview for King Street to Prince Street.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1749	City Plan	West boundary in mud flat, east boundary in river	None depicted	
1775	City Plan	Within river	None depicted	
1798	Thomas	3 wharves depicted, 1 at north end (outside project LOD, 2 at south end	None depicted	
1803	City Plan	North end Fitzgerald's wharf (outside project LOD), south end Harper's wharf	None depicted	
1838	Kearny	Four wharves depicted	None depicted	One wharf, Fitzgerald's, outside project LOD
1842	U.S. Coast Survey	Four wharves depicted	None depicted	One wharf outside of project LOD
1845	Ewing	Four wharves depicted	None depicted	Wharves north to south: Fitzgerald's/Irwin's wharf (generally outside project LOD); Janney's wharf; Vowell's wharf; unnamed wharf
1862	U.S. Coast Survey	Four wharves depicted	None depicted	Named north to south: Fowle's; Fowle's; unnamed; Corporation; one wharf outside of project LOD
1863	U.S. Coast Survey	Four wharves depicted	None depicted	One wharf outside of project LOD
1864	Scholl	Three wharves depicted (Jan… does not appear to have been depicted)	None depicted	Vowell's wharf is No. 11, loading cavalry or infantry on 3 vessels; unnamed wharf is No. 12 loading cavalry or infantry on 1 vessel
1865	Quartermaster's	Not present at National Archives	Not Applicable	
1877	Hopkins	Four wharves depicted	Warehouse on Phila. & Boston Steamers wharf and potential unnamed structure to south	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); Phila. & Boston Steamers; No. 11 denoted as Louis McKenzie Oyster Wharf; No. 12 denoted as McVeigh
1885	Sanborn	Four wharves depicted	Structure on Reed's Pocket Steam wharf; engine house on Ice wharf; small oyster dock and shed and unidentified shed between Pocket Steam and Ice wharves; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); F. B. Reed's Steam Pocket Wharf; Reed's Ice Wharf; unnamed wharf
1896	Sanborn	Four wharves, southernmost enlarged (later denoted as planned)	Wharf house on Clyde's wharf; hoist and engine on unnamed ice wharf; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); Clyde Line Steam Ship wharf; unnamed ice wharf; Washington & Norfolk Steam Ship wharf
1902	Sanborn	Four wharves, southernmost with plank enlargement	Freight house on unnamed wharf; three structures including boat house on unnamed ice wharf; freight house Washington & Norfolk Steam Ship wharf; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); unnamed wharf; unnamed ice wharf; Washington & Norfolk Steam Ship wharf
1904	U.S. Coast and Geodetic Survey	Three wharves depicted	None depicted	One wharf outside of project LOD
1907	Sanborn	Four wharves, southernmost with enlargement planned	Freight house (on piles) on unnamed wharf; two structures including boat house on unnamed ice wharf; freight house Washington & Norfolk Steam Ship wharf; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); unnamed wharf; unnamed ice wharf (adjacent plant denoted as vacant and dilapidated); Washington & Norfolk Steam Ship wharf; to west of steamship wharf is American Loktile Co. property

Table 3. Concluded.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1912	Sanborn	Four wharves, southernmost with enlargement planned	Freight house (on piles) on unnamed wharf; two structures including boat house on unnamed ice wharf; freight house and office Washington & Norfolk Steam Ship wharf; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); unnamed wharf; unnamed ice wharf; Norfolk Washington Steam Ship wharf
1921	Sanborn	Four wharves, southernmost with enlargement planned; infill between the southernmost two wharves	Freight house (on piles) on unnamed wharf; two structures on/adjacent to unnamed ice wharf; freight house and office Washington & Norfolk Steam Ship wharf; railroad along King Street	Wharves north to south: Fitzgerald's/Irwin's (not in project LOD); unnamed wharf; unnamed wharf; Norfolk Washington Steam Ship wharf
1923	U.S. Army Corps of Engineers	Four wharves depicted	None depicted	One wharf outside of project LOD
1941	Sanborn	2 wharves present; Fitzgerald's and northernmost unnamed wharf infilled	Southernmost unnamed wharf with hopper and conveyor to west to Geo. H. Robinson's Sons coal yard; Norfolk & Washington wharf with freight house (wood pier on wood piles), hoist house, and fuel oil tanks;	South wharf includes Geo. H. Robinson's Sons Mason Material Yard and Norfolk & Washington Steamboat Co.
Revised 1959	Sanborn	Wharves infilled	Fuel oil tanks and unnamed structure associated with Geo. H. Robinson's Sons property; Guns & Ammunition warehouse on wood pier on piles	South half of area occupied by Geo. H. Robinson's Sons Mason Material Yard

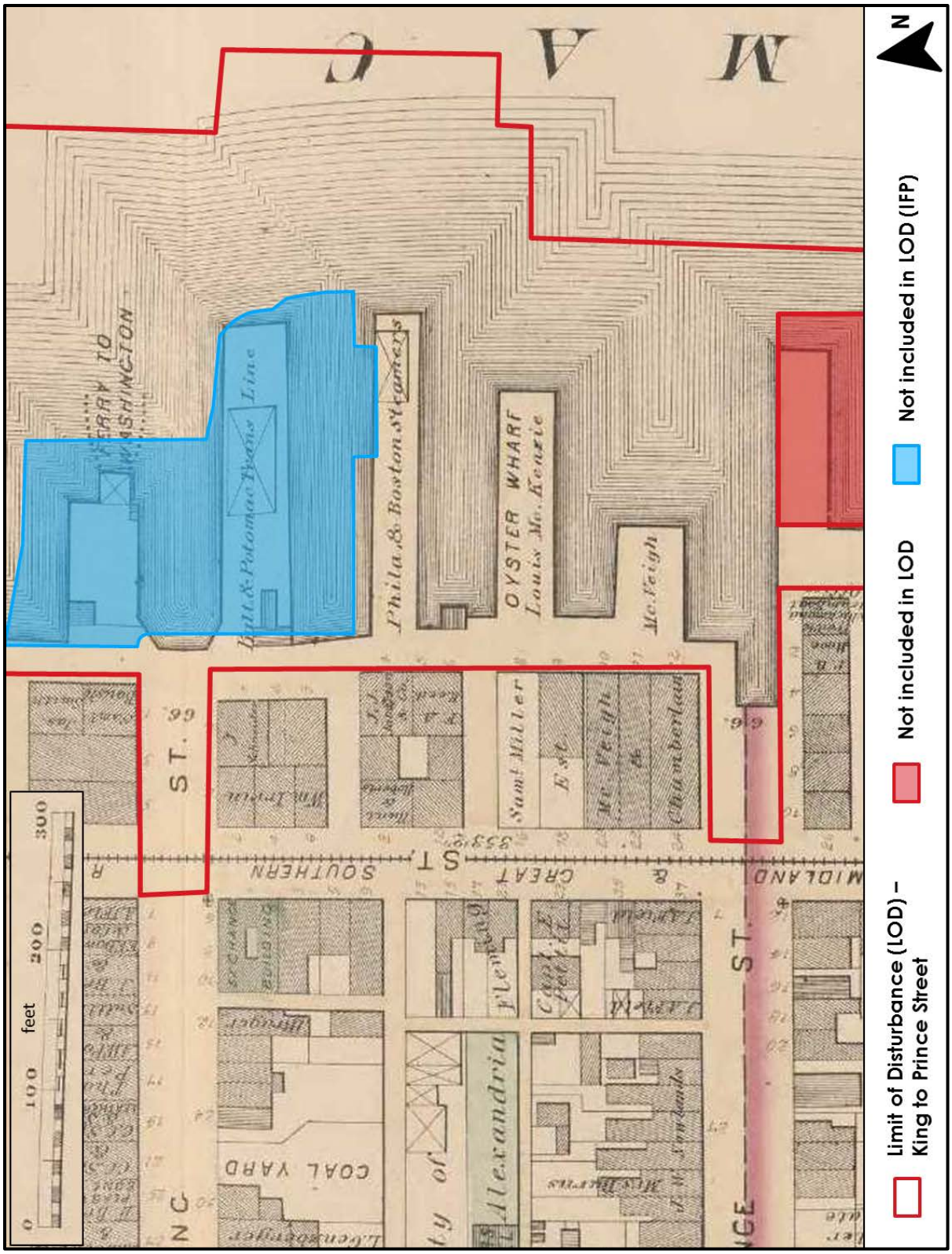


Figure 54. 1877 Hopkins map depicting the King Street to Prince Street segment (Hopkins 1877).

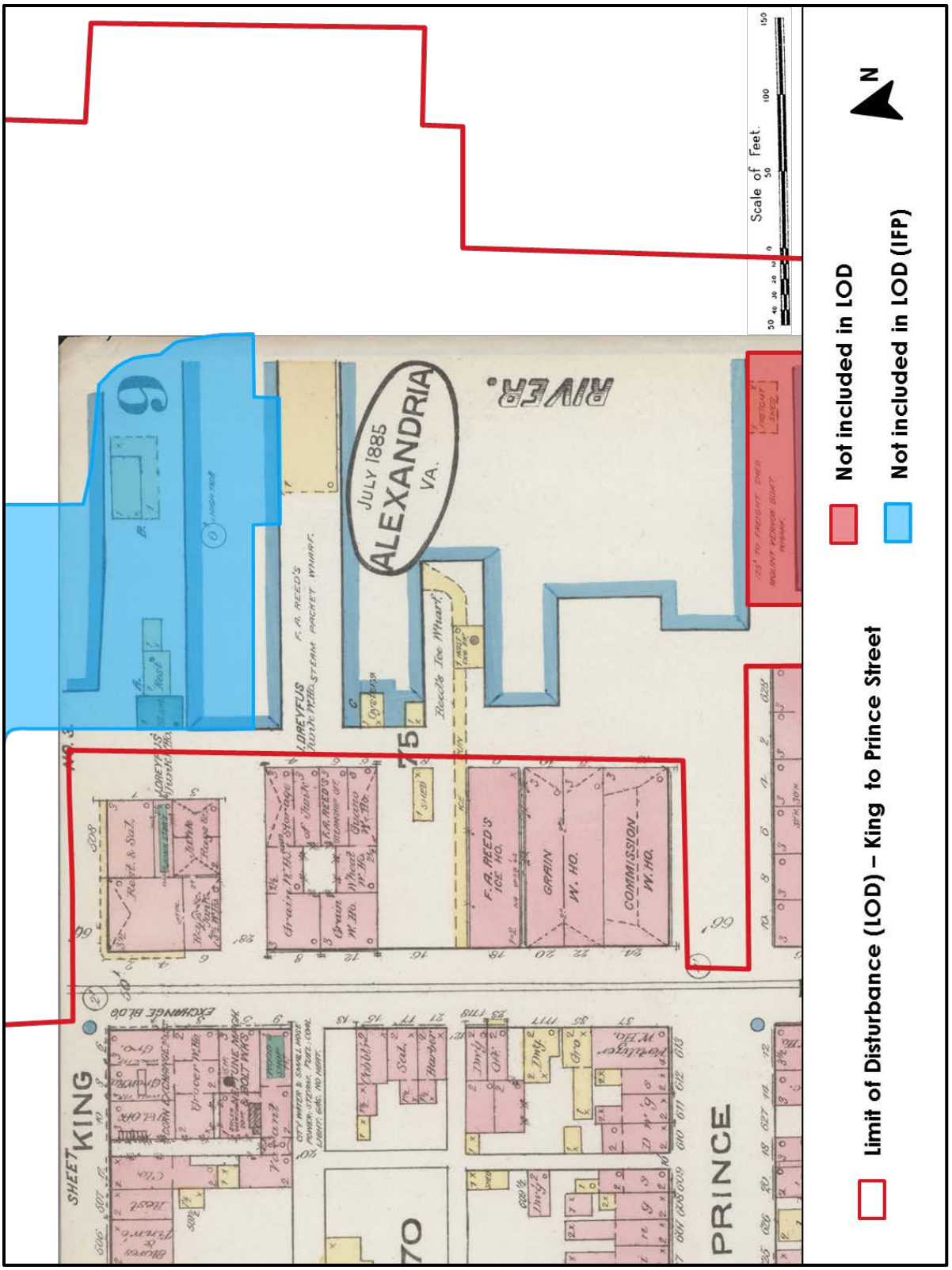


Figure 55. 1885 Sanborn map (Sheet 9) depicting the King Street to Prince Street segment (Sanborn Map and Publishing Company 1885).

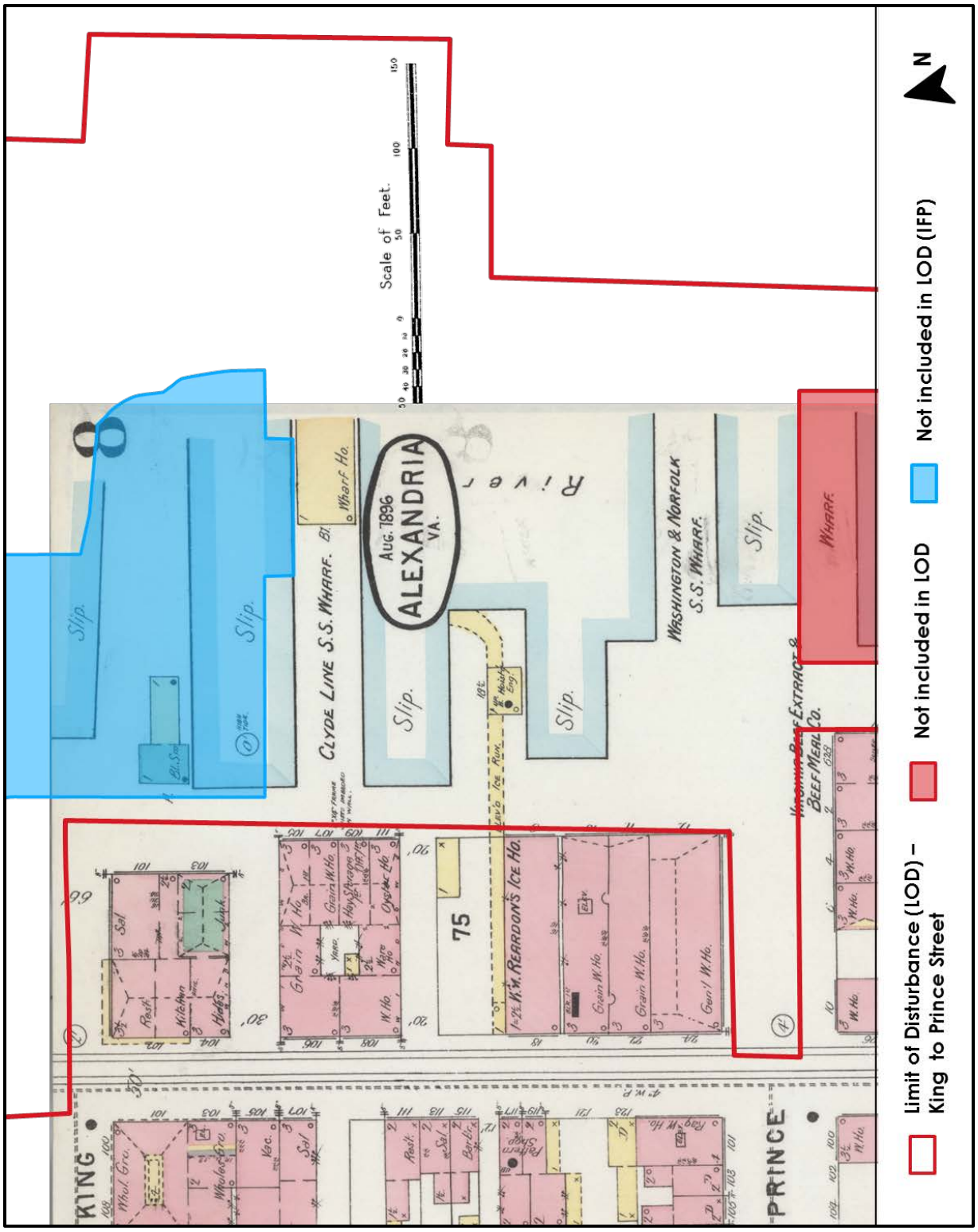


Figure 56. 1896 Sanborn map (Sheet 8) depicting the King Street to Prince Street segment (Sanborn-Perris Map Company 1896).

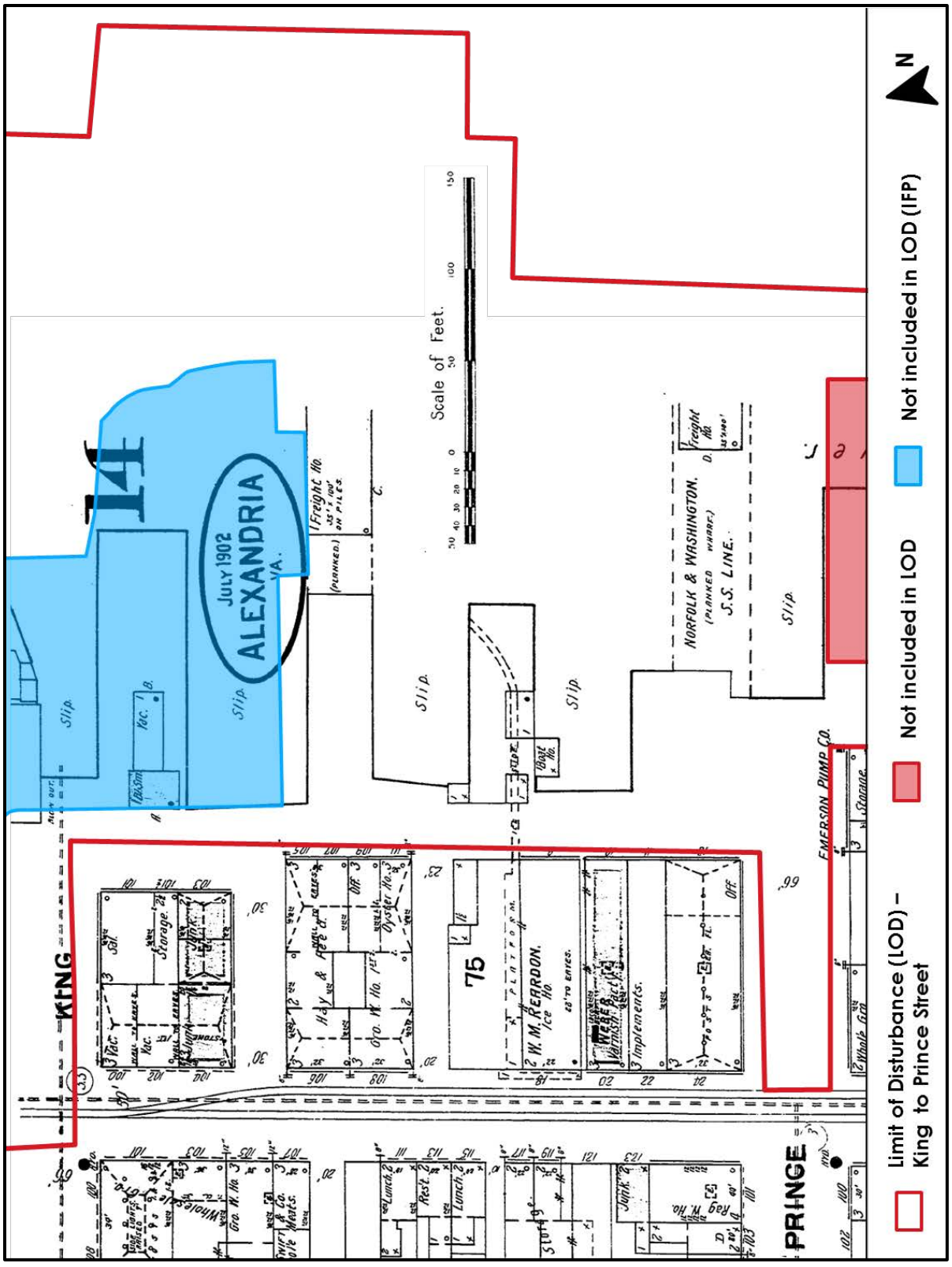


Figure 57. 1902 Sanborn map (Sheet 14) depicting the King Street to Prince Street segment (Sanborn Map Company 1902).

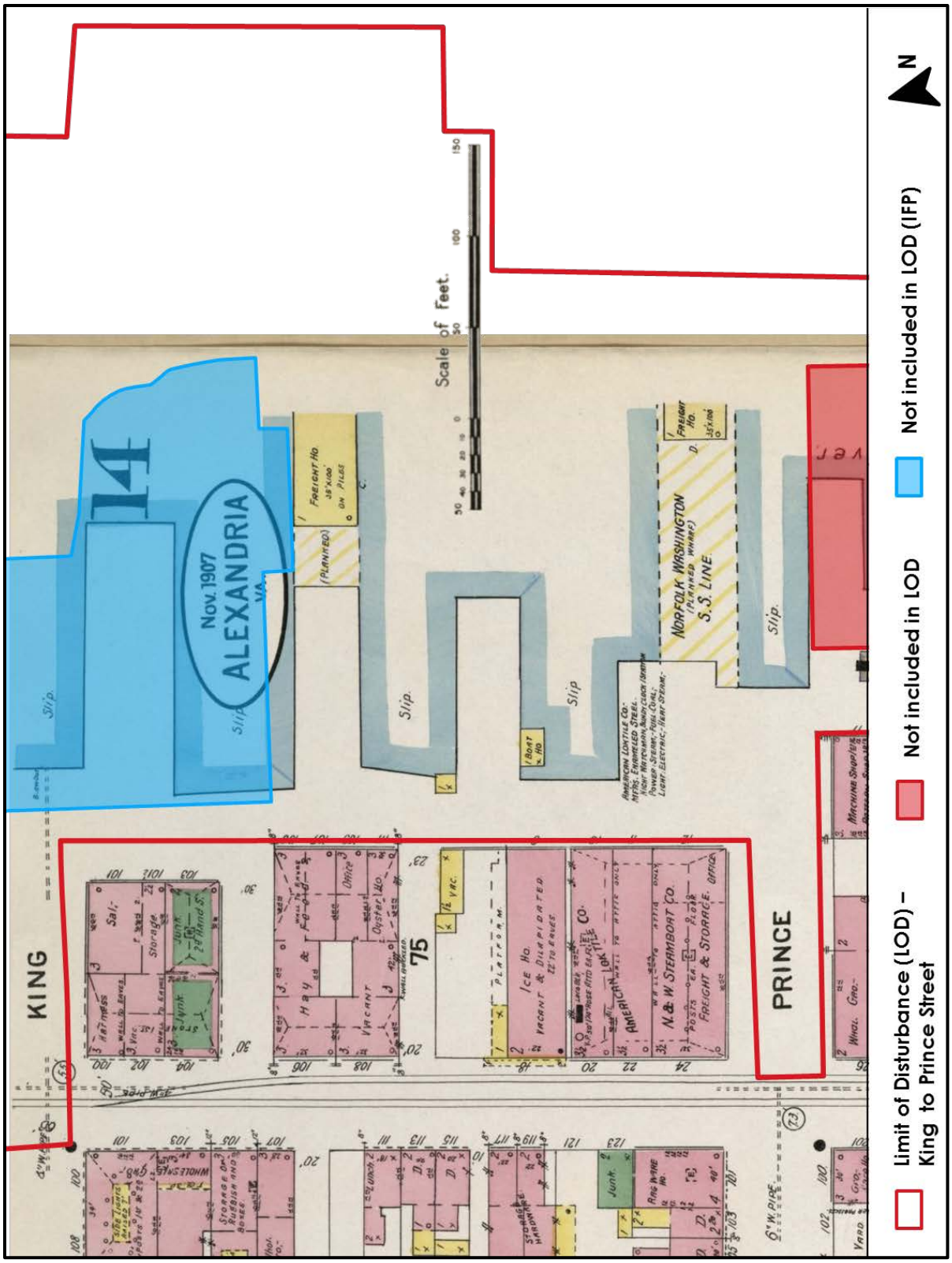


Figure 58. 1907 Sanborn map (Sheet 14) depicting the King Street to Prince Street segment (Sanborn Map Company 1907).

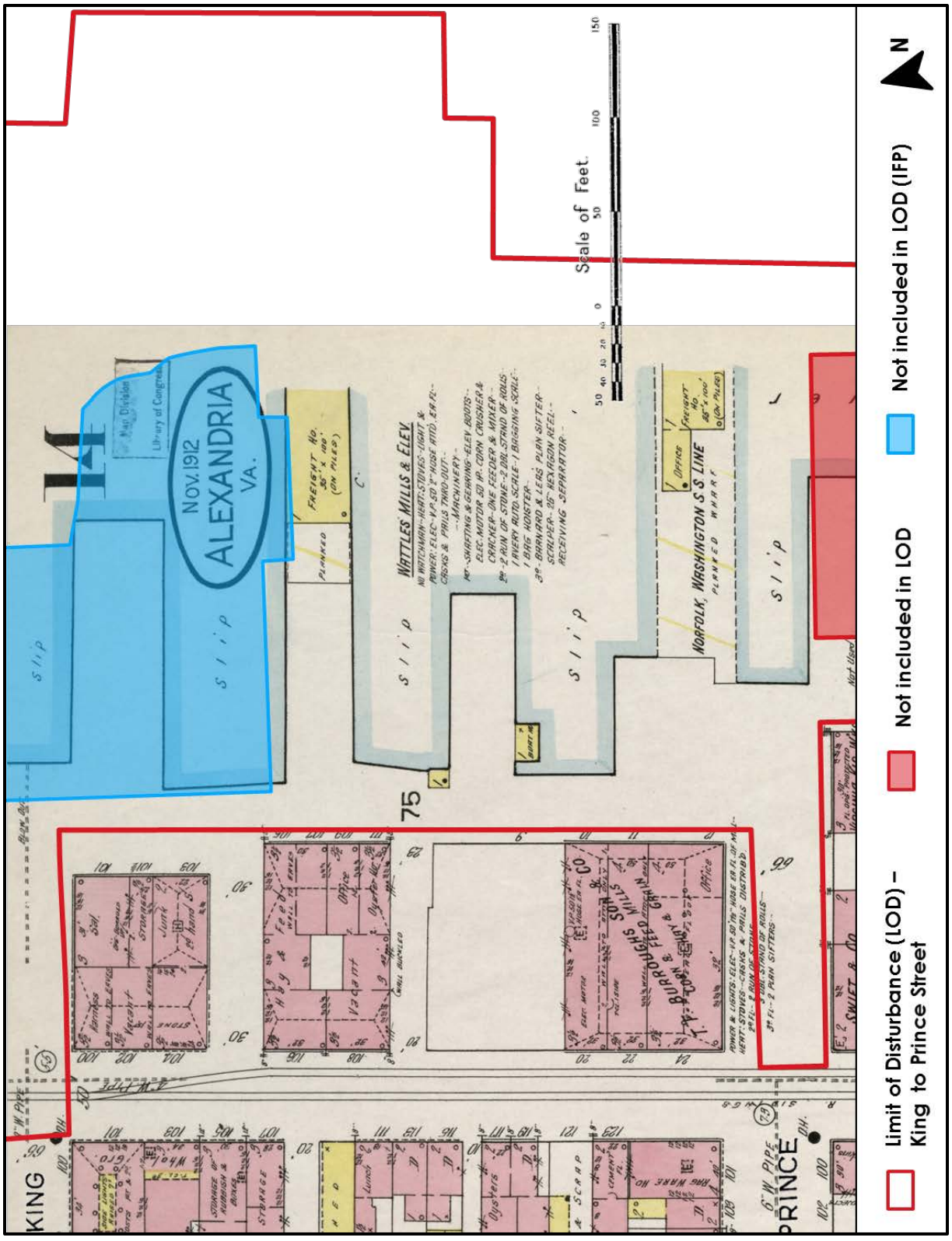


Figure 59. 1912 Sanborn map (Sheet 14) depicting the King Street to Prince Street segment (Sanborn Map Company 1912).

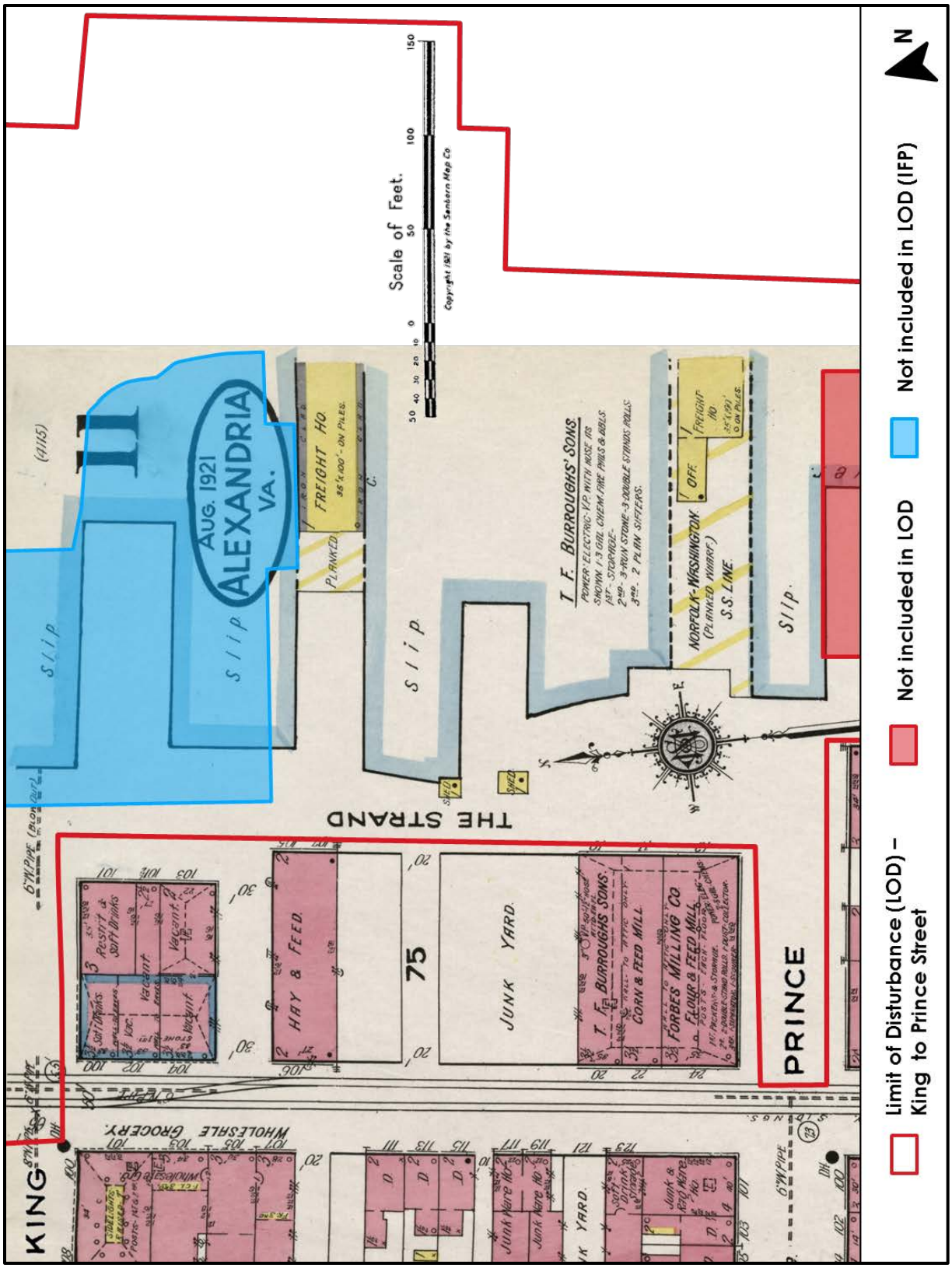


Figure 60. 1921 Sanborn map (Sheet 11) depicting the King Street to Prince Street segment (Sanborn Map Company 1921).

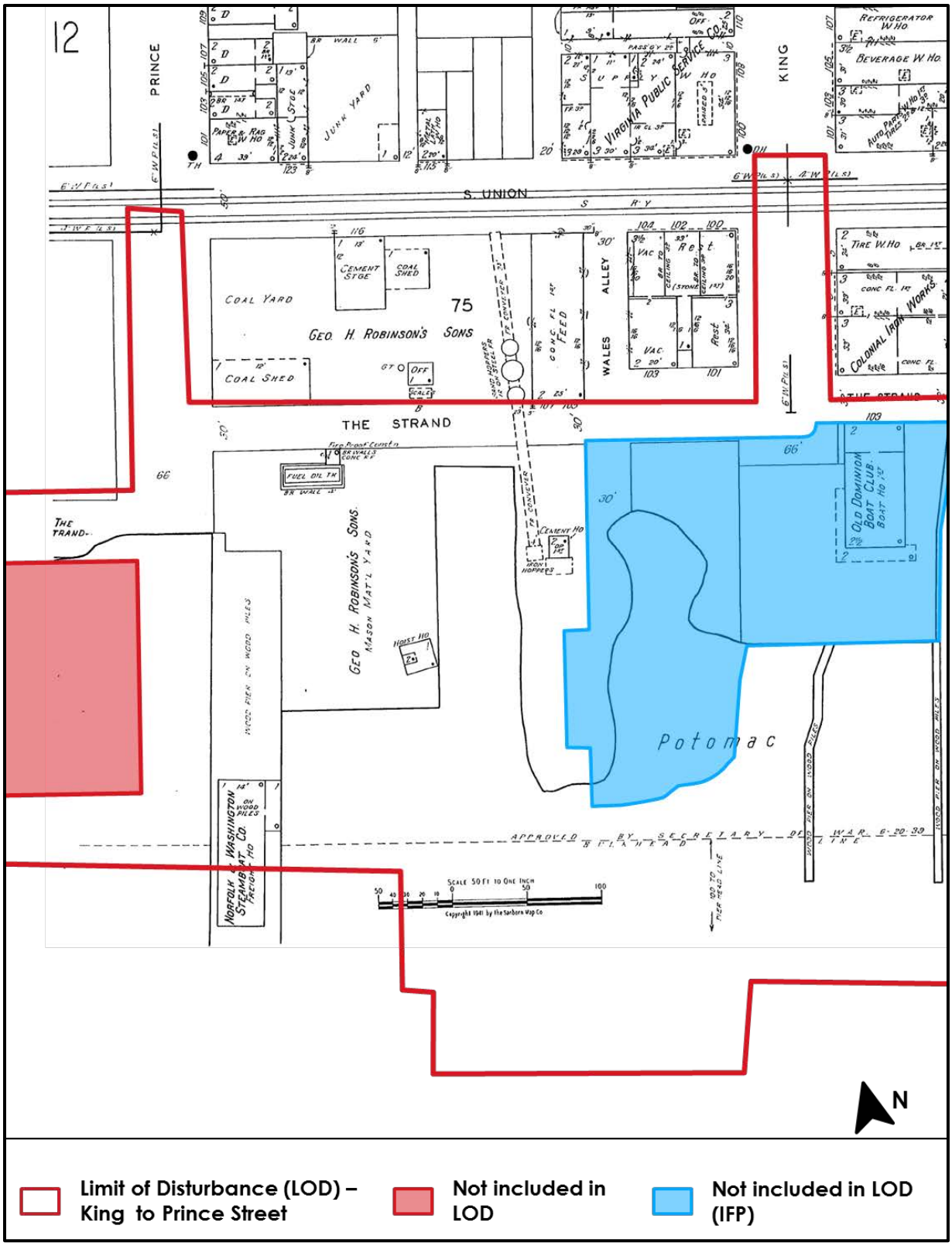


Figure 61. 1941 Sanborn map (Sheet 4) depicting the King Street to Prince Street segment (Sanborn Map Company 1941).

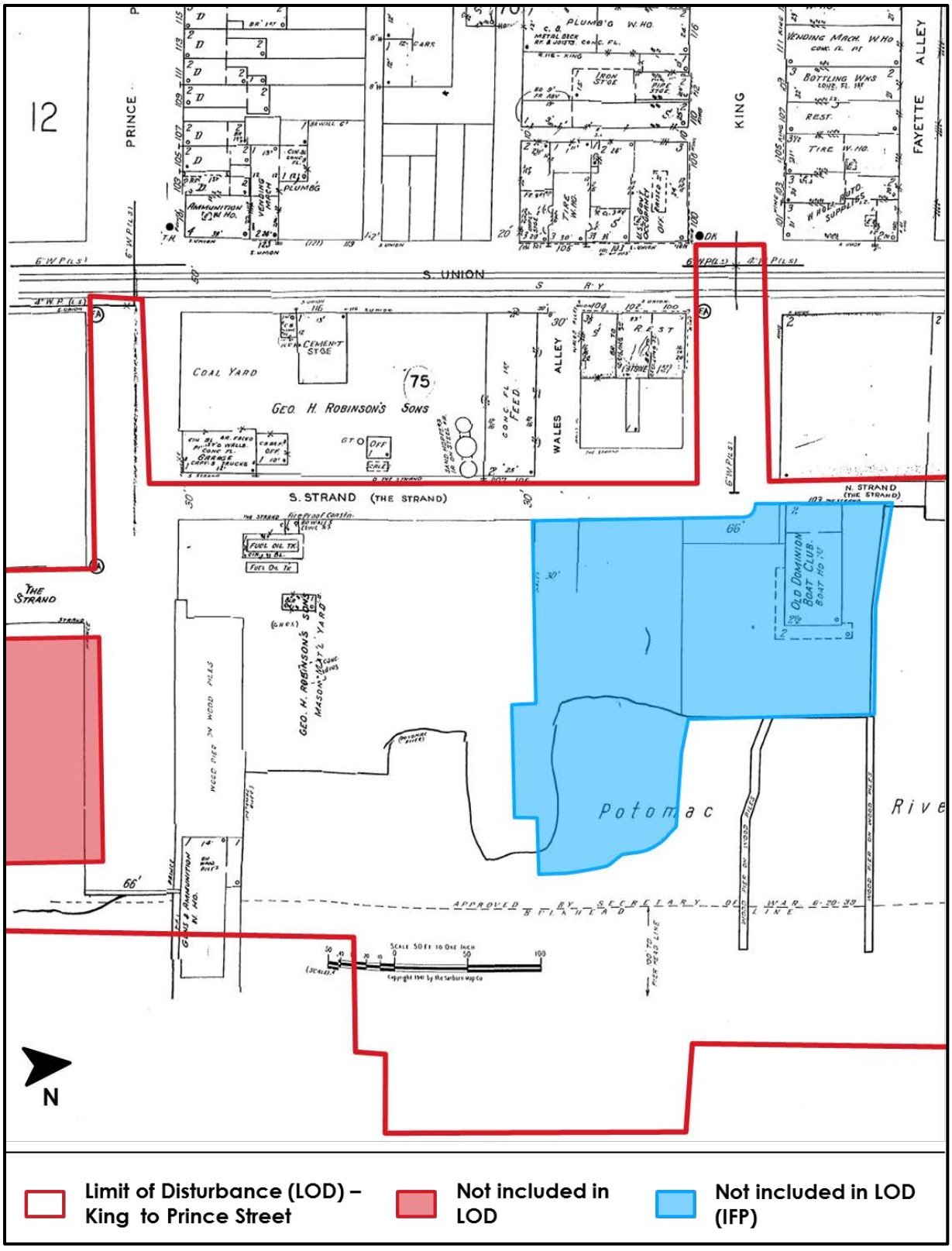


Figure 62. 1941 revised 1959 Sanborn map (Sheet 4) depicting the King Street to Prince Street segment (Sanborn Map Company 1941).

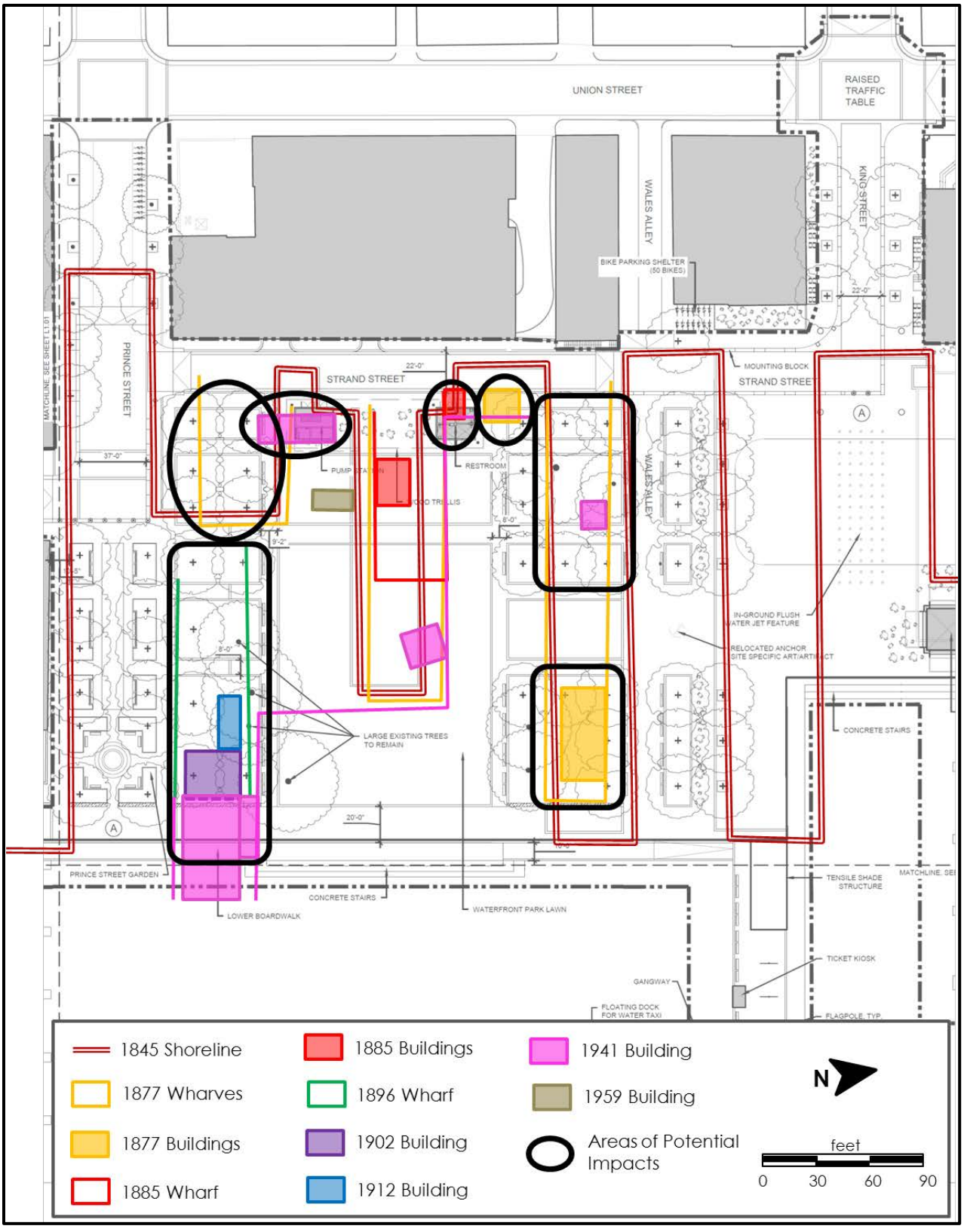


Figure 64. Overlay of potential archaeological resources (King Street to Prince Street) onto 15 to 30 percent plan map for above-ground development.

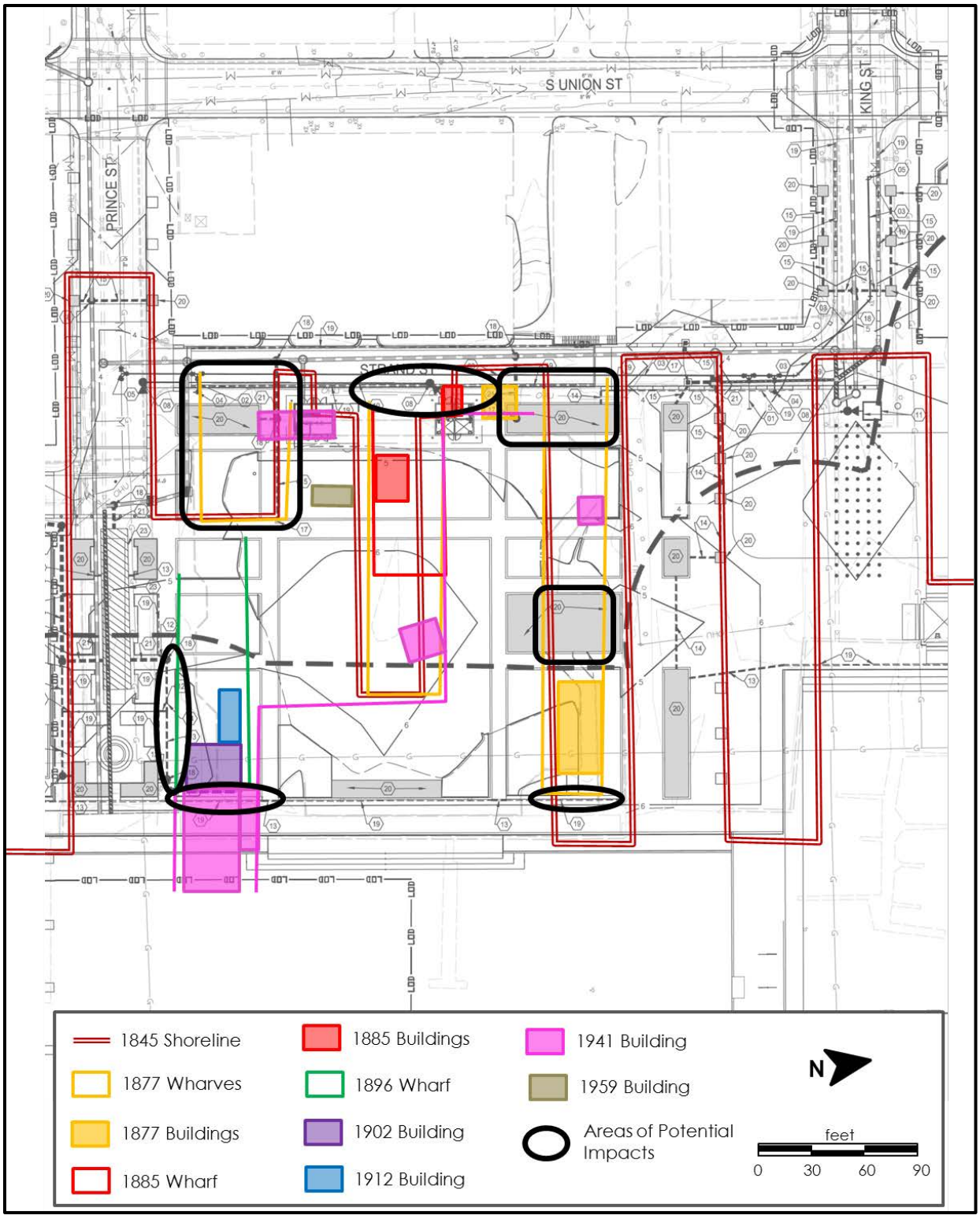


Figure 65 Overlay of potential archaeological resources (King Street to Prince Street) onto 15 to 30 percent plan map for stormwater facilities.

5.4 Prince Street to Duke Street Segment

For this segment, Table 4 is provided on page 130. Figures 69–79 (historical maps) follow Table 4 on pages 132–142. Please refer to Figures 12–21 for maps that depict the project area during the period from the 1740s through the 1860s (pages 49–58).

5.4.1 Area Overview

The Prince Street to Duke Street segment is the southernmost segment of the AWFM LOD (Figures 3 and 66). The area is bounded to the south by Duke Street and Cheeseman's Quay and by Prince Street to the north. The eastern boundary extends less than 40 feet into the Potomac River and lies entirely within the Commonwealth of Virginia. While most of the segment extends west to The Strand, the LOD extends further west along both Duke and Prince Streets to the intersection with Union Street. One area has been excluded within this LOD, a square at the southeast corner of Prince Street and The Strand, extending from The Strand to the Potomac River shoreline. The City of Alexandria Department of Project Implementation has excluded the parking lot (shaded in red in Figure 61) from the AWFM LOD and archaeological assessment study area.

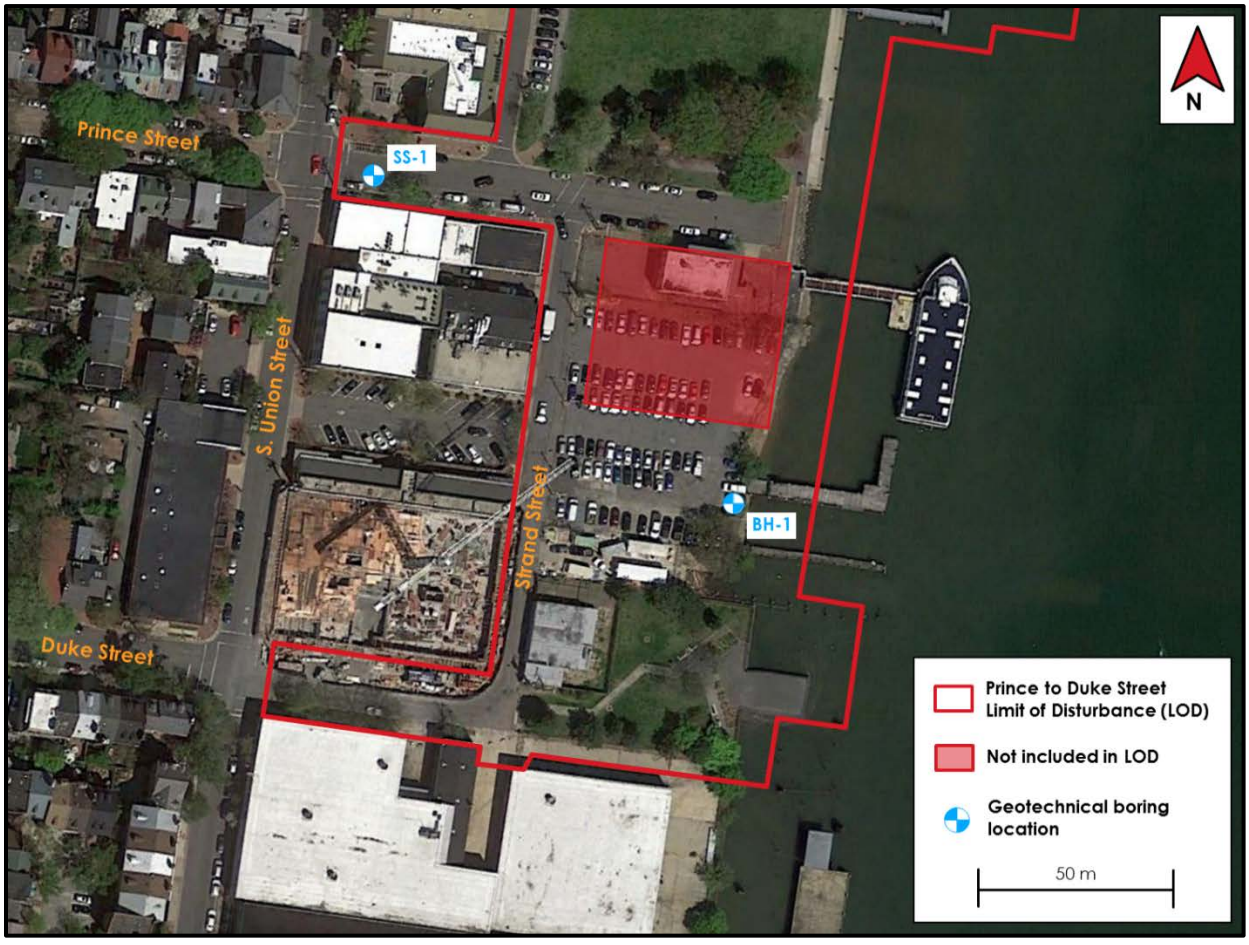


Figure 66. 2016 aerial photograph of the Prince Street to Duke Street segment (Google 2016).

This area includes an unnamed park northeast of the intersection of Duke Street and the Strand, commercial enterprises, and a large parking lot (Figure 67). Commercial enterprises and a construction site (hotel development) line The Strand to the west of the segment. Within the Potomac River are two boat docks, wooden pilings, and a larger pier or wharf remnant.

Figure 67. General view of the Prince Street to Duke Street Segment. The view is to the south along The Strand.

5.4.2 Project Impacts

The 15 to 30 percent plans call for several construction-related activities associated with the AWFM project between Duke Street and Prince Street. Minimal impacts are likely north of The Strand along both Duke and Prince Streets. In both locations, additional trees will be planted and a bike rack will be installed along Prince Street. More substantial impacts will occur within the Duke Street and Prince Street extensions south of The Strand. In both locations, gardens will be established, with trees planted, benches installed, and a more formal sitting area created at the base of Prince Street. Between the two streets, The Strand will be realigned and trees will be planted. To the south of The Strand, the asphalt parking lot will be removed. An alley will be installed from The Strand to the waterfront, numerous trees will be planted, and a play space and benches will be installed. A raised deck reading room will be added to a City-owned building at

the corner of Duke Street and The Strand. At the river's edge a promenade that incorporates the improved bulkhead will be constructed. The Seaport Foundation Floating Museum will be anchored adjacent to the Point Lumley Pier. Grading and excavation, to currently undefined depths, are anticipated for many of these improvements. Stormwater infrastructure and bioretention facilities will be located along Prince and Duke Streets and The Strand. Bioretention facilities will be placed along the waterfront and in the park.

5.4.3 Prince Street to Duke Street Historic Context

At the time of Alexandria's founding in 1749, the waterfront at the foot of Duke Street was the site of Point Lumley, which became a focal point of development in Alexandria in the late eighteenth century. Like other parts of the Alexandria waterfront, mercantile warehouses and wharves soon sprung up along the block once this area was "banked out" by the close of the century (Figure 68). In the nineteenth century, a merchant named William Fowle acquired much of this area and owned several warehouses along Union Street and The Strand. The Fowle family established Pioneer Mills at the foot of Duke Street in the 1850s. The significant economic decline following the war resulted in the failure of Pioneer Mills and many other businesses. The devastating fire of 1897 destroyed many of the old warehouses and led to the redevelopment of the waterfront, which became the location of Dewitt Aitcheson's coal and wood yard.

Figure 68. Mid-nineteenth-century view of wharves and structures between Prince Street and Duke Street Photograph courtesy of Alexandria Library, Special Collections, Wm. F. Smith Collection).

5.4.3.1 Point Lumley

Point Lumley represented the southern point in the crescent-shaped eighteenth-century shoreline that existed at the time of the founding of Alexandria in 1749 (Figure 12). This strip of land formed a point in the Potomac River and was a popular mooring location for river traffic in the years prior to the town's founding. It was named for Captain Lumley, who regularly moored his ship at this location in the first half of the eighteenth century (Miller 1993:184).

When the town was laid out in 1748, Point Lumley and West Point were reserved for public use, not to be subdivided into town lots to be sold at auction. Duke Street extended to the end of the point. In 1753, the town asked John Carlyle to construct a public warehouse at the point. Carlyle constructed the warehouse on the north side of Duke Street and was entrusted to maintain the road to the warehouse (Miller 1993:185).

The town's trustees required the warehouse be constructed to specifications that measured 100-x-24 feet. Meeting records also indicate that the site of the warehouse was likely improved. At a 30 September 1755 meeting, the trustees agreed that the site of the warehouse should be extended with fill from the point (Pulliam 2006:5).

In 1764, the town's trustees granted permission to Thomas Fleming to construct a shipyard at the point. Fleming owned Lot 77, the private land just west of Point Lumley on the south side of Duke Street. Fleming also received permission to construct a warehouse at the location. In 1774, the town's trustees agreed to rent to Fleming the public land he used for a term of 63 years (Miller 1993:186).

Fleming's Ship Building industry largely constructed smaller ships. Speculation remains on why this was the case. Some sources have cited Fleming's inexperience and lack of knowledge and skill in the construction of larger vessels. However, George Washington noted witnessing the launching of some large vessels such as *The Jenny* in 1768 and the 257-ton, London-registered *Recovery* (City of Alexandria 2016e). It is also possible that Fleming's shipyard mostly constructed smaller ships because of the low draft needed to navigate the river, which was becoming considerably more silted in the late eighteenth century. But perhaps more than any other reason was the shortage of lumber. In 1771, Henry Piper wrote, "Ship building is done at Alexandria, as there is no timber to be got." The situation did not improve by 1774. The breakout of the Revolutionary War ended all shipbuilding activity (Miller 1993:186–187).

When Thomas Fleming died in 1786, his will instructed the sale of his personal property. In 1794, George Hunter, executor of Fleming's estate, sold part of Fleming's Point Lumley property, Lot 77, to Robert Hooe (ACO 1785:DB B:154).

5.4.3.2 Hooe's Wharf

Robert Hooe (1743–1809) was a wheat merchant and had a prosperous mercantile partnership with Richard Harrison. Fifteen years before acquiring Fleming's property, the Town of Alexandria leased to Hooe part of the publicly designated lands on the south side of Point Lumley in 1785. Located at the south end of Duke Street, Hooe and Harrison constructed their store, warehouse, and wharf that extended 150 feet into the Potomac River (Mullen et al. 2014:14) (Figure 69).

Robert Hooe was born in Charles County, Maryland. In 1773, he entered into a mercantile partnership with Daniel St. Thomas Jenifer, Chairman of the Maryland Council of Safety during the Revolution. The partnership provided Alexandria with military supplies during the war. It was at this time that Hooe met Harrison, and the two formed their own mercantile partnership in 1780, the same year Hooe became mayor of Alexandria (Mullen et al. 2014:14–17).

Harrison was likely a silent partner, as he was heavily involved with public service. From 1780–1786, he served as an unofficial consul for the United States at Cadiz. After returning to the United

States, President Washington appointed him as an auditor for the Treasury Department (Mullen et al. 2014:17).

Hooe and Harrison sold rum, sugar, and spirits at their warehouse. Other goods that appear in Hooe and Harrison's ledger include glasses, flutes, violins, Congo teas, ducks, German steel, English and Dutch cordage, glass ware, delft bowls, muskets, cloth, negro cottons, blankets, porter and stout, looking glasses, japanned ware, plated table furniture, coffee urn, goblets, Grenada rum, fine salt in sacks, and Italian marble slabs (*Virginia Journal and Alexandria Advertiser* (VJAA), 26 January 1785; Mullen et al. 2014:17).

Hooe and Harrison's warehouse, which they constructed in the early 1780s, was located on the south side of Duke Street, just west of The Strand (Figure 69). A warehouse of another merchant named William Hartshorne was located south of Duke Street east of Hooe and Harrison's warehouse. Hartshorne likely leased the space for his warehouse from Hooe. Hartshorne was a wheat merchant who had a mercantile relationship with George Washington (letter, G. Washington to William Hartshorne & Company, 26 November 1785 [Washington 1785]).

After Hooe died in 1809, the city continued to lease the land to Harrison. Harrison may have retained control of the property until his death in 1841. Because of missing land records, it is not known exactly who controlled the property until 1853, when the town leased the land to George and William Fowle for the construction of Pioneer Mill (Mullen et al. 2014:18).

5.4.3.3 Gilpin's Wharf

The mid-eighteenth-century shoreline north of Duke Street consisted of Lots 69 and 62 (Figure 12). Robert Adam recalled that Lot 69 remained vacant even after the development of neighboring lots. The town's trustees originally sold many of the lots north of Duke Street near the Potomac River to George Johnson. Land records indicate that George Gilpin, his brothers Joseph and Thomas, and Johnathan Hale jointly acquired adjacent property at the waterfront between Duke and Prince Streets from the estate of George Johnson prior to 1780 (ACO 1802:DB E:56). The Gilpin brothers and Hale likely subdivided the property amongst themselves.

George Gilpin is known to have owned all of Lot 62 and played a large role in the mercantile development along the waterfront between Prince and Duke Streets in the late eighteenth century. Born in Cecil County, Maryland, in 1740, Gilpin arrived in Alexandria in the 1760s and quickly became one of the community's most prominent figures of the Revolutionary War era. Gilpin served in the Fairfax Committee of Safety in 1774 and came to know both George Washington and George Mason (Mount Vernon Ladies' Association 2016). In 1775 he became Colonel of the Fairfax militia and fought with Washington in the campaigns in New Jersey and the Battle of Germantown in 1777 (Norglobe, Inc. 2016). After the war, Gilpin served in several local positions. He served on the Common Council and was appointed to a number of other local posts. Among these was the town's surveyor, Commissioner of Streets, Director of the Bank of Alexandria, Director of the Little River Turnpike Company, the first judge of the Orphans Court, and the local collector of customs (Miller 1993:180). As the town's surveyor, he may have had considerable influence in the decision to allow merchants to "bank out" into the Potomac River.

George Gilpin's private career as a merchant began after he obtained Lot 62 at the foot of Prince Street from the estate of George Johnson sometime prior to 1769. Gilpin constructed a two-story

warehouse at the southeast corner of Union and Prince Streets sometime in the late 1770s or early 1780s. Soon thereafter, he likely "banked out" his land beyond Union Street and constructed a wharf. It is known that Gilpin's wharf was constructed by 1786, and considerable space was leased on this wharf to other merchants. In that year, Adam Bence, a sailmaker, advertised his shop as being located on Gilpin's wharf (*Alexandria Advertiser*, 8 June 1786 cited in Miller 1993:180). Gilpin also leased locations on his wharf to Captain M'Clenachan, who owned a store that sold West India and New England rum, china, and Queensware; James Irwin, a rope maker; and the firm of M'Leod and Yeatman, which operated a wholesale merchant store. In 1783, Gilpin leased two parcels along the south side of Prince Street to Andrew Wales and Michael Madden, who constructed a store at 106 Prince Street (Miller 1993:180).

In 1795, merchant James Cavan placed advertisements in the *Alexandria Gazette* noting he sold oranges, salt, sugar, candy, pork, pitch and tar from Gilpin's wharf (AG, 9 July 1795, cited in Miller 1993:181). Other advertisements in 1801 note that John G. Ladd had a frame warehouse on Gilpin's wharf from where he sold various wet and dry goods (AG, 6 August 1801, cited in Miller 1993:181).

George Gilpin continued to own the wharf and much of the surrounding property after the turn-of-the nineteenth century. It appears that he was sharing joint ownership of the property with his sons Joshua and Thomas Gilpin, both of whom lived in Philadelphia. Four years before his death in 1813, Gilpin began selling off his assets. In 1809, Gilpin put up for sale five lots on Water (Lee) Street (between Prince and Duke Streets. He also advertised in the *Alexandria Gazette* (29 May 1809) his desire to sell much of his waterfront property:

> ...The other lot has a front of 44 feet on Union Street and extending 220 feet to the Potomac River... On the front there is a valuable wharf, which is at present fit to accommodate large vessels, and may, if necessary, be extended to seven fathom water. There is on the water lot a store house 20 by 40 feet, two story high, built of stone, the streets in front of the above lots are well paved. For terms of sale apply to Joshua and Thomas Gilpin, the proprietors, in Philadelphia or George Gilpin in Alexandria.

5.4.3.4 Lawrason and Fowle's Wharf

James Lawrason and William Fowle would acquire much of the Gilpin property at the waterfront in the early nineteenth century. The two men formed a mercantile partnership with Lawrason as the senior partner. The mercantile company of Lawrason and Fowle traded tea, fabrics, molasses, candles, and other goods from their warehouse that faced The Strand (Riker 2009).

One of the largest fires in Alexandria's history broke out at the waterfront between Duke and Prince Streets in 1810. The fire was so destructive that nearly every building at this location, including Lawrason and Fowle's warehouse, was destroyed. The partners rebuilt their warehouse and likely the wharf on their property at the foot of Prince Street. The wharf became known as Lawrason's wharf and whether it occupied the same site as George Gilpin's wharf is not known. The wharf became known as Fowle's wharf after Lawrason's death in 1819 (Riker 2009).

Fowle went into business on his own after 1820, eventually acquiring sole ownership of the waterfront property he jointly owned with Lawrason. The executor of Lawrason's estate filed a suit against Fowle for retaining all fees on the warehouse and wharf the partners jointly owned in

Alexandria prior to Lawrason's death in 1819, indicating that portions of the wharf and warehouse were rented to other merchants. The case made it all the way to the United States Supreme Court. The Court overturned a previous court ruling against Fowle.

As business prospered in the 1830s and 1840s, Fowle was able to obtain many other warehouses along the waterfront near Prince Street. Fowle's sons, William and George Fowle, took over their father's business, which continued to prosper into the 1850s. During this time, the Fowles specialized in trading guano, a nitrogen-rich fertilizer from Peru (Riker 2009).

After the Civil War, Philip Hooe acquired most of the Fowle family holdings along the waterfront. Hooe acquired the property and businesses through his wife, who was William Fowler Sr.'s granddaughter. By 1885, Fowler's wharf, located at the south end of Prince Street, was known as the Mount Vernon Boat Wharf. The wharf at this time contained a one-story freight shed. Hooe's grain warehouse was located southwest of the wharf (Sanborn Map Company 1885:Sheet 9) (Figure 72). Hooe's mercantile business sold various goods including plaster, tobacco, grain, fertilizer, salt and flour. Grains, however, were the primary good the firm traded (Miller 1993:198).

A decade later, in 1896, Philip Hooe's grain warehouse was by this time the site of Godfrey Laundry Company and warehouses used by Virginia Beef Extract and Beef Meal Company (Sanborn-Perris Map Company 1896:Sheet 8) (Figure 73). The fire of 1897 destroyed many of the warehouses along the Prince/Duke Street corridor, including the Virginia Beef Extract Company, which decided to rebuild at another location in Alexandria (Miller 1993:8). By 1902, the Emerson Pump Company operated out of the warehouses south of Prince Street (Figure 74). Sanborn maps indicate that Fowle's old wharf at the waterfront appears to have been reconstructed by this time, as it was considerably shorter than the wharf depicted on maps from earlier years (Sanborn Map Company 1902:Sheet 18). By 1907, a small generator or pump house was constructed between the Emerson Pump Company and the wharves at the waterfront (Sanborn Map Company 1907:Sheet 14) (Figure 75). By 1921, the Emerson Pump Company vacated the location, which was then housing various companies including a wholesale meat seller, an electric supply company, and an office of the Department of Agriculture Bureau of Markets and Hay Standardization Office (Sanborn Map Company 1921:Sheet 11) (Figure 76).

5.4.3.5 DeWitt Aitcheson's Coal Yard

Dewitt Aitcheson's Coal Yard occupied much of the center part of the block between Duke and Prince Streets along the waterfront in the twentieth century. In the late eighteenth century, land records indicate that Thomas Gilpin came in possession of property noted as being located "in the center of the square between Duke and Prince Streets and extending to the Potomac River" (ACO 1802:DB E:56). Gilpin's daughters, Elizabeth Alexander and Mary Partridge, acquired the property following their father's death. In 1802, the two women sold the property to William Harper (ACO 1802: DB E:56). In 1824, Harper sold the property to Josiah Davis. Davis held the property for many years. The chancery case of Dyer vs. Davis resulted in the division and sale of the property to various parties after the Civil War. Deed transactions note that Davis's property contained two warehouses with adjoining wharfs. One of the wharfs with pier was noted as being 140 feet long and 22 feet wide with a 47-foot wide slip located to the north (ACO 1873:DB 3:412).

The two wharves mentioned in the deed were the two wharves located in the center of the block as shown on both the 1865 Quartermaster and the 1885 Sanborn maps (Figures 70 and 72).

In the 1890s, Dewitt Aitcheson began acquiring portions of the Davis property at the waterfront. The first lot was acquired with his business partner George Hewes from Russel and Catherine Coe in 1891 (ACO 1891:DB 26:10). Hewes and Aitchison were partners who operated lumber and coal yards. Their lumber yard was located at the intersection of Lee and Duke Streets (AG, 3 July 1886). *Alexandria Gazette* advertisements from the 1880s note the firm also operated a coal yard, indicating that they may have been leasing the waterfront property between Duke and Prince Streets before their purchase of it in 1891. Hewes died shortly thereafter, with Aitcheson acquiring sole possession of the property by 1894 (ACO 1894:DB 32:401) (Figure 73).

Aitcheson began acquiring adjacent parcels beginning in 1897 from many of the owners who did not want to rebuild following the fire of 1897. The deed for one lot he acquired from John Hooe in 1897 described the property as containing "burnt warehouses on The Strand between Duke and Prince Streets" (ACO 1897:DB 39:190).

Aitcheson also received permission from the city to construct a service track from the Southern Railway Company's railroad that extended down Union Street to a new pier he constructed following the fire of 1897 (Miller 1993:8). This track and pier appears on the 1902 Sanborn map, which also shows a small one-story office located at the northeast corner of the coal lot adjacent to The Strand (Sanborn Map Company 1902:Sheet 14) (Figure 74).

Aitcheson's coal and wood yard remained in operation through the mid-twentieth century. The 1941 Sanborn map shows that the railroad siding was removed and the wharf was reconstructed by this time (Figure 75). In 1969 and 1970, Star Enterprises, Inc., acquired the site of the Coal Yard from the Aitcheson heirs (ACO 1969:DB 693:467; ACO 1970:DB 717:41). The City of Alexandria acquired the property in 2014 (ACO 2014:DB Instruments 140014335 and 40014334).

5.4.3.6. Pioneer Mills

In the 1850s, William and George Fowle became heavily involved in the establishment of Pioneer Mills, which was constructed between 1853 and 1854. Pioneer Mills was not the first grist mill established in Alexandria, but it became the largest. The six-story mill stood along the waterfront at the end of Duke Street and was powered by a 250-horse power steam engine that turned a dozen mill stones at one time. The American Steam Flour Company owned Pioneer Mills. The Fowle family established the American Steam Flour Company in the early nineteenth century with other investors. The company acquired waterfront property to easily transport large quantities of grain into the facility and flower out in the days before the Orange and Alexandria Railroad provided links to overland markets. After the mill opened in 1854, it produced nearly 800 barrels of flour per day (Roberts 2014).

Pioneer Mills occupied the whole block east of The Strand and south of Duke Street. Smith and Perkins developed the powerful steam engine used by Pioneer Mills (Pulliam 2011:35). The *Alexandria Gazette* (11 March 1854) described the mill in 1854 as a six-story brick building with a slate roof and provided the following details:

> The main building being 80 feet deep – and the engine room 32 – making a total depth of 112 feet. It is six stories high, and the roof above high water mark, or 73 feet from the first floor...12-run-of-burr mill stones and splendid steam engine of 250 horse power... consume from three to five thousand bushels of wheat and turn out six to eight hundred barrels of flour. Attached to the Mill is an elevator for taking grain from the holds of vessels, and carrying it directly into the building. Large vessels can be loaded directly at the door of the Mill. A wharf has been constructed on the north side of the building on which a switch from the track of the railroad on Union Street will be laid – so that grain form the cars will be brought, also, directly to the Mill.

During its early years, William Fowle served as the president of the American Steam Flour Company. Robert F. Robert was the chief miller. By 1860, G.Y. Worthington was in charge of the mill. By this time, production had dropped significantly. In 1855 Pioneer Mills sold 54,500 barrels of flour. In 1860, it sold only 1,500 barrels (Mullen et al. 2014:30). A year later, the mill was abandoned with the Union occupation of Alexandria. During the Civil War, the Union army used the mill and the adjacent wharf for military storage. Military maps depict the wharf as a 104-x-41-ft structure adjacent to the north end of the mill at the end of Duke Street (U.S. Army Quartermaster Corps 1865) (Figure 70).

Attempts to revive the mill occurred after the war failed. The mill was abandoned and in poor condition by the time the Potomac Manufacturing Company purchased it in 1883. The Potomac Manufacturing Company purchased the mill solely for its steam engines, which they repurposed to power their iron works located at the foot of Wolfe Street. In 1899, the Bryant Fertilizer Company purchased the mill which was finally destroyed in a fire a year later (Miller 1990b:98).

5.4.3.7 The Beachcomber Restaurant

The Beachcomber Restaurant was one of the first restaurants established along the waterfront in the late 1940s. The restaurant was constructed on pilings into the river at the foot of Prince Street. In the early 1940s, the waterfront at Prince Street contained only a single wharf. In 1945, Clarence Robinson acquired the waterfront south of the wharf from Harry J. Callow (Riker 2008a:2). Two weeks after its acquisition, Robinson leased the property to Edward C. Wayne, John G. Bethea, and Thomas A. Hulfish, Jr. The lease provided the following (ACO 1945:DB 218:88):

> ... all that parcel of ground conveyed to Clarence J. Robinson by Harry J. Callow, lying east of the Strand for a term of 20 years...paying there from during said term the sum of $40.00 per month.... It is mutually agreed, however, that the rent period shall begin at such time as the said parties ... start building operations upon said premises.

Wayne, Bethea, and Hulfish applied to the City of Alexandria for a permit to build a two-story cinder-block restaurant on concrete piles, with a stairway to the roof. Estimated cost of the project was $1,900. In 1946 the Beachcombers Restaurant opened with Wayne as its first manager. The restaurant was a 3,630-square-foot building erected on fluted concrete pilings set out on the Potomac River. It contained wraparound wooden porches that extended around the entire building. Alice Roosevelt Longworth became a frequent visitor restaurant and perhaps its most famous patron (Riker 2008a:7–8).

On 23 January 1954, a fire broke out in the Beachcomber, significantly damaging the first and part of the second floor. The owners decided to close the restaurant after the fire, and the building

remained vacant for many years. By the 1960s, the International Armaments Corporation, the world's largest handlers of foreign army surplus, began using the building for storage. The building remained in use for storage in the following years as redevelopment of other portions of the waterfront began (Riker 2008a:10).

5.4.4 Known Archaeological Resources

No archaeological resources have been registered with VDHR within the Prince Street to Duke Street segment. One archaeological resource, 44AX0229, is located to the northwest of the intersection of The Strand and Duke Street. Site 44AX0229 consists of the remains of the eighteenth-century Carlyle warehouse, associated features (including eighteenth- and nineteenth-century privies), the eighteenth-century bulkhead, and a portion of an eighteenth-century ship used as fill. This site was found eligible for listing in the NRHP and the adverse effects associated with construction were mitigated.

The Office of Historic Alexandria also identified several potential archaeological resources within this segment. These include Thomas Flemming's shipyard dating to the 1760s along Duke Street, Point Lumley along Duke Street, Gilpin's wharf, and The Strand.

5.4.5 Potential Archaeological Resources

Historical map research indicates that the Prince Street to Duke Street segment was within the Potomac River at least through 1749 (Figure 12). Portions of the area continued to be within the river through 1803 with the exception of areas immediately adjacent to Duke Street (Figures 13–15). The areas adjacent to Duke Street were on Point Lumley. This suggests that most of the segment, with the exception of areas along Duke Street, has a low potential for the presence of Native American resources. Areas adjacent to Duke Street would have a high potential for Native American resources given the proximity of the area to the Potomac River at and prior to 1749.

As mentioned in the previous subsection, OHA suggests that remains associated with a 1760s shipyard may be present along Duke Street. The Prince Street to Duke Street segment also is known to have been the location of numerous wharves in the nineteenth and twentieth centuries. The earliest wharf, the Point Lumley Public Wharf, is depicted on the 1775 city plan map (Figure 13). Also present by 1788 were three structures, stores and warehouses, on Point Lumley (Figure 69). Another early wharf, Gilpin's wharf, is known to predate its depiction on an 1803 map (Figure 15). Subsequently, the number of wharves present in this segment increased from one to three by 1838 (Figure 16) and four by 1845 (Figure 18). Four wharves continued to be present into the twentieth century, although between the 1920s and 1940 two had been removed or filled (Figures 69–79). During this period, smaller piers were also constructed between the wharves, including one that held a boat club house, depicted between 1885 and 1912 (Figures 72–75).

For reference, Table 4 provides a summary of the presence and number of wharves and structures within the Prince Street to King Street LOD as depicted on maps dating between 1749 and 1959.

The wharves and property adjacent to the wharves contained numerous structures as well. The first depicted on maps is the Hooe and Harrison stores and warehouse on a 1788 plat map (Figure 69) (Claypool 2014). The next depicted is a Civil War barracks and storehouse noted at

Corporation wharf (southernmost of the wharves in this segment) (Figure 70). Subsequently, various mills, warehouses, and smaller unnamed sheds and structures, are depicted on maps from 1877 to the 1940s (Figures 71–78). Tramways and conveyors are also present.

The historic context and map review for the Prince Street to Duke Street segment suggests that a high potential remains for the presence of wharves, at least one of which predates the nineteenth century. Other structures (most notably the late eighteenth century store and warehouses and the later mill/industrial complex adjacent to the southernmost wharf) are present on land adjacent to the wharves, and smaller structures were also constructed atop the wharves themselves.

With the area known to have been filled, both early in the waterfront's history in the late eighteenth century and in the early to mid-twentieth century, there remains a high potential for archaeological resources within the Prince Street to Duke Street segment. The potential for Native American resources is greatest adjacent to Duke Street, while Historic period resources associated with industry, transportation, and the waterfront are likely present throughout the segment. Undoubtedly, infrastructure installation has impacted these resources. However, given the scale of such impacts in relation to the size of the resources, there remains a high potential for the presence of intact archaeological resources within the Prince Street to Duke Street segment.

5.4.6 Geotechnical Borings

Boring BH-1 was placed in a parking lot south of Prince Street and east of The Strand (Figure 66). The boring was placed in the vicinity of the southernmost of two wharves designated No. 14 on the 1864 Scholl map. The initial 12 feet below surface consists of modern fill deposits. Below that level, to 55 feet below surface, each sample contained wood fragments and a few contained brick fragments as well. The soil consisted of dark brown (10YR3/3) sandy clay transitioning to dark yellowish brown (10YR4/4) sandy clay at 40 feet below surface. At 58.5 feet below surface dark yellowish brown (10YR4/4) sand bedded with gley clays and gravel was encountered.

It is likely that the deposits to 12 feet below surface represent a combination of the wharves and fill deposits associated with nineteenth- and twentieth-century infilling of areas adjacent to the wharves. Below 12 feet below surface to 55 feet below surface are fill deposits dating to the eighteenth century representing infilling of the mud flat along the Alexandria waterfront.

5.4.7 Recommendations

Figure 80 (page 143) depicts an overlay of proposed above-surface improvements and the location of potential archaeological resources between Duke and Prince Streets onto a 15 to 30 percent Design Schematic. This figure indicates that at least seven potential resources could be impacted if present and if construction-related excavations are of sufficient depth. Figure 81 (page 144) depicts an overlay of proposed storm sewer and bioretention improvements and the location of potential archaeological resources between Duke and Prince Streets onto a 15 to 30 percent Design Schematic. Potential archaeological resources at eight locations could be impacted by these improvements. The archaeological resources include portions of three wharves present in this segment and seven buildings minimally dating between 1865 and 1921 that are located at or adjacent to the wharves. The geotechnical borings conducted within this segment suggest that 12 feet of modern fill is likely present between the ground surface and deposits associated with the

eighteenth-century filling of the river front. Resources could be present within this upper fill deposit.

As planning advances, potential depth of construction-related excavations should take into account the potential presence of archaeological resources in this area. If excavation depths are planned within the initial 12 feet below surface, preliminary identification excavations conducted by a qualified archaeologist should be conducted to provide a baseline for expectations during the construction stage of the AWFM project. If construction-related excavations are expected within this initial 12 feet below surface, monitoring of the construction excavations and archaeological documentation of identified resources may be required by both OHA and VDHR. If archaeological resources are present, the City of Alexandria would be required to consult with VDHR and OHA on the NRHP eligibility of the archaeological resource. If eligible, data recovery or other mitigation measures would be implemented under terms of a Memorandum of Agreement.

Finally, while it is likely that most if not all mapped resources were constructed on the surface of (or perhaps to some extent into) the late eighteenth-century infilling (or banking out) of the waterfront cove and its associated mud flat, additional unknown resources could in fact be present within the fill. Resources such as part of an eighteenth-century ship were found in the late eighteenth-century fill deposits near the south end of the AWFM LOD. While the estimated maximal depth of deposits based on resources depicted in maps and through historical record documentation, undocumented resources, both within the initial fill deposits, and in the earlier fill, could be present.

Table 4. Historical map overview for Prince Street to Duke Street.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1749	City Plan	North portion on mud flat and in river, south portion on or adjacent to Point Lumley	None depicted	
1775	City Plan	South edge of segment overlaps with Point Lumley Public wharf, remainder of segment within river	None depicted	Later called Corporation wharf
1788	Plat	Point Lumley land plat with three structures depicted	Hooe and Harrison store and warehouses	
1798	Thomas	River and mud flat filled to west, including Prince Street; no obvious wharfs depicted	None depicted	
1803	City Plan	Gilpin's wharf	None depicted	
1838	Kearny	Three wharves depicted	None depicted	Northernmost wharf outside project LOD
1842	U.S. Coast Survey	Five wharves depicted	One structure at southernmost wharf	Two wharves outside of project LOD
1845	Ewing	Four wharves present (north to south): western third of Fowle's wharf in LOD, two unnamed wharves, Corporation wharf	None depicted	Four wharves north to south: western third of Fowle's wharf in LOD, two unnamed wharves, Corporation wharf
1864	Scholl	Fowle's wharf is Wharf No. 13, two unnamed wharves are combined as Wharf No. 14, Corporation wharf is Wharf No. 15	None depicted	No. 13 loads cavalry or infantry onto 3 vessels; No. 14 loads cavalry or infantry onto 1 vessel each; No. 15 loads cavalry or infantry onto 1 vessel
1862	U.S. Coast Survey	Five wharves depicted	None depicted	North to south, Irwin's, Janney's, unnamed, Powell's, and unreadable; two wharves outside of project LOD
1863	U.S. Coast Survey	Five wharves depicted	None depicted	Two wharves outside of project LOD
1865	Quartermaster's	Four wharves depicted (north to south): U.S. Transportation wharf (mainly outside project LOD); unnamed wharf (mainly outside project LOD); unnamed wharf; Hay wharf	Barrack's & storehouse adjacent to Hay wharf	Small pier or wharf just north of Hay wharf
1877	Hopkins	Four wharves depicted	Three structures adjacent to west of Wharf No. 15. Structure, denoted as Spoke & Sumac Mill	Wharves No. 13 and 14 north, are not in the project LOD; Wharf No. 15 is City of Alexandria with adjacent mill to west
1885	Sanborn	Four wharves present; boat club house and pier present between Wharves No. 14 south and No. 15	Three structures adjacent to west of Wharf No. 15; boat house between Wharves No. 14 south and No. 15	Wharf No. 15 structures denoted as E. Rosenthal Sumac Mill
1896	Sanborn	Four wharves present; boat club house and pier present between Wharves No. 14 south and No. 15	Three structures adjacent to west of Wharf No. 15 along with engine and scales; boat house and pier between Wharves No. 14 and 15; Wharf No. 14 south has elevated tramway to west to D.W. Aitchenson's Coal Yard;	Wharf No. 15 structure denoted as A. Bryant's Bone Mill; boat house labeled Old Dominion Boat Club
1902	Sanborn	Four wharves present; boat club house and pier present between Wharves No. 14 south and No. 15	Three structures adjacent to west of Wharf No. 15 along with scales; Wharf No. 14 south with conveyor belt and denoted as D.W. Aitchenson's Coal and Wood Yard;	Structures adjacent to Wharf No. 15 denoted as Acid House
1904	U.S. Coast and Geodetic Survey	Five wharves depicted	None depicted	Two wharves outside of project LOD

Table 4. Concluded.

YEAR	MAP	DESCRIPTION	STRUCTURES	COMMENTS
1907	Sanborn	Four wharves present; boat club house and pier present between Wharves No. 14 south and No. 15	Emerson Pump Co. engine within project LOD to west of Wharf No. 13; Three structures adjacent to west of Wharf No. 15; boat house and pier between Wharves No. 14 and 15	Wharf No. 15 and adjacent structures denoted as Bryant Fertilizer Company
1912	Sanborn	Wharves No. 13, 14 north, and 15 same as prior map; Wharf No. 14 south expanded to incorporate boat house	Engine adjacent to Wharf No. 13 labeled "not used"; boat house between Wharves No. 14 south and 15; three structures adjacent to Wharf No. 15	Structures adjacent to Wharf No. 15 labeled vacant
1921	Sanborn	Wharves No. 13, 14 north, 14 south, and 15 present	Wharf No 14 north with two structures ("Auto" and "Shed"); boat house on Wharf No. 14 south; three structures west of Wharf No. 15 ("storage") and small structure at east end	Wharf No. 14 south listed as Richard W. Wattles Corn and Feed Mill
1923	U.S. Army Corps of Engineers	Five wharves depicted	None depicted	Two wharves outside of project LOD
1941	Sanborn	Wharves No. 13 and 14 north either removed or filled; Wharves No. 14 south and 15 present	Wharf No. 14 south includes Old Dominion Boat Club house and small structure at east end; three structures west of Wharf No. 15 ("storage") and small structure at east end	No occupants listed
Revised 1959	Sanborn	Single wharf (No. 15) present, others infilled or removed. Significant infilling in north part of area.	Small building on Wharf No. 15; two structures (Marine Equipment and Boat Rep.) to west of Wharf No. 15; Guns and Ammunition warehouse at north end of area (not in project LOD)	No occupants listed

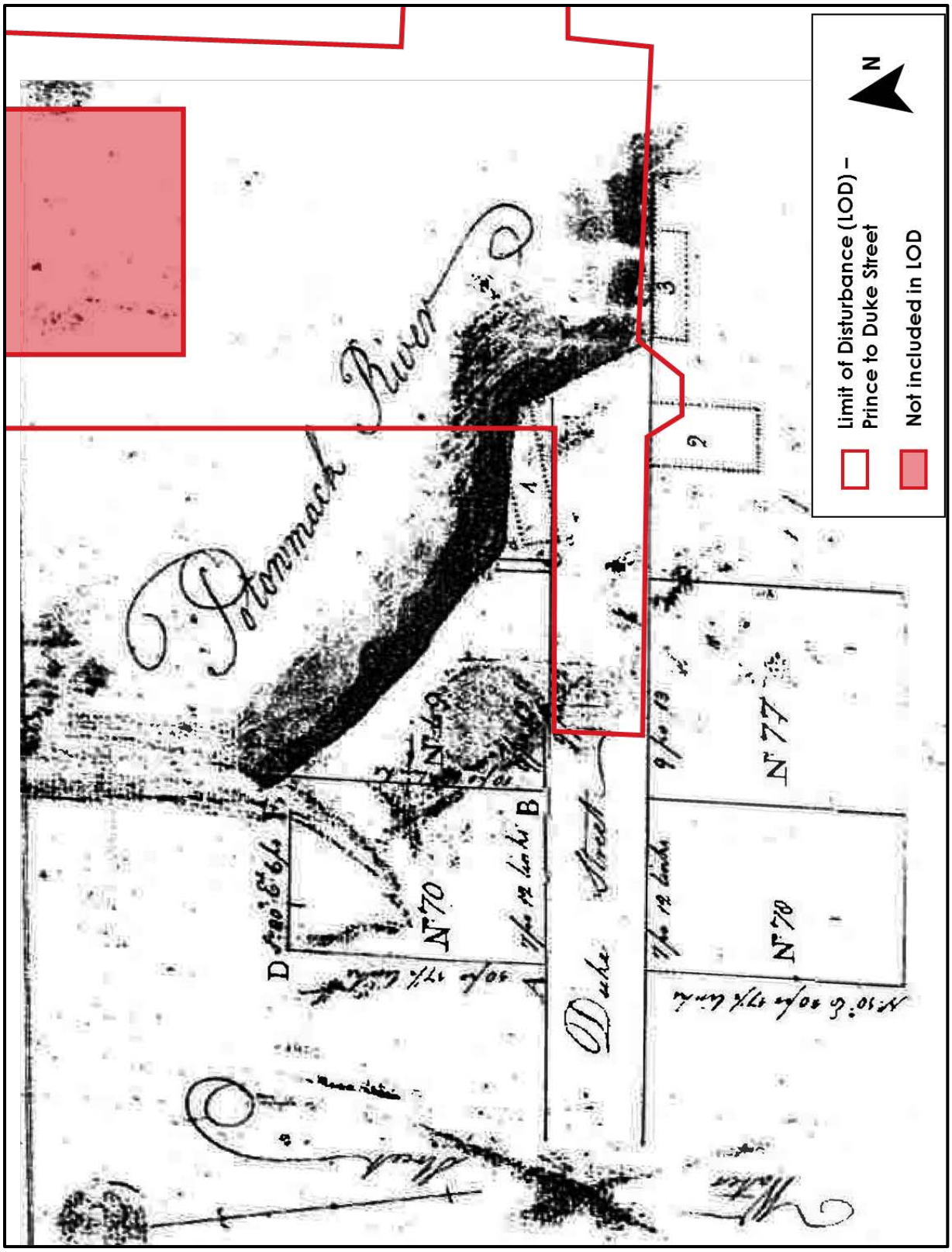


Figure 69. 1788 plat map depicting the Point Lumley portion of the Prince Street to Duke Street segment (adapted from Claypool 2014:Figure 5).

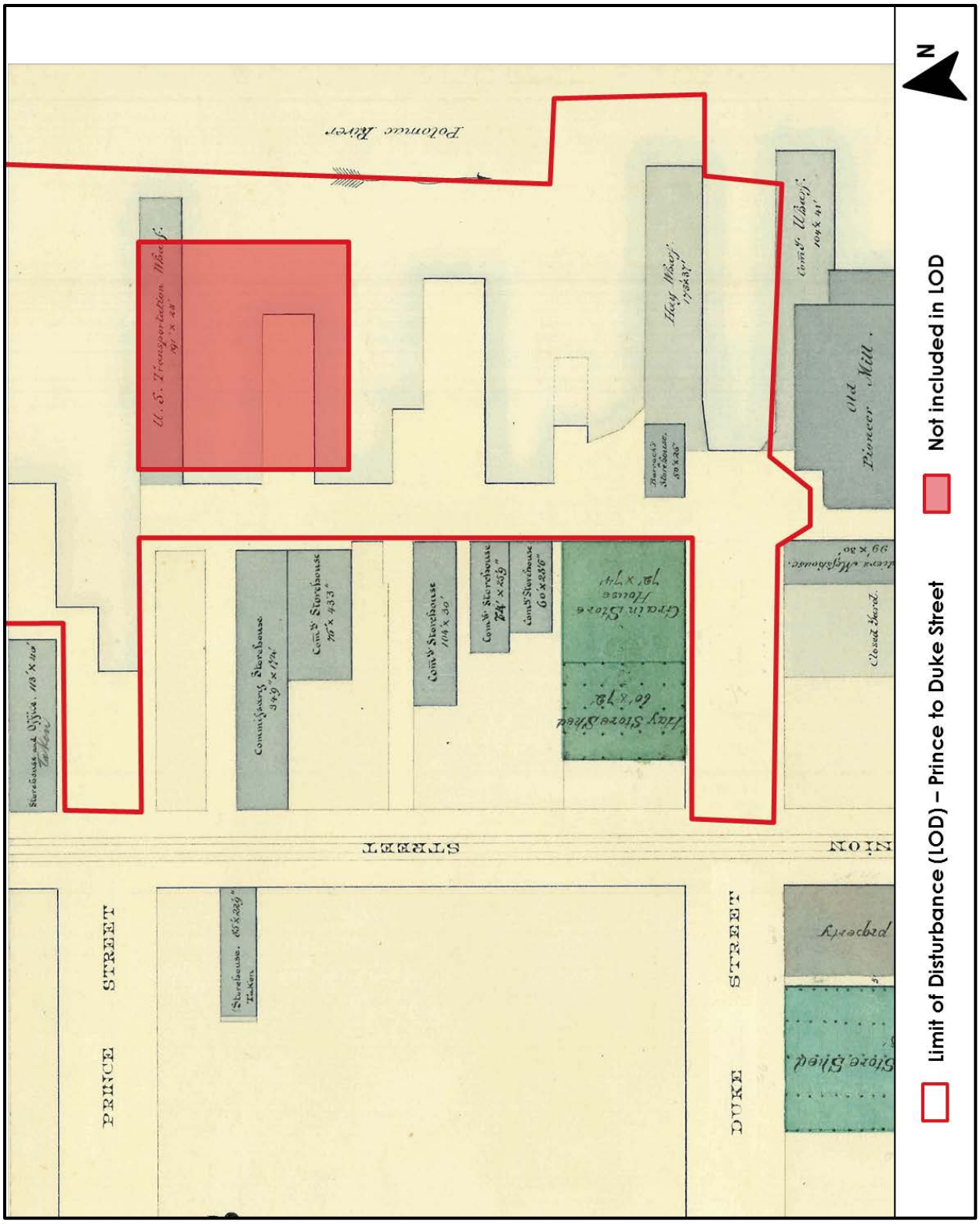


Figure 70. 1865 Quartermaster's map depicting the Prince Street to Duke Street segment (U.S. Army Quartermaster Corps 1865).

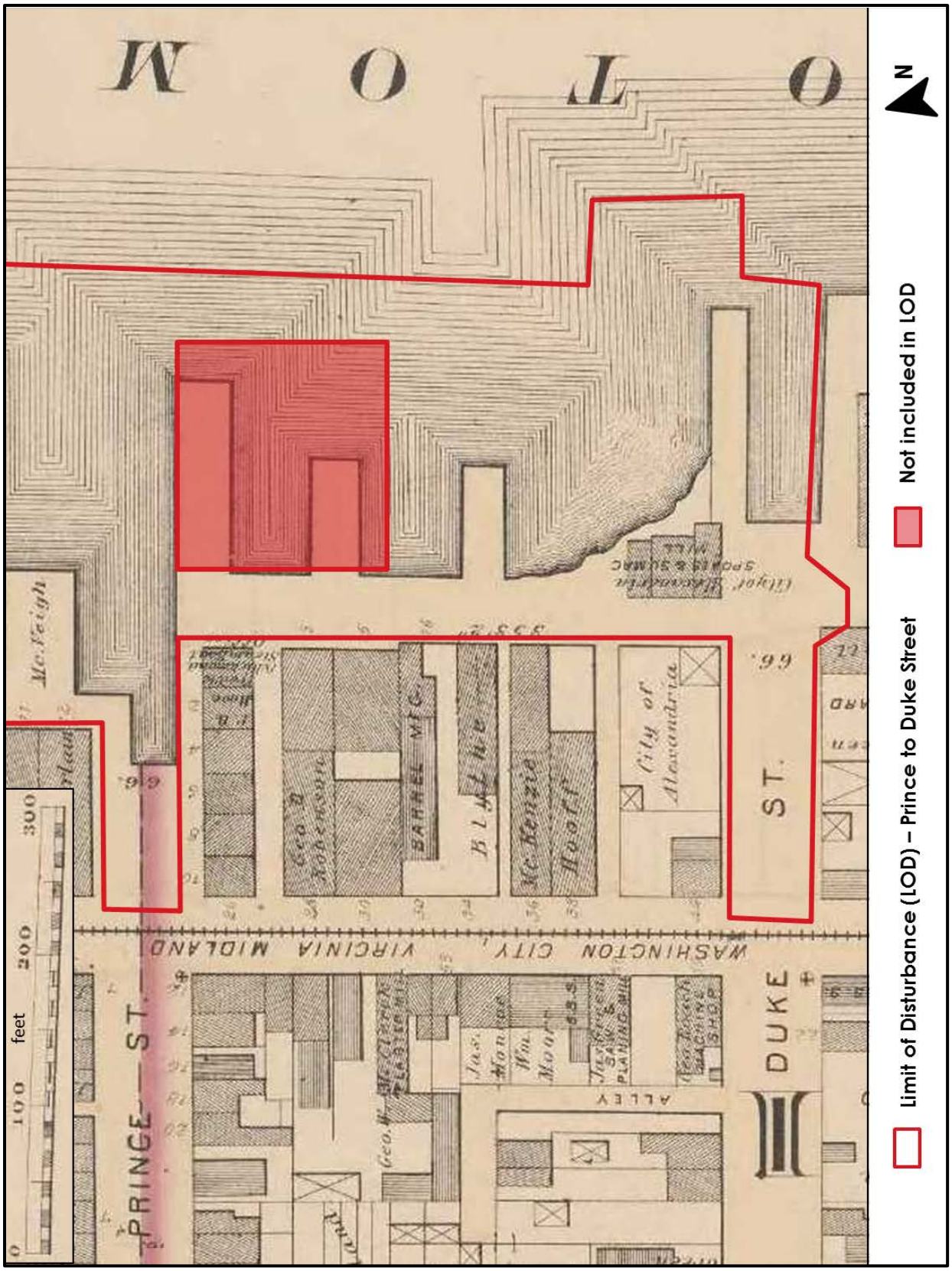


Figure 71. 1877 Hopkins map depicting the Prince Street to Duke Street segment (Hopkins 1877).

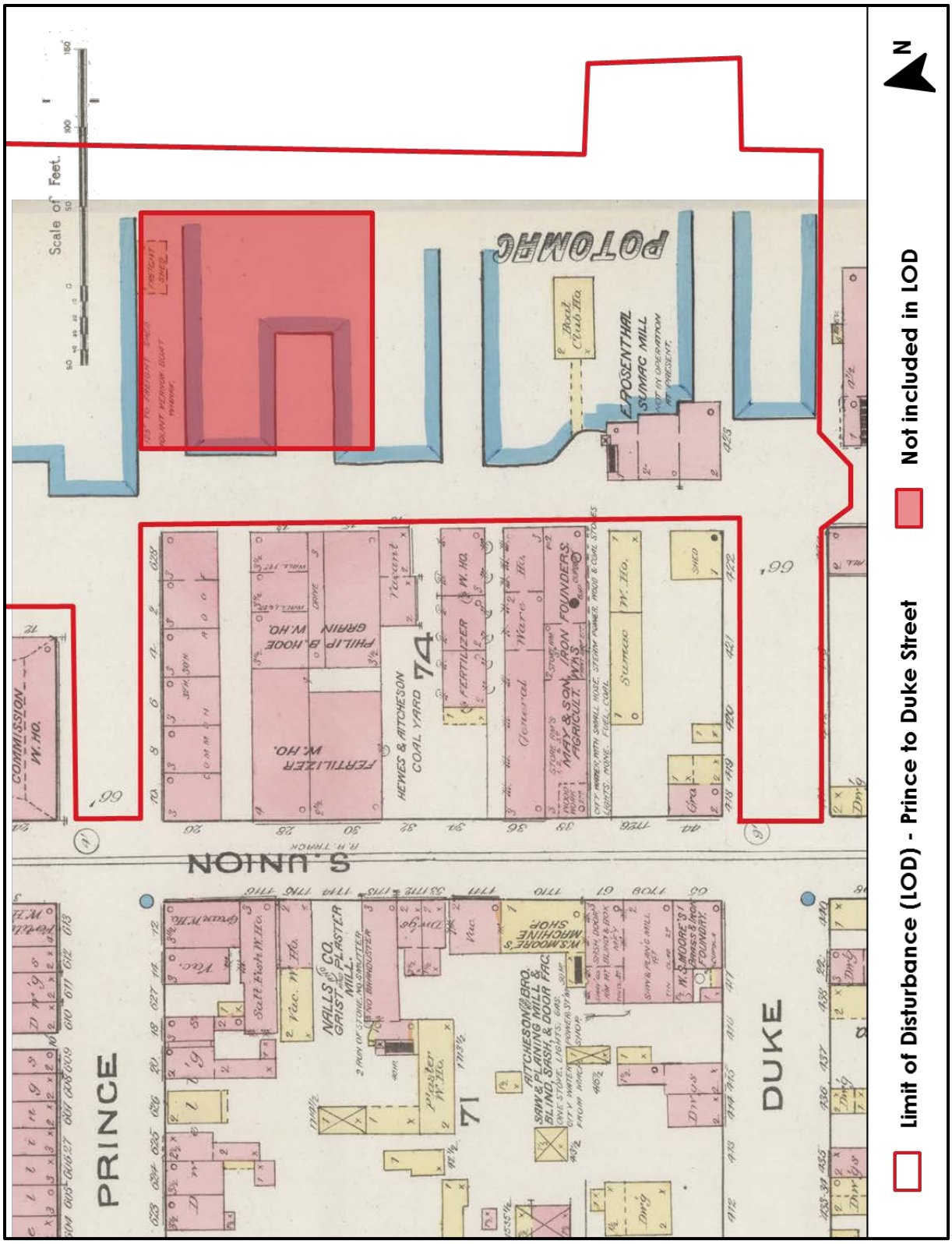


Figure 72. 1885 Sanborn map (Sheet 9) depicting the Prince Street to Duke Street segment (Sanborn Map Publishing Company 1885).

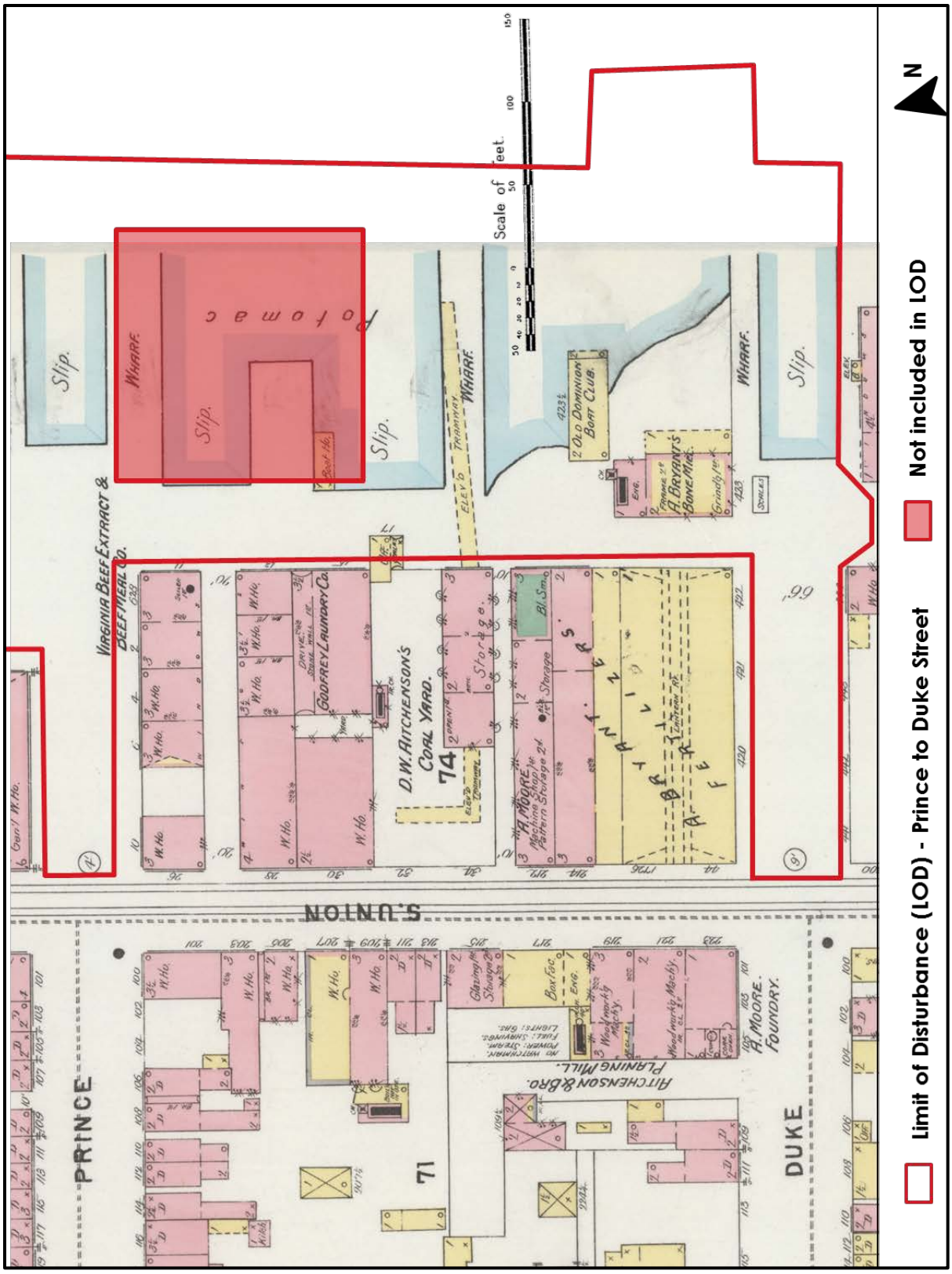


Figure 73. 1896 Sanborn map (Sheet 8) depicting the Prince Street to Duke Street segment (Sanborn-Perris Map Company 1896).

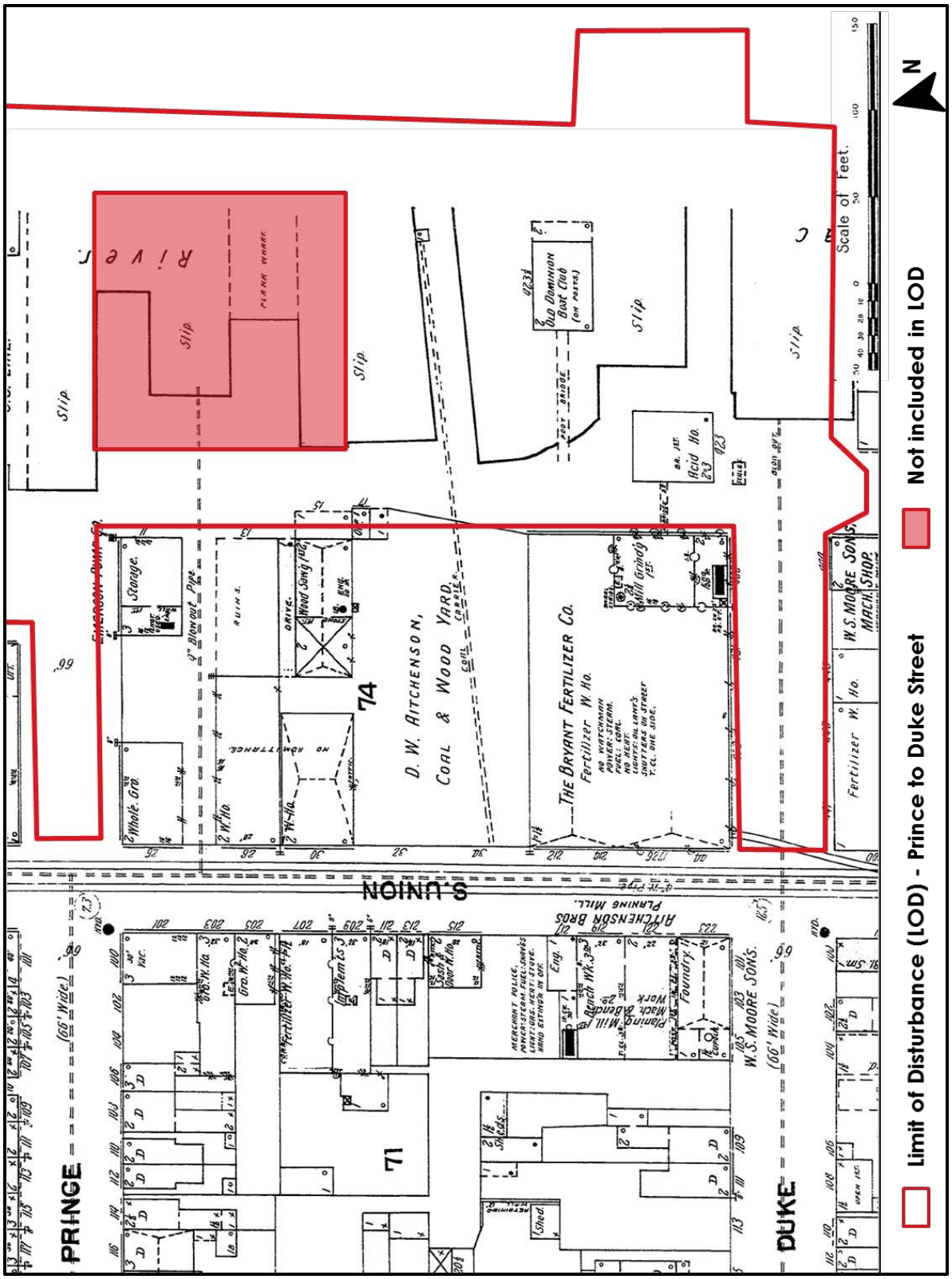


Figure 74. 1902 Sanborn map (Sheet 14) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1902).

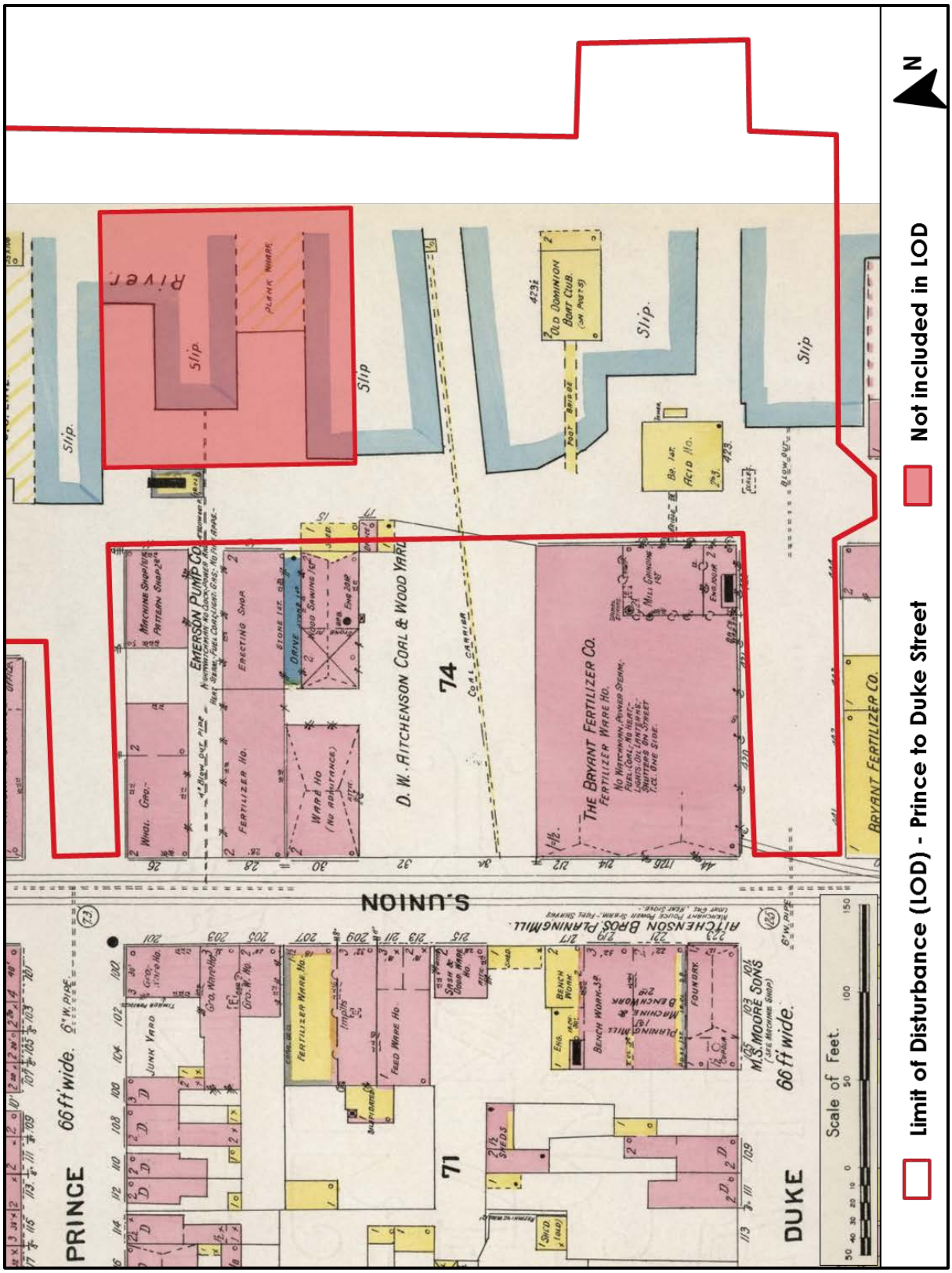


Figure 75. 1907 Sanborn map (Sheet 14) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1907).

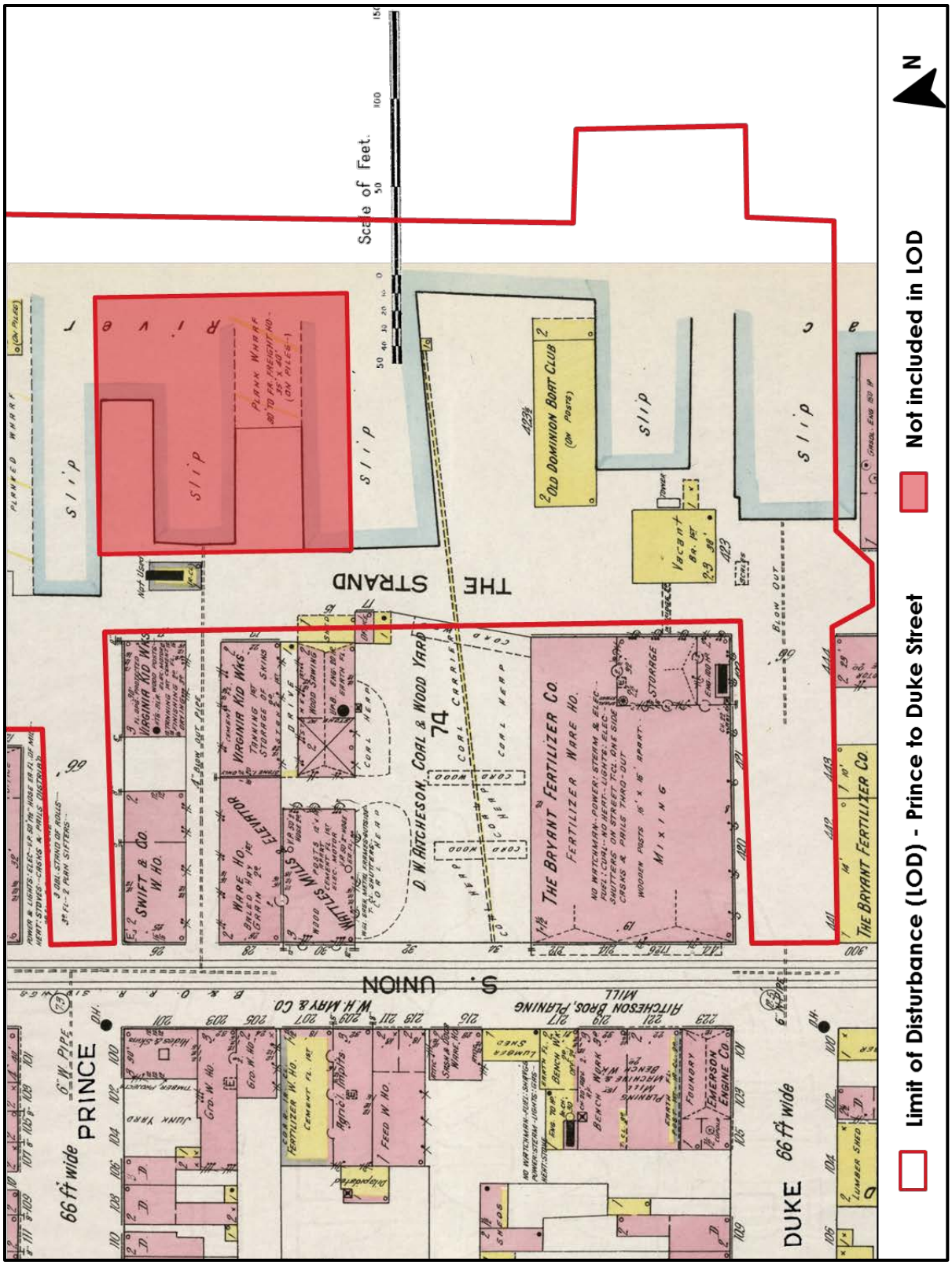


Figure 76. 1912 Sanborn map (Sheet 14) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1912).

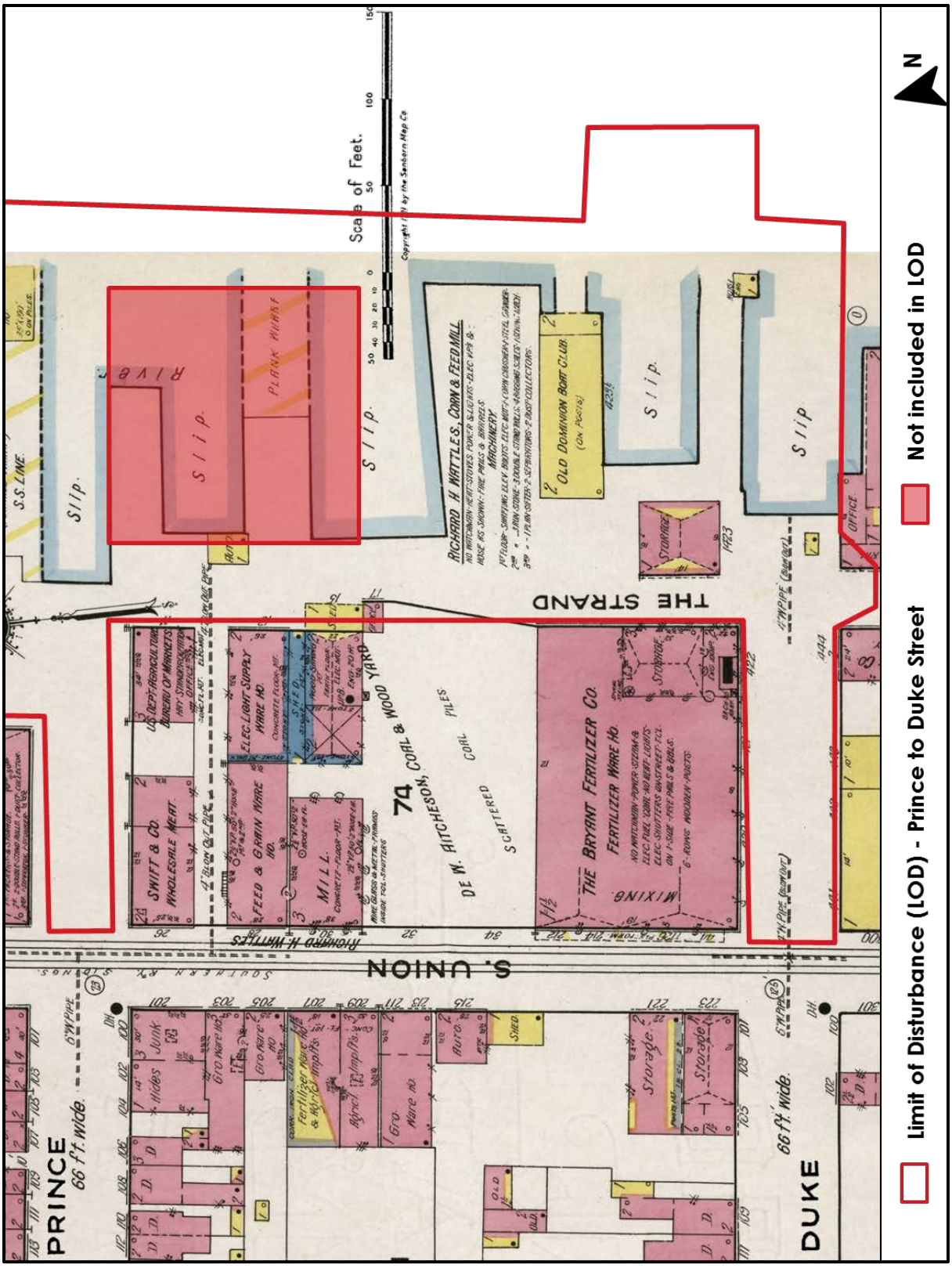


Figure 77. 1921 Sanborn map (Sheet 11) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1921).

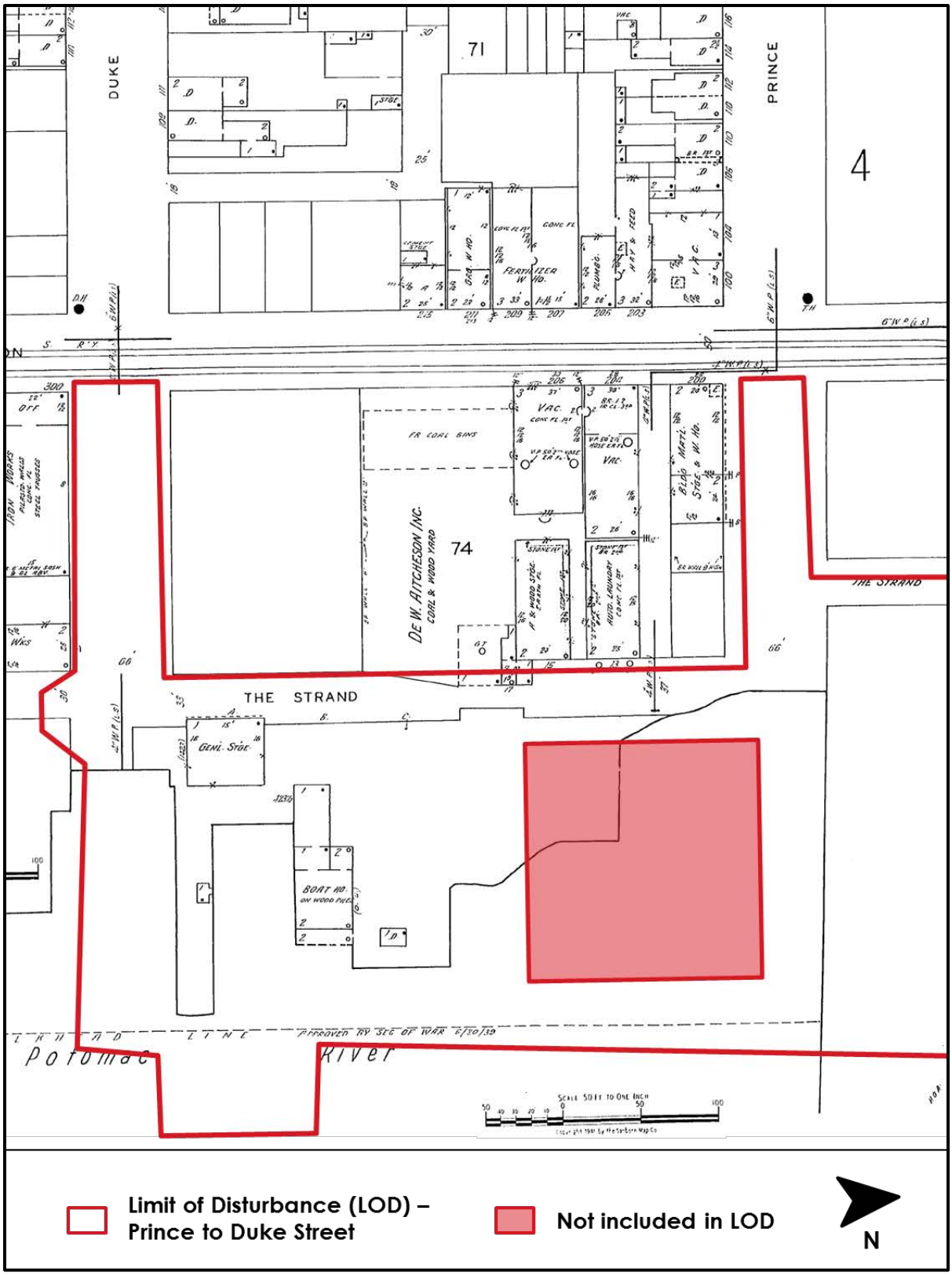


Figure 78. 1941 Sanborn map (Sheet 12) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1941).

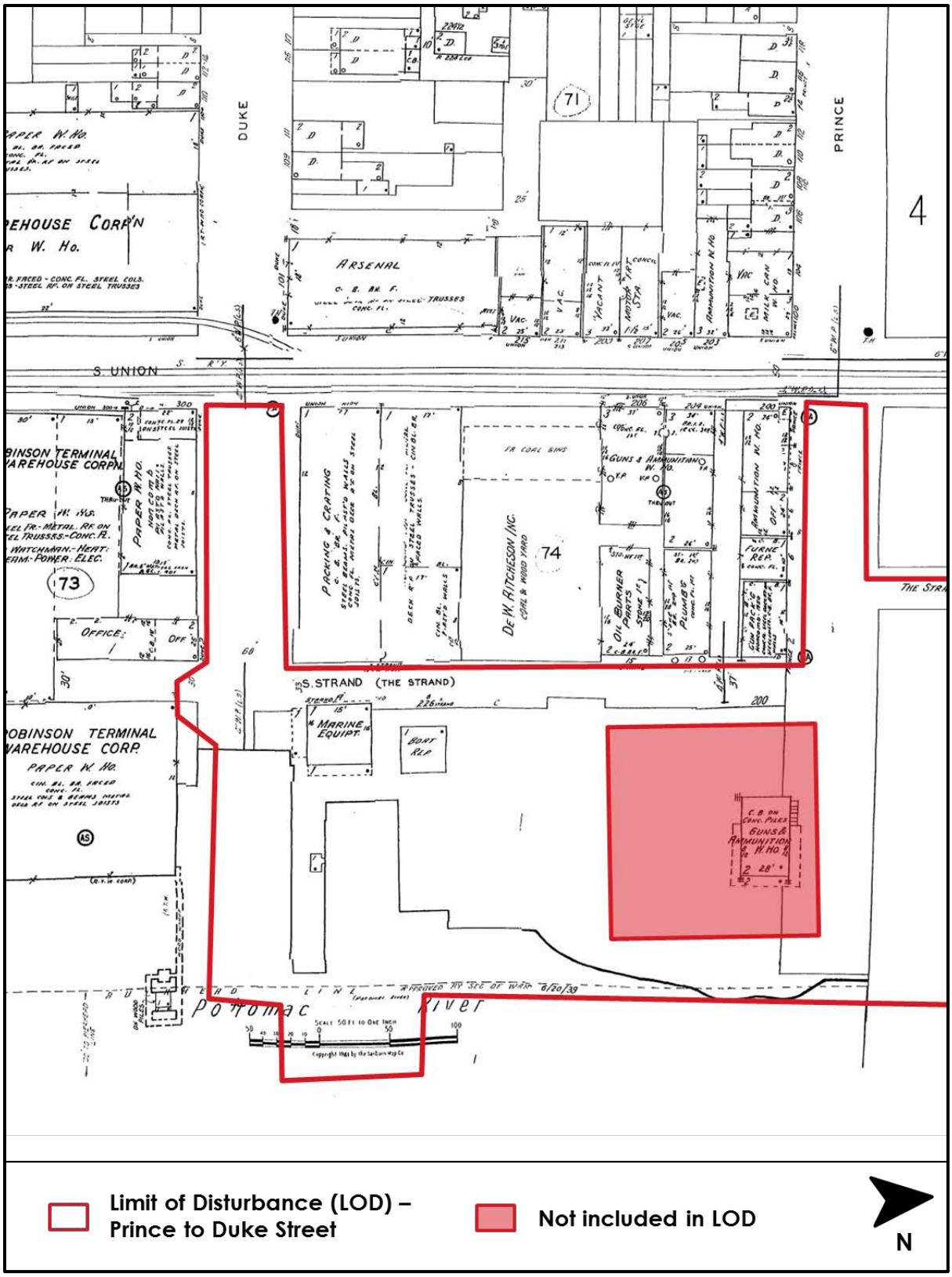


Figure 79. 1941 revised 1959 Sanborn map (Sheet 12) depicting the Prince Street to Duke Street segment (Sanborn Map Company 1959).

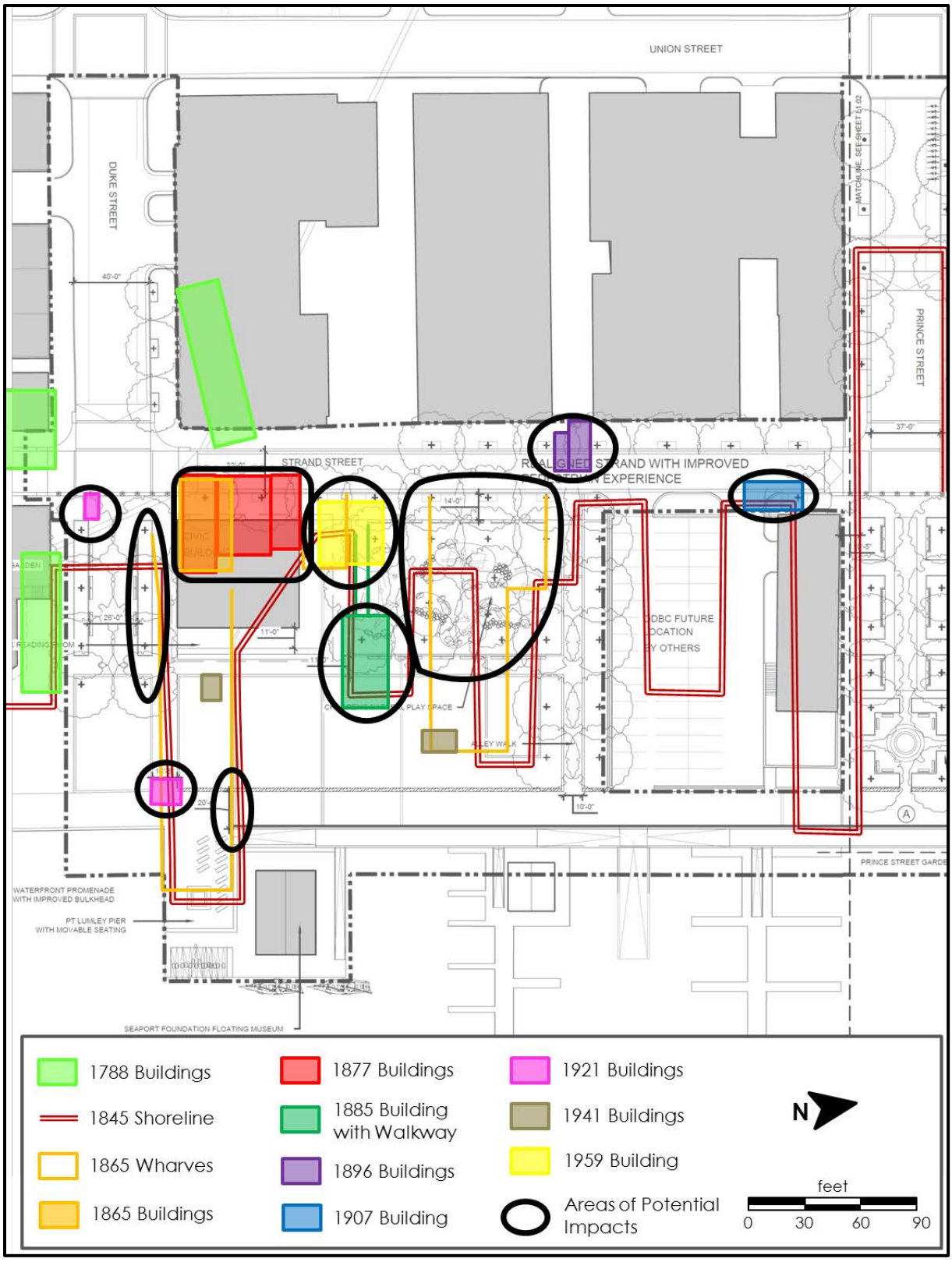


Figure 80. Overlay of potential archaeological resources (Prince Street to Duke Street) onto 15 to 30 percent plan map for above-ground development.

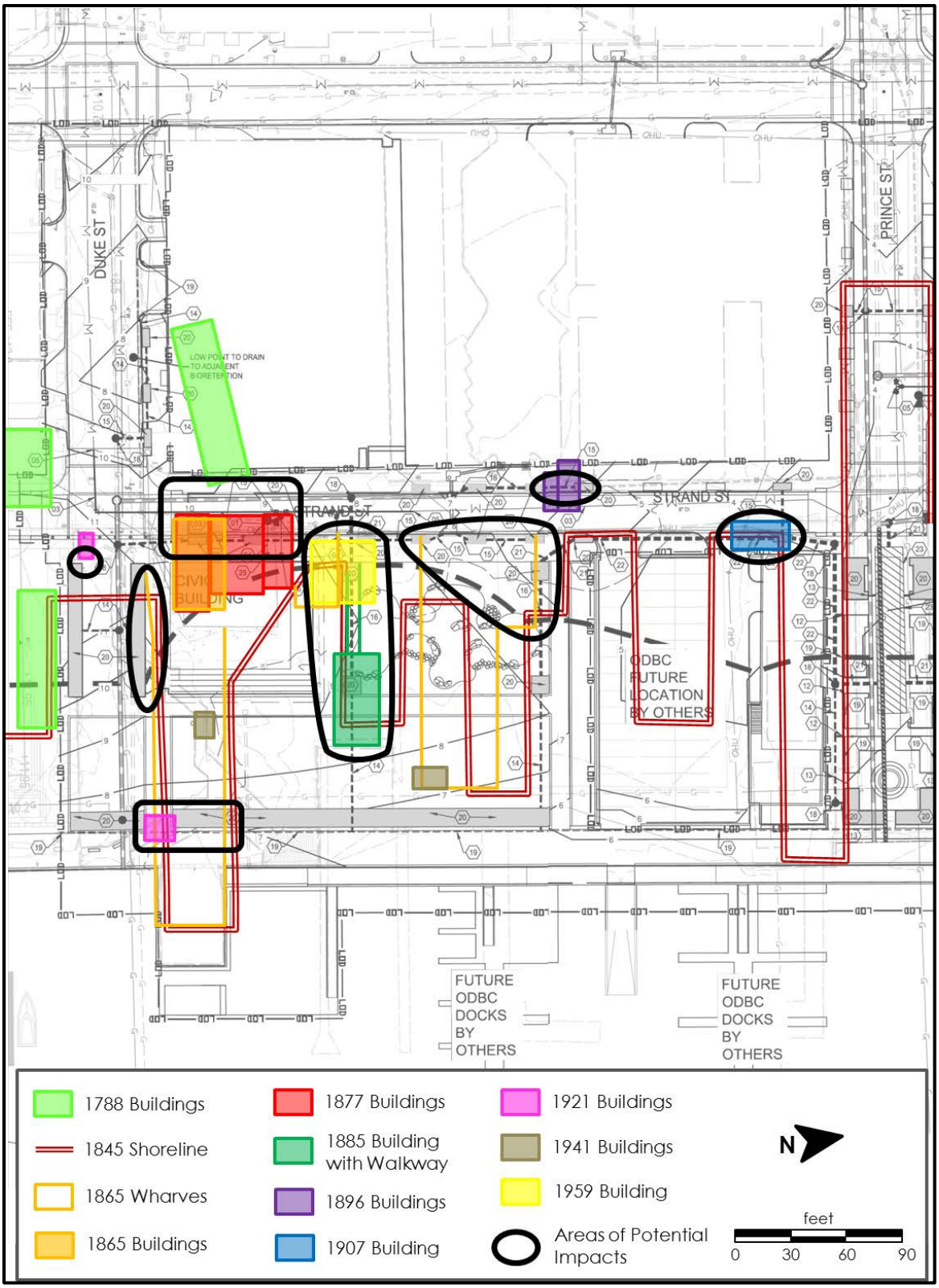


Figure 81. Overlay of potential archaeological resources (Prince Street to Duke Street) onto 15 to 30 percent plan map for stormwater facilities.

5.5. Submerged Resources

Each of the four AWFM LOD segments discussed in this report include portions of the Potomac River and its bottom, mainly terminating to the west of the Commonwealth of Virginia/District of Columbia boundary, but in a few instances extending eastward into the District of Columbia. Three distinct submerged resources could be present within the project LOD: remains of removed wharves or wood piles from piers, which have been noted in the segment-by-segment overview presented in this section; pre-Paleoindian and Paleoindian resources; and submerged (sunken) vessels.

As mentioned, the remains of removed wharves and piles from wooden piers could be present in the project LOD and these have been noted on a segment-by-segment basis earlier in this section and are not considered further. Also noted in the segment-by-segment discussion is the potential for the presence of pre-Paleoindian and Paleoindian resources. During the most recent period of glaciation, sea levels decreased significantly, and river channels, such as that of the Potomac, were greatly diminished in size. Much of what is now river bottom was exposed for thousands of years and provided a habitable zone for both wildlife and pre-Paleoindian and Paleoindian Native Americans. Researchers such as Dent (1995) suggest that pre-Paleoindian and Paleoindian sites are now submerged along waterways such as the Susquehanna and Potomac Rivers. In general, this would suggest that the area to the east of the current shoreline but west of the main channel of the Potomac River would have an elevated (but realistically unknown) potential for the presence of pre-Paleoindian and Paleoindian resources. However, dredging, removal of submerged (sunken) vessels, and construction and removal of the numerous wharves and piers all would have impacted any resources present. While understanding that the presence for such resources exists, the lack of non-speculative data for the Chesapeake Bay region renders any estimate of submerged pre-Paleoindian and Paleoindian resource potential little more than a guess.

Research and field investigations on the presence of submerged vessels in the portion of the Potomac River adjacent to the City of Alexandria is better documented. Shomette (1985) conducted exhaustive and comprehensive research into the use of the Alexandria waterfront as a major transportation hub, including a detailed analysis of the potential presence of submerged vessels. Shomette (1985) identified several events that were predicted to have removed most or all vessels known to have sunk along the Alexandria waterfront. These include an early twentieth-century effort to remove the remains of sunken vessels (to clear navigation channels) that resulted in the removal of more than a dozen vessels. Shomette (1985) also noted that the slips and berths for the numerous wharves were dredged, beginning in the nineteenth century and continuing to this day. Lastly, Shomette (1985) predicted that infilling of the shoreline could have resulted in the burial of shipwrecks (becoming, in essence, a terrestrial resource). This prediction has proven to be true in at least two instances in Alexandria. Finally, Shomette (1985) notes that abandoned vessels were historically salvaged, thus removing much if not all of the vessel.

Following the exhaustive research conducted by Shomette (1985), Watts (1986) conducted acoustic and magnetic remote sensing along the Alexandria Waterfront between Oronoco and Franklin Streets. This survey tract includes all of the current AWFM LOD. Seven potential anomalies were identified, and divers determined that the targets were either modern or natural. However, Watts (1986) recommended that dredging or other disturbance of the river bottom be

monitored by a qualified archaeologist. Watts (1986) indicates that siltation could be covering submerged resources. The siltation could have masked the remote sensing signatures of such resources during the survey.

However, the results of the historic research conducted by Schmotte (1985) and the underwater survey conducted by Watts (1986) suggests that there is little potential for unknown submerged resources and there are no known submerged resources within the submerged portion of the AWFM LOD. This is largely due to the documented removal of sunken vessels and dredging of the waterfront during the twentieth century as documented by Schmotte (1985). There could remain, however, basal portions of wharves and piers on the river bottom within the submerged portion of the AWFM LOD. More accessible sections of these resources can be documented within the terrestrial portion of the AWFM LOD. Based on this, no additional investigations are recommended in the submerged portion of the AWFM LOD. Stantec does recommend that an Unanticipated Submerged Archaeological Discoveries Plan be prepared and provided to all contractors working in the river portion of the AWFM LOD. Such a plan should detail proper procedures to follow if unanticipated submerged archaeological resources are encountered during the course of construction.

However, in comments on the draft of this report, the Office of Alexandria Archaeology has recommended that underwater survey be conducted within the submerged portion of the AWFM LOD. As the AWFM LOD extends into the District of Columbia, consultation with the District's Historic Preservation Office should include a determination as to whether underwater survey is recommended within the District of Columbia's jurisdictional waters of the Potomac River.

6.0 ARCHAEOLOGICAL ASSESSMENT SUMMARY AND RECOMMENDATIONS

The archaeological resource sensitivity assessment of the AWFM project area was based on the following sources of information:

- The land-use history of the project area, including historical map research
- Results of nearby archaeological investigations and characteristics of nearby archaeological sites centering on wharves

The land-use history of the AWFM project area was presented in Section 5, along with an overview of several archaeological investigations that have been conducted in the vicinity of the project area. Section 4 included a discussion of the characteristics of nearby archaeological sites centering on wharves. This section presents the results of the information derived from all sources and provides an assessment of the potential for and likely nature of archaeological resources within the AWFM project area and recommendations for additional archaeological investigations, where appropriate.

Stantec has not conducted two standard data reviews: soil types present in the project area and elevation change analysis, mainly because almost all of the AWFM project area was located within the Potomac River through the late eighteenth century. Any substantial elevation change took place either at that time (with the infilling of a mud flat to approximately The Strand) or in the second quarter of the twentieth century when the river between and surrounding the waterfront wharves was filled. Aside from an area along Duke Street, any soils present would consist of fill deposits and not undisturbed soil profiles.

6.1 Results

The assessment of archaeological potential was based on a review of previous archaeological investigations, historic maps, and other resources presented in Sections 3, 4, and 5. Not unexpectedly, most potential archaeological resources with the AWFM LOD are associated with the eighteenth through twentieth century use of the Alexandria waterfront, namely locates where the remains of wharves and buildings, and any associated artifact deposits, can be expected, but also other resources such as piers and railroad lines. Other less documented resources may also be present, such as early city infrastructure (water and sewer lines), garbage deposits, and materials used for fill in banking out the waterfront. For each of the four LOD segments current (as of September 2016) 15 percent to 30 percent plan maps depicting proposed AWFM facilities were presented in the appropriate subsections. Onto each of these base plan maps was overlain the location of historic wharves, buildings, and railroad lines as depicted on maps that date from the second half of the nineteenth century to the middle of the twentieth century. Maps pre-dating this range generally do not include locations of structures, although wharves are depicted. Areas of overlap between the proposed AWFM facilities and the historic wharves, building locations, and railroad lines were identified on these figures as “Areas of Potential Impact”. Without an understanding of subsurface conditions that would be gained from preliminary field investigations, these areas identified mon the LOD segment maps are likely to have the highest potential for the presence of intact archaeological resources associated with Alexandria’s waterfront.

Table 5 presents a summary of the results of this assessment by LOD segment as defined in Section 5. Included in the table are the maximum number of wharves present within a segment during any one period of time, the range in number of structures depicted on maps of the segment between 1865 and 1959, and the number of areas impacted per segment based on the overlay of potential historic resource locations and proposed AWFM project improvements. The likely depth of potential resources is presented in the final column. The maximal depth presented here is an estimate only and is based on an interpretation of the geotechnical borings. As stated in Section 2, the boring profiles are based on a sample and not a continuous profile. Hence there is always a level of uncertainty when using the geotechnical boring results for archaeological purposes.

There is one caveat to Table 5. While it is likely that most if not all mapped resources were constructed on the surface of (or perhaps to some extent into) the late eighteenth-century infilling (or banking out) of the waterfront cove and its associated mud flat, additional unknown resources could in fact be present within the fill. Resources such as part of an eighteenth-century ship were found in the late eighteenth-century fill deposits near the south end of the AWFM LOD. While the estimated maximal depth of deposits presented in Table 5 is based on resources depicted in maps and through historical record documentation, undocumented resources, both within the initial fill deposits, and in the earlier fill, could be present.

Table 5. Summary of number of potential historic resources, areas impacted, and potential depth of resources, by LOD segment.

Segment	*Maximum No. Wharves*	*Structure No. per map*	*No. of Potential Impact Areas*	*Potential Depth of Deposits (feet below surface)*
Queen-Cameron	4	1–2	9	0–12
Cameron-King	2	1–2	3	0–12
King-Prince	4	1–5	9	0–14
Prince-Duke	4	3–5	8	0–12

Based on the results of the historical land-use research, historical maps, previously conducted archaeological investigations within or near the AWFM LOD, especially those of wharves, geotechnical boring profiles, and modern disturbances throughout the LOD, a high potential for the presence of significant archaeological resources within the AWFM LOD appears to remain. These resources are most likely to be associated with the establishment and evolution of the Alexandria waterfront from ca. 1749 to the present. The following section provides recommendations for the initial identification of any resources present.

6.2 Summary

Four attributes are available for the assessment of archaeological resource potential within the AWFM project area—most importantly the land-use history presented in Section 5, but also the nature of elevation change (based to some extent on the data from the geotechnical borings), the results of nearby archaeological investigations and the profiles from geotechnical borings, and an

estimate of prior impacts, in this instance, mainly associated with the installation of underground stormwater, electrical, gas, and sewer utilities. Table 6 presents a summary of the implications of these attributes for the presence, nature, and integrity of archaeological resources within the AWFM project area.

Table 6. AWFM archaeological site potential assessment attributes.

Segment	*Attribute*	*Site Probability Implications*	*Reasoning*
Queen Street to Cameron Street	Land-Use History	High	Remains of eighteenth to twentieth century wharves and potentially associated structures likely to be present
	Elevation Change	High	Borings and nearby archaeological excavations indicate fill present
	Nearby Investigations	High	Elements of wharves and structures located in nearby excavations
	Existing Utilities Impacts	Low	Appear to be limited to small-scale infrastructure impacts within LOD
Cameron Street to King Street	Land-Use History	Moderate	Remains of eighteenth to twentieth century wharves and potentially associated structures likely to be present, although segment has lowest potential (fewest mapped resources present)
	Elevation Change	High	Borings and nearby archaeological excavations indicate fill present
	Nearby Investigations	High	Elements of wharves and structures located in nearby excavations
	Existing Utilities Impacts	Low	Appear to be limited to small-scale infrastructure impacts within LOD
King Street to Prince Street	Land-Use History	High	Remains of eighteenth to twentieth century wharves and potentially associated structures likely to be present
	Elevation Change	High	Borings and nearby archaeological excavations indicate fill present
	Nearby Investigations	High	Elements of wharves and structures located in nearby excavations
	Existing Utilities Impacts	Low	Appear to be limited to small-scale infrastructure impacts within LOD
Prince Street to Duke Street	Land-Use History	High	Remains of eighteenth to twentieth century wharves and potentially associated structures likely to be present
	Elevation Change	High	Borings and nearby archaeological excavations indicate fill present
	Nearby Investigations	High	Elements of wharves and structures located in nearby excavations
	Existing Utilities Impacts	Low	Appear to be limited to small-scale infrastructure impacts within LOD

Perhaps the most important aspect of the archaeological site potential is the prior land-use history of the AWFM project area, as summarized in Section 5. Minimally, portions of 11 wharves, some of which have cores dating to the late eighteenth century, and remains of up to 22 structures, dating from the late eighteenth to the early twentieth centuries, are potentially present within the AWFM project area and could be impacted. While an elevation change analysis was not conducted, twentieth-century infilling between the wharves has the potential to have preserved the wharves and structural remains. Indeed, profiles from several geotechnical borings indicate that modern fill of varying depths is present across the project area covering what is likely to be fill dating to the late eighteenth century that was used to infill the mud flat along then Alexandria Potomac River waterfront.

Nearby archaeological investigations also provide some level of information as to subsurface integrity and potential resources within the AWFM project area, as do the profiles obtained from the geotechnical borings. The results of the archaeological site file search indicated that at least six of Alexandria's wharves, generally dating to the late eighteenth to nineteenth centuries, have been investigated at some level. Monitoring or informant research was conducted at 44AX0098 and 44AX0146, both adjacent to and west of the AWFM project area. Also in the proximity of the AWFM project area are investigations conducted at Roberdeau's wharf, Keith's wharf, Lee's wharf, and the Carlyle-Dalton wharf. These investigations resulted in an understanding of the techniques used in wharf construction, facilities associated with wharves, and materials, including derelict vessels, used as fill. Most recently investigations have been conducted near Kirk's wharf. While the results of those excavations have not been reported, a portion of an eighteenth-century ship, remains of a warehouse, and other features were identified and excavated.

While areas may have the potential for the presence of archaeological resources, subsurface impacts could destroy any such deposits. Two sources of subsurface impact might be most damaging to urban archaeological resources: demolition and rebuilding and the installation of utilities. The historical maps consulted for this project suggest that, at some time in the twentieth century, the structures along the Alexandria waterfront within the AWFM LOD were demolished. No construction, aside from paving the parking lots and preparation of parks, appears to have occurred over much of the AWFM area.

Subsurface utilities have caused limited subsurface impacts to the AWFM project area. An Existing Conditions plan indicates that most utilities appear to be beneath hard surfaces. While utilities have no doubt impacted the subsurface integrity of portions of the AWFM project area, such impacts appear to be rather limited in comparison to the overall size of the project area.

In sum, the AWFM project area has a high potential for archaeological resources, most likely associated with eighteenth-to-twentieth-century wharves and various associated structures. Such resources could include the wharf structure itself, fill within the wharf, and structure foundations, privies, and deposits of artifacts associated with each use of the wharves. Fill and the existing hard surfaces may have preserved such resources, as has been demonstrated at other wharves in the Old Town neighborhood. Finally, while demolition and the installation of utilities have no doubt impacted archaeological resources within the project area, such impacts appear to be limited in extent. Once again, similar impacts have occurred at other wharf locations within Old Town, and archaeological investigations have demonstrated the continued existence of resources.

6.3 Recommendations

While construction plans for the AWFM project have not been finalized as of September 2016, discussions with planners have suggested that minimal but still ground-disturbing excavations for many of the improvements will occur across the segments at locations with a high potential for the presence of archaeological resources. Deeper excavations will likely be needed to install stormwater infrastructure and pump stations.

Stantec recommends that additional archaeological investigations be conducted within the AWFM project area prior to commencement of construction. The high potential for the presence of both structural remains, the wharf structures, and fill within the wharves could potentially cause significant delays if archaeological investigations were to be conducted in conjunction with construction activities. To avoid this potential, Stantec recommends that preliminary field investigations be undertaken to determine the presence, nature, and significance of archaeological resources within the AWFM project area, targeting those locations within each segment identified as having a potential for the presence of archaeological resources. Such investigations would provide initial information as to whether an archaeological resource is present and allow planners to either avoid the resource, or, if not possible, begin work evaluating the significance of the resource, as defined under Section 106 of the NHPA of 1966, as amended, and the Alexandria *Archaeological Protection Code*. The preliminary investigations would also provide for planning if additional archaeological investigations would be required prior to or during AWFM construction.

The recommended archaeological investigation could consist of one of two field methods. A Geoprobe could be used to extract soil cores across the project area. The cores would be examined to accurately determine depth of fill, presence of structural remains, and potentially the presence of the wharves. However, it is likely that a Geoprobe would not be able to penetrate a buried concrete or stone surface, related to the wharves or building remains, such as may be present below surface fill. Alternatively, and preferred, similar investigations could be conducted by the strategic placement of several machine-excavated trenches across the project area. Such trenches would be used to remove fill deposits. If structural remains or the wharves are present, additional documentation would be conducted. Minimally, documentation would include identification of the structural element(s) present, basic measures of the element, material composition, construction techniques, and locational placement within the structure. Such documentation would include photographs, measured line drawings (plan and profile views), and detailed notes. Samples of the element would also be collected for further identification (for example, species of wood or type of rock, manufacturing characteristics, and the like). If earthen deposits or features are encountered, traditional hand excavation with soils screened and the deposit or feature documented, would be undertaken.

Finally, the results of the historical research conducted by Schmotte (1985) and the underwater survey conducted by Watts (1986) suggests that there is little potential for unknown submerged resources and there are no known submerged resources within the submerged portion of the AWFM LOD. There could remain, however, basal portions of wharves and piers on the river bottom within the submerged portion of the AWFM LOD. More accessible sections of these resources can be documented within the terrestrial portion of the AWFM LOD. Based on this, no additional investigations are recommended in the submerged portion of the AWFM LOD. Stantec

does recommend that an Unanticipated Submerged Archaeological Discoveries Plan be prepared and provided to all contractors working in the river portion of the AWFM LOD. Such a plan should detail proper procedures to follow if unanticipated submerged archaeological resources are encountered during construction.

7.0 REFERENCES CITED

Alexandria Advertiser [Alexandria, Virginia]

1801 "Valuable Property for Sale in Alexandria." 29 July. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 7 November 2018.

Alexandria Gazette (AG) [Alexandria, Virginia]

1809 "Valuable Property for Sale." 29 May:4. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 22 September 2016.

1814 "To Rent." 19 May:3. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 21 September 2016.

1867 "Smoot & Perry Advertisement." 4 May:2. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 22 September 2016.

1872 "An Extensive Fire." 31 December:2. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 22 September 2016.

1844 "For Rent." 3 July:1. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 28 July 2016.

1852 "Public Accomodation, at Reduced Rate of Charges." 27 April:3. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 22 September 2016.

1854 "The Pioneer Mills." 11 March:3. Alexandria, Virginia. Electronic document, http://www.genealogybank.com/, accessed 22 September 2016.

1862 "Notice—For Alexandria and Washington, D. C." 15 August:3. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 22 September 2016.

1865 "Local News." 2 May:3. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 28 July 2016.

1865 "Notice to Shippers." 19 May:2. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 28 July 2016.

1865 "Professional." 27 September:3. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 28 July 2016.

1883 "John Lannon Advertisement." 4 Jan:3. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 22 September 2016.

1884 "Long Wharf." 27 Mar:3. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 22 September 2016.

1886 "Death of Mr. John Lannon." 26 May:4. Alexandria, Virginia. Electronic document, https://www.genealogybank.com/, accessed 7 November 2018.

1886 "Coal and Wood." 3 July:4. Alexandria, Virginia. Electronic document, http:// chroniclingamerica.loc.gov/, accessed 22 September 2016.

An Association of Friends (editor)

1855 Friends' Intelligencer. Vol. XI. William W. Moore, Philadelphia. Electronic document, https://books.google.com/books?id=YzRKAAAAYAAJ&pg=PA328&lpg=PA328&dq=phineas+jann%09ey&source=bl&ots=3iV1T4ogzY&sig=WjRBsP8d3bw0XreqKN2fCi4Wwu8&hl=en&sa=X&ved=0ah%09UKEwjHma-Tpo_OAhWBcT4KHbixCikQ6AEIOjAI#v=onepage&q&f=true, accessed 22 September 2016.

Anderson, David G., and Robert C. Mainfort, Jr.
2002 An Introduction to Woodland Archaeology in the Southeast. In *The Woodland Southeast*, edited by David G. Anderson and Robert C. Mainfort, Jr., pp. 1–19. The University of Alabama Press, Tuscaloosa.

Anderson, David G., D. Shane Miller, Stephen J. Yerka, J. Christopher Gillam, Erik N. Johanson, Derek T. Anderson, Albert C. Goodyear, and Ashley M. Smallwood
2010 PIDBA (Paleoindian Database of the Americas) 2010: Current Status and Findings. Archaeology of Eastern North America 38:63–90. Electronic document, http://pidba.utk.edu/main.htm, 23 May 2016.

Anonymous
1803 A Plan for Alexandria in the District of Columbia. Map. On file, Alexandria Archaeology.

Artemel, Janice G., Elizabeth Crowell, Donald A. Hull, and Dennis Knepper
1988 *Phase IIA Archaeological Study of the Old Ford Plant Site.* Engineering-Science, Inc., Washington, DC. Submitted to Urbco, Hartford, Connecticut. Report on file, Alexandria Archaeology.

Bailey, C. M.
1999 Physiographic Map of Virginia. College of William and Mary, Williamsburg, Virginia. Electronic document, http://web.wm.edu/geology/virginia/provinces/phys_regions.html, accessed 28 June 2016.

Balas, Johnathan, Anne Bruder, Cathryn Gettings, Chris Novelli, and Aaron Wunsch
1994 Transformations of the Landscape, Alexandria, Virginia. Community History Workshop, 17 December 1994. Manuscript on file, Alexandria Archaeology.

Barse, P. William
2002 *An Archeological Survey, Inventory, and Evaluation Study, and Data Recovery for the Fletcher's Boathouse Site (51NW13), C&O Canal National Historic Park, Washington, DC.* URS Corporation, Florence, New Jersey. Submitted to the National Park Service, National Capital Region. Report on file, District of Columbia State Historic Preservation Office.

Barse, P. William, and Alan D. Beauregard
1994 *Phase III Data Recovery at the Clifton Site (18CH358).* KCI Technologies, Inc., Mechanicsburg, Pennsylvania. Submitted to the Maryland Department of Transportation. Report on file, Maryland Historical Trust, Crownsville.

Baumgarten, Ron
2011 "A Railroad-Related Site in Old Town Alexandria." All Not So Quiet Along the Potomac: The Civil War in Northern Virginia and Beyond. Electronic document, http://dclawyeronthecivilwar.blogspot.com/2011/08/railroad-related-site-in-old-town.html, accessed 29 July 2016.

Brush, Grace
1986 Geology and Paleoecology of Chesapeake Bay: A Long-Term Monitoring Tool for Management. *Journal of the Washington Academy of Sciences* 76(3):146–160.

Carbone, Victor
1976 Environment and Prehistory in the Shenandoah Valley. Unpublished Ph.D. dissertation, Department of Anthropology, The Catholic University of America, Washington, D.C.

Cazenove, Anthony (Antone) C.
1810 Letter to James Madison dated 6 June 1810. Founders Online, National Archives and Records Administration. Electronic document, http://founders.archives.gov/documents/Madison/03-02-02-0455, accessed 15 September 2016.

Cheek, Charles D., and Karyn L. Zatz
1986 *A Phase I Archeological Survey for the Proposed Widening of Route 236, Duke Street, City of Alexandria, Virginia*. John Milner Associates, Inc., Alexandria, Virginia. Submitted to Tippetts-Abbett-McCarthy-Stratton, Fairfax, Virginia. Report on file, Alexandria Archaeology.

City of Alexandria
2010 *Alexandria Waterfront History Plan: Alexandria, a Living History*. Prepared by Alexandria Archaeology, Office of Historic Alexandria. Electronic document, https://www.alexandriava.gov/uploadedFiles/planning/info/Waterfront/AACWaterfrontHistoryPlan.pdf, accessed 11 May 2017.
2011 *Alexandria Waterfront Small Area Plan*. Prepared by the Department of Planning and Zoning, City of Alexandria. Electronic document, https://www.alexandriava.gov/uploadedFiles/planning/info/Waterfront/Entire%20Plan_No%20Appendices_080111_258pm.pdf, accessed 12 May 2017.
2016a Discovering the Decades: 1800s. Electronic document, https://www.alexandriava.gov/historic/info/default.aspx?id=28302, accessed 27 July 2016.
2016b Discovering the Decades: 1810s. Electronic document, https://www.alexandriava.gov/historic/info/default.aspx?id=28306, , accessed 27 July 2016.
2016c Historic Wharves Map. Electronic document, https://www.alexandriava.gov/uploadedFiles/planning/info/Waterfront/HistoricWharves200dpi11x17.pdf, accessed 28 July 2016.
2016d Alexandria Waterfront Historic Sites Map. Electronic document, https://www.alexandriava.gov/uploadedFiles/historic/info/history/WaterfrontHistoryMapHistoricSites.pdf, accessed 15 September 2016.
2016e Discovering the Decades: 1760s. Electronic document, https://www.alexandriava.gov/historic/info/default.aspx?id=28278, accessed 22 September 2016.
2018 Archaeological Protection Code. Electronic document, https://www.alexandriava.gov/historic/archaeology/default.aspx?id=28146, accessed 7 November 2018.

Claypool, Julia
2014 *Robinson Terminal South: Property History*. History Matters, Washington, D.C. Submitted to the City of Alexandria, Virginia. Report on file, Alexandria Archaeology.

Cobean, Ray
2005 125 Years of the ODBC, A History of the Old Dominion Boat Club, 1880–2005. Electronic document, http://www.olddominionboatclub.com/Resources/Documents/125%20years%20of%20the%20odbc-optimized.pdf, accessed 29 July 2016.

Cooling, Benjamin III, and Walton H. Owen
2009 *Mr. Lincoln's Forts: A Guide to the Civil War Defenses of Washington*. Scarecrow, Lanham, Maryland.

Cromwell, T. Ted, Timothy J. Hill, Donna G. Akers, Bruce A. Hunter, and David L. Miller
1989 *The Phase II Mitigation of the Bontz Site (44AX103) and the United States Military Railroad Station (44AX105) Located on the South Side of Duke Street (Route 236) in the City of Alexandria, Virginia*. James Madison University Archaeological Research Center, Harrisonburg, Virginia. Submitted to the Virginia Department of Transportation, Richmond. Report on file, Alexandria Archaeology.

Custer, Jay F.
1984 *Delaware Prehistoric Archaeology: An Ecological Approach*. University of Delaware Press, Newark.
1989 *Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study*. University of Delaware Press, Newark.
1990 Early and Middle Archaic Cultures of Virginia: Culture Change and Continuity. In *Early and Middle Archaic Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 1–60. Special Publication No. 22. Archeological Society of Virginia, Richmond.

Davis, T., D. Whelan, K. Grandine, C. Capozzola, N. Sheehan, and S. Mallory
1997 *Phase I Archeological and Phase II Architectural Investigations for the Villages at Piscataway, Prince George's County, Maryland*. R. Christopher Goodwin & Associates, Inc., Frederick, Maryland. Submitted to Greenvest, L.C. Report on file, Maryland Historical Trust, Crownsville.

Dent, Richard J., Jr.
1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum, New York.

Dincauze, Dena F.
1976 *The Neville Site: 8000 Years at Amoskeag*. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.

Dodge, F.W.
1881 *Real Estate Record and Builder's Guide* 28:844.

Egloff, Keith T.
1991 Development and Impact of Ceramics in Virginia. In *Late Archaic and Early Woodland Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 243–252. Special Publication No. 23. Archeological Society of Virginia, Richmond.

Egloff, Keith T., and Joseph M. McAvoy
1990 Chronology of Virginia's Early and Middle Archaic Periods. In *Early and Middle Archaic Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 61–80. Special Publication No. 22. Archeological Society of Virginia, Richmond.

Engineering-Science
1993 *Maritime Archaeology at Keith's Wharf and Battery Cove (44AX119), Ford's Landing, Alexandria, Virginia*. Engineering-Science, Inc., Washington, DC. Submitted to Cook Inlet Region of Virginia. Report on file, Alexandria Archaeology.

Eshelman, Ralph, and Frederick Grady
1986 Quaternary Vertebrate Localities of Virginia and Their Avian and Mammalian Fauna. In *Quaternary of Virginia*, edited by Jerry N. McDonald and Samuel O. Bird, pp. 43–70. Publication No. 75. Virginia Division of Mineral Resources, Charlottesville.

Evening Star (ES) [Washington, D.C.]
1905 "Wharf Property Sold." 1 October 1905:3. Washington, D.C. Electronic document, http://chroniclingamerica.loc.gov/, accessed 28 July 2016.

Ewing, Maskell C.
1845 Plan of the town of Alexandria, D.C. with the environs : exhibiting the outlet of the Alexandria Canal, the shipping channel, wharves, Hunting Cr. &c. T. Sinclair, lithographer, Philadelphia. Base map cited in City of Alexandria 2016c.

Fairfax County Public Works and Environmental Services and Northern Virginia Soil and Water Conservation District
2013 Description and Interpretive Guide to Soils in Fairfax County. Electronic document, http://www.fairfaxcounty.gov/dpwes/environmental/soils_map_guide.pdf, accessed 28 June 2016.

Federal Register
1983 *Standards and Guidelines for Archeology and Historic Preservation*. Vol. 48, No. 190.

Fiedel, Stuart, John Bedell, Charles LeeDecker, Jason Shellenhamer, and Eric Griffitts
2008 *"Bold, Rocky, and Picturesque": Archeological Overview and Assessment and Archaeological Identification and Evaluation Study of Rock Creek Park, District of Columbia*. Volume II. The Louis Berger Group, Inc., Washington, D.C. Submitted to the National Park Service, National Capital Region. Report on file, District of Columbia State Historic Preservation Office.

Gardner, William M.
1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archaeology: Methods and Interpretations*, edited by Roger W. Moeller, pp. 53–86. Occasional Paper No. 3. American Indian Archeological Institute, Washington, Connecticut.
1983 Stop Me if You've Heard This One Before: The Flint Run Paleo-Indian Complex Revisited. *Archaeology of Eastern North America* 11:49–64.
1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (circa 9200 to 6800 B.C.). In *Paleoindian Research in Virginia*, edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 5–52. Special Publication No. 19. Archeological Society of Virginia, Richmond.

Gibb, James G.
2006 *A Phase I Archaeological Survey of the Stanwick Farm, Aquasco, Prince George's County, Maryland, Phase II Investigations of 18PR704, and Phase II/III Investigations of 18PR703*. Andrew Garte & Associates, Shady Side, Maryland. Report on file, Maryland Historical Trust, Crownsville.

Gilpin, George
1798 Plan of the Town of Alexandria in the District of Columbia, 1798. John V. Thomas, Alexandria. Electronic document, https://www.loc.gov/item/91681006/, accessed 28 July 2016. Digital ID http://hdl.loc.gov/loc.gmd/g3884a.ct001432.

Google
2016 Google Maps. Electronic document, https://www.google.com/maps, accessed 21 April 2016.

Hantman, Jeffrey L.
1990 Virginia in a North American Perspective. In *Early and Middle Archaic Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 133–154. Special Publication No. 22. Archeological Society of Virginia, Richmond.

Hantman, Jeffrey L., and Michael J. Klein
1992 Middle and Late Woodland Archaeology in Piedmont Virginia. In *Middle and Late Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 137–164. Special Publication No. 29. Archeological Society of Virginia, Richmond.

Heinztelman-Muego, Andrea
1983 Construction Materials and Design of 19th Century and Earlier Wharves: An Urban Archaeological Concern. Paper presented at the 16th Annual Meeting of the Society for Historical Archaeology Conference, Denver. Manuscript on file, Alexandria Archaeology.

Holmes, William H.
1897 Stone Implements of the Potomac-Chesapeake Tidewater Province. In *Fifteenth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution*, 1893-94:13-152. Government Printing Office, Washington, D.C.

Hopkins, G. M.
1877 *Atlas of Alexandria, Virginia*. Plate H. G.M. Hopkins, Philadelphia. Electronic document, http://search.lib.virginia.edu/catalog/uva-lib:2138370/view#openLayer/uva-lib:2143932/5712/9328/2/1/0, accessed 28 July 2016.

Humphrey, Robert L., and Mary E. Chambers
1985 *Ancient Washington – American Indian Cultures of the Potomac*. GW Washington Studies No. 6. George Washington University, Washington, D.C.

Hurst, Gwen J.
2000 *Archival Investigations of 101 Wales Alley, City of Alexandria, Virginia*. Thunderbird Archeological Associates, Inc., Woodstock, Virginia. Submitted to James L. Brown and Associates, Alexandria, Virginia. Report on file, Alexandria Archaeology.

Hurst, Harold W.
1991 *Alexandria on the Potomac: Portrait of an Antebellum Community*. University Press of America, Lanham, Maryland.

Inashima, Paul Y.
1985 *An Archeological Investigation of Thirty-One Erosion Control and Bank Stabilization Sites along Rock Creek and its Tributaries*. U.S. Department of the Interior, National Park Service, Denver Service Center, Denver, Colorado.

Johnson, Gerald H., and C. R. Berquist, Jr.
1989 *Geology and Mineral Resources of the Brandon and Norge Quadrangles, Virginia*. Publication No. 87. Virginia Division of Mineral Resources, Charlottesville.

Johnson, Gerald, and Pamela Peebles
1983 Geological, Sedimentological and Palynological Studies and the Archaeology of the Henrico Regional Wastewater Treatment System. Paper presented at the annual meeting of the Archeological Society of Virginia, Roanoke.

Justice, Noel D.
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference*. Indiana University Press, Bloomington.

Kavanagh, Maureen
1982 *Archeological Resources of the Monocacy River Region*. File Report No. 164. Maryland Geological Survey, Division of Archaeology, Baltimore.
1983 Prehistoric Occupation of the Monocacy River Region. In *Piedmont Archeology*, edited by J. Mark Wittkofski and L. E. Browning, pp. 40–54. Special Publication No. 10. Archeological Society of Virginia, Richmond.

Kearney, James, William Turnbull, Wilson M. C. Fairfax, and Maskell C. Ewing
1838 Chart of the Head of Navigation of the Potomac River Shewing the Route of the Alexandria Canal Made in Pursuance of a Resolution of the Alexandria Canal Company, October 1838. Engraved by William James Stone, Washington, D.C. Electronic document, https://www.loc.gov/item/90684615/, accessed 16 September 2016. Digital ID http://hdl.loc.gov/loc.gmd/g3851p.ct004245.

Kenzie, Ross B.
2016 John Harper b. 10/03/1728 d. 05/07/1804. Electronic document, http://www.kdcollaborative.com/octhouse/11252.htm, accessed 22 September 2015.

Klein, Michael J., and Thomas Klatka
1991 Late Archaic and Early Woodland Demography and Settlement Patterns. In *Late Archaic and Early Woodland Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 139–184. Special Publication No. 23. Archeological Society of Virginia, Richmond.

Knepper, Dennis A., and Kimberly Prothro
1989 *Historical and Archaeological Investigation of Roberdeau's Wharf at Harborside, Alexandria, Virginia*. Engineering-Science, Inc., Washington, DC. Submitted to 400 South Union Street Join Venture, Alexandria, Virginia. Report on file, Alexandria Archaeology.

Knepper, Dennis, John M. Rutherford, Daniel R. Hayes, Carter Shields, and Christopher L. Bowen
2006 *The Archaeology of an Urban Landscape, the Whitehurst Freeway Archaeological Project Volume I: Prehistoric Sites*. Parsons, Washington, D.C., and Versar, Inc., Springfield, Virginia. Submitted to the District of Columbia Department of Transportation. Report on file, District of Columbia State Historic Preservation Office.

Kreisa, Paul P., Eric Griffitts, and John Gentry
2016 *Initial Archaeological Assessment of the Proposed Interim Fitzgerald Square Park Project, Alexandria, Virginia*. Stantec Consulting Services Inc., Laurel, Maryland. Submitted to the City of Alexandria, Virginia. Report on file, Alexandria Archaeology.

LeeDecker, Charles H., and Cheryl A. Holt
1991 Archaic Occupations at the Indian Creek V Site (18PR94), Prince George's County, Maryland. *Journal of Middle Atlantic Archaeology* 7:67–90.

Louis Berger & Associates, Inc.
1986 *Archaeological, Architectural and Historical Investigations at the Howard Road Historic District, Washington, D.C.* Louis Berger & Associates, Inc., Orange, New Jersey. Submitted to the Washington Metropolitan Area Transit Authority. Report on file, District of Columbia State Historic Preservation Office.

Maas, Anna, and Jean Stoll
2017 *Old Dominion Boat Club, 1 and 2 King Street, Alexandria, Virginia: Property History*. Thunderbird Archaeology, Gainesville, Virginia. Submitted to the City of Alexandria, Virginia. Report on file, Alexandria Archaeology.

Madison, Robert
2003 *Walking with Washington: Walking Tours of Alexandria, Virginia Featuring over 100 Sites Associated with George Washington*. (Captain John Harper). City of Alexandria, Virginia. Cited in Norglobe, Inc. 2011.

Magnus, Charles
1863 Birds eye view of Alexandria, Va. Charles Magnus, New York and Washington, D.C. Electronic document, https://www.loc.gov/item/81694373/, accessed 28 July 2016. Digital ID http://hdl.loc.gov/loc.gmd/g3884a.pm009504.

McNett, Charles. W.
1972 The Potomac Avenue Site in Washington, D.C. *Maryland Archeology* 8(2):23–35.

McNett, Charles. W. (editor)
1985 *Shawnee–Minisink: A Stratified Paleoindian Archaic Site in the Upper Delaware Valley of Pennsylvania*. Academic, New York.

Miller, T. Michael
1984 A Brief History of the Alexandria Waterfront. Research report on file, Alexandria Archaeology.
1989 Wandering Along the Waterfront: Queen to Cameron Street. *The Fireside Sentinel* Vol. III, Nos. 2 and 3. Electronic document, https://www.alexandriava.gov/uploadedfiles/historic/info/history/WaterfrontHistoryQueenToCameron.pdf, accessed 21 September 2016.
1990a Wandering Along the Waterfront: Cameron to King Street. *The Fireside Sentinel* Vol. IV, No. 5.
1990b The Pioneer Mill. *The Fireside Sentinel* Vol. IV, No. 9.
1991 Wandering Along the Waterfront: King to Prince Street. *The Fireside Sentinel* Vol. V, No. 8.
1993 The Prince to Duke Street Waterfront, Part II. The Fireside Sentinel Vol. VII, No. 6.
1995 *A Portrait of a Town, Alexandria District of Columbia Virginia 1820–1830*. Heritage Books, Bowie, Maryland.

Miller, T. Michael (editor)
1987 *Pen Portraits of Alexandria, Virginia, 1739 – 1900*. Heritage Books, Bowie, Maryland.

Mouer, L. Daniel
1991 The Formative Transition in Virginia. In *Late Archaic and Early Woodland Research in Virginia*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 1–88. Special Publication No. 23. Archeological Society of Virginia, Richmond.

Mount Vernon Ladies' Association
2016 Digital Encyclopedia: Pallbearers. Electronic document, http://www.mountvernon.org/digital-encyclopedia/article/pallbearers/, accessed 19 September 2016.

Mullen, John P., Luan Cao, and David Carroll
2014 *Robinson South Terminal, City of Alexandria, Virginia*. Thunderbird Archeology, Gainesville, Virginia. Submitted to RT South Associates LLC c/o EYA, Bethesda, Maryland. Report on file, Alexandria Archaeology.

The National Republican (NR) [Washington, D.C.]
1882 "Alexandria Affairs." 3 October:4. Washington, D.C. Electronic document, http://chroniclingamerica.loc.gov/, accessed 22 September 2016.

Norglobe, Inc.
2011 localKicks: Captain John Harper. 125 South Union Street. Electronic document, http://www.localkicks.com/community/news/captain_john_harper_125_south_union_street, accessed 22 September 2016.
2016 localKicks: George Gilpin. 206 and 208 King Street. Electronic document, http://www.localkicks.com/community/news/George_Gilpin_206_and_208_King_Street, accessed 19 September 2016.

NOVA Parks
2016 Carlyle House Historic Park. Electronic document, https://www.novaparks.com/parks/carlyle-house-historic-park/history, accessed 22 September 2016.

Potter, Stephen
1993 *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. The University Press of Virginia, Charlottesville.

Prince, Richard E.
2000 *Seaboard Air Line Railway: Steam Boats, Locomotives, and History*. Indiana University Press, Bloomington.

Pulliam, Ted
2011 *Historic Alexandria: An Illustrated History*. Historical Publishing Network, San Antonio, Texas.

Reger, James P., and Emery T. Cleaves
2008 Physiographic Map of Maryland. Maryland Geological Survey, Maryland Department of Natural Resources, Baltimore. Electronic document, http://www.mgs.md.gov/geology/physiographic_map.html, accessed 7 November 2018.

Riker, Diane
2007 The Fitzgerald Warehouse: The Early History of an Alexandria Landmark. *The Alexandria Chronicle* Summer 2007:1–14. Electronic document, https://alexandriahistoricalsociety.wildapricot.org/resources/Documents/The_Chronicle/2007_Su_Chronicle.pdf, accessed 28 July 2016.

2008a 0 Prince Street: A Timeline. Studies of the Old Waterfront, Office of Historic Alexandria, Alexandria Archaeology. Electronic document, https://www.alexandriava.gov/uploadedfiles/historic/info/history/WaterfrontHistory0Prince.pdf, accessed 28 July 2016.

2008b Fitzgerald's Warehouse: King and Union Streets. Studies of the Old Waterfront, Office of Historic Alexandria, Alexandria Archaeology. Electronic document, https://www.alexandriava.gov/uploadedfiles/historic/info/history/WaterfrontHistoryFitzgerald.pdf, accessed 28 July 2016.

2009 Chadwick's on the Strand. Studies of the Old Waterfront. Office of Historic Alexandria, Alexandria Archaeology. Electronic document, https://www.alexandriava.gov/uploadedfiles/historic/info/history/WaterfrontHistoryChadwicks.pdf, accessed 22 September 2016.

Roberts, Jay

2014 Alexandria's Mills. Electronic document, http://jay.typepad.com/william_jay/2014/04/alexandrias-mills.html, accessed 27 July 2016.

Royall, Anne N.

1826 *Sketches of History, Life, and Manners, in the United States, by a Traveler*. Originally published by the author. Reprint by Johnson Reprint Corporation, New York. Electronic document, https://www.alexandriava.gov/uploadedFiles/oha/info/TravelersAccountsHistoricAlexandriaWaterfront.pdf, accessed 27 July 2016.

Sanborn Map and Publishing Company

1885 *Alexandria, Virginia*. Sheets 3 and 9. Sanborn Map and Publishing Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

Sanborn Map Company

1902 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

1907 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

1912 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

1921 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

1941 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

1941/1959 *Insurance Maps of Alexandria, Virginia*. Sanborn Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

Sanborn-Perris Map Company

1896 *Insurance Maps of Alexandria, Alexandria County, Virginia*. Sanborn-Perris Map Company, New York. Electronic document, http://www.proquest.com/, accessed June 2016.

Saward, Frederick E.
1875 The Coal Trade. Frederick E. Saward, New York. Electronic document, https://books.google.com/books?id=1OwoAAAAYAAJ&pg=PA111&lpg=PA111&dq=Hampshire+baltimore+coal+company&source=bl&ots=ylFnw_345_&sig=E4rbqzDsVomeqINCPm1IsKlMrgc&hl=en&sa=X&ved=0ahUKEwiG1b2o6sXOAhULWh4KHUzzA5IQ6AEIKTAC#v=onepage&q=Hampshire%20baltimore%20coal%20company&f=false, accessed 15 September 2016.

Scholl, L.
1864 Map of Alexandria and Harbor prepared under the direction of Lieutenant Colonel R. Ingalls, A.D.C., QR.MR by L. Scholl. Map on file, Office of Historic Alexandria.

Shephard, Steven J.
1989 *Development of a City Site: Alexandria Virginia 1750–1850*. Alexandria Archaeology Publications, Alexandria, Virginia.
2006 Reaching for the Channel: Some Documentary and Archaeological Evidence of Extending Alexandria's Waterfront. *The Alexandria Chronicle* Spring 2006:1–13.

Shomette, Donald G.
1985 *Maritime Alexandria: An Evaluation of Submerged Cultural Resource Potentials at Alexandria, Virginia*. Donald G. Shomette. Submitted to Office of Historic Alexandria, Alexandria Archaeology, Alexandria, Virginia. Report on file, Office of Historic Alexandria.

Smith, Bruce
1986 The Archaeology of the Southeastern United States: from Dalton to de Soto, 10,500–500 B.P. In *Advances in World Archaeology*, Vol. 5, edited by Fred Wendorf and Angela E. Close, pp. 1–92. Academic, Orlando.

Spencer, Richard H.
1910 The Carlyle Family. Descendants of John and Sarah (Fairfax) Carlyle. *The William and Mary Quarterly* 18:278–289. Electronic document, https://www.jstor.org/stable/1922554?seq=1#page_scan_tab_contents, accessed 22 September 2016.

Steponaitis, Laurie C.
1980 *A Survey of Artifact Collections from the Patuxent River Drainage, Maryland*. Monograph Series No. 1. Maryland Historical Trust, Annapolis.
1986 *Prehistoric Settlement Patterns in the Lower Patuxent River Drainage, Maryland*. University Microfilms, Ann Arbor, Michigan.

Stevens, J. Sanderson, Alice Crampton, Diane Halsall, Elizabeth Crowell, and J. Lee Cox, Jr.
1996 *Woodrow Wilson Bridge Improvement Study, Integrated Cultural Resources Technical Report*. Parsons Engineering Science, Inc., Washington, DC. Submitted to the Federal Highway Administration, Washington, DC, and the Virginia Department of Transportation, Richmond. Report on file (AX-052), Alexandria Archaeology.

Stewart, R. Michael
1992 Observations on the Middle Woodland Period of Virginia: A Middle Atlantic Region Perspective. In *Middle and Late Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 1–38. Special Publication No. 29. Archeological Society of Virginia, Richmond.

The Story of Ravensworth
2016 Daingerfield, Henry (1800–1866). Electronic document, http://ravensworthstory.org/people/owners/daingerfield-henry/, accessed 15 September 2016.

Torpedo Factory Art Center
2016 History. Electronic document, http://torpedofactory.org/about-us/history/, accessed 27 July 2016.

Turner, E. Randolph III
1989 Paleoindian Settlement Patterns and Population Distribution in Virginia. In *Paleoindian Research in Virginia: A Synthesis*, edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 71–93. Special Publication No. 19. Archeological Society of Virginia, Richmond.
1992 The Virginia Coastal Plain During the Late Woodland Period. In *Middle and Late Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 97–136. Special Publication No. 29. Archeological Society of Virginia, Richmond.

U.S. Army Corps of Engineers
1923 List of Piers and Wharves at Washington, D.C., and Alexandria, VA. Electronic document, https://www.loc.gov/item/88690515/, accessed 12 November 2018. Digital ID http://hdl.loc.gov/loc.gmd/g3851p.ct004877.

U.S. Army Quartermaster Corps
1865 "Wharfs Storehouses Etc." Record Group 92: Records of the Office of the Quartermaster General, 1774-1985; Series: Post and Reservation Maps, compiled 1820-1905. National Archives and Records Administration, College Park, Maryland.

U.S. Coast and Geodetic Survey
1904 Potomac River, Rozier Bluff to Gravelly Point, MD., VA., and D.C. Electronic document, https://www.ngdc.noaa.gov/nos/H02001-H04000/H02688.html, accessed 12 November 2018.

U.S. Coast Survey
1857 Map of the Potomac & Anacostia Rivers Between Washington D.C. and Alexandria Va. Electronic document, https://www.loc.gov/item/90684609, accessed 12 November 2018. Digital ID http://hdl.loc.gov/loc.gmd/g3792p.ct006462.
1862 Plan of Alexandria. Electronic document, https://www.loc.gov/item/89692513/, accessed 12 November 2018. Digital ID https://www.loc.gov/item/89692513/.
1863 Potomac River from Jones' Point to Little Falls Bridge, District of Columbia. Electronic document, https://historicalcharts.noaa.gov/jpgs/T00910A-07-1863.jpg, accessed 12 November 2018.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA)
2013 Web Soil Survey. Electronic document, http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm, accessed 28 June 2016.

U.S. Department of the Interior, U.S. Geological Survey
2016 The USGS Store: Map Locator & Downloader. Electronic document, http://store.usgs.gov/b2c_usgs/usgs/maplocator/(ctype=areadetails&xcm=r3standardpitrex_prd&carea=$root&layout=6_1_61_48&uiarea=2)/.do, accessed 15 June 2016.

Virginia Department of Historic Resources (VDHR)
2011 Guidelines for Conducting Historic Resources Survey in Virginia. Electronic document, http://www.dhr.virginia.gov/pdf_files/survey%20manual-revoct.2011final.pdf, accessed 27 June 2016.

Virginia Department of Mines, Minerals, and Energy
2012 Interactive Geologic Map. Electronic document, https://www.dmme.virginia.gov/webmaps/DGMR/, accessed 28 June 2016.

Virginia Journal and Alexandria Advertiser (VJAA) [Alexandria, Virginia]
1785 "Hooe and Harrison." 10 February:1. Alexandria, Virginia. Electronic document, http://www.genealogybank.com, accessed 22 September 2016.

Wagner, Daniel P.
2012 Appendix D.0.3: Geoarchaeological Interpretations of Silty Soils Across the Grounds of the West Campus, St. Elizabeths Hospital, Washington, D.C. In *Archaeological Resources Management Plan, Department of Homeland Security Consolidated Campus Headquarters, St. Elizabeths, Washington, DC,* by Paul P. Kreisa and Jacqueline M. McDowell. Greenhorne & O'Mara, Inc., Laurel, Maryland. Submitted to U.S. General Services Administration, National Capital Region, Washington, D.C. Document on file, U.S. General Services Administration, National Capital Region.

Washington, George
1749 A Plan of Alexandria now Belhaven. No publisher given. Electronic document, https://www.loc.gov/item/98687108/, accessed 28 July 2016. Digital ID http://hdl.loc.gov/loc.gmd/g3884a.ct000223.
1785 Letter to William Hartshorne & Company, 26 November 1785. Founders Online, National Archives and Records Administration. Electronic document, http://founders.archives.gov/documents/Washington/04-03-02-0349, accessed 19 September 2016.

Washington Post (WP) [Washington, D.C.]
1881 "Ex-Gov. Cooke Dead." 25 February: B.01. Washington, D.C. Electronic document, www.proquest.com, accessed June 2016.

Watts, Gordon P., Jr.
1986 *Acoustic and Magnetic Remote Sensing and Site Identification Survey Along the Alexandria, Virginia Waterfront Between Oronoco and Franklin Streets and Oronoco Bay*. Tidewater Atlantic Research, Washington, North Carolina. Submitted to the City of Alexandria, Virginia, Finance Department. Report on file, Office of Historic Alexandria.

Wesler, K., D. Pogue, A. Luckenbach, G. Fine, P. Sternheimer, and E.G. Furgurson
1981 *The Maryland Department of Transportation Archaeological Resources Survey, Volume 2: Western Shore*. Manuscript Series No. 6. Maryland Historical Trust, Annapolis.

Whyte, Thomas R.
1995 Early Through Late Archaic Period Archeofaunal Remains From the Cactus Hill Site (44SX202), Sussex County, Virginia. Paper presented at the 1995 Middle Atlantic Archaeological Conference, Ocean City, Maryland.

Wise, C. L.
1975 A Proposed Early to Middle Woodland Ceramic Sequence for the Delmarva Peninsula. *Maryland Archaeology* 11:21–29.

APPENDIX A:

QUALIFICATIONS OF KEY PERSONNEL

PAUL P. KREISA, PhD, RPA. Senior Archaeologist, Principal Investigator
PhD, Anthropology, University of Illinois at Urbana-Champaign, 1990
MA, Anthropology, Northern Illinois University, 1984
BA, Anthropology, University of Wisconsin, Oshkosh, 1981
Register of Professional Archaeologists (RPA)

Dr. Kreisa is a Senior Archaeologist and Principal Investigator for Stantec (formerly Greenhorne & O'Mara). Since joining the company in 2005, he has directed the investigations of several Colonial and Antebellum plantation sites; conducted numerous survey and evaluation projects for public and private sector clients in Maryland, Pennsylvania, Virginia, West Virginia, and Washington, DC; and created a Postbellum archaeological context for Prince George's County, Maryland, and an archaeological resources management plan for the redevelopment of St. Elizabeths Hospital in Washington, DC. With more than 30 years' experience at all levels of archaeological consulting, Dr. Kreisa has directed numerous Phase I survey, Phase II evaluation, and Phase III mitigation investigations at Historic and precontact Native American sites in the Mid-Atlantic, Mid-South, Southeast, Midwest, and Great Plains. Clients have included DoD facilities, US Army Corps of Engineers districts, GSA, NPS, state transportation agencies, local governments, and private developers. He has experience in completing Section 106 and NEPA documentation and complying with state and local regulations. Dr. Kreisa was previously a member of the Wisconsin SHPO staff and president of the Council for Maryland Archeology, the organization of professional archaeologists in Maryland, from 2011–2012.

ERIC GRIFFITTS, MA. Architectural Historian (EHT Traceries, Inc.)
MA, History (specialization in Historic Preservation), Oklahoma State University, 2012

Mr. Griffitts is an architectural historian and project manager for EHT Traceries, Inc., with 20 years' experience conducting a wide variety of cultural resources investigations, including the research and documentation of historic properties, historic preservation planning studies, NHPA Section 106 and Section 110 compliance, and determination of eligibility reports. Mr. Griffitts has been a contributing author on Phase IA archaeological reports conducted within the District of Columbia, and he meets professional qualifications prescribed by the Secretary of the Interior in 36 CFR 61 (Appendix A).

JOHN GENTRY, MHP. Architectural Historical (EHT Traceries, Inc.)
MS, Historic Preservation, University of Maryland, 2013

Mr. Gentry joined EHT Traceries, Inc., in March 2014. Prior to joining Traceries, he worked for two years as a preservation consultant in the District of Columbia, Maryland, and Virginia. In his role as an Architectural Historian, Mr. Gentry applies his expertise in the areas of historical research, survey and documentation, cultural resource law, and preservation planning, and he works with clients that include architects, developers, state and local government agencies, and private property owners. Projects have included the preparation of landmark nominations, Determinations of Eligibility, survey and documentation of cultural resources, and the development of interpretive displays.