

Braddock Gateway Property

City of Alexandria, Virginia

WSSI #21677.01

Documentary Study

Prepared for:

Jaguar Development, LC

46859 Harry Byrd Hwy, # 202

Sterling, Virginia 20164

January 2011

FINAL REPORT

Prepared by:

Boyd Sipe, M.A., RPA

and

David S. Rotenstein, Ph.D.



5300 Wellington Branch Drive, Suite 100

Gainesville, Virginia 20155

Tel: 703-679-5600 Email: contactus@wetlandstudies.com

www.wetlandstudies.com

ABSTRACT

A documentary study of the ± 7 acre Braddock Gateway property at 1200 North Fayette Street in Alexandria, Virginia, was conducted by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc., of Gainesville, Virginia, for Jaguar Development, L.C. of Fairfax, Virginia. The project area is bounded by First Street on the south, North Fayette Street on the east and Potomac Yards to the west. The property is the site of the former Mutual Ice Company Potomac Yards plant, which operated from 1913 until 1969. The study was initiated in anticipation of the planned development of the project area and the concern that significant archeological resources may be impacted by this construction.

Documentary research has indicated that the Braddock Gateway property was a part of an estate bequeathed by Robert Alexander to his daughter Parthenia Alexander Massey Dade and her husband Townshend Dade in the mid 18th century. In the last quarter of the 18th century, the property history indicates that the project area was a part of a large tract of land that was conveyed to and from businessmen in Philadelphia and Alexandria; including William Hartshorne, Jacob Harman, Baldwin Dade, Elisha Cullen Dick, and Richard Conway. Use of the land by tenants or enslaved laborers remains a possibility during these periods of absentee ownership; however the appearance is strong that the various landowners' interest in the property was merely speculative. By the terminal 18th century and into the early 19th century, the property subject to this research appears to have been owned and leased by several wealthy residents of Alexandria, including Phillip Richard Fendall, John Gadsby and Jacob Hoffman. During this period, the properties that included the project area were likely used as farms, pasture and household or market gardens by the various landowners or lessees. As all of these individuals were documented slave owners; it is certainly possible that enslaved laborers were residing on the property during this period.

Following the bankruptcy and death of Phillip Richard Fendall, Fendall Farm was leased by John Gadsby and Edward Lloyd prior to circa 1820. Notations in a deed, Fendall's will and a diary from the period indicates that the Fendall Family cemetery was present on Fendall Farm. Although research conducted for this study has demonstrated that a portion of the project area was a part of Fendall Farm, the location of the cemetery remains unknown and it may or may not be located on the Braddock Gateway property.

By the mid 19th century, the property history is again characterized by what appears to be speculative interest, with multiple conveyances between wealthy businessmen and investors in Alexandria and Baltimore. During this period, free African Americans may have leased property near or within the project area. Although no specific details concerning such use of the property subject to this research were found, documentary evidence does indicate that a community of free African Americans had formed just south of the project area after circa 1830.

In the early 20th century, the vicinity of the study area was the site of industrial development in Alexandria and, in 1913, the Mutual Ice Company Potomac Yard plant was built within the project area. A detailed documentary study of the Mutual Ice Company use of the property is included in this report. There have been no maps or records located that show any structures on the property prior to 1913.

TABLE OF CONTENTS

ABSTRACT	i
TABLE OF CONTENTS	iii
LIST OF EXHIBITS	v
LIST OF PLATES	vii
LIST OF TABLES	ix
DOCUMENTARY STUDY	1
Introduction	1
Paleoenvironmental Background	3
Cultural Historical Background	6
<i>Prehistoric Overview</i>	6
<i>Land Grants and Patents</i>	43
<i>Fendall Farm</i>	49
<i>Conway's Lot</i>	61
The Mutual Ice Company	68
<i>Introduction</i>	68
<i>The Ice Industry and Refrigerator Cars: A Brief Overview</i>	70
<i>Ice in Alexandria</i>	77
<i>J.W. Hammond & Sons</i>	84
<i>William Reardon</i>	86
<i>Potomac Yard</i>	94
<i>1913 to 1925: Two Plants, Expansion, and Succession</i>	111
<i>1925 to 1945: Diversification and Adapting to Change</i>	121
<i>1945 to 1969: The Market Melts</i>	132
<i>Labor</i>	140
<i>The Company and the City</i>	145
Previous Archeological Research	146
RESOURCE MANAGEMENT PLAN	149
Current Conditions within the Project Area	149
<i>Overview</i>	149
<i>Geotechnical Data</i>	1
Summary and Recommendations	11
<i>Overview</i>	11
<i>Potential for the Presence of Prehistoric Archeological Sites</i>	12
<i>Potential for the Presence of 18th and 19th Century Archeological Sites</i>	13
<i>Industrial Archeological Potential</i>	17
<i>Recommendations for Additional Documentary Research</i>	18
REFERENCES CITED	19

APPENDIX I	37
Documentary Study Scope of Work.....	37
APPENDIX II.....	43
Chain of Title.....	43
APPENDIX III	55
O. Ashby Reardon Interview	55
APPENDIX IV	277
Archeological Treatment Plan.....	277
APPENDIX V	289
Resumes of Key Project Personnel.....	289

LIST OF EXHIBITS

Exhibit 1	: Portion of the 2005 ADC Northern Virginia Regional Map Showing the Location of the Project Area	2
Exhibit 2	: Portion of the 1994 U.S.G.S. Alexandria, VA-DC-MD 15' Topographic Quadrangle Showing the Location of the Project Area	4
Exhibit 3	: October 2007 Natural Color Imagery Aerial Photograph Showing the Project Area	5
Exhibit 4	: George Washington's Plan of Alexandria, circa 1749	20
Exhibit 5	: George Gilpin's Plan of Alexandria, circa 1798 Showing the Location of the Project Area	23
Exhibit 6	: Portion of 1861 Boschke Map Showing the Approximate Location of the Project Area	27
Exhibit 7	: Portion of 1862 McDowell Map Showing the Approximate Location of the Project Area	28
Exhibit 8	: Portion of 1865 Barnard Map Showing the Approximate Location of the Project Area	29
Exhibit 9	: Portion of 1878 Hopkins Map Showing the Approximate Location of the Project Area	31
Exhibit 10	: Portion of 1886 Shipman Map Showing the Approximate Location of the Project Area	32
Exhibit 11	: Portion of 1894 Hopkins Map Showing the Approximate Location of the Project Area	34
Exhibit 12	: Portion of 1915 Fairfax County Soils Map Showing the Approximate Location of the Project Area	36
Exhibit 13	: Portion of the 1929 U.S.G.S. Washington D.C. Vicinity 15' Topographic Quadrangle Showing the Location of the Project Area	38
Exhibit 14	: Portion of the 1932 U.S.G.S. Washington D.C. Vicinity 15' Topographic Quadrangle Showing the Location of the Project Area	39
Exhibit 15	: Portion of the 1945 U.S.G.S. Washington D.C. Vicinity 15' Topographic Quadrangle Showing the Location of the Project Area	40
Exhibit 16	: Portion of the 1956 U.S.G.S. Washington D.C. Vicinity 15' Topographic Quadrangle Showing the Location of the Project Area	41
Exhibit 17	: Portion of the 1965 U.S.G.S. Washington D.C. Vicinity 15' Topographic Quadrangle Showing the Location of the Project Area	42
Exhibit 18	: Portion of 1741 Howsing's Patent Survey	46
Exhibit 19	: 1760 Mitchell Map Showing the Approximate Location of the Project Area	47
Exhibit 20	: Reconstructed circa 1786 Plat Map Showing the Location of the Project Area	50
Exhibit 21	: Portion of c. 1790 Plat Map Showing the Location of the Project Area	63
Exhibit 22	: 1953 Louis Steinbraker Property Plat Map	67
Exhibit 23	: 1953 Louis Steinbraker Lot 500 Plat Map	69

LIST OF EXHIBITS continued

Exhibit 24 : Portion of July 1885 Sanborn Map Showing F.A. Reed's Ice House, S. Union Street, Alexandria	80
Exhibit 25 : Portion of Aug. 1896 Sanborn Map Showing Reardon's Ice House, S. Union Street, Alexandria	81
Exhibit 26 : Portion of Aug. 1896 Sanborn Map Showing Alexandria Ice Company, N. Union Street, Alexandria	83
Exhibit 27 : Portion of July 1902 Sanborn Map Showing J.W. Hammond & Sons Ice Factory, N. Union Street, Alexandria	91
Exhibit 28 : Portion of July 1902 Sanborn Map Showing Reardon's Ice House, S. Union Street, Alexandria	92
Exhibit 29 : Portion of July 1902 Sanborn Map Showing Armour Car Lines Ice house and Platform in West Alexandria	95
Exhibit 30 : Portion of 1912 Sanborn Map Showing Mutual Ice Company Plant within the Project Area	100
Exhibit 31 : Mutual Ice Company Plant Floor Plan; Adapted from <i>Ice and Refrigeration</i> 1913	103
Exhibit 32 : Portion of 1921 Sanborn Map Showing Mutual Ice Company Plant within the Project Area	118
Exhibit 33 : Portion of 1921 Sanborn Map Showing Mutual Ice Company, N. Union Street, Alexandria	120
Exhibit 34 : Portion of 1931 Sanborn Map Showing Mutual Ice Company Plant within the Project Area	122
Exhibit 35 : 1934 Plat Map Showing Mutual Ice Company Plant within the Project Area	124
Exhibit 36 : Portion of 1941 Sanborn Map Showing Mutual Ice Company Plant within the Project Area	125
Exhibit 37 : USGS 1949 Black and White Imagery Showing Mutual Ice Company Plant within the Project Area	135
Exhibit 38 : Portion of 1959 Sanborn Map Showing Mutual Ice Company Plant within the Project Area	136
Exhibit 39 : USGS 1964 Black and White Imagery Showing Mutual Ice Company Plant within the Project Area	137
Exhibit 40 : USGS 1975 Infrared Imagery Showing the Project Area	139
Exhibit 41 : DHR Map Showing Architectural Resources and Archeological Sites in the Vicinity of the Project Area	147
Exhibit 42 : Map of the Project Area Showing 2006 Buildings	150
Exhibit 43 : Overlay Map of the Project Area Showing 2006 Buildings and 1959 Sanborn Data	164
Exhibit 44 : Map of the Project Area Showing Locations of Previous Geotechnical Testing	165
Exhibit 45 : Overlay Map of the Project Area Showing 2006 Buildings, 1959 Sanborn Data, and Locations of Previous Geotechnical Testing	166

LIST OF PLATES

Plate 1	: Typical Advertisement for Ice Harvesting and Handling Tools, circa 1892	71
Plate 2	: Typical Plate Ice Plant; Adapted from Lorenz 1905	73
Plate 3	: Typical Can Ice Plant; Adapted from Lorenz 1905	74
Plate 4	: Advertisement for Ice Making Cans; Ad Run by <i>Ice and Refrigeration</i> throughout the Early 20 th Century	75
Plate 5	: Advertisement for Ice Dealer Ewell Atwell; Undated Alexandria Gazette Ad	78
Plate 6	: J.W. Hammond in 1863	85
Plate 7	: 1892 advertisement for J.W. Hammond's Ice Business	87
Plate 8	: Advertisement for F.A. Reed & Co. Ice Business	88
Plate 9	: Mutual Ice Company Ice Warehouse Built In 1907	93
Plate 10	: Fruit Growers Express Refrigerator Car	97
Plate 11	: Armour Car Lines Icing Station, Potomac Yard	99
Plate 12	: Mutual Ice Company Potomac Yard Plant, c. 1913	101
Plate 13	: Mutual Ice Company Potomac Yard Plant and Icing Platforms, circa 1913	102
Plate 14	: Mutual Ice Company Freezing Room, circa 1913	104
Plate 15	: Mutual Ice Company Freezing Room, circa 1913	105
Plate 16	: Mutual Ice Company Frick Compressor	106
Plate 17	: Mutual Ice Company Engine Room	107
Plate 18	: Mutual Ice Company Boilers	108
Plate 19	: O. Ashby Reardon Sr.	113
Plate 20	: Harry Hammond	114
Plate 21	: Mutual Ice Company Ice Station No. 1; 110 South Lee Street Alexandria, Virginia	115
Plate 22	: Mutual Ice Company Ice Station at Payne and Commerce Streets	115
Plate 23	: Mutual Ice Company and Potomac Yard circa 1921	119
Plate 24	: Mutual Ice Company and Refrigerator Car Icing	127
Plate 25	: Mutual Ice Company Process Flow Diagram	129
Plate 26	: Mutual Ice Company Icing Operation; Note Spiral Ice Chute, circa 1946	130
Plate 27	: Mutual Ice Company Icing Platforms and Ice Bridge	131
Plate 28	: Drawing for Ice Cutting Machine Patented by Mutual Ice Company Engineer Charles Coblentz	134
Plate 29	: Undated Photograph of Icing Operations	142
Plate 30	: Undated Photograph of Car Icing Operations	143
Plate 31	: Paved Parking Area on the Braddock Gateway Property	151
Plate 32	: Building 1 and Surroundings on the Braddock Gateway Property	151

LIST OF PLATES continued

Plate 33 : Building 1 and Surroundings on the Braddock Gateway Property	153
Plate 34 : Building 2 and Surroundings on the Braddock Gateway Property	153
Plate 35 : Building 2 and Surroundings on the Braddock Gateway Property	155
Plate 36 : Building 2 and Surroundings on the Braddock Gateway Property	155
Plate 37 : Building 3 and Surroundings on the Braddock Gateway Property	157
Plate 38 : Building 3 and Surroundings on the Braddock Gateway Property	157
Plate 39 : Building 3 and Surroundings on the Braddock Gateway Property	159
Plate 40 : Building 4 and Surroundings on the Braddock Gateway Property	159
Plate 41 : Building 4 and Surroundings on the Braddock Gateway Property	161
Plate 42 : Building 4 and Surroundings on the Braddock Gateway Property	161
Plate 43 : Vicinity of North End of N. Payne Street on the Braddock Gateway Property	177

LIST OF TABLES

Table 1	: Mutual Ice Company Ice Stations in Alexandria, Virginia	112
Table 2	: DHR Archeological Sites in the Project Area Vicinity	147
Table 3	: DHR Architectural Resources in the Project Area Vicinity	147
Table 4	: Schnabel Engineering Boring Results B-1	163
Table 5	: ECS Mid-Atlantic Boring Results JB-1	167
Table 6	: ECS Mid-Atlantic Boring Results JB-2	167
Table 7	: ECS Mid-Atlantic Boring Results JB-3	168
Table 8	: ECS Mid-Atlantic Boring Results JB-4	169
Table 9	: ECS Mid-Atlantic Boring Results JB-5	169
Table 10	: ECS Mid-Atlantic Boring Results JB-6	170
Table 11	: ECS Mid-Atlantic Boring Results JB-7	171
Table 12	: ECS Mid-Atlantic Boring Results JB-8	171
Table 13	: ECS Mid-Atlantic Boring Results JB-9	172

DOCUMENTARY STUDY

Introduction

This documentary study of the ±7 acre Braddock Gateway property at 1200 North Fayette Street in Alexandria, Virginia, was conducted by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc., of Gainesville, Virginia, for Jaguar Development, L.C. of Fairfax, Virginia. The project area is bounded by First Street on the south, North Fayette Street on the east and Potomac Yards to the west (Exhibit 1). The property is the site of the former Mutual Ice Company Potomac Yards plant, which operated from 1913 until 1969. The study was initiated in anticipation of the planned development of the project area and the concern that significant archeological resources may be impacted by this construction.

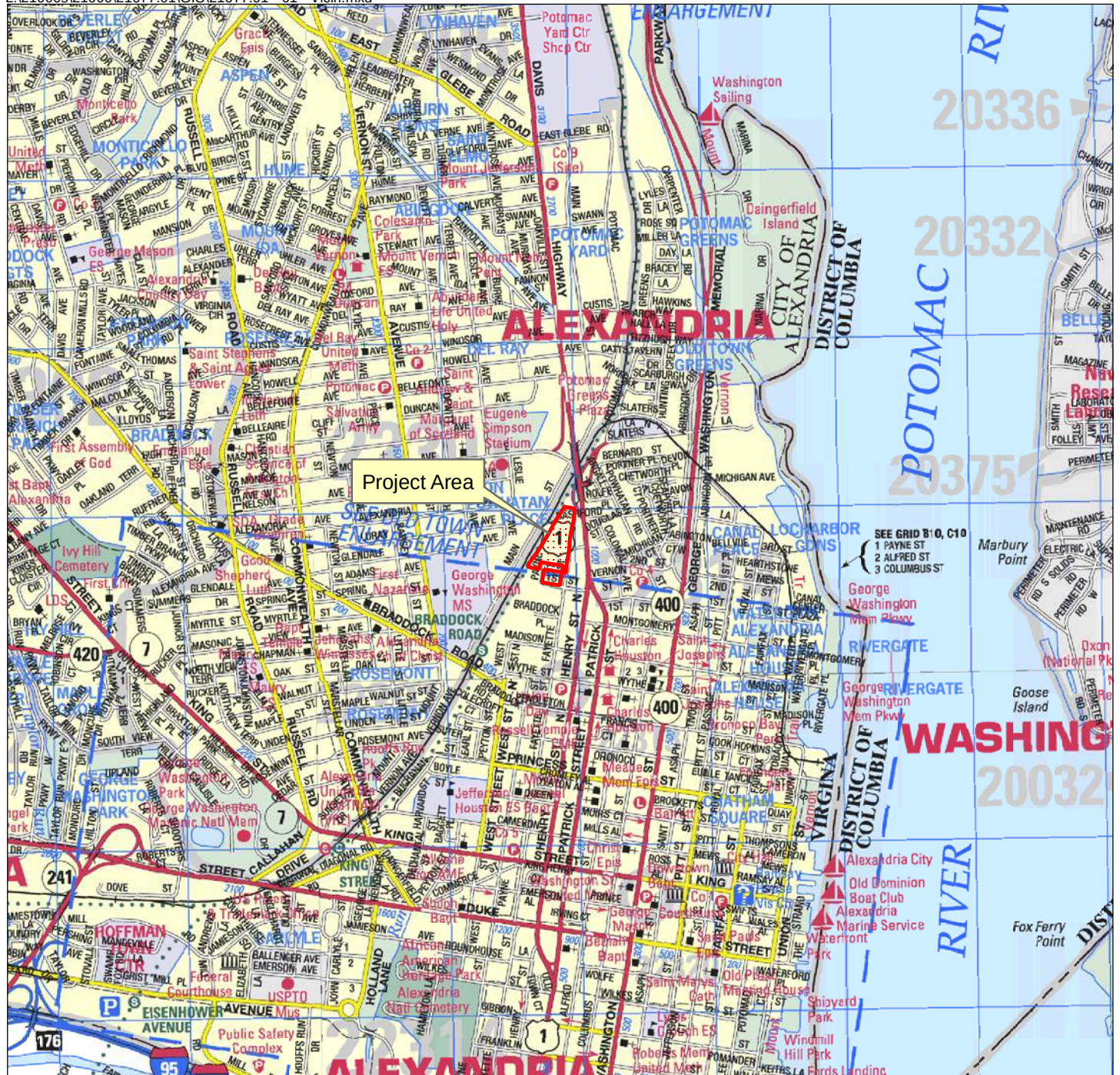
The primary goal of this documentary study is to reconstruct the history of ownership and use of the study area and to determine the likelihood of significant archeological resources occurring on the property. This study is in compliance with the City of Alexandria Archeological Protection Code and followed a Scope of Work provided by Alexandria Archeology (Appendix I).

Kimberly Snyder, M.A. served as Principal Investigator on this project and edited the report. William P. Barse, Ph.D. prepared the final version of the prehistoric overview. David S. Rotenstein, Ph.D. conducted the historical research relevant to the history of the Mutual Ice Company and its use of the project area and authored that portion of the report. Boyd Sipe conducted the all other research relevant to this study and wrote those portions of the report. Sarah Townsend prepared the exhibits.

Locating Alexandria County records pertaining to the properties discussed here for the early part of the 19th century proved to be a significant challenge, requiring review and comparison of Alexandria and District of Columbia records. This process was complicated by the fact that D.C. land tax records—which would seemingly offer valuable details on the structures and improvements on the properties from the late 18th century to 1846—are not available. Further, many documents pertaining to the latter part of the 19th century are incomplete and inconsistent. There have been no maps or records located that show any structures on the property prior to 1913.

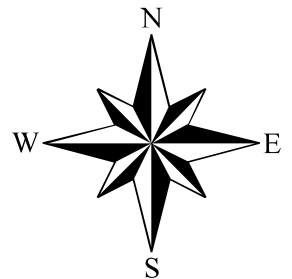
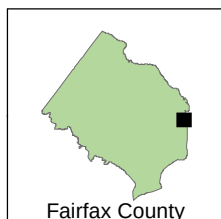
Despite these documentary limitations, our examination of available land tax records, deeds, wills, census listings, city directories, agriculture and slave schedules, trade journal and newspaper articles, maps, and numerous other sources illuminates considerable detail about the history of the project area and vicinity and the activities and developments that occurred on the land through time.

All research data resulting from this study are currently on repository at the Thunderbird offices in Gainesville, Virginia.



Copyright ADC The Map People
Permitted Use Number 20711184

Vicinity Map
Braddock Gateway
WSSI #21677.01
Scale: 1" = 2000'



Environmental Setting

The project area lies within the Coastal Plain, which is underlain by sediments that have been carried from the eroding Appalachian Mountains to the west, and includes layers of Jurassic and Cretaceous clays, sands and gravels. These are overlain by fossiliferous marine deposits, and above these, sands, silts and clays continue to be deposited. The Coastal Plain is the youngest of Virginia's physiographic provinces and elevations range from 0 to 200/250 feet above sea level (a.s.l.). It is characterized by very low relief broken by several low terraces. The province runs west to the Fall Line, a low escarpment at circa 200 feet a.s.l., which formed where the softer sedimentary rocks of the Coastal Plain abut the more resistant rocks of the Piedmont. Where rivers cross this juncture, rapids or falls have developed.

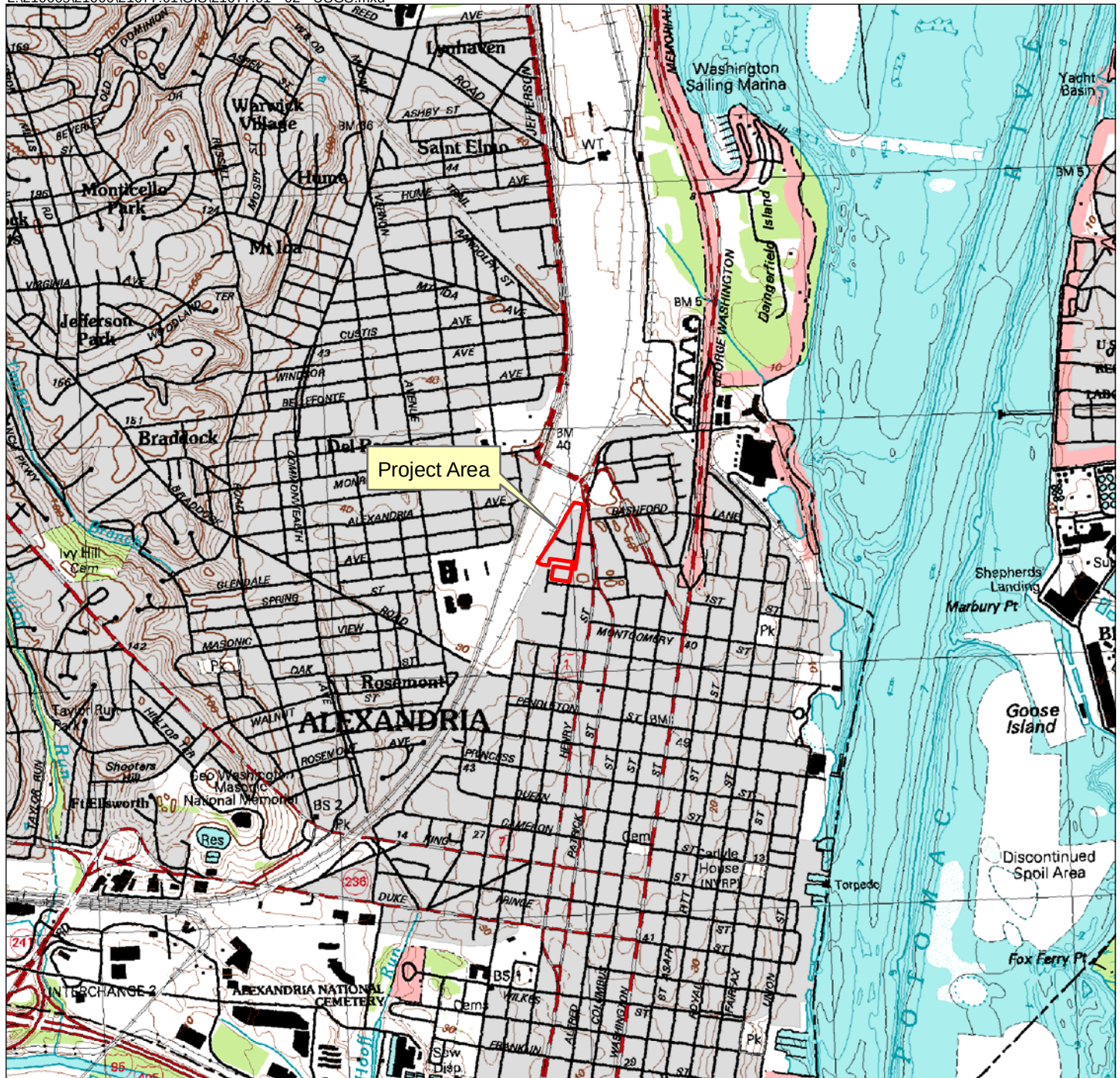
The project area is situated on developed land on low terraces overlooking the Potomac River to the east (Exhibit 2). Almost the entire area with the Braddock Gateway property is paved or the site of one of four standing buildings (Exhibit 3). The project area surroundings may be generally described as inner city urban with rail lines and vacant land (formerly Potomac Yards) to the west, highway infrastructure to the east and north and mixed commercial and residential buildings to the south.

Paleoenvironmental Background

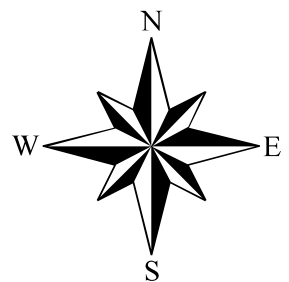
The basic environmental history of the area has been provided by Carbone (1976; see also Gardner 1985, 1987, and Johnson 1986). The following presents highlights from this history, focusing on those aspects pertinent to the project area.

At the time of the arrival of humans into the region, about 11,000 years ago, the area was beginning to recover rapidly from the effects of the last Wisconsin glacial maximum of circa 18,000 years ago. Vegetation was in transition from northern dominated species and included a mixture of conifers and hardwoods. The primary trend was toward a reduction in the openness so characteristic of the parkland of 14-12,000 years ago. Animals were undergoing a rapid increase in numbers as deer, elk and, probably, moose expanded into the niches and habitats made available as the result of wholesale extinctions of the various kinds of fauna that had occupied the area during the previous millennia. The current cycle of ponding and stream drowning began between 18-16,000 years ago at the beginning of the final retreat of the last Wisconsin glaciation (Gardner 1985); sea level rise has been steady since then.

These trends continued to accelerate over the subsequent millennia of the Holocene. One important highlight was the appearance of marked seasonality circa 7000 B.C. This was accompanied by the spread of deciduous forests dominated by oaks and hickories. The modern forest characteristic of the area, the mixed oak-hickory-pine climax forest, prevailed after 3000-2500 B.C. Continued forest closure led to the reduction and greater territorial dispersal of the larger mammalian forms such as deer. Sea level continued to rise, resulting in the inundation of interior streams. This was quite rapid until circa 3000-2500 B.C., at which time the rise slowed, continuing at a rate estimated to be 10 inches a century (Darmody and Foss 1978). This rate of rise continues to the present. Based on the archeology (c.f. Gardner and Rappleye 1979), it



USGS Quad Map
Alexandria, VA-DC-MD 1994
Braddock Gateway
WSSI #21677.01
Scale: 1" = 2000'



Latitude: 38°49'02" N
Longitude: 77°03'01" W
Hydrologic Unit Code (HUC): 02070010
Stream Class: II
Name of Watershed: Potomac River

Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.

Exhibit 2



October 2007 Natural Color Imagery
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'

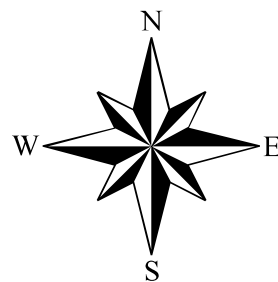


Photo Source: Aerials Express

would appear that the mid-Atlantic migratory bird flyway was established circa 6500 B.C.; oysters had migrated to at least the Northern Neck by 1200 B.C. (Potter 1982) and to their maximum upriver limits along the Potomac near Popes Creek, Maryland, by circa 750 B.C. (Gardner and McNett 1971), with anadromous fish arriving in the Inner Coastal Plain in considerable numbers circa 1800 B.C. (Gardner 1982).

During the historic period, at circa A.D. 1700, cultural landscape alteration becomes a new environmental factor (Walker and Gardner 1989). Around this time, Euro-American settlement extended into the Piedmont/Coastal Plain interface. With these settlers came land clearing and deforestation for cultivation, as well as the harvesting of wood for use in a number of different products. At this time, the streams tributary to the Potomac were broad expanses of open waters from their mouths well up their valleys to, at, or near their "falls" where they leave the Piedmont and enter the Coastal Plain. These streams were conducive to the establishment of ports and harbors, elements necessary to commerce and contact with the outside world and the seats of colonial power. Most of these early ports were eventually abandoned or reduced in importance, for the erosional cycle set up by the land clearing resulted in tons of silt being washed into the streams, ultimately impeding navigation.

The historic vegetation would have consisted of a mixed oak-hickory-pine forest. Associated with this forest were deer and smaller mammals and turkey. The nearby open water environments would have provided habitats for waterfowl year round as well as seasonally for migratory species.

Cultural Historical Background

Prehistoric Overview

A number of summaries of the region's local archeology are available that are relevant for the project area as well as the greater Middle Atlantic region (cf. Gardner 1987; Johnson 1986; Walker 1981; other works of a more general nature include Stephenson et al. 1963, Potter 1993 and Dent 1995). The following section provides a brief overview of the general prehistory of the region and provides a context for the archeological components anticipated within the project area.

Paleoindian Period (9500-8000 B.C.)

The Paleoindian period corresponds to the end of the Late Pleistocene and beginning of the Early Holocene. This period was characterized by cooler and drier conditions with significantly less seasonal variation than is evident in the region today. The cooler conditions resulted in decreased evaporation and, in areas where drainage was restricted by topography, could have resulted in the development of wetlands in the Triassic Lowlands (Walker 1981; Johnson 1986:P1-8). Generally speaking, the nature of the vegetation was marked by open forests composed of a mix of coniferous and deciduous elements. The individual character of local floral communities would have depended on drainage, soils, and elevation, among other factors. The structure of the open environment would have been favorable for deer and, to a lesser

degree, elk, which would have expanded rapidly into the environmental niches left available by the extinction of the herd animals and megafauna that existed during the Late Pleistocene. Evidence suggests that the last of these creatures (e.g. mastodons) would have been gone from the area around by about 11,000-11,500 years B.P., or just before humans first entered what is now Virginia.

The fluted projectile point is considered the hallmark lithic tool of the Paleoindian period. Based on his work at the Flint Run Complex, Gardner identified three distinct sub-phases within the larger fluted point phase (Gardner 1974). The oldest of the Paleoindian sub-phases is identified by the now classic Clovis point, a large, bifacially flaked tool with a channel or flute removed from both sides of its base. The Clovis sub-phase is followed in time by the Middle Paleo sub-phase, defined by smaller fluted points. The Dalton-Hardaway sub-phase is the final one of the period, and is characterized by the minimally fluted Dalton and Hardaway projectile points. This three-period subdivision is well supported by stratigraphy. Associated with these projectile points are various other tools that usually cannot be taken by themselves as diagnostic Paleoindian indicators. Examples of such stone tools include end or side scrapers, bifaces, blades, and spokeshaves, which are all associated with the hunting and processing of game animals.

Paleoindian archeological assemblages rarely contain stone tools specifically designed for processing plant material such as manos, metates, hammerstones, or grinders. This general absence or rarity of such tool categories does not mean that use of plant resources was unimportant. It may suggest that a far greater emphasis was placed on hunting versus gathering, at least when viewed from the perspective of an assemblage of stone tools. For instance, carbonized plant materials have been found in Paleoindian contexts and plant remains have been recovered from some Paleoindian sites. The remains of acalypha, blackberry, hackberry, hawthorn plum, and grape were recovered from a hearth in the Paleoindian portion of the Shawnee-Minisink Site (Dent 1995). Although hard evidence is lacking for the immediate study area, the subsistence settlement base of Paleoindian groups in the immediate region likely focused on general foraging, drawing a comparison with the Shawnee-Minisink data, and certainly focused on hunting (Gardner 1989 and various).

Settlement patterns for the Paleoindian period have been described as quarry-centered, with larger base camps situated in close proximity to sources of high quality cryptocrystalline lithic raw materials. Smaller exploitative or hunting and/or gathering sites are found at varying distance from the quarry-centered base camp (Gardner 1980). This model, developed from Gardner's work at the Thunderbird site complex in the Shenandoah River Valley, has wide applicability throughout both the Middle Atlantic region and greater Eastern United States. The extreme curation (or conservation) and reworking of the blade element exhibited by many stray point finds recovered throughout the Middle Atlantic region, especially specimens from Coastal Plain localities, is a strong argument supporting the quarry-base camp settlement model. Gardner has argued that once a tool kit has been curated to its usable limit, a return to the quarry-tied base camp would be made in order to replenish raw materials (Gardner 1974).

Sporadic Paleoindian finds are reported in the Potomac Valley, but, overall, these distinctive projectile points are not too common in the local area (cf. Gardner 1985; Brown 1979). Paleoindian fluted points have been found as isolated finds in the region; no intact sites have yet been documented (Johnson 1986). Recent excavations at the Freedman's Cemetery within the City of Alexandria produced a fragment of a fluted projectile point as well as other prehistoric artifacts.

Early Archaic Period (8500-6500 B.C.)

The Early Archaic period coincides with the transition from the end of the Late Pleistocene to the beginnings of the Holocene climatic period. This geologic period encompasses the decline of open grasslands and the rise of closed boreal forests throughout the Middle Atlantic region. It can be argued that the reduction of these open grasslands led to the decline and extinction of Pleistocene megafauna. Sea level throughout the region rose with the retreat of glacial ice, a process that led to an increase in the number of poorly drained and swampy biomes. These water-rich areas became the gathering places of large modern mammals, such as white-tailed deer, elk, and moose. Again, as in the Paleoindian period, humans were drawn to these wet biomes because the concentration of game animals made for excellent hunting.

The switch from fluting to notching is generally considered to mark the end of the Paleoindian period and the beginning of the Archaic period. Examples of Early Archaic point types include Amos Corner Notched, Kirk and Palmer Corner Notched, Warren Side Notched and Kirk Stemmed varieties. Serration can be found on both the Kirk and Palmer notched varieties. Gardner has demonstrated that while corner notched and side notched points show a stylistic change from the earlier fluted varieties, they all occurred within a single cultural tradition (Gardner 1974). The transition from fluting to notching is not a radical change, but the gradual replacement of one attribute at a time. The fluting, which was nearly absent during the Dalton-Hardaway sub-phase, is replaced by corner notching, which is then gradually replaced by side notching in the Archaic sequence. Serration of the blade element may be present on many, but not all, of these forms. The favored material (cryptocrystalline jasper), overall triangular shape of the blade element, and the manufacturing technique remained unchanged throughout the period. The initial reason for the change in hafting and related modifications of the basal elements of Early Archaic points is probably related to the introduction of the spear-thrower or atlatl. The fluted forms may have been utilized mainly as thrusting tools, while the earlier notched forms may have been mounted onto a smaller lance with a detachable shaft and powered by the atlatl. Because this does not detract from the influence/importance of hunting within the Flint Run Complex, they are all considered members of the same cultural tradition (Gardner 1974). As in the earlier Paleoindian period, stone tools designed for the processing of plant materials are rare.

Towards the close of the Early Archaic period, trends away from a settlement model comparable to the earlier Paleoindian quarry focused pattern are evident beginning at about 7500 B.C. and later. A major shift is one to a reliance on a greater range of lithic raw material for manufacture of stone tools rather than a narrow focus on high quality cryptocrystalline materials. Lithic use was a matter of propinquity; stone available was stone used. Extensive curation of projectile points, however, is still evident up until the bifurcate phases of the subsequent Middle Archaic period. It may be that while a reliance on high quality lithic materials continued, other kinds of raw material were used as needed.

This pattern is not readily documented during the earlier Paleoindian period. Johnson argues that the shift to a wider range of materials occurs in the gradual shift from the Palmer/Kirk Corner Notched phases of the Early Archaic to the later Kirk Side Notched/Stemmed or closing phases of the period (Johnson 1983; 1986:P2-6). Changes in lithic raw material selection are likely related to movement into a wider range of habitats coincident with the expansion of deciduous forest elements. Early Archaic period sites begin to show up in areas previously not occupied to any great extent, if at all. Additionally, the greater number of sites can be taken as a rough indicator of a gradual population increase through time.

Middle Archaic (6500-3000/2500 B.C.)

The chronological period known as the Middle Archaic coincides with the appearance of full Holocene environments. Climatic trends in the Holocene at this time are marked by the further growth of deciduous forests, continuing rise sea levels, and warm and moist conditions. This change led to the spread of modern temperate floral assemblages (such as mesic hemlock and oak forests), modern faunal assemblages, and seasonal continental climates. The advent of such climates and related vegetation patterns allowed for the development of seasonally available subsistence resources, which led to base camps no longer being situated near specific lithic sources, but closer to these seasonal resources. This shift also led to an increase in the number of exploited environmental zones. The moist conditions favored the spread of swamps and bogs throughout poorly drained areas like floodplains, bays, or basins. Rising sea level and overall moist conditions helped form these swamps and basins; sea level had risen too rapidly to allow the growth of large, stable concentrations of shellfish. Estuarine resources were scarce and the inhabitants relied on varied animal resources for sustenance. Essentially modern faunal species were spread throughout the various biomes, but their distributions would have been somewhat different than that known for today. The prevalent species included deer, turkey, and smaller mammals. As far as the inhabitants of the Middle Archaic are concerned, there is a noticeable increase in population, which can be seen in the sheer number of sites (as represented by the diagnostic point types) throughout the Middle Atlantic region.

The initial technological shift between the Early and Middle Archaic periods is generally considered to be marked by the introduction of bifurcate base projectile points, such as St. Albans, LeCroy, and Kanawha types (Broyles 1971; Chapman 1975; Gardner 1982). Several other marked changes occurred along with the onset of the bifurcate points. Ground stone tools, such as axes, gouges, grinding stones, and plant processing tools, were introduced along with bifurcate points (Chapman 1975, Walker 1981). These new tools are evidence for the implementation of a new technology designed to exploit vegetable/plant resources. Also, a shift to the use of locally available lithic raw material, which began during the closing phases of the Early Archaic, is clearly manifest by the advent of the bifurcate phases. The bifurcate points do not occur throughout the entire Middle Archaic; they appear to be constrained to the earlier portion of the period and disappeared somewhere between 8000–7000 years B.P. (Chapman 1975, Dent 1995). For instance, a Middle Archaic horizon at the Sandts Eddy Site (36NM12) in Northampton County, Pennsylvania, produced a bifurcate point and a radiocarbon date of around 7330 B.P. (Bergman et al. 1994).

The major stemmed varieties of projectile point that follow the earlier bifurcate forms and typify the middle portion of the Middle Archaic period include the Stanly, Morrow Mountain I and Morrow Mountain II varieties. Coe (1964) documented a Stanly-Morrow Mountain sequence at the Doerschuk Site in the North Carolina Piedmont, and similar results were recorded at the Neville Site in New Hampshire (Dincauze 1976) and the Slade Site in Virginia (Dent 1995). The Neville Site furnished three new point types (Neville, Stark, and Merrimack) that were similar to those recovered from the Doerschuk Site. It also provided similar radiocarbon dates for these point types. Interestingly, the projectile point sequence from the Slade Site essentially duplicated that of the Doerschuk Site. Excavations at the Clifton Site located in Charles County, Maryland, also demonstrated that an identical sequence is present in the Middle Atlantic Coastal Plain (Barse 1994). This data seems to indicate that a similar Middle Archaic point chronology exists in the Virginia-Maryland area. Dincauze (1976) has suggested such a chronology, characterizing it as an Archaic "Atlantic Slope" culture area.

The projectile points marking the latter portion of the Middle Archaic period are the lanceolate shaped Guilford type and various side notched varieties (Coe 1964; Dent 1995). Guilford points were stratified above Morrow Mountain and Stanly points at the Doerschuk Site (Coe 1964:54) and Halifax side notched points were found above Guilford types at the Gaston Site (Coe 1964:118–119). This sequence was also duplicated at the Slade Site (Dent 1995). Vernon points, common at the Accokeek Creek Site in Prince George's County, Maryland, are considered to be local variants of Halifax points (McNett and Gardner 1975:9). These points have been found stratified below Savannah River/Holmes points at the Fraser Site along the Potomac River in Virginia (McNett and Gardner 1975:10), essentially duplicating Coe's Halifax-Savannah River sequence (1964). Additionally, a single example of this type was found stratified below levels containing Savannah River points at the above noted Clifton Site (Barse 1994).

With the increasing diversity in natural resources came a subsistence pattern that was predicated on the seasonal harvest of various nut species and other plant resources; those species characteristic of deciduous forest environments. Base camps were located in high biomass habitats or areas where a great variety of food resources could be found (Walker 1981). These base camp locations varied according to the season and were located on floodplains, interior fluvial swamp settings, and in some cases, within interior upland swamp settings. The size and duration of the base camps appear to have depended on the size, abundance, and diversity of the immediately local and nearby resource zones.

As noted above, Early Archaic components show a slight increase in numbers over sites documented for the Paleoindian period, but it is during the Middle Archaic (Morrow Mountain periods and later) that prehistoric human presence becomes relatively widespread in a wide range of environmental settings (Gardner 1985, 1987; Johnson 1986; Weiss-Bromberg 1987). Clearly, Middle Archaic populations expanded into a variety of habitats for exploitation of a relatively wide range of both plant and animal resources. Diagnostic artifacts from upland surveys along and near the Potomac show a significant jump during the terminal Middle Archaic (e.g. Halifax) and beginning Late Archaic (Savannah River). Johnson noted in his overview of Fairfax County archeology a major increase in the number of sites (as measured by diagnostic point types) during the bifurcate phase and the later phases such as Halifax (Johnson 1986:P2-14).

Late Archaic (2500-1000 B.C.)

Throughout the Eastern United States, distinctive patterns of Native-American landscape become evident by about 5000 years B.P. (3000 B.C.), marking a significant shift with earlier Middle Archaic components. This reorganization, for lack of a more suitable term, has been termed the Late Archaic period (cf. Griffin 1967). The Late Archaic period is characterized by an increase in population over that documented for the Middle Archaic period (again, an inference based on an increase both in sites and in site size and distribution of diagnostic point types), a foraging pattern linked to dense forests and their seasonally available plant resources (a continuation from earlier patterns), and the development of an adaptation based on the exploitation of riverine and estuarine resources. Climatic events approached those of modern times during the Late Archaic period.

The continued rise in sea level eventually pushed the salinity cline further upstream, creating tidal environments; a corresponding movement of various riverine and estuarine species took place with the development of tidal conditions in the embayed section of the Potomac and its main tributary streams. Freshwater spawning fish had to travel farther upstream to spawn, fostering extensive seasonal fish runs. The development of brackish water estuaries as a result of an increase in sea level in the Hudson, Delaware, and Chesapeake Bay regions led to the spread of various shell species, such as oysters and crabs (Gardner 1976; Gardner 1982). In parts of the Middle Atlantic region, settlement during the Late Archaic period shifted from the interior stream settings favored during earlier periods to the newly embayed stream mouths and similar settings (Gardner 1976). Interior sites became minimally exploited, though not abandoned, sustaining smaller hunting camps and specialized exploitative stations; all exhibited varying emphasis on procurement of locally available cobble or tabular lithic sources, such as chert, quartz, and quartzite, as well as a variety of plant species.

The Late Archaic technological assemblage continued the emphasis on ground stone tools first noted in the Middle Archaic period. Steatite net weights and carved steatite bowls with lug handles first appeared during this period and are common throughout the Eastern United States from Maine to Florida. The most easily recognizable diagnostic projectile point in the Middle Atlantic is the parallel stemmed, broad bladed Savannah River point, which has a number of related cognate types. Defined by Coe based on work in the Carolina Piedmont (Coe 1964), the Savannah River point represents what could be, arguably, a typological horizon throughout the Eastern United States east of the Appalachians, dating from about 4600 to perhaps as late as 3500 B.P. (2600 to 1500 B.C.). Chronological markers are excellent for this period in the Delaware Valley. The definition of the Broadspear point types and the period is based on Witthoft's classic 1953 paper, wherein he suggested the period name "Transitional" to accommodate this particular riverine adaptation. This paper is perhaps one of the best synthetic statements of the terminal Archaic or Transitional period in the literature for its time.

Intense utilization of the region begins around 1800 B.C. with the advent of the Transitional Period and the Savannah River Broadspear derivatives (noted above) which include the Holmes and other related points. In settlement-subsistence models presented by Gardner, this is linked with the development of large seasonal runs of anadromous fish. These sites tend to be concentrated along the shorelines near accessible fishing areas. The adjacent interior and upland zones become rather extensively utilized as adjuncts to these fishing base camps. The pattern of using seasonal camps continues though the sites are larger, exhibiting greater hearth density and hearth size. Although hunting camps and other more specialized sites may occur in the Triassic Lowlands, the larger base camps are usually found in floodplain settings close to tributary streams or along the low lying floodplains of Potomac estuaries (Walker 1981). Use of the inter-fluvial Piedmont settings diminished during the Late Archaic. Sites from this period are less frequent and more widely scattered in such settings.

Early Woodland (1000-500 B.C.)

Chronological frameworks developed for the Eastern United States and the Middle Atlantic area begin the Early Woodland period with the inception of ceramic technology. This period corresponds generally to the Sub-Atlantic episode, when relatively stable and moister conditions prevailed. At this point in time, climatic conditions approached those of the modern era (Walker 1981). In the middle to lower Potomac River Valley, as well as most of the surrounding Middle Atlantic region, the earliest known ceramics begin with a ware known as Marcey Creek. This ware is a flat bottomed vessel tempered with crushed steatite or, in the Eastern Shore region, other kinds of crushed rock temper. It was defined based on excavations at a site along the Potomac River just north of Washington, D.C. by Carl Manson. Based on vessel shape, this distinctive ware is interpreted as a direct evolution or development from the flat bottomed stone bowls of the Late Archaic period. Vessels of this ware frequently exhibits the same lugs on the side walls as seen on Late Archaic steatite bowls.

As a ware group, Marcey Creek is a short lived in terms of its position in the chronological record. The earliest dates for this ware are 1200 B.C. in the Northern Neck (Waselkov 1982) and 950 B.C. at the Monocacy site in the Potomac Piedmont (Gardner and McNett 1971). Shortly after about 800 B.C., conoidal and somewhat barrel shaped vessels with cord marked surfaces enter the record in the Middle Atlantic region and greater Northeast. Whether these

evolved from the flat bottomed Marcey Creek vessels or simply replaced them is unknown. Locally, such a ware has been designated Accokeek Cord Marked, first described from the Accokeek Creek Site in Prince George's County, Maryland (Stephenson et al. 1963). Some chronological frameworks for the Middle Atlantic region, particularly in Maryland, suggest a transitional ware, such as Selden Island (cf. Slattery 1946), between Marcey Creek and Accokeek and its cognate wares. While this concept of a transitional ware has logical merit, it cannot be demonstrated conclusively with the evidence currently available. In many cases, the excavated sites show depositional contexts from this period with little vertical separation between Late Archaic and Early Woodland deposits. A more refined chronology that clarifies such issues of ceramic change still needs to be developed.

Accokeek ceramics (and the many regional ware variants) postdate Marcey Creek in all local sequences that have been described. Accokeek is the Early Woodland ware group from the southern part of North Carolina found northward into the middle Delaware River area, forming an Early Woodland ceramic horizon. North of Trenton, New Jersey, this ware and its cognates apparently give way to interior cord marked wares such as Vinette I (cf. descriptions of the Early Woodland interior cord marked wares from the Trenton Complex described in Stewart 1990). Accokeek ware was tempered with both sand and crushed quartz, although any suitable stone may have been used for the grit source, including steatite. In many cases, temper selected for use by Accokeek potters appears to have been based on propinquity to specific resources. In the Coastal Plain settings of the Maryland and Virginia, Accokeek typically has a "sandier" paste and could be said to have sand as a tempering agent. However, when large enough sherds are analyzed, crushed quartz tempering is invariably found in this ware. Whether or not the paste of the vessel is sandy or more clayey in texture depends on the clay source, either Piedmont or Coastal Plain. Clay sources from Coastal Plain settings usually contain greater amounts of sand.

In chronological terms, Marcey Creek and Accokeek span approximately 500 to 600 years. Marcey Creek likely falls within the first 200 years of the final millennium B.C., or roughly 1000 to 800 B.C. Radiocarbon dates for Accokeek place it between 750 B.C. and approximately 300 to 400 B.C., when it is superseded by net impressed varieties, including Popes Creek and related wares (Gardner and McNett 1971; Mouer et al. 1981; Mounier and Cresson 1988. McClearen (1991) reports a suite of comparable early dates for Accokeek from the 522 Bridge Site in Warren County, Virginia.

Other material categories associated with the Accokeek (and cognate) ware horizon are not yet well defined. However, the lobate based Piscataway point is definitely associated with Accokeek pottery at a number of sites in the Middle Atlantic region. To the north, this point type was found in excellent association at two Gloucester County sites in New Jersey, the Woodbury Annex Site and Site 28GL209 (cf. Mounier and Cresson 1988; Barse 1991). In Maryland, this point type was also recovered from contexts associated with Accokeek ceramics at the West Shore Site in Anne Arundel County (Barse 1978). In Virginia, several sites in the James River Valley (Mouer et al. 1981) and at the 522 Bridge Site in Warren County along the Shenandoah River (McClearen 1991) have excellent contexts with Piscataway points and Accokeek pottery.

Locally, these points have been termed "Teardrop" points by Mounier and other investigators (cf. Mounier and Cresson 1988). These points continue into the early phases of the Middle Woodland period and have been found in contexts containing Popes Creek, Albemarle, and early variants of Mockley ceramics at the Fletchers Boathouse Site (51NW13) along the Potomac River (Barse 2002).

Early Woodland period settlement patterns show a continuation from those described for the Late Archaic. Base camps have been recorded in riverine settings as large settlements, especially at the junction of freshwater-brackish water streams in Coastal Plain localities. Nearby sites that exemplify this Early Woodland settlement pattern are also found in the Potomac Valley, such as at Site 18PR142, excavated by the Department of Anthropology of Catholic University in 1976 (Gardner 1976). Here, a substantial Late Archaic Savannah River occupation and an Early Woodland occupation defined by Accokeek ceramics were found in overlapping contexts. This site was interpreted as a series of seasonal occupations situated to exploit spring-summer annual fish runs, as well as a range of other brackish water resources (Gardner 1976). As with the earlier Late Archaic period, smaller sites, although not well defined, were located in non-riverine settings for exploitation of diverse resources.

Middle Woodland (500 B.C.-1000 A.D.)

This period is best interpreted as a gradual development from the Early Woodland and, despite clear continuity, is marked by innovations in the ceramic realm. One notable addition to ceramic technology, and one clearly widespread throughout the Middle Atlantic region, is the inception of vessels exhibiting net impressed surface treatments. A wider range of vessel forms and sizes also can be documented compared to earlier vessel assemblages. The net impressed surfaces and greater variation in vessel size and shape represent a significant change used for defining the Middle Woodland period in the Middle Atlantic region from areas south of the James River through the Chesapeake region and into the lower Susquehanna and Delaware River drainages. Currently, it has been best documented (in terms of stratigraphy) from excavated sites in the Potomac River Valley, though a discussion of these is beyond the scope of this chapter. It should be noted that while net impressed surfaces appear in the archeological record throughout the region at about 500 B.C. to A.D. 1, cord marking (as represented by Accokeek and its cognates) continued as a surface treatment. Accokeek and related wares gradually develop into what has become known as the Albemarle ware group, commonly found in the Piedmont of Virginia and, perhaps, Pennsylvania and Maryland. It does not appear to be present in the Delaware Valley area.

Based on work in the lower Potomac River Valley and the upper Delaware River Valley, net impressed ceramics enter the chronological record around 500 B.C., a date produced by excavations at the lower Potomac River Loyola Retreat Site in Maryland (Gardner and McNett 1971). The latter estimate is supported by the date of 510 B.C. (2460 $\pm$ 100 B.P.) from the Piscataway Site in Maryland (18PR7). More recently, AMS dating on carbon taken from a Popes Creek sherd recovered from the Chapel Point Site in Charles County, Maryland returned a slightly younger date of 2235 $\pm$ 100 B.P., or 285 $\pm$ 100 B.C. (Curry and Kavanagh 1994). In the upper Delaware River area, Broadhead net impressed falls into a similar time range. This ware, considered herein as a northern Popes Creek cognate, has been dated to 480 $\pm$ 80 B.C. at the Miller Field Site in New Jersey (Kinsey 1972:456). Other similar wares include the net

impressed varieties of Wolf Neck and Colbourn ceramics from the Eastern Shore of Maryland and Delaware. Comparisons could also be extended to the Prince George Net Impressed ceramics from southern Virginia and the Culpepper ware in the Triassic Lowlands of the Piedmont. These wares or ware groups are circum-Chesapeake Bay in their geographic distribution, pointing to close interrelationships between the societies making these wares. All of these groups were undoubtedly participating in a growing Middle Woodland interaction sphere widespread throughout the James, Potomac, lower Susquehanna, Delaware, and even lower Hudson River Valleys that resulted in a second major ceramic horizon that eventually culminated in the emergence of the later Mockley phase.

Between 100 B.C. and A.D. 100, Popes Creek ceramics developed into the shell tempered Mockley ceramics, a ware that has both net impressed and cord marked surfaces. Why the shift from sand to shell tempering occurred is unknown, although it was widespread in the Middle Atlantic region. In the lower Potomac Valley, Mockley may have been tied to the intensive exploitation of oyster beds, a phenomenon first manifested in the earlier Popes Creek phase of the Middle Woodland period. Mockley ware exhibits clear relationships with the earlier Popes Creek ceramics and its cognate wares in basic attributes such as rim form, vessel shapes, and the range of vessel sizes (Barse 1990).

Many, if not most, radiocarbon dates associated with Mockley ceramics bracket the ware from about A.D. 250 and 300 to approximately A.D. 800, after which it develops into the Late Woodland Townsend Ware. Thurman has termed the developmental trajectory of Mockley to Townsend the Mockley continuum, a time span that saw gradual population growth and increasing village size leading up to the Late Woodland period (Thurman 1985). For the earlier end of this continuum, Potter (1993) has reported dates in the last 200 years of the final millennium B.C. for Mockley ceramics in the lower Potomac Valley in Virginia. The emergence of Mockley ware from Popes Creek was likely a gradual process, not a single historical event. It is also likely that, during this transition, both wares coexisted (as recognized archeologically), perhaps unevenly across the region. Both wares would have been contemporaneous at some point in this transition, as evidenced by their association in the large refuse pits excavated at the Fletchers Boathouse Site in Washington, D.C. (Barse 2002). At some point in the developmental trajectory, however, Mockley ware superseded the heavy, coarse, sand tempered Popes Creek ceramics and dominated the Middle Atlantic region.

With the emergence of Middle Woodland societies, an apparent settlement shift occurred compared to those seen in the intensive hunter-gatherer-fisher groups of the Late Archaic and Early Woodland periods. In brief, it appears that a selection to broader floodplain localities and the development of larger storage facilities at base camp localities dominated settlement patterns at this time. A classic example of this shift can be found in the Middle Woodland occupation tested by Cross at the Abbott Farm Site in the lower floodplain of the Delaware (Cross 1956). Smaller exploitative sites are also known and found as small shell middens in estuarine settings and interior or inter-riverine hunting stations along the drainage divides between the Delaware River and its tributaries.

Artifacts associated with Mockley ceramics frequently include side notched and parallel stemmed points manufactured from rhyolite, argillite, and Pennsylvania jasper. Such points are known as Fox Creek in the Delaware Valley and Selby Bay in the Chesapeake region. Popes Creek and Mockley ware ceramics are not as common in Piedmont settings as they are in Coastal Plain settings where they are clearly prevalent. Albemarle ceramics, bearing mostly cord marked exterior surfaces that show clear continuity with the earlier Accokeek ware, are commonly found in Middle Woodland contexts in the Potomac Piedmont. This ware was found associated with Mockley ceramics at the Fletchers Boathouse site in pit contexts (cf. Barse 2002) along with small quantities of Mockley and Popes Creek ceramics. Radiocarbon dates from several of the large pits at this site fall between 100 B.C. and 100 A.D., suggesting that Popes Creek was in the process of being replaced by the shell tempered Mockley ceramics. Albemarle is considered to be contemporary with both, though more commonly found in the Piedmont; as a ware it continued up to and perhaps into the Late Woodland period. Gardner and Walker (1993:4) suggested that fabric impressed wares become more common towards the end of the Middle Woodland period. This surface treatment is restricted to Albemarle wares though, and does not really occur on Mockley ceramics. Fabric impressing on shell tempered ceramics by default is identified as Townsend ware.

Late Woodland (1000 A.D. to European Contact)

The Late Woodland period begins between A.D. 850 and 1000, the result of a culmination in trends concerning subsistence practices, settlement patterns, and ceramic technology. A trend toward sedentism, evident in earlier periods, and a subsistence system emphasizing horticulture eventually led to a settlement pattern of floodplain village communities and dispersed hamlets reliant on an economy of both hunting and the planting of native cultigens.

In the early part of the Late Woodland, the diagnostic ceramics in the Northern Virginia Piedmont region include Potomac Creek, Shepard, and, in the upper Coastal Plain, Townsend ware ceramics, a shell tempered ware that developed from Mockley as noted above. Shepard ceramics are likely an outgrowth of Albemarle given similar attributes of paste and surface treatment. The surfaces of the above noted wares are almost exclusively cord marked, with the exception of the fabric impressed Townsend series specimens. In most cases, the cord marked surfaces were smoothed prior to firing the vessel, in some cases nearly obliterating the surface treatment. This is a trend that seems to become more popular through the Late Woodland period.

In the Potomac Piedmont, the crushed rock wares are replaced by a shell tempered ware that spread out of the Shenandoah Valley to at least the mouth of the Monocacy at about A.D. 1350-1400. Shell tempered Keyser ceramics, a downstream variant of the Late Woodland Monongahela ware common in the Upper Ohio River Valley, extend nearly to the Fall Line, although they are not found in Coastal Plain settings. Triangular projectile points indicating the use of the bow and arrow are diagnostic of this period as well.

The Late Woodland period is also marked by a marked increase in ceramic decoration. Most of the motifs are triangular in shape and applied by incising with a blunt-tipped stylus. The marked increase of ceramic decoration and the various design motifs on Late Woodland pottery compared to earlier periods likely reflect the need to define ethnic boundaries and possibly

smaller kin sets. Neighboring groups that may have been in low level competition for arable riverine floodplains may have used varied embellishments of basic design elements to set themselves apart from one another. Additionally, in a noncompetitive setting, ceramic designs simply may have served to distinguish between individual social groups, as the region now sustained the highest population level of the prehistoric sequence. As such, ceramic design elements functioned as a symbolic means of communication among groups, serving as badges of ethnic identity or, perhaps, smaller intra-group symbols of identity.

As noted above, Late Woodland societies were largely sedentary with an economy relying on the growth of a variety of native cultigens. Late Woodland settlement choice reflects this horticultural focus in the selection of broad floodplain areas for settlement. This pattern was characteristic of the Piedmont as well as the Coastal Plain to the east and the Shenandoah Valley to the west (Gardner 1982; Kavanagh 1983). The uplands and other areas were also utilized, for it was here that wild resources would have been gathered. Smaller, non-ceramic sites are found away from the major rivers (Hantman and Klein 1992; Stevens 1989).

Most of the functional categories of Late Woodland period sites away from major drainages are small base camps, transient, limited purpose camps, and quarries. Site frequency and size vary according to a number of factors, e.g. proximity to major rivers or streams, distribution of readily available surface water, and the presence of lithic raw material (Gardner 1987). Villages, hamlets, or any of the other more permanent categories of sites are rare to absent in the Piedmont inter-riverine uplands.

Perhaps after 1400 A.D., with the effects of the Little Ice Age, an increased emphasis on hunting and gathering and either a decreased emphasis on horticulture or the need for additional arable land required a larger territory per group, and population pressures resulted in a greater occupation of the Outer Piedmont and Fall Line regions (Gardner 1991; Fiedel 1999; Miller and Walker n.d.). The 15th and 16th centuries were a time of population movement and disruption from the Ridge and Valley to the Piedmont and Coastal Plain. There appear to have been shifting socio-economic alliances over competition for resources and places in local exchange networks. Factors leading to competition for resources may have led to the development of more centralized forms of social organization characterized by incipiently ranked societies. Small chiefdoms appeared along major rivers at the Fall Line and in the Inner Coastal Plain at about this time. A Fall Line location was especially advantageous for controlling access to critical seasonal resources as well as being points of topographic constriction that facilitated controlling trade arteries (Potter 1993; Jirikowic 1999; Miller and Walker n.d.).

Historic Overview

The Braddock Gateway property located at 1200 North Fayette Street in Alexandria, Virginia, is part of the mélange of industrial, commercial, and residential uses that have characterized this inner city area throughout the 20th century and the latter part of the 19th century. It is at the point where railroads entered the city from the north, where the extensive railroad facilities at Potomac Yards developed and where industries, such as the Mutual Ice Company and the Belle Pre and Alexandria Glass Companies were situated. It is also near the location of one of the first African American neighborhoods, Uptown, which formed outside of Old Town Alexandria, originally settled by free African Americans in the 1830s (Provine 1990).

Although the property, as a part of large plantation estates from circa 1730 until the last quarter of the 18th century, may have been utilized for the cultivation of tobacco or other crops or as pasture, little detailed information is available to support conclusions of land use during this period. Similarly, domestic use of the project area by enslaved laborers or tenants in the 18th century must be considered a possibility; however no solid documentary evidence of such use has been found. In the last quarter of the 18th century the property history indicates that the project area was a part of a large tract of land that was conveyed to and from business men in Philadelphia and Alexandria. Use of the land by tenants or enslaved laborers remains a possibility during this period of absentee ownership; however the appearance is strong that the various landowners' interest in the property was merely speculative. By the terminal 18th century and into the early 19th century, the property subject to this research appears to have been owned and leased by several wealthy residents of Alexandria. During this period, the properties that included the project area were likely used as farms, pasture and household or market gardens by the various landowners or lessees. As all of these individuals were documented slave owners; it is certainly possible that enslaved laborers were residing on the property during this period.

By the mid 19th century, the property history is again characterized by what appears to be speculative interest with multiple conveyances between wealthy businessmen in Alexandria and Baltimore. During this period free African Americans may have leased property near or within the project area. Although no specific details concerning such use of the property subject to this research were found, documentary evidence does indicate that a community of free African Americans had formed just south of the project area after circa 1830.

In the early 20th century the vicinity of the study area was the site of industrial development in Alexandria and in 1913, the Mutual Ice Company Potomac Yard plant was built within the project area.

Early Settlement

In the late 17th and early 18th centuries, the land that later became Potomac Yard consisted of large landholdings owned by absentee landowners. The area was part of a 6,000-acre patent granted to Robert Howson [Howsing]. The Howson [Howsing] tract was described as located "Opposite my Lord's Island to the north point of a creek named by the English the Indian Cabin Creek" (Virginia Land Patents 6: 262); Indian Cabin Creek is now known as Hunting Creek. In 1669, the same year that Howson [Howsing] received the patent, he sold it to John Alexander, a prosperous landowner who resided in present-day King George County, Virginia. From the 1670s until the 1730s, John Alexander and his descendents likely leased much of the land south of Four Mile Run to tenant farmers (Walker and Harper 1989; Pippenger 1990; Stetson 1935; Alexandria Archeology Museum 1999a).

The beginning of Alexandria, originally known as the tobacco warehouse at "Bel Haven," was created by an Act of the Virginia Assembly in 1730. To "prevent frauds in his Majesties Customs" in the staple tobacco trade, the Virginia Assembly appointed Inspectors for the public tobacco warehouses to be located at waterfront ports in the various counties. Under one inspection, two tobacco warehouses were appointed in Prince William County, one at Quantico on Robert Brent's land, and another at Great Hunting Creek on Broadwater's land (Hening 1820:268).

Also in the 1730s, members of the Alexander family subdivided this land and began to establish plantations there and several tenant farmers lived in the area. By 1731, Robert Alexander also had five tenants on his lands south of Four Mile Run, including miller Edward Chubb, a miller. Other documented tenants were Judith Ballenger, Sarah Young, Sarah Amos and James Going, who raised horses "and spent much of [his] money at the races". Other portions of the Alexander lands may have been worked by slaves or indentured servants of the Alexander family rather than leased to tenants. The majority of the population was probably African or of African descent and it is likely that all of the major landowners had slave laborers working their fields (Alexandria Archeology Museum 1999b).

By an Act of the General Assembly in 1748, a town at the Hunting Creek warehouse on the Potomac River was established on 60 acres of land owned by Philip Alexander, John Alexander, and Hugh West, both to benefit trade and navigation and to be to the advantage of the "frontier inhabitants". The 60 acres of land were directed to be taken above the mouth of Great Hunting Creek and laid out by the surveyor to the first branch above the warehouses and extend down the meanders of the Potomac to Middle Point (Jones Point). The lots of the town were directed to be laid out along streets "not exceeding half an acre of ground in each lot setting apart portions of land for a market place and public landing, to be sold by public sale or auction, the proceeds of which were to be paid to Philip Alexander, John Alexander and Hugh West". Purchasers of each lot were required to erect one house of brick, stone, or wood, "well framed", with a brick or stone chimney, in the dimensions of 20 feet square, "or proportionably thereto" if the purchaser had two contiguous lots (Winfrey 1971:443-446). A survey of the town of Alexandria, "now Belhaven", was undertaken by George Washington in 1749 (Exhibit 4).



1749 Plan of Alexandria by George Washington
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Not to Scale

Map Source: "A Plan of Alexandria, Now Belhaven".
George Washington, 1749. Library of Congress Geography
and Map Division Washington, D.C. Original Scale: Unknown.

The Late 18th and Early 19th Centuries

As Alexandria grew during the late 18th and early 19th centuries, several roads developed in the project area vicinity. The Georgetown Road, which incorporated portions of present-day Route 1 and North Glebe Road, lay adjacent to the eastern boundary of the project area. This road led north from Alexandria to present-day Rosslyn, Virginia, where a ferry crossed the Potomac River to Georgetown in what is now Washington, D.C. After Americans and French forces defeated the British at the Battle of Yorktown in 1781, the French army, led by Comte de Rochambeau, marched north along this road and camped just north of Alexandria. The exact location of the French encampment remains unknown (Stephenson 1981; Rose 1976; Alexandria Archeology Museum 1999c). Elements of the French army had previously camped near Alexandria during the march to Yorktown. Historian, C.B. Rose has suggested that troops may have returned to their earlier campsite (Rose 1976). Researchers have attempted to locate the camp based on sketch maps, concluding that it was probably located in the vicinity of the project area (XENOPHON Group 2001).

The Washington and Alexandria Turnpike opened in 1809, running from Washington Street in Alexandria north following the route of the Georgetown Road. It then continued towards Four Mile Run, along much the same path as present-day Route 1. Tolls were collected on the south side of a new bridge over Four Mile Run (Terrie 1980; Miller 1992c; Netherton, et al. 1992; Rose 1976). Until at least 1845, the turnpike angled to the northwest from Washington Street, following the route of present-day Powhatan Street until it intersected with present-day Route 1. By 1862, the portion of the turnpike that angled to the northwest had fallen into disuse in favor of a new route that continued straight from Patrick Street to the turnpike. The old turnpike route continued to be used as a road until 1906 but, by 1878, it carried tracks for the Alexandria & Washington Railroad.

As the economy transitioned from one based on tobacco to other products, the population in Alexandria and the county increased as people moved in from outlying western areas and into the town of Alexandria to work as merchants, hotel proprietors, and cooks in local restaurants. The population was growing very quickly in this prosperous era; between 1790 and 1798, Alexandria's population grew by about 2000 individuals or 41%. Some of these migrants were members of the Society of Friends, continuing a trend of Quaker migration from Pennsylvania and New Jersey begun in the 1780s. Many Quakers became prominent businessmen and civic leaders. As early as 1796, Quakers had founded an early abolition organization in Alexandria known as the "Society for the Relief and Protection of Persons Illegally Held in Bondage" (Alexandria Archeology Museum 1999d).

During the 1790s, the project area was a part of the District of Columbia. At this time, due in part to turmoil in Europe associated with the French Revolution and the beginning of the Napoleonic Wars, Alexandria prospered as a major port for the exportation of American wheat. In 1791, the total value of the town's exports was \$381,000, and four years later it had grown to \$948,000 (Alexandria Archeology Museum 1999d). By 1795, the City of Alexandria had

closed its tobacco warehouses. From 1800 to 1820, Alexandria was fourth behind Baltimore, Philadelphia, and New York in wheat exports. With the shift from the tobacco economy to the wheat economy occurring around the time Alexandria was ceded to the District of Columbia, enslaved laborers, who were no longer needed on the plantations, were manumitted and migrated to the city (Bloomberg 1998:62).

The 1798 Plan of the Town of Alexandria by George Gilpin shows the street grid to the southeast of the project area (Exhibit 5).

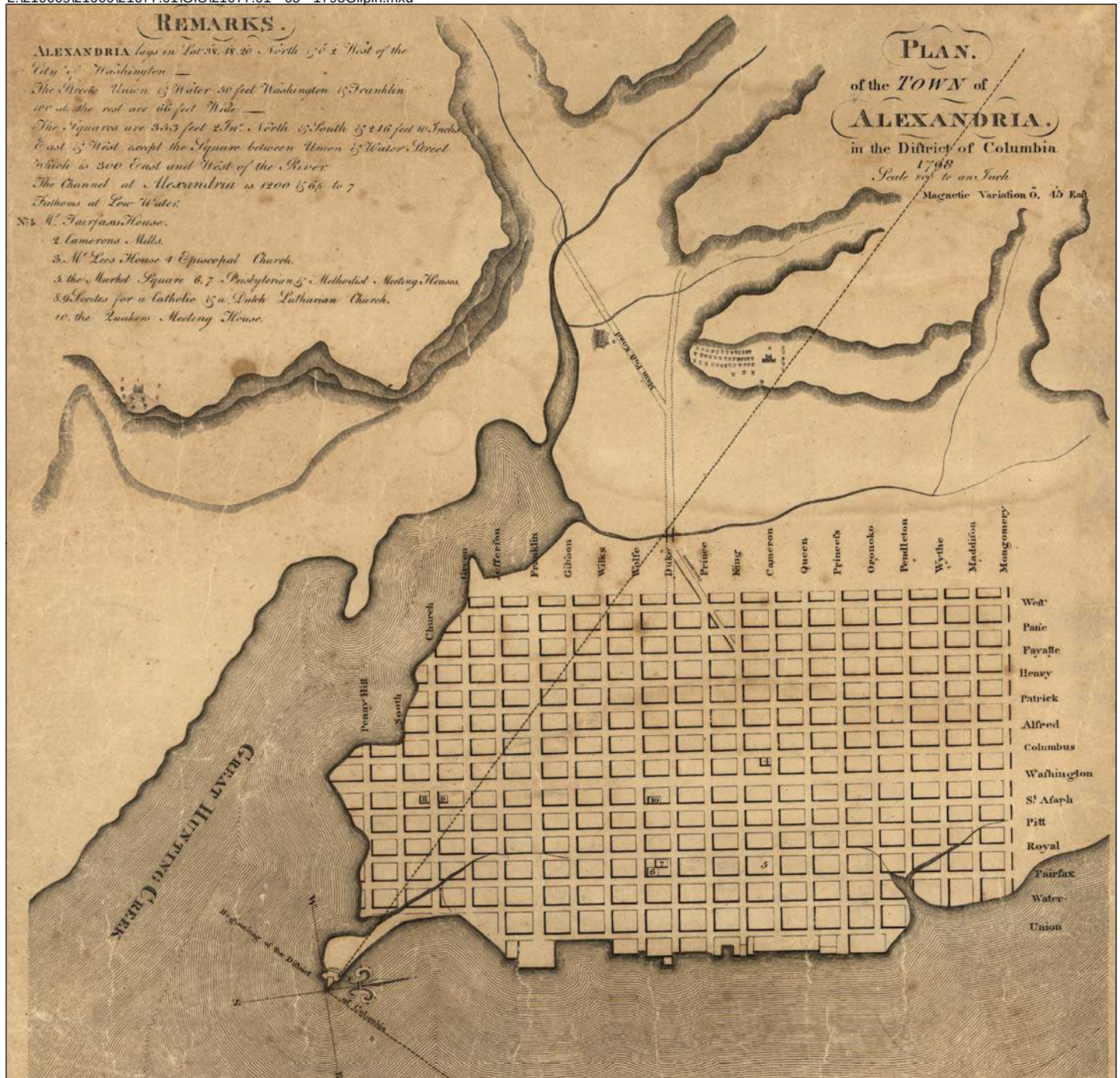
As the population increased in the District and in Alexandria, small enclaves formed where free African Americans established their own communities. One such community situated at the northwestern edge of Alexandria came to be called Uptown. Although some free African Americans made their homes in Uptown prior to the Civil War, the settlement greatly expanded after the war (Office of Historic Alexandria n.d.; Bloomberg 1998: 73).

In 1793, the city required mandatory registration of free African Americans, and in November 1799, a curfew was imposed (Bloomberg 1998: 57). An ordinance was passed in 1809 that allowed "free persons of color", including mulattoes, to settle within the corporate limits of the city until August 9, 1809, after which time any such person who lived in Alexandria prior to 1809 had to obtain a voucher from one white person to attest to his good character (Bloomberg 1998: 57).

By 1800, an east-west road led west from the Dade plantation towards Braddock Road. Present-day Slater's Lane and Monroe Avenue formed a continuous east-west route through the study area. The location of the Alexandria Poorhouse, which stood on the north side of the road, suggests that the road was in place by 1800. An 1801 advertisement for Baldwin Dade's plantation described this road as "a fine road at all seasons of the year" (Miller 1992c).

According to some historical records, the African American population in D.C. in 1800 (which included Alexandria at the time) was made up of free persons that comprised 20 percent of the population and, by 1840, over 64 percent of the population had free status (Bloomberg 1998:51). In 1801, the population in Alexandria totaled 1,244 African Americans, while 746 lived in the City of Washington and 1,726 reportedly resided in Georgetown (Bloomberg 1998:50).

Alexandria was a thriving commercial center in the early 19th century, but possessed little manufacturing capacity. By 1830, a variety of industrial facilities had been established, including a *ropewalk*, a narrow lane where long strands of material were laid and twisted into rope, located west of West Street from Oronoco to Queen Streets, an ice house at 218 North Columbus Street, Jacob Hoffman's sugar refinery at 220 North Washington Street, a tannery, and several furniture factories. A steam engine factory was set up in 1830 on Union Street, and several coal yards were created to power the steam engines. In 1847, the Mount Vernon Cotton Manufacturing Company opened, and later a gas works, plaster mill, bakery, foundry, and more tanneries were in operation (Bloomberg 1998:64).



1798 Plan of the Town of Alexandria by George Gilpin
Braddock Gateway
WSSI #21677.01
Not to Scale

Map Source: "Plan of the Town of Alexandria in the District of Columbia". 1798 George Gilpin. Library of Congress Geography and Map Division Washington, D.C. Original Scale: 1 inch = 800 feet

The Canal, the Railroads, the Civil War, and Reconstruction

The Alexandria Canal was built between 1831 and 1843, linking Alexandria with the Chesapeake and Ohio (C&O) Canal, which extended west from Washington, D.C. past the falls and into western Maryland. The Alexandria Canal crossed the Potomac River at Georgetown via the Aqueduct Bridge and continued south towards another aqueduct over Four Mile Run. South of Four Mile Run, the canal lay to the east of the Alexandria Turnpike and ran roughly parallel to the road before turning to the southeast. In the 1840s, boats along the Alexandria Canal primarily transported agricultural products from western farms into Alexandria. Westbound vessels carried mostly manufactured goods and fish. After 1850, when the C&O Canal reached Cumberland, Maryland, boats entering Alexandria via the canal increasingly carried coal, much of which was loaded onto seagoing vessels for export to ports along the East Coast and in Europe (Hahn and Kempt 1992).

Alexandria was retroceded back to Virginia in 1846. This action subjugated Alexandria's free African American residents to the more strictly enforced racial laws of Virginia. One such law forbade more than five black persons meeting without the presence of a white man. Another set a curfew for free African Americans at 10 o'clock at night (Wallace 2003:37). With the arrival of the railroads in the 1850s, Alexandria experienced an industrial and commercial boom, and its population swelled from 8,734 in 1850 to 12,652 in 1860. Statistics from the 1850 census reveal there were 6,390 whites; 1,301 free blacks and 1,061 slaves. In 1858, with the approval of a new charter, Alexandria officially became a city (Alexandria Archeology Museum 1999e).

The Alexandria and Washington railroad line had been built along the center of North Fayette Street, and the location of the railroad and industry attracted African Americans, who had always had a significant presence in Alexandria, to the project area vicinity. Originally populated before the Civil War, the area just south of the project area; bounded by West, Cameron, North Columbus and Montgomery Streets; was known as Uptown and became the largest of Alexandria's ten historical African American communities.

In the late 1840s, several major railroad construction projects were being planned for Alexandria. The first, originally incorporated as the Alexandria and Harpers Ferry Railroad, was designed to link Alexandria with the West via Harpers Ferry, West Virginia; it was chartered in 1847 and reorganized as the Alexandria, Loudoun and Hampshire in 1853 (Bianculli 2001:24). By the beginning of the Civil War, this line was only constructed as far as Leesburg. The same railroad was reorganized another three times: in 1870 as the Washington and Ohio Railroad; in 1884 as the Washington, Ohio and Western Railroad; and in 1911 as the Washington and Old Dominion Railway. It was finally abandoned in 1968 (ibid).

The second major railroad project planned to connect Alexandria with Gordonsville in the south by way of the old Piedmont Stage Route through Orange and Culpeper Counties, Virginia. The Orange and Alexandria Railroad was incorporated by an Act of the Virginia Assembly on March 27, 1848. An Act to confirm the Town of Alexandria's grant of a right-of-way to the Orange and Alexandria (O&A) Railroad Company through the Town of Alexandria "and the privilege of steam" was passed by the Virginia General Assembly on March 22, 1850 (Commonwealth of Virginia 1850: 74-75), and construction of the Orange and Alexandria Railroad began in Alexandria in early 1850. The line was completed as far as Manassas Junction in Prince William

County by October of 1851 (Geddes 1967: 28-30). The president of the Orange and Alexandria Railroad in 1850, and a prominent Alexandria businessman, George H. Smoot, was involved in the formation of the Alexandria Gas Light Company, incorporated on March 22, 1850. The Gas Light Company was authorized to open the streets, lanes, alleys and public squares in the City of Alexandria for the purpose of distributing gas by gas mains, or gas pipes (Commonwealth of Virginia 1850: 148-149).

The third railroad project was to open a line to the Shenandoah Valley through Manassas Gap. The Manassas Gap Railroad Company was incorporated by an Act of the Virginia Assembly on March 9, 1850 (Commonwealth of Virginia 1850: 73-74). The Manassas Gap Railroad line was constructed from the Manassas Junction on the Orange and Alexandria line to Strasburg by 1854. Initially, the Manassas Gap Railroad leased the Orange and Alexandria railroad track rights into Alexandria, but in 1855 it began constructing its own line, which was never completed (Geddes 1967: 28-30).

The fourth project, the Alexandria and Washington Railroad Company (A&W) was chartered in 1854 to extend a rail line from Alexandria to Washington. The railroad was authorized to construct its tracks from a roundhouse and car shed located at the block bounded by Saint Asaph, Pitt and Princess Streets, thence north on Saint Asaph to the Alexandria and Washington Turnpike, thence north to the south end of the old Long Bridge, now the 14th Street bridge (Baer 2005c).

Immediately following Virginia's vote to withdraw from the Union in on May 24, 1861, Federal troops crossed the Potomac River and occupied Alexandria. Federal forces retained control of the city and its rail connections with the South for the duration of the war (Alexandria Archeology Museum 1999f). Union troops were active in the area north of Alexandria. Robert Hodgkin, who became keeper of the Alexandria Poorhouse in 1861, recorded several instances of Union troops coming through the area and some Union soldiers may have set up encampments nearby (Miller 1992c; Ward 1980).

The passage of the Railways and Telegraph Act of January 31, 1862, granted the federal government authority to control all Northern and captured Southern railroads. Control of the railroads was considered key to victory in the war. The City of Alexandria was the terminus of three strategic lines: the Orange & Alexandria (O&ARR), the Alexandria, Loudoun and Hampshire (AL&HRR), and the Alexandria and Washington Railroad (A&WRR). The O&ARR offices and rail yards were developed into the operation headquarters of the United States Military Railroads (USMRR). The various lines within the city were finally interconnected under the USMRR, and the rail connection with the North was made complete when tracks were laid across Long Bridge to the Baltimore & Ohio Railroad. In February of 1862, a track was laid down Henry Street connecting the Orange & Alexandria and the Alexandria & Washington lines (Baer 2004a).

In May of 1862, Herman Haupt was commissioned by Secretary of War Stanton to act as the director of rail operations for the military. Haupt was extremely efficient in the operations of moving troops and supplies over the rails and improvising new methods of repairing damaged track. Haupt organized the military railroads into the Construction Corps, which he supervised, and placed his assistant John H. Devereux in charge of the Transportation Corps. By the end of August, Haupt

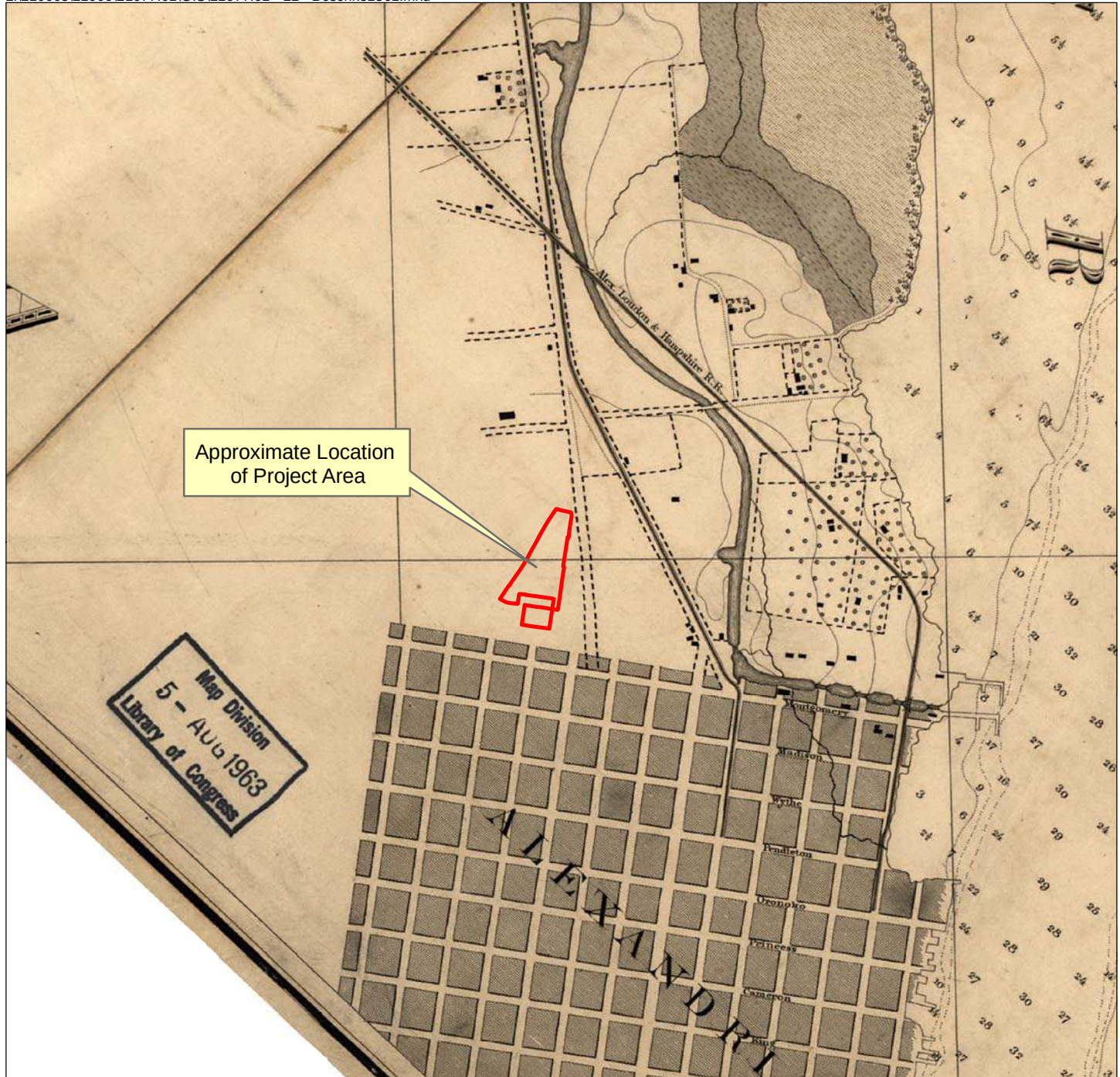
...forwarded scores of cars filled with everything from bread and meat, to ammunition and forage. He also arranged for the transport of surgeons to the field...and for the recovery of the wounded (Barber 1988: 34).

Barber also notes that, by the end of the war,

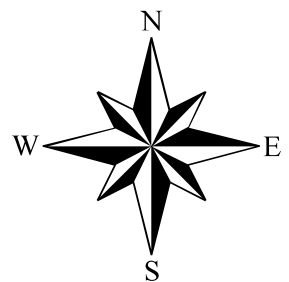
...quartermasters received, issued and transferred more than 640,000 pounds of wood, 81,000,000 pounds of corn, 412,000,000 pounds each of oats and hay, and 530,000,000 pounds of coal..... By July 1865, all military railroad property--including machine shops, engine houses and the late president's personal car, which was built and housed in Alexandria--totaled more than two million dollars. This figure equaled half the value of all U.S. Military Railroad property in the state (ibid: 103).

The USMRR laid new track that brought the A&W into Alexandria along Henry Street, creating a railroad junction just north of Poorhouse Lane (Griffin 1984). In 1861 and 1862, Federal engineers drained the Aqueduct Bridge and converted it to a bridge moving troops and material across the Potomac into Virginia (Morgan 1966).

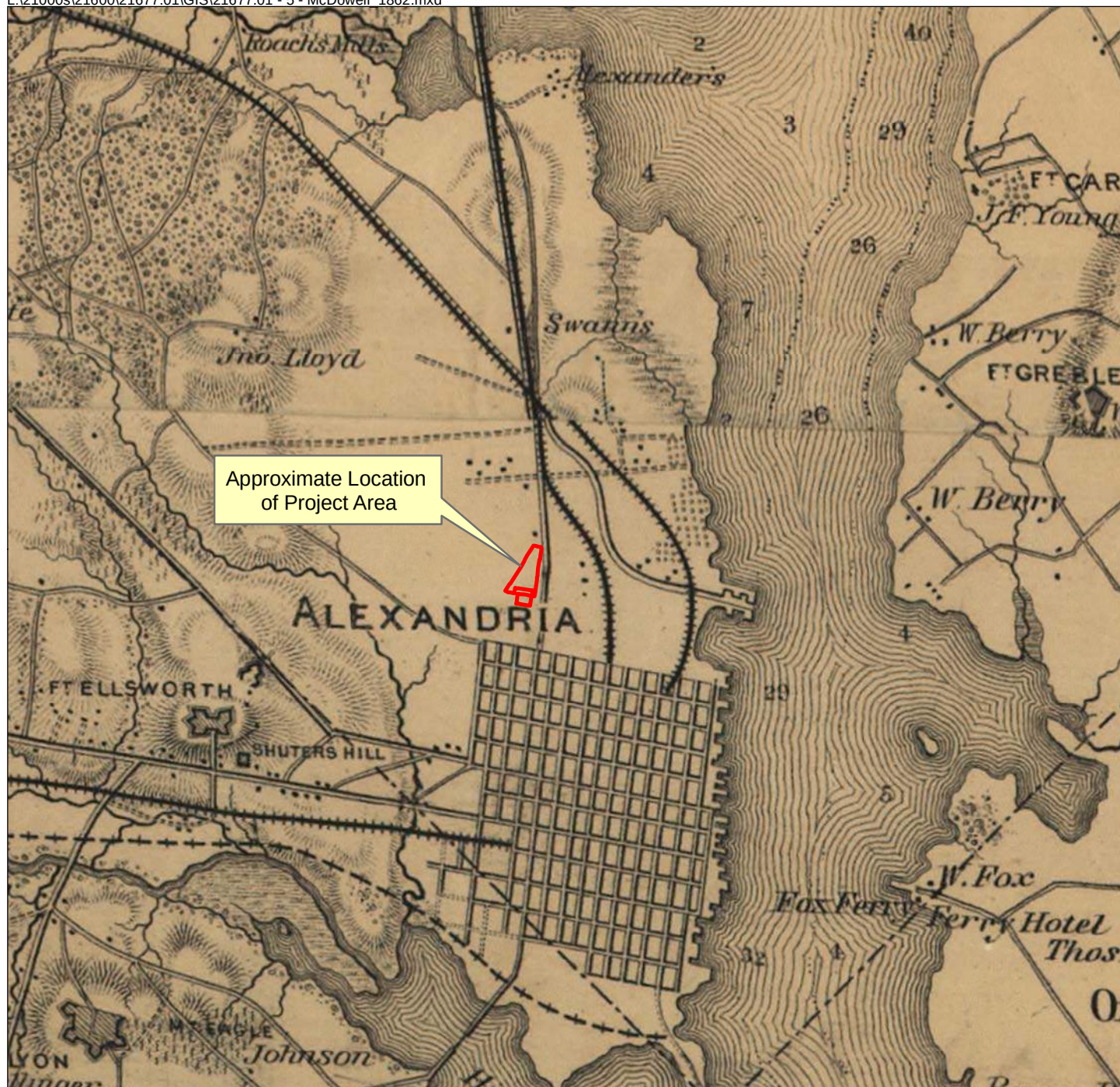
Prior to the Civil War, few detailed maps of the eastern United States existed. Federal military authorities recognized the strategic and tactical importance of maps of the United States, and the dearth of detailed and accurate maps available. The Army's Corps of Topographical Engineers and Corps of Engineers, the Treasury Department's Coast Survey, and the Navy's Hydrographic Office, were quickly mobilized to prepare new maps for the war effort. As a result, several detailed maps of the vicinity of Alexandria were made in the 1860s. The 1861 Boschke Map shows the project area to the west of the Old Georgetown Road (Exhibit 6). No dwellings are depicted in the project area vicinity, although the Alms House is clearly shown to the northwest. McDowell's 1862 map also shows the project area to the west of the Old Georgetown Road in what appears to be sparsely settled area northwest of town (Exhibit 7). At least one dwelling is shown near or within the northern portion of the project area. The project area vicinity, as shown on the 1865 Barnard Map (Exhibit 8), differs in no significant way from the depiction on the earlier Boschke map. Generally, these maps show that despite the changes in the landscape that came with the turnpike, canal, and railroads, the project area vicinity appears to have remained sparsely settled to this time.



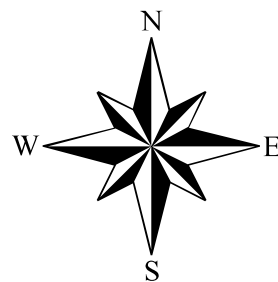
1861 A. Boschke Map
Washington, District of Columbia
Braddock Gateway
WSSI #21677.01
Scale: 1" = ¼ mile



Map Source: "Topographical map of the District of Columbia. Surveyed in the years 1856 '57 '58 & '59 by A. Boschke". 1861. Library of Congress Geography and Map Division Washington, D.C. Original Scale: 1:15,840



1862 McDowell Map
Northeast Virginia and Vicinity of Washington D.C.
Braddock Gateway
WSSI #21677.01
Scale: 1" = ½ mile

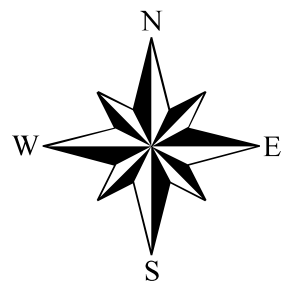


Map Source: Map of N. Eastern Virginia and Vicinity of Washington. Compiled by General Irvin Mc Dowell, January 1862. United States. Corps of Topographical Engineers". Original Scale: 1" = 1 mile.



1865 Barnard Map
District of Columbia and Surrounding Area
Braddock Gateway
WSSI #21677.01
Scale: 1" = ¼ mile

Map Source: "Map of the environs of Washington : compiled from Boschkes' map of the District of Columbia and from surveys of the U.S. Coast Survey showing the line of the defences of Washington as constructed during the war from 1861 to 1865 inclusive / to accompany the report on the defences of Washington by Bvt. Major Genl. J.G. Barnard, Col. of Engineers, late Chief Engineer of Defences &c." 1865. LC Civil War maps (2nd ed.), 676. Stephenson. Cartography of northern Virginia, pl. 56-58. Library of Congress Geography and Map Division Washington, D.C. Original Scale: 4 in. to 1 mile.



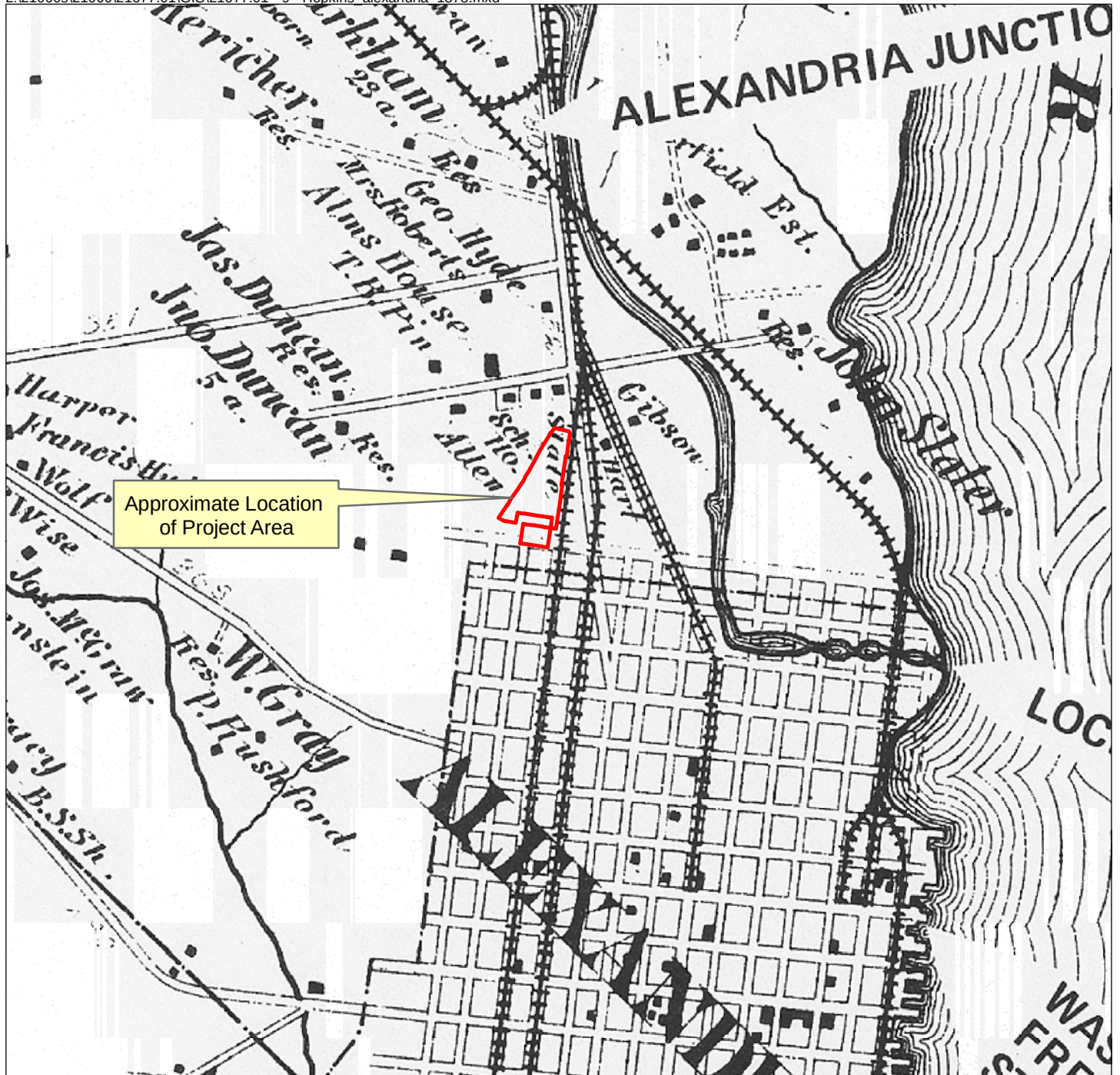
With the close of the Civil War, on August 7, 1865, the U.S. Military Railroad (USMRR) transferred the line between Washington and Alexandria, including the Henry Street Branch, to a newly formed New York company, the Alexandria, Washington & Georgetown Railroad. The stockholders of the Orange & Alexandria Railroad later sued and recovered control of the line (Baer 2004b). The charter, franchises, and all property of the Manassas Gap Railroad were transferred to the Orange and Alexandria Railroad company on February 14, 1867. By transfer of the charter, the consolidation assumed the name of The Orange, Alexandria, and Manassas Railroad Company (Commonwealth of Virginia 1867:637-639). In 1872, the Orange, Alexandria and Manassas Railroad Company consolidated with the Lynchburg and Danville Railroad Company, becoming the Virginia and North Carolina Railroad Company. By an Act of the Virginia Assembly on February 4, 1873, the corporate name was changed to the Washington City, Virginia, Midland and Great Southern Railroad Company (Commonwealth of Virginia 1871: 62; 1873: 35-36), commonly known in the area as the Virginia Midland (VMRR).

In 1870, the Pennsylvania Railroad (PRR) assumed the construction of a previously authorized but never built railroad, the Alexandria & Fredericksburg Railway (A&F Rwy) and, on April 28, 1871, the City of Alexandria authorized the A&F Rwy to build a single track up Fayette Street (Baer 2005a). This track likely ran along North Fayette Street near the project area. In 1872, the Pennsylvania Railroad acquired the Alexandria and Washington Railroad, and the St. Asaph Street entrance to the city was abandoned in favor of the two acquired lines running down Fayette and Henry streets (Cox 1996).

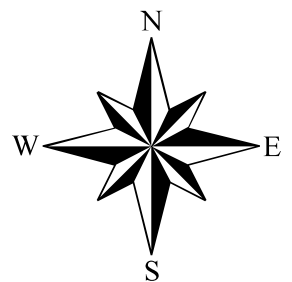
The 1877 Hopkins map of the City of Alexandria shows no buildings within the project area, which is situated adjacent to the railroad lines of the Alexandria & Fredericksburg Railway to the east along Fayette Street. The Virginia Midland line is shown one block farther to the east along Henry Street (Exhibit 9). The 1886 Shipman map also shows no buildings within the project area (Exhibit 10).

In 1890, the A&W RR and the A&F Rwy consolidated to form the Washington Southern Railway Company (WS Rwy). In the following years, the Southern Railway was formed after a series of consolidations, financial restructurings and acquisitions assumed control of the VMRR lines (Williams 1977: 64).

In 1894, two planned residential developments – Del Ray and St. Elmo – were established on the west side of the Alexandria Turnpike. Del Ray was located between East Bellefonte Avenue and Mount Ida Avenue; St. Elmo lay between the Bluemont Branch of the Southern Railway (the former AL&H Railroad) and Glebe Road. The developments' proximity to two railroads made it possible for residents to commute daily to jobs in Alexandria or Washington D.C. St. Asaph Junction Station and the Washington and Ohio Station on the A&W Railroad served respectively Del Ray and St. Elmo. Beginning in 1896, the Washington, Alexandria and Mount Vernon Railway (WA&MV), an electric railway that ran along present-day Commonwealth Avenue,



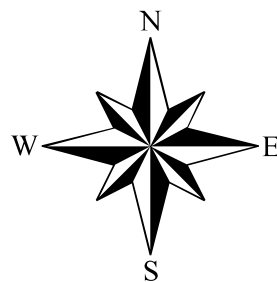
1878 Hopkins Map
Alexandria, VA
Braddock Gateway
WSSI #21677.01
Scale: 1" = ¼ mile



Map Source: "Alexandria County, Virginia".
From G.M.Hopkins' Atlas of Fifteen Miles
Around Washington, D.C., 1878". Library of
Congress, Geography and Mapping Department.



1886 Shipman Map
Fairfax County, VA
Braddock Gateway
WSSI #21677.01
Scale: 1" = ½ mile



Map Source: Map of Fairfax County, Virginia.
Drawn for O.E. Hine by A.J. Shipman, 1886.
Original Scale: 1¼ miles to 1 inch.

provided commuter rail service. Del Ray and St. Elmo grew slowly between 1894 and 1905. By 1905, the developers had sold more than half the lots in Del Ray, but only 37 houses had been constructed. The national economy was still recovering from a financial panic in 1893, and the Alexandria area remained in an economic slump through the 1890s. In addition, unlike Alexandria, Del Ray and St. Elmo lacked public utilities such as water and sewer service (Escherich 1992).

Some blamed the two neighborhoods' slow growth on St. Asaph's Race Track, which lay between Del Ray and St. Elmo. The race track (or driving park) was operated by the Alexandria Gentlemen's Driving Club and, by 1894, it boasted several buildings, including a gambling house and stables for 300 horses. In the 1890s, a spur from the WA&MV served the track, making it easy for residents of both Alexandria and Washington, DC to gamble there. As early as 1895, local residents began campaigning against the track, arguing that it brought shady characters to the area and discouraged "good law-abiding citizens" from settling there. In 1904, government officials closed the track (Escherich 1992; Miller 1992a).

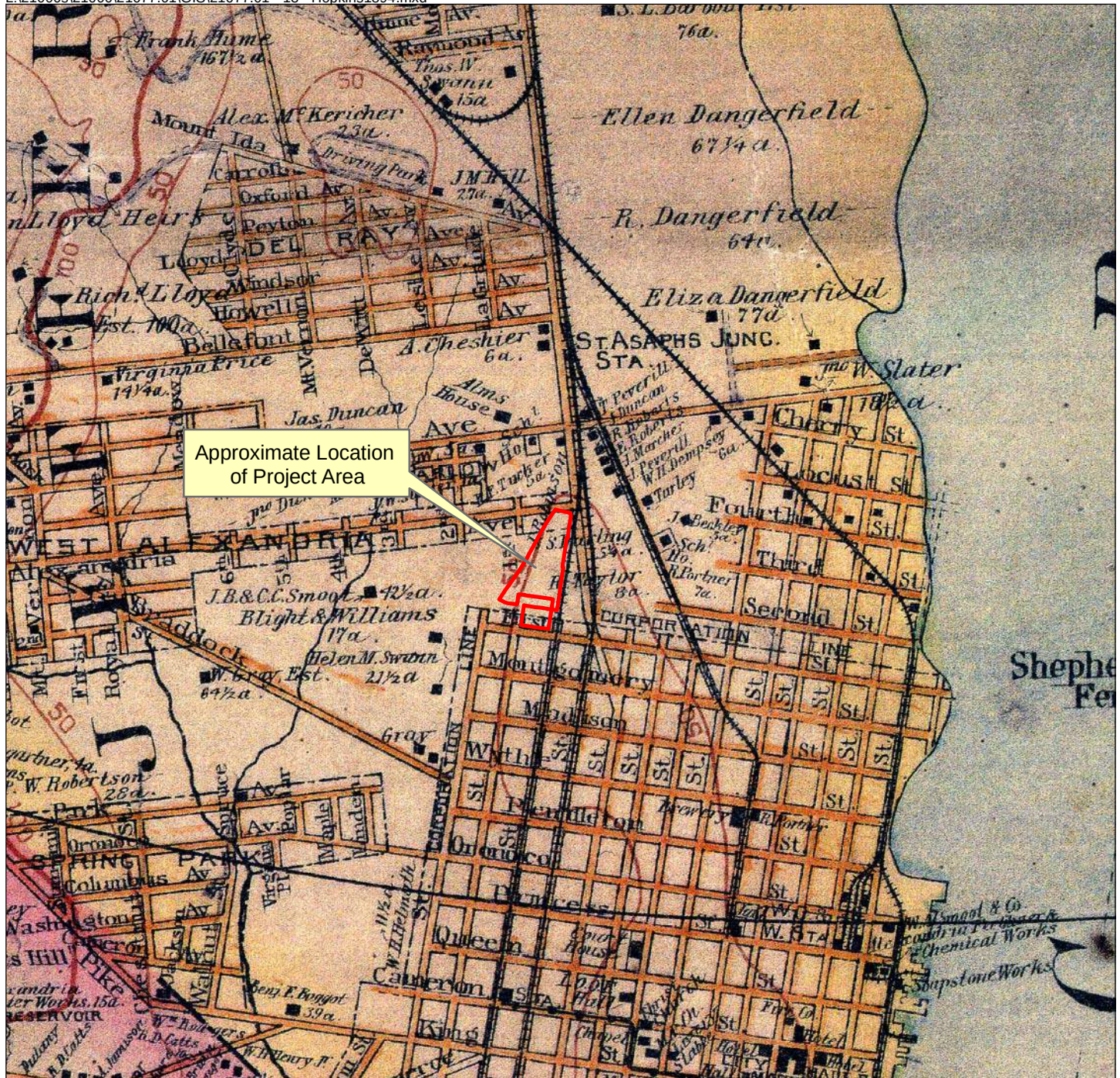
The 1894 Hopkins map of Alexandria, Virginia shows no buildings within the project area (Exhibit 11). This map indicates that the property was, at this time, part of a sparsely developed 42 acre parcel owned by J.B. & C.C. Smoot. The Corporation Line of Alexandria is depicted bisecting the southern parcel within the project area. The railroad lines remain in the configuration shown on the earlier Hopkins map, to the east of the project area (see Exhibit 9).

The 20th Century

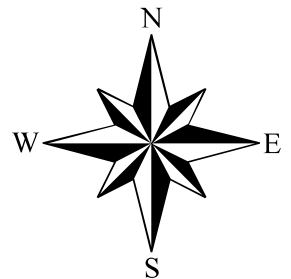
By the turn of the 20th century, residential neighborhoods were developing in the project area vicinity. The railroad had attracted industry to the neighborhood as well. A railroad station was located at 200 North Fayette, and a wood yard was not far away in the 800 block of Cameron Street. Just south of the project area, the Belle Pre Bottle Company and the Alexandria Glass Company were located on Madison and Montgomery Streets, and warehouses stood along the railroad and North Fayette Street.

On September 15, 1905, Washington Southern Railway opened a new line between St. Asaph Junction and Roberts Road in Alexandria, and the old connection with Southern Railway on Henry Street was abandoned. The line on Fayette Street was also abandoned for through traffic around this time (Baer 2005b). Southern Railway's Potomac train yards, constructed in 1905, became the center of Alexandria's railroad activity (Cox 1996). In 1906, Washington Southern Railway sold the Henry Street Branch to Southern Railway for materials (Baer 2005b).

By the early 20th century, the Washington, D.C. area had become a major transfer point between northern and southern rail networks. Produce and livestock from the southern states was shipped by rail to urban markets in the North and manufactured goods were shipped south from northern factories.



1894 Hopkins Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = ¼ mile



Map Source: 1894. Hopkins Map.
National Archives. Reproduction
obtained from History Matters, LLC.
1502 21st Street, NW 2nd Floor.
Washington, DC 20036. Original
Map Scale: Unknown.

In 1901, six railroad companies (the Pennsylvania Railroad, the Atlantic Coast Line Railroad, Southern Railway, the Chesapeake and Ohio Railway, Seaboard Air Line Railway, and the B&O Railroad) formed the Richmond-Washington Company, which assumed control of the Washington Southern Railway (the former A&W Railroad) and the Richmond, Fredericksburg and Potomac (RF&P) Railroad. To facilitate the movement of freight between the northern and southern rail lines, the Richmond-Washington Company built Potomac Yards to serve as the main classification yard for these railroads (Griffin 1984; Carper 1992).

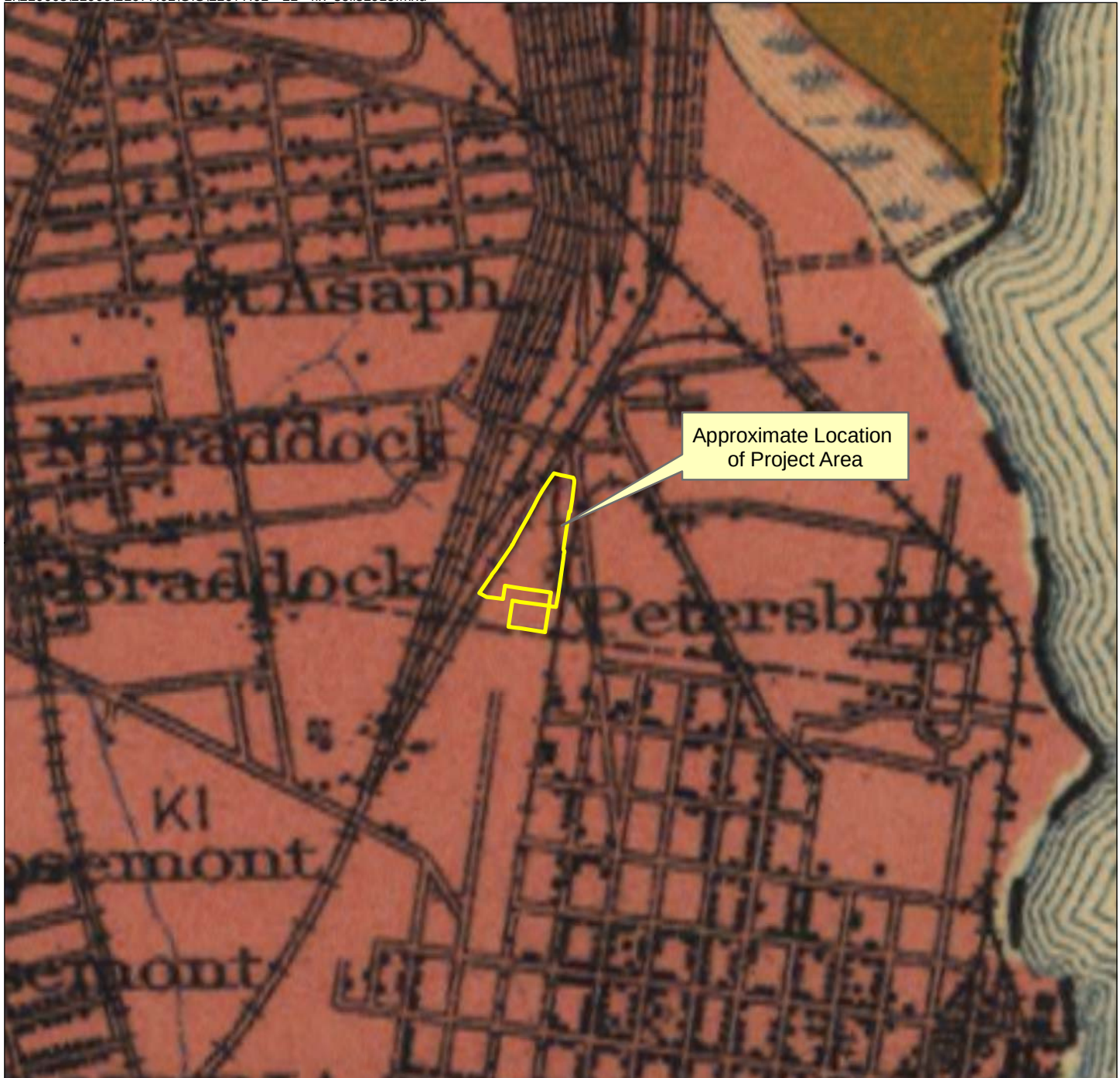
The establishment of Potomac Railroad Yards circa 1904-1906 resulted in the demolition of many earlier structures in the vicinity of the project area, followed by the construction of a network of tracks and railroad buildings. Potomac Yards operated into the 1990s when it was no longer economically feasible to operate, partly due to the merger of several railroads reducing the need for classification yards. Subsequently, Potomac Yards was slated for re-development for both commercial and residential purposes; this development continues till the present time.

Although industrial development had reached the project area by 1913 with the construction of the Mutual Ice Plant, the 1915 Fairfax County Soils Map shows no buildings within the project area (Exhibit 12). Potomac Yards is shown to the north and west.

As industrial and rail use of the project area and areas to the north occurred; areas to the south and southwest of the project area were becoming increasingly residential. As the Uptown neighborhood grew, the demand for education for local African American children resulted in the creation of the Snowden and Hallowell schools, the city's first black public schools. John Parker was the first principal of the Snowden School for boys, and Sarah Gray was the first principal of Hallowell School for girls, and they are the namesakes of the Parker Gray Historic District. Both schools were in operation by 1915, though the Snowden School for Boys burned down in 1915. By 1920, the schools were consolidated into one for all children attending grades first through eighth grade, located on Wythe Street (Office of Historic Alexandria n.d.).

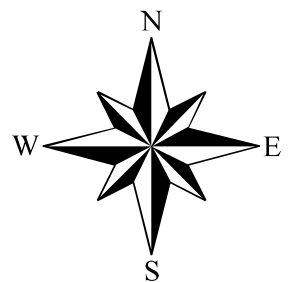
Helen Smith, an Uptown resident spoke of the area as it was in the 1920s:

"up further on Henry St., they had a lumberyard at Wallace and Hearn's Lumberyard. Because the ice house was up there. The Mutual Ice Company it was called.... it was like residential and commercial, but we didn't have all them fancy words then....And one time there was an ice cream (factory) up there because my mother's cousin worked in that ice cream factory... the ice house was back up there where they made ice. Well back in them days they (had) ice cars because they didn't have refrigerated cars like they do now. And they had a little shanty up there. Some of the men used to live in them" [Weinschenk 1999].



1915 Fairfax County Soils Map
Fairfax County, VA
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'

Map Source: "Soils Map of Fairfax County. 1915.
Field Operations Bureau of Soils, US Dept. of Agriculture.
Basemap in part from U.S. Geological Survey Sheets.
Library of Congress Geography and Map Division
Washington D.C. Original Scale: 1:62,500.



The 1929 United States Geologic Survey (USGS) Washington, DC Vicinity quadrangle map shows the Mutual Ice Company Potomac Yard plant and a railroad spur within the project area (Exhibit 13). Much of the project area vicinity appears to have remained largely undeveloped although widespread residential development to the west of Potomac Yards, in the Del Ray neighborhood, is apparent. The 1932 USGS Washington, DC Vicinity quadrangle map differs little from the earlier USGS map (Exhibit 14).

By the middle of the 20th century, the project area was becoming increasingly residential; however, Potomac Yards remained in operation and industrial facilities and warehouses were still present. The 1945 United States Geologic Survey (USGS) Washington DC Vicinity quadrangle map shows the Mutual Ice Company Potomac Yard plant within the project area (Exhibit 15). George Washington High School is shown to the west of the project area and Potomac Yards and the Parker-Gray School is identified to the southeast at its original location.

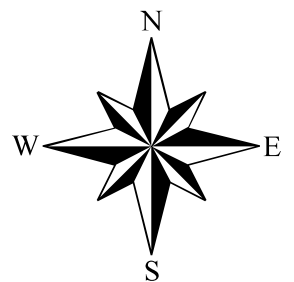
In 1950, the Parker-Gray High School was relocated to 1207 Madison Street, retaining its name, as indicated on the 1956 United States Geologic Survey (USGS) Washington, DC Vicinity quadrangle map (Exhibit 16). Again, the Mutual Ice Company Potomac Yard plant is shown within the project area and a new water tower is shown just to the south.

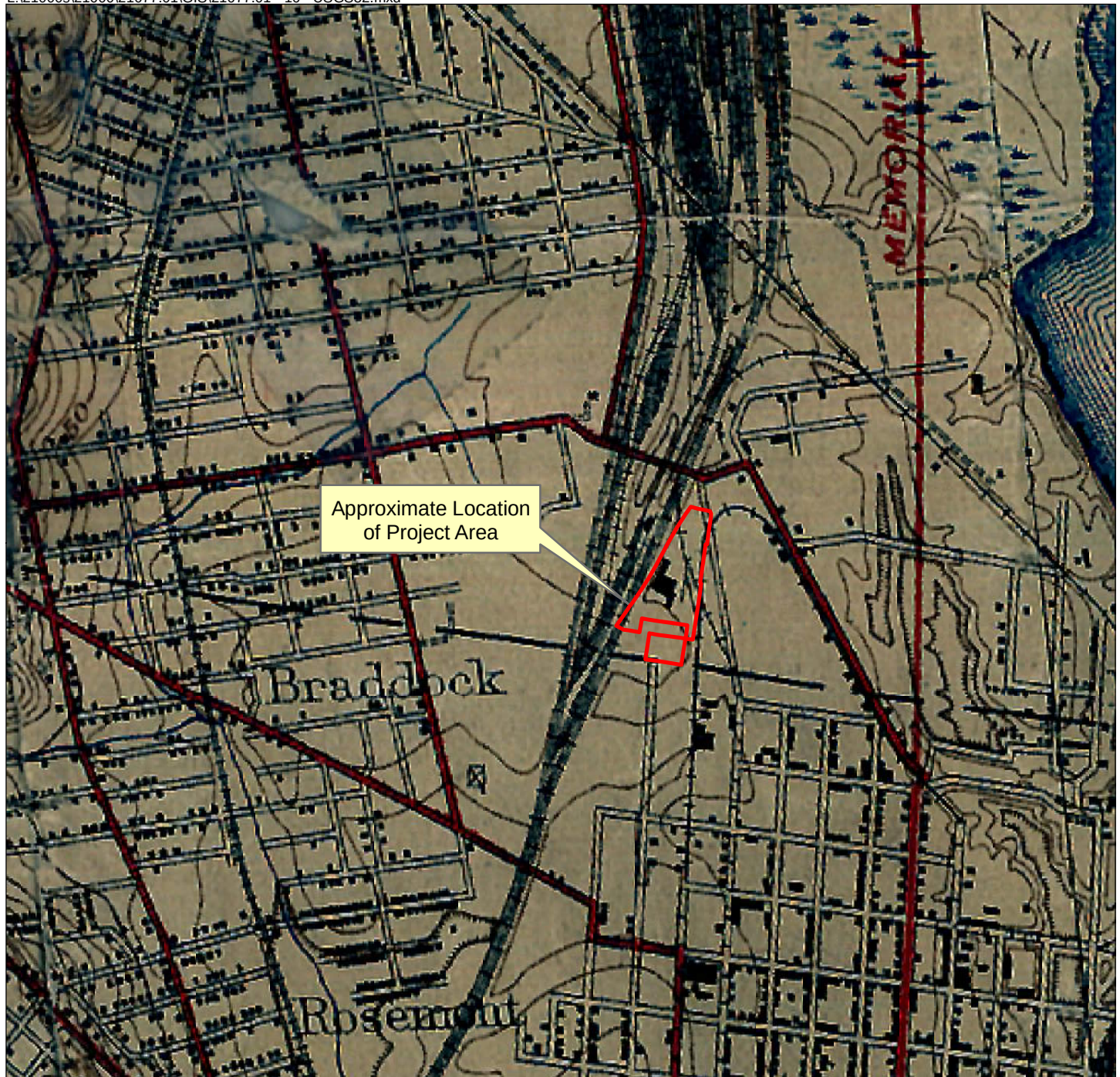
Although the Mutual Ice Company Potomac Yard plant would soon be demolished it is still shown on the 1965 USGS Washington, DC Vicinity quadrangle map (Exhibit 17) which differs little from the 1956 USGS map.

In the mid- to late 1970s, the Metrorail line was constructed along the eastern boundary of Potomac Yards. Although even before the closing of Potomac Yards, most of the industrial plants in the area had been shuttered and demolished, the character of the neighborhood remains mixed use today with transportation and commercial facilities bounded by residential areas.

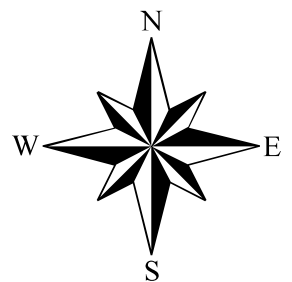


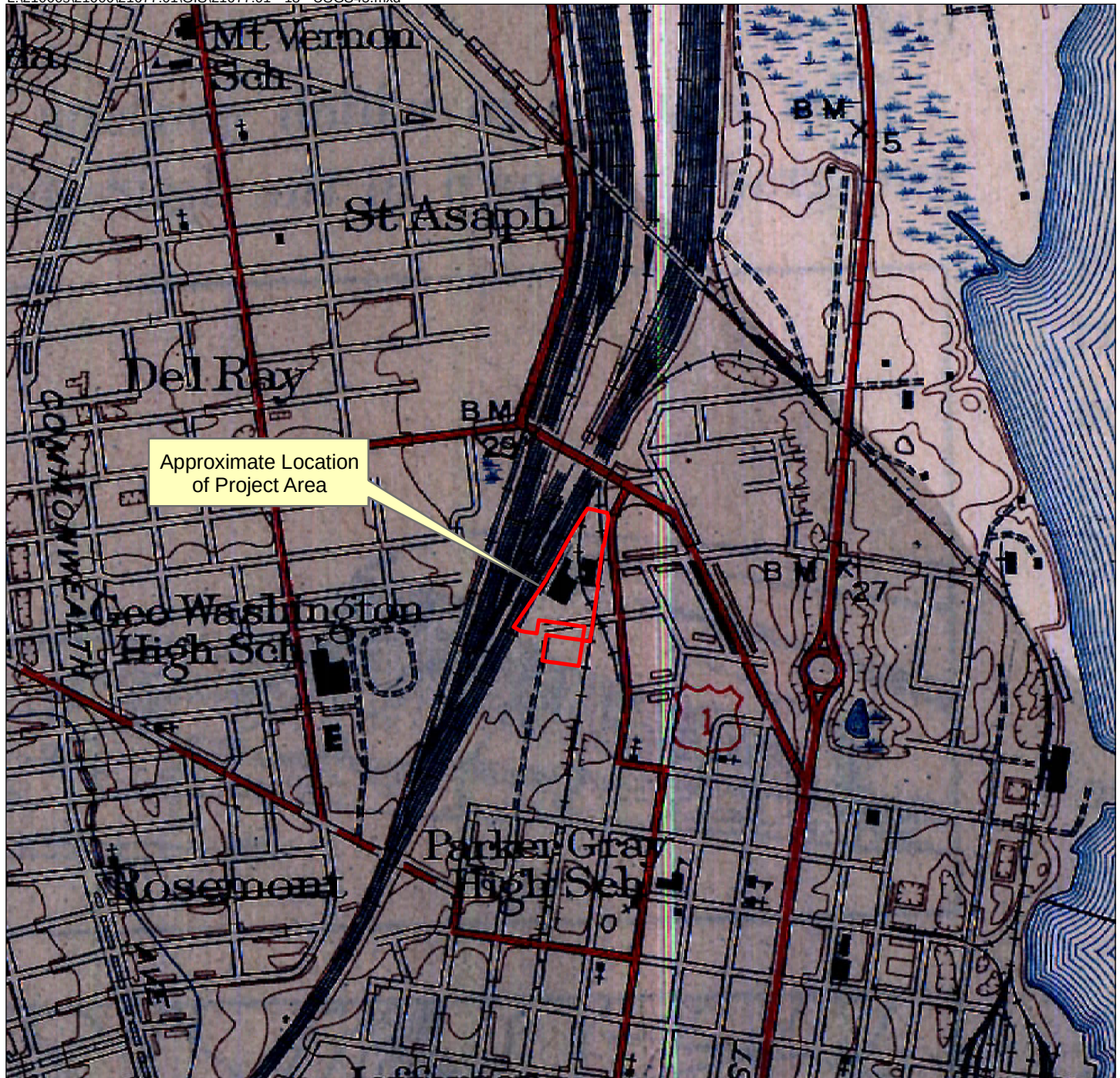
USGS Quad Map
Washington DC & Vicinity, 1929
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'



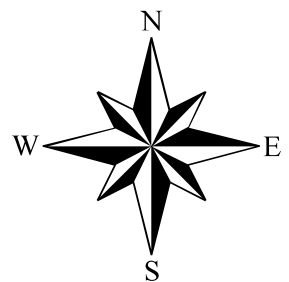


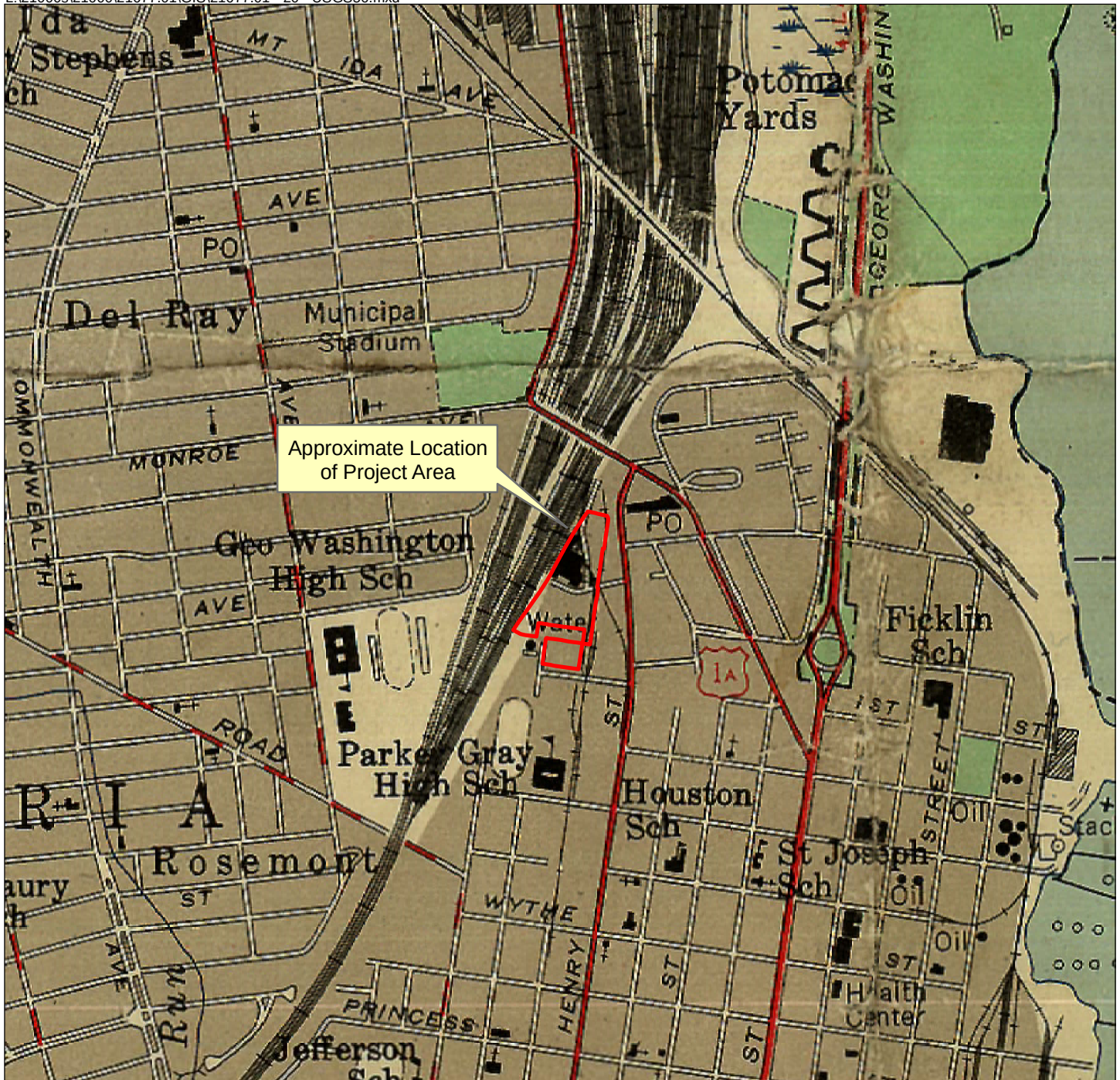
USGS Quad Map
Washington DC & Vicinity, 1932
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'



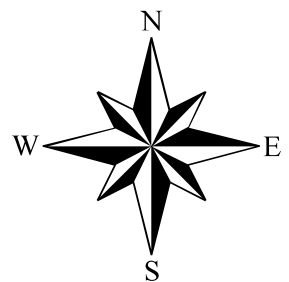


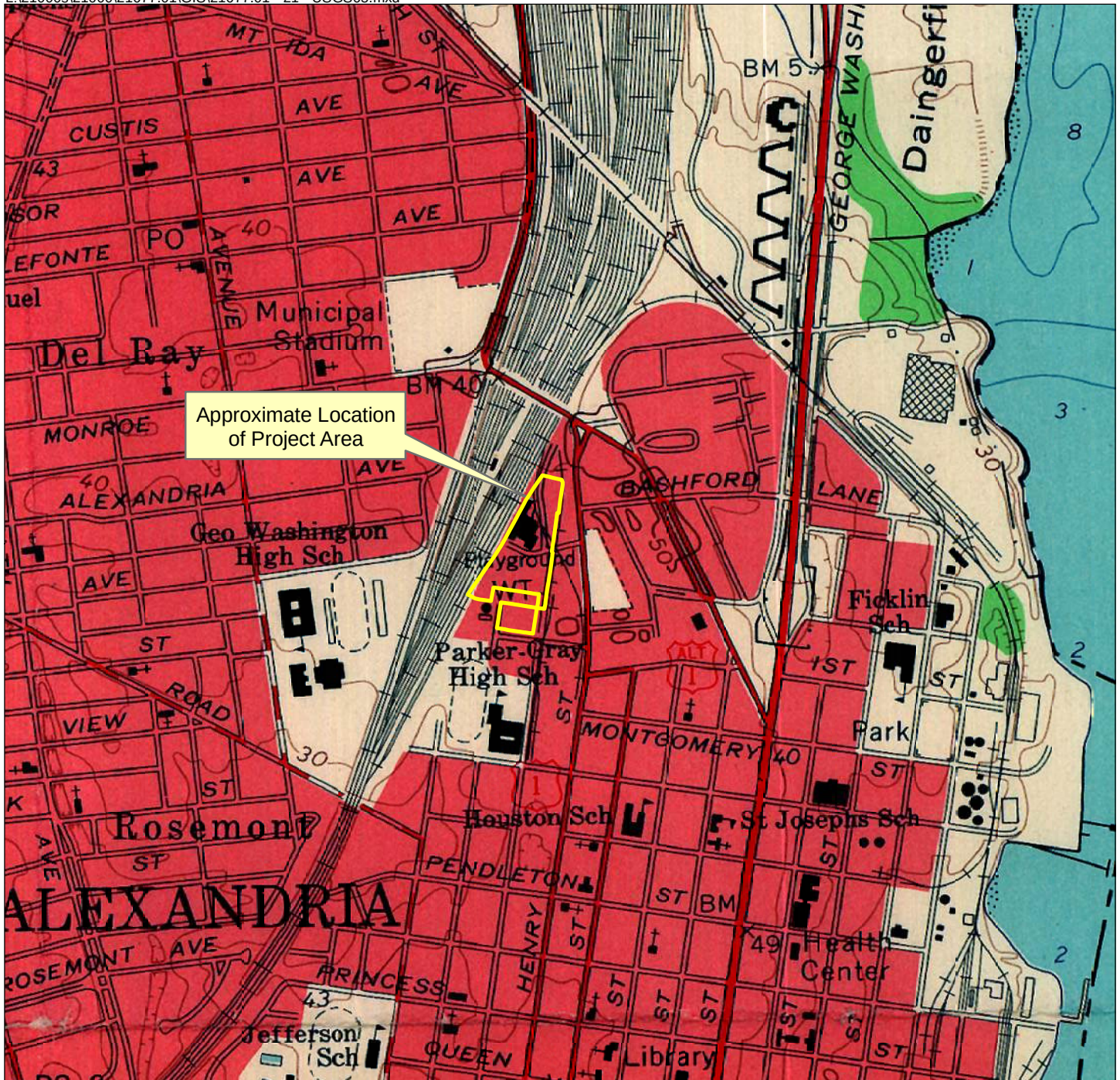
USGS Quad Map
Alexandria, VA-DC-MD 1945
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'



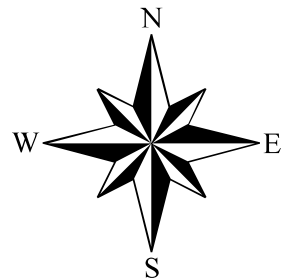


USGS Quad Map
Washington DC & Vicinity, 1956
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'





USGS Quad Map
Alexandria, VA-DC-MD 1965
Braddock Gateway
WSSI #21677.01
Scale: 1" = 1000'



Ownership History of Braddock Gateway Property

Land Grants and Patents

Prior to 1692, most lands in Virginia Colony were granted by the Governor of the colony and are known as Virginia Land Grants. The Northern Neck of Virginia, located between the Rappahannock and Potomac Rivers, was given in 1649 by King Charles II to seven loyal supporters during his exile and prior to his being crowned King of England in 1660. Thomas, 5th Lord Fairfax, gained sole ownership of the Northern Neck in 1690, which was confirmed by the Privy Council on December 15, 1692. Under the Fairfax proprietorships, agents were appointed to rent the Northern Neck lands for nominal quit rents, usually 2 shillings sterling per acre (Kilmer and Sweig 1975:1-2, 7, 9).

Sir William Berkeley, then the Governor of Virginia, granted to Robert Howson [Howsing] 6,000 acres of land on the Potomac River on October 21, 1669, for the transportation of 120 persons into the Colony. The survey notes for the Virginia Land Grant to Robert Howson (Howsing) describes the property as being in "the freshes of the Potomack River ... on the west side above the dividing branch beginning at a red Oak standing by a small branch or run of water next opposite to a small Island commonly called and known by the name of my Lords Island ..." (Virginia Land Patents 6:262). Approximately three weeks later, Robert Howson [Howsing] of Stafford County, Virginia, transferred the 6,000 acres to John Alexander, also of Stafford County, for 6000 pounds of tobacco (Prince William County, Virginia Land Causes 1789-1793:220).

John Alexander of Stafford County died testate in 1677, leaving all of his estate (except 700 acres given to his daughter, Elizabeth Holmes) to be equally divided between his two sons, Robert and Philip (Prince William County, Virginia Land Causes 1789-1793:221). By an agreement dated February 6, 1690, Robert Alexander confirmed one-half of the 6,000 acres on Little Hunting Creek (except the 700 acres) to his brother Philip Alexander (Stafford County, Virginia Order Book 1692-1693:193a-194a). On February 19, 1693/94, Philip Alexander assigned his share of the estate, excepting 500 acres reserved for his own use, back to his brother Robert Alexander (Prince William County, Virginia Land Causes 1789-1793:217).

After Robert Alexander's death in 1735, his lands in the area were divided among his children. At the time of Robert Alexander's death, his son Gerrard was living on a plantation north of Four Mile Run. This property became known as Abingdon and was located roughly where National Airport lies today. Robert Alexander's oldest son John received the land on the south bank of Four Mile Run, and his two daughters, Parthenia Massey and Sarah Alexander, each received 400 acres of land located south of their brother John's land. Robert Alexander's will provided money for agricultural buildings to be constructed on the tracts that he bequeathed to his daughters, which suggests that these lands were largely uncultivated in 1735. In 1735, John Alexander and his wife, Susannah Pearson Alexander, resided on Pearson's Island (present-day Daingerfield Island). After his father's death, he inherited the island and 1,421 acres on the south bank of Four Mile Run, as well as substantial property in Stafford County. Around 1735, John and Susannah Alexander had probably moved to Stafford County (Pippenger 1990). However,

by 1741, they had established a quarter in the northeast corner of the 1,421-acre tract along Four Mile Run (Stetson 1935). In 18th-century terminology, a quarter was a portion of a larger tract of land where slaves lived and worked under the supervision of an overseer. Typically, the landowner did not live on a quarter.

In 1739, Parthenia Alexander Massey Dade and her husband Townshend Dade moved to the 400 acre tract that she inherited from her father and established a plantation along the Potomac River, east of the project area (Pippenger 1990; Stetson 1935; Miller 1989). The entirety of the project area was within the 400 acre tract inherited by Parthenia, Robert Alexander's daughter. Portions of Parthenia Dade's 400 acres were the subject of various legal proceedings culminating in an 1814 decision by the Supreme Court of the United States. The decision described the lands and outlined the early ownership history:

Robert Alexander, being seized of a large tract, on part of which the town of Alexandria now stands, on the 17th of January in the year 1731-2, executed to Dade Massey, then about to intermarry with his daughter Parthenia Alexander, his bond in the penalty of 800*l.* with a condition that he would convey to his daughter Parthenia and her heirs, on demand, four hundred acres of land lying on Potomac, 'beginning on the river side and from thence running to his back line, making a long square so as to have the same breadth on the river as on the back line.

The marriage soon afterwards took effect, and she was put into possession of the land by the following bounds, that is to say: 'Beginning at the mouth of Goings gut, on the river Potomac, and extending down the river so as to include four hundred acres of land between the river and the back line.

In the year 1735, Robert Alexander departed this life, having first made his last will in which he devised as follows: 'Item, I give to my daughter Parthenia Massey four hundred acres in Prince William County, according to my bond. Item, I give to my daughter Sarah Alexander, four hundred acres joining Parthenia Massey, the same length on the back line and the same breadth on the river (*Alexander v. Pendleton*, 12 U.S. 462 (1814); Fairfax County Deed Book Q: 320).

Parthenia survived her husband, Dade Massey, and intermarried with Townshend Dade. Sarah intermarried with Baldwin Dade, and was put into possession of the land devised to her.

John and Gerard Alexander were the only sons of Robert, and were the co-devisees of the bulk of his estate. In April, 1740, John instituted a suit against Gerard for partition; and to this suit Townshend Dade and Parthenia, his wife, and Baldwin Dade and Sarah, his wife, were parties Defendants. A decree of partition was made, directing that the lands of the Dades also should be allotted to them to be held in severalty. Commissioners were appointed to execute this decree, with directions to report their proceedings to the Court.

Under this interlocutory decree the land was surveyed by Joseph Berry, and a division made. Four hundred acres were allotted to Townshend Dade and Parthenia, his wife, and the same quantity to Baldwin Dade and Sarah, his wife. This allotment was made on the idea that north 6 west was the true back line. But as the Alexanders intended to institute suits for the purpose of recovering lands lying west of the north 6 line, it was agreed between all the parties that the partition then made should not be conclusive, but should depend on the suits about to be instituted. In consequence, as is presumed, of this verbal agreement, the survey and proceedings under this interlocutory decree were not returned; and in May, 1741, the suit was dismissed agree.

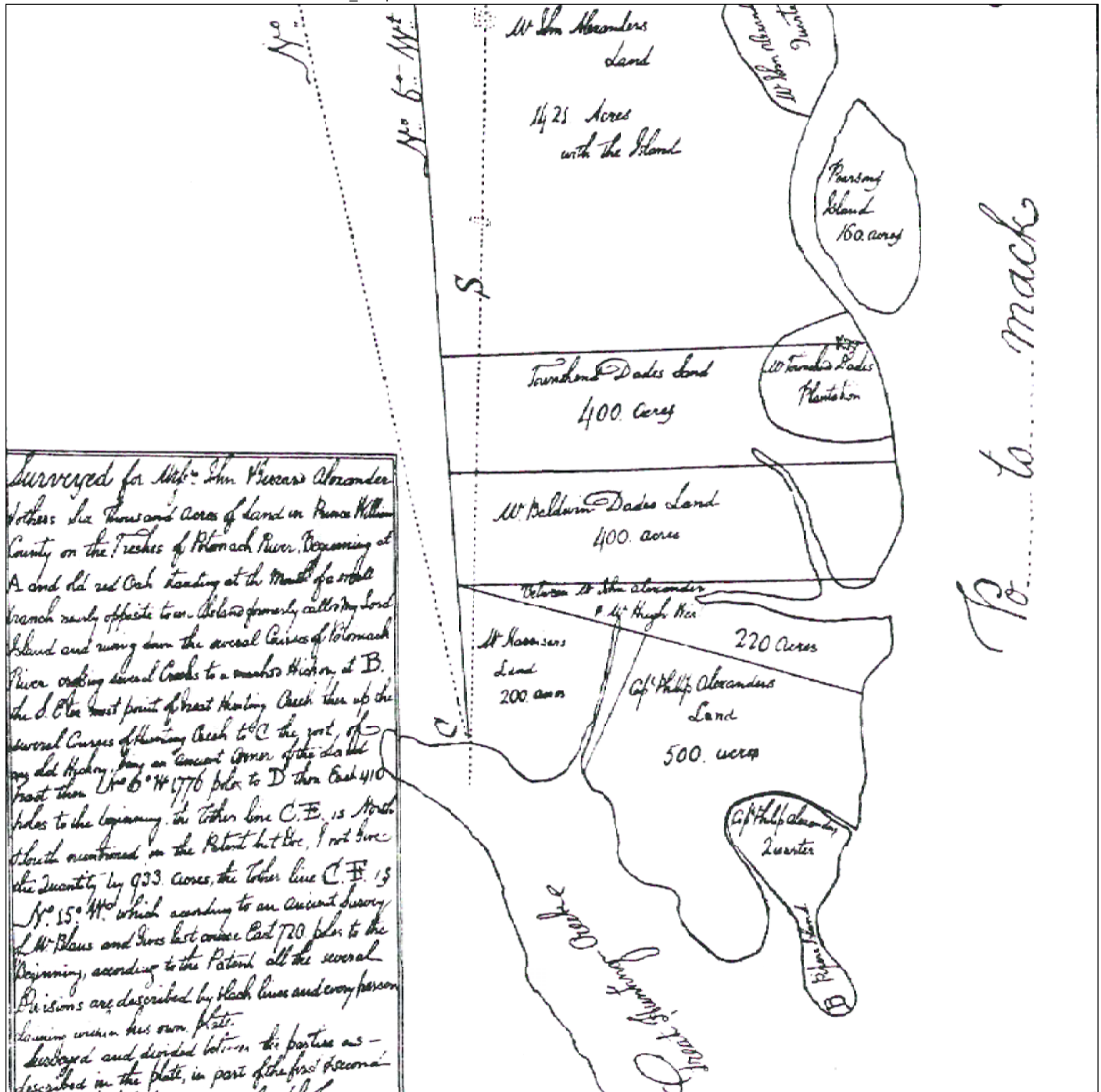
Joseph Berry's survey of Howsing's patent for 6,000 acres in 1741 shows Townsend Dade's 400 acre parcel (Exhibit 18) as does the 1760 Mitchell map (Exhibit 19).

Late 18th Century Ownership of the Project Area

The late 18th century property history represents a period of transition, as the heirs of the earlier owners subdivided their lands and disposed of large tracts. Much of this land appears to have been acquired by absentee landowners, either wealthy Quaker merchants living in Philadelphia or who had migrated from Philadelphia to Alexandria. In either case, these persons appeared to be generally interested in the lands as investment properties.

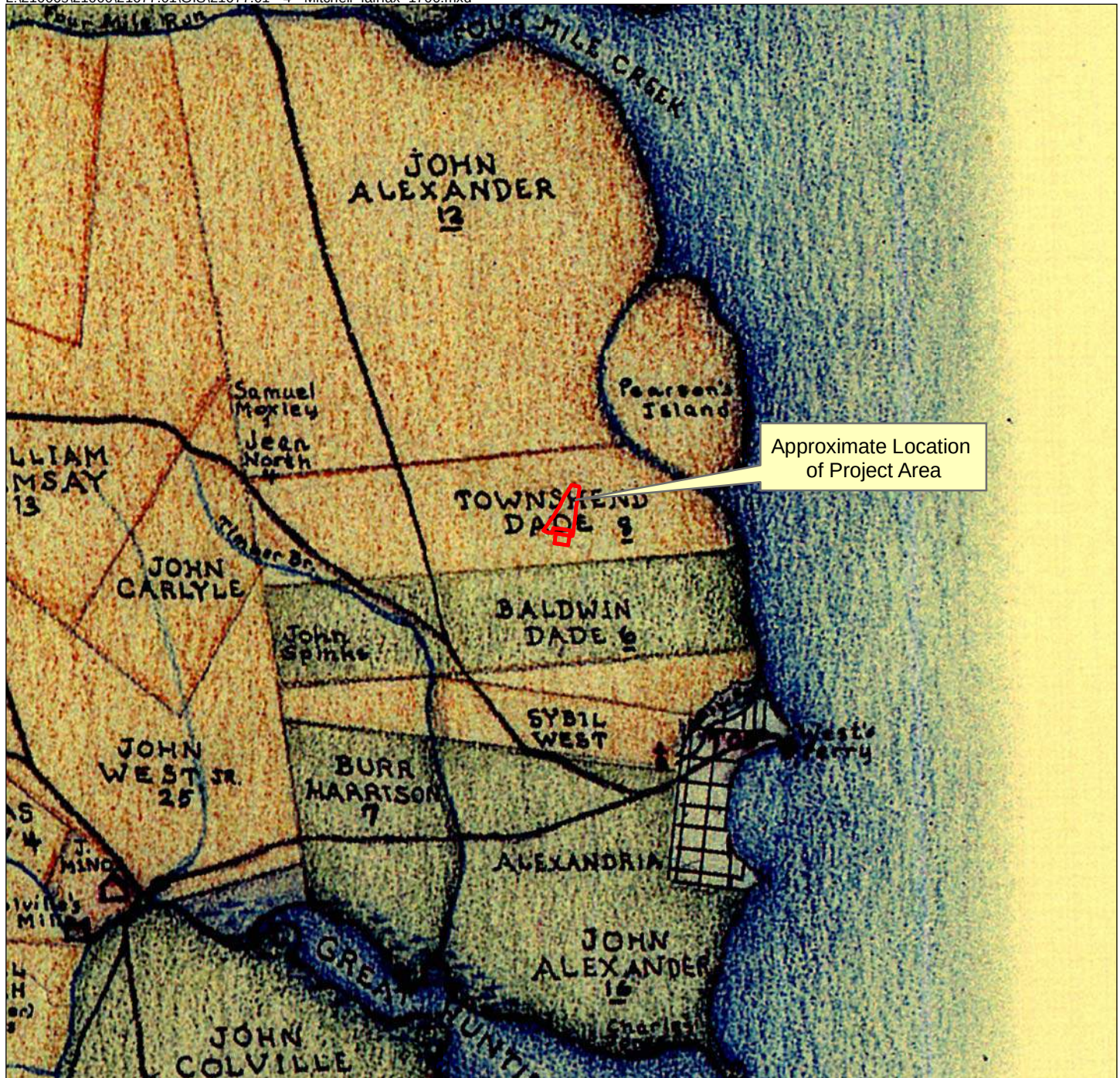
Although the specific deed or deeds conveying the property subject to this chain of title, as part of a larger tract, could not be found; later deeds record that, on April 3, 1778, Parthenia Dade, Catherine Dade, Behethland Dade and Elizabeth Dade conveyed to William Hartshorne a tract of 400 acres including the property subject to this chain of title (see Fairfax County Deed Book Q: 320 and Q: 444).

William Hartshorne (1742-1816) was born in Burlington County, N.J., the son of Hugh Hartshorne and Hannah Pattison (Monmouth County Historical Association n.d.). Hartshorne was a Quaker who, circa 1767, was in business for himself in Antigua and, by 1769, in Philadelphia. Between 1773 and 1775, he moved his family to Alexandria (ibid.). In early 1775, he partnered with local merchant John Harper and, in the 1780s, established his own general store where he sold a variety of imported manufactured goods and purchased local agricultural products. In the 1790s, Hartshorne constructed a mill on the outskirts of town on at his Strawberry Hill plantation and, by 1803, he moved his residence to the plantation (Crothers 2005: 48). He served in Alexandria's government as tax commissioner and surveyor of the streets and as a member of the town council in the 1780s and early 1790s (ibid.). Hartshorne also became active in the Quaker movement opposing slavery and, in 1796, he assumed the presidency of the Alexandria Society for the Relief and Protection of Persons Illegally Held in Bondage (ibid: 62).

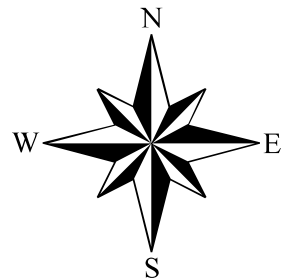


1741 Howsing's Patent Survey
 Alexandria, Virginia
 Braddock Gateway
 WSSI #21677.01
 Not to Scale

Map Source: "Survey made by Josiah Berry,
 1st and 2nd weeks of April 1741. Survey of
 Howsing Patent for 6000 acres." U.S. Supreme
 Court Records and Briefs. Vol. 259, No. 45,
 page 182. Original Scale: Unknown.



1760 Mitchell Map
Braddock Gateway
WSSI #21677.01
Scale: 1" = ½ mile



Map Source: "An interpretive historical map of Fairfax County, Virginia in 1760 showing landowners, tenants, slave owners, churches, roads, ordinances, ferries, mills, and tobacco inspection warehouse". By Beth Mitchell, 1987. Original Scale: 1" = 1 mile.

Throughout his life in Alexandria, Hartshorne invested heavily in local real estate, at one time owning 18 town lots and other property in the surrounding countryside. Clearly, the property subject to this chain of title was a speculative purchase as Hartshorne conveyed it just over a year after its purchase, on May 22, 1779, to Jacob Harman. The specific deed or deeds conveying the property from Hartshorne to Harman appears to have been lost; however the transaction is described in subsequent deeds (see Fairfax County Deed Book Q: 320 and Q: 444).

Little information specific to Jacob Harman was located. In the late 18th century, he appears to have been a Quaker merchant residing in Philadelphia and a partner with Samuel Neaves and Mordecai Lewis in the Philadelphia shipping and import house, Neave, Harman, and Lewis (later Harman and Lewis). Mordecai Lewis continued the firm alone, as Mordecai Lewis & Co, until his death in 1799. As the lands subject to this property history were conveyed by Lewis acting as Harman's executor prior to 1786, Harman appears to have died at some time between his acquisition of the lands in 1779 and their disposal in 1786. There is no indication that Harman ever resided in Alexandria and he likely purchased the property as an investment.

Again the specific deed conveying the property subject to this chain of title, as part of a larger tract, could not be located; later deeds record that prior to September 28, 1786, Mordica [sic] Lewis, as sole surviving executor of the estate of Jacob Harman; the others being William West and Jonathan Brown, both deceased, conveyed lands (including those subject to this chain of title) to Elisha Cullen Dick and his wife Hannah (see Fairfax County Deed Book Q: 320 and Q: 444).

Doctor Elisha Cullen Dick, a Quaker, received his medical training in Philadelphia, after which he settled in Alexandria circa 1780, becoming professionally successful and socially prominent. Dick was one of the organizers of the first Masonic Lodge No. 39, and served as Secretary of the first meeting of that Lodge, February 25th, 1783. In 1789, Dick succeeded General Washington as Worshipful Master of the Masonic Lodge No. 22, and laid the corner stone of the District of Columbia in 1791. He was one of the physicians attending George Washington at the time of his death and performed the Masonic services at Washington's funeral on December 18th, 1799 (Alexandria Washington Lodge No. 49, Ancient Free & Accepted Masons 1920).

Although it remains unknown how Dr. Dick may have used the property that he acquired from William Hartshorne, it was most likely acquired as an investment. Later deeds indicate that Dick laid out at least one road running east to west across the lands and that he subdivided the tract into surveyed lots. Unfortunately, if a plat of this survey was produced it has not been located at this time. It is known that Dick resided at the Elisha Cullen Dick House (DHR #100-0121-0496) at 209 Princess Street in Alexandria circa 1780. There is no evidence that he resided on the property subject to this chain of title.

Dr. Elisha Cullen Dick and his wife Hannah conveyed tracts within the subject property to at least two grantees in 1786 and 1787. The southernmost portion of the project area was contained within a 35 acre tract conveyed to Baldwin Dade on May 4, 1787 (Fairfax County, Virginia Deed Book Q1:435). This tract was soon after transferred from Baldwin Dade to Richard Conway, although the parcels are later consolidated under a single owner in the late 19th century, as is discussed later in this document.

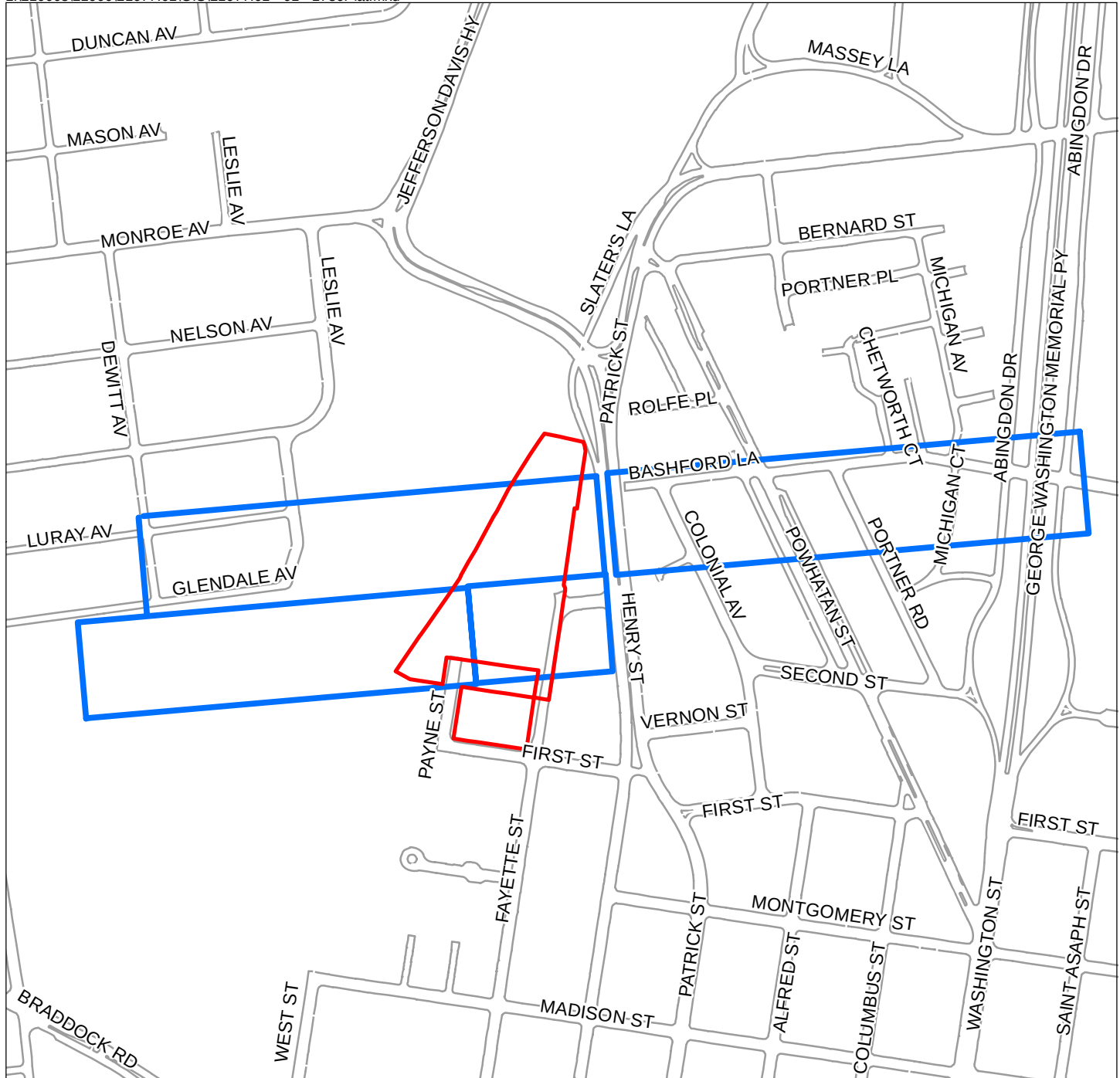
Fendall Farm

The northern portion of the study property (City of Alexandria Parcels 044.03-06-03, 044.03-06-03.L1, and 044.03-06-03.L2) became, in the late 18th century, a part of Fendall Farm. Based on the bounds and metes included in the following deeds, a plat showing the approximate location of the farm is included as Exhibit 20. Based upon the 1786 deeds, Fendall Farm appears to have not included the northernmost portion of the Braddock Gateway property; however, later property descriptions in deeds indicate that the farm did encompass the northern portion of the Braddock Gateway property. This discrepancy may be explained by adjustments to property boundaries related to the 1814 decision in *Alexander v. Pendleton* (12 U.S. 462), to survey error or some combination of these factors.

On November 2, 1786, Elisha Cullen Dick and his wife, Hannah, conveyed to Phillip Richard Fendall:

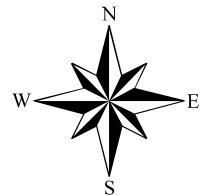
...a certain Tract or parcel of land –situate in the said County of Fairfax being part of the tract belonging to the said William Hartshorne to the said Jacob Harmon and by virtue of his will sold as aforesaid to the said Elisha Cullen Dick and bounded as follows to wit. Beginning at the northwest corner of the Lott numbered 16 as laid off by the said Elisha Cullen Dick purchased by William Hartshorne at a sale of sundry other Lotts lately made by the said Elisha Cullen Dick and in a line of Lotts formerly sold by the said William Hartshorne, thence with the said line South Eighty-five degrees West Ninety six poles and Twenty four links to the George-Town road and northwest corner of Lott number 13 as laid off by The said Elisha Cullen Dick, thence south five degrees East Twenty poles and Twenty links with the George Town Road to the middle of the road laid off by the said Elisha Cullen Dick, thence along the same in a parallel line with the first mentioned course North Eighty five degrees East Ninety six poles and Twenty four links to the southeast corner of Lott No. 15 as laid off by the said Elisha Cullen Dick thence north five degrees west and Twenty poles and Twenty links to the beginning including Lotts No. 13, 14 and 15 and containing Twelve acres (Fairfax County Deed Book Q: 320).

This twelve acre parcel was located east of the Old Georgetown Road and appears to have been located to the east of the project area (see Exhibit 20). A second tract, encompassing 11.5 acres, and a third tract, comprised of eight acres, were conveyed in the same deed. These tracts appear to have been located west of the 12 acre tract and included most of the northern portion of the project area. These tracts were described as:



- Project Area
- Fendall Farm Tracts (1786)
- Road Edges 2007

Plat Map 1786
Braddock Gateway
WSSI #21677.01
Scale: 1" = 400'



Map Source: Fairfax County DB Q: 320 & R:509

Road Edges - City of Alexandria GIS Department, 2006.

...also one other Tract or parcel of land part of the tract referred to in the above description and bounded as follows to wit Beginning on the western side of the George Town Road at the northeast corner of the Lott No. 24 as laid off by the said Elisha Cullen Dick and in the said line of Lotts formerly sold by the said William Hartshorne, thence with the said line South Eighty-five degrees West Ninety two poles and Twenty three links to the northwest corner of the Lott No. 26...thence South five degrees East nineteen poles and Twenty three links to the road laid off by him [Dick] , thence with the said Road North Eighty-five degrees east Ninety two poles Twenty three links to the George Town Road and in a parallel line with the first course thence north five degrees west Nineteen poles twenty links to the beginning including Lotts No. 24, 25 and 26 and containing eleven and an half acres.

...also one other Tract or parcel of land part of the tract referred to in the above description and bounded as follows to wit Beginning at the northeast corner of the Lott numbered 22 as laid off by the said Elisha Cullen Dick on the South side of the said Road also laid off by him and running thence with the said Road South Eighty-five degrees west Sixty-four poles and sixteen links to the northwest corner of the Lott No. 24...thence South five degrees East nineteen poles and Twenty links to the South west corner of Lott No. 24 thence North Eighty-five degrees East sixty four poles and sixteen links in a line parallel line with the first line and in the line of Lotts No. 21 & 22 to the southeast corner of Lott No. 22. thence north five degrees West Nineteen poles and twenty links to the beginning including Lotts No. 21 & 22 and containing Eight acres (Fairfax County Deed Book Q: 320).

At the time of these conveyances, Philip R. Fendall resided at 614 Oronoco Street in Alexandria. The land Fendall acquired from Dick came to be known as Fendall Farm and was likely used to produce foodstuffs for his family and servants (Miller 1992b:110).

Several years later, Fendall acquired an additional parcel adjoining the farm from Dick. By a deed dated May 20, 1789, and "in consideration of seventy pounds seventeen shillings & six pence current money of Virginia", Elisha Cullen Dick and his wife, Hannah conveyed to Phillip Richard Fendall a tract of land:

Beginning at a stake on the westward side of the George Town Road at the northeast corner of Lott No. 23 laid off and described by the said Elisha Cullen Dick running thence with the south side of the road laid off by the said Elisha Cullen Dick and with the said Lott No. 23 south eighty-five degrees West Twenty eight poles and seven links to the northwest corner of Lott No. 23, thence South five degrees East nineteen poles and twenty Links thence north eighty five degrees East twenty eight poles to the George Town road thence north five Degrees west nineteen poles twenty links to the beginning containing three and an half acres And all buildings orchards gardens pastures trees woods waters profits commodities advantages hereditaments and appurtenances...(Fairfax County Deed Book R: 509).

Philip R. Fendall, son of Benjamin Fendall was born in 1734 and likely raised on his father's estate, Batten Cliffs, in Charles County, Maryland. Philip R. Fendall married Sarah Lettice Lee on September 22, 1759; however Sarah died unexpectedly just over a year later on January 8, 1761. In 1764, Philip's father also died while Philip served as Clerk of the Court of Charles County at Port Tobacco, Maryland (leefendallhouse.org.) In 1778, he traveled to France to visit his cousin, Arthur Lee, who was acting as an ambassador to the court of Louis XVI negotiating the Treaty of Alliance with the French crown. By 1780, Fendall had returned to the United States and married Elizabeth Steptoe Lee, the widow of Philip Ludwell Lee of Stratford Hall. Through this marriage Fendall acquired a substantial amount of real property, including the 6,595 acre Stratford Hall plantation where Philip, Elizabeth, her two daughters — Flora and Matilda-and her son-in-law "Light Horse Harry" Lee resided until 1784 (leefendallhouse.org).

In December of 1784, the Fendalls relocated to Alexandria and Philip Fendall purchased a ½ acre lot on Oronoco Street from his cousin "Light Horse Harry", for £ 300. Construction on the Lee-Fendall House began in the spring of 1785 and the house was habitable by the end of the year (leefendallhouse.org).

Following a period of illness, Elizabeth died May 1789 while visiting Stratford Hall. In 1791, Philip Fendall married Mary Lee, the daughter of Henry and Lucy Grymes Lee of Leesylvania plantation. Upon their marriage, she moved into the Lee-Fendall House (leefendallhouse.org).

Philip Fendall became involved in a variety of commercial and financial ventures and invested heavily in real estate in the late 18th century. He served as a director of the Potomac Canal Company and as a director and President of the Bank of the United States in the 1790s. Philip Fendall was certainly residing in Alexandria in 1801 and was taxed for a house and lot within the town limits. This property was assessed at \$3250 and Fendall was also charged with five male tithables, four horses and a cart (Alexandria Land Tax Records 1801). Living with Fendall by this time were his son, Philip Richard Fendall, Jr., born on December 18, 1794 and daughter, Lucy Eleanor Fendall. No tax records for his properties outside the town during this period have been located at this time.

Many of Fendall's investments failed amidst the economic inflation and depression at the turn of the 19th century. After 1800, Fendall was financially overextended and deep in debt; he declared bankruptcy in 1803 (leefendallhouse.org) and was jailed in a Fairfax County debtors prison before his death in March of 1805 (Miller 1986). Prior to his death in 1805, Philip R. Fendall conveyed a half-interest in the property to his wife Mary, probably as a means of protecting the land from being seized to pay his debts. In the early 19th century, married women could not directly hold property independently of their husbands. In order for Philip Fendall to transfer an interest in the property to Mary Fendall independently, he had to convey the property to three male trustees, Charles Lee, Richard Bland Lee and Richard Marshall Scott, who held it in trust for her (Miller 1986)

Philip Richard Fendall, in his will probated in 1805 began: "First, my Will and desire is that my body may be decently interred without pomp or show, by my Executors, in my Burying Ground at my Farm". He bequeathed all real and personal property included in his marriage settlement to Mary Fendall, his wife, and instructed that all his other property should be sold to satisfy his just debts with the remainder divided between his children, Philip Richard and Lucy Elinor Fendall (Alexandria County Will Book B:137).

Following Philip Fendall's death in 1805, his wife Mary and two children, Eleanor and Philip Jr., resided at the Lee-Fendall House until the mid-1820s. Mary Fendall was left to contend with the ruinous financial situation of the family and chose to lease the farm to Alexandria hotelkeeper John Gadsby in 1806.

At this time, John Gadsby had resided in Alexandria for over 15 years since arriving from England circa 1790 with his first wife, Miss Smelt, and their two daughters, Anna Sophia and Margaret Sarah. Soon after their move across the Atlantic, Gadsby and his wife had a son named John who, according to genealogical records in the Kate W. Barrett Alexandria, Virginia Library Special Collections vertical file for John Gadsby, was born in Virginia.

Gadsby had established himself in Alexandria as the reputable proprietor of Gadsby's Tavern, located on Royal and Cameron Streets. Notables including George Washington, Thomas Jefferson, and John Adams patronized Gadsby's Tavern. Gadsby leased the tavern from 1796 until 1808 from John Wise, a local businessman. At the turn of the 19th century, taverns like Gadsby's were popular with local townsfolk as a place to meet, to conduct business and entertain themselves, as well as being a place for travelers to stop for the night. As it was customary at the time, it is entirely possible Gadsby and his family lived at the tavern or inn (Miller 1991:151-154).

John Gadsby, by a deed dated October 1, 1806, leased from Mary Fendall the 35 acre Fendall Farm. The property that Gadsby leased from Mary Fendall was described as:

...two tracts or parcels lying on the east side, the other on the west side of the road leading from Alexandria to Georgetown and near to the said Town of Alexandria supposed to contain about thirty five acres of which pieces and parcels the said Philip Richard Fendall held the possession till his death...except that part of one of the said pieces which is walled in for graveyard with free privilege to the said Mary and her family of ingress and regress to and from the same... (Alexandria County Deed Book O: 289).

The text of this deed contains one of the few notations of the Fendall family cemetery that could be located in primary source material, the others being Fendall's previously referenced will and a mention of the burial of Mary Fendall there in the diary of Richard Marshall Scott, referenced later in this text.

According to Miller, the cemetery was located on the 12 acre parcel that Fendall acquired from Dick in 1786, adding that it was one half acre in area (Miller 1986: 47 cited Alexandria Deed Book Q: 239). The deed referenced by Miller contains no mention of the cemetery and is, in fact, the last page of a deed related to Custis building a mill and dam on Four Mile Run (Alexandria Deed Book Q: 239). If Miller is correct concerning the location of the cemetery, it would have been located to the east of the Georgetown Road and to the east of the property subject to this research. Unfortunately, Miller's statement concerning the location of the cemetery has not been verified at this time.

In addition to the mention of the Fendall cemetery, the 1806 deed between Gadsby and Mary Fendall outlined the manner in which Gadsby was expected to keep his lease and provides additional details concerning the property:

...lay down the whole of the said premises except the Gardens with Timothy Grass and at the end of the Term deliver up those parts well set with Timothy Grass; that he and they will during the said Term and at his and their own proper cost and Charge keep all the Houses Fences Gates Hedges and enclosures in proper order and repair, that he or they will also keep the Garden in good order that he or they will preserve the present stands and Fruit Trees thereon, the Gooseberry and Currant Bushes and Raspberry bushes and the Grapes Vines and all other Bushes shrubs and trees thereon... (Alexandria County Deed Book O: 289).

While Gadsby leased the farm, in August 1808, condemnation proceedings were commenced in association with the plans of the Washington and Alexandria Turnpike Company to construct a road from the intersection of Washington and Montgomery streets to the Alms House passing through Fendall Farm. Mrs. Fendall was awarded damages at \$115 per acre disturbed (Alexandria County Deed Book T: 560).

Also in 1808, John Gadsby left Alexandria for Baltimore. Prior to his departure, he offered his existing land and leases for sale in an advertisement in a local newspaper. This announcement, a transcription of which is available in the Gadsby's Tavern Museum Research Files, does not mention his lease on the 31.5-acre Fendall property; however by a deed dated August 30, 1808, John Gadsby assigned his lease on the 35 acre Fendall Farm to Edward Lloyd (Alexandria County Deed Book Q: 331).

Gadsby appears in the 1810 census and is enumerated as living in Baltimore with 22 free white males ranging in ages from under 10 years old to some over 45 years old, as well as with three free white females, one being Gadsby's second wife, Margaret who died sometime around 1812. According to the 1810 census, there were also 45 slaves living with Gadsby, who were undoubtedly servants in the hotels and taverns he managed. There are also several Alexandria Gazette articles that suggest slaves were bought and sold at his establishments, although his specific involvement in the slave trade is unknown at this time. In later censuses, Gadsby is enumerated with a considerably large number of slaves, and in his will he bequeathed almost 20 slaves to his heirs, including his third wife, Providence, who lived with him in Baltimore, Maryland (Miller 1991b: 151-154).

Genealogical sources mention an Edward Lloyd, son of Captain Richard Bennet Lloyd of Wye House in Maryland, who settled in Alexandria during this time (Kerr 1880:30). Edward Lloyd may have resided in Alexandria during the early 1800s but does not appear in the census records prior to 1820. Lloyd is enumerated in the 1820 Census as a resident of Alexandria, D.C. and a free white male between the ages of 26 and 45 living with one free white female under the age of ten, one free white female between the ages of 16 and 26, and one free white female between the ages of 26 and 45. Lloyd is listed with 19 slaves, including one male under 14, six males between 14 and 25, four males between 26 and 45, one male over 45 years old, three females under 14, three females between 14 and 25, and one female over 45 years old. Six members of the household are described as being engaged in commerce and one in manufacturing. Lloyd was also engaged in the slave labor market as is shown by an advertisement placed in the Alexandria Gazette on September 4, 1815:

Fifty Dollars Reward. Ran away from the subscriber, on Monday the 28th of August last, a Negro man, named Strother, about 33 years of age, dark complexion, had on when he went away a blue country cotton coat, much worn, an old hat and brown linen trousers. He had been the property of John Graham of Ravensworth, Fairfax County, from whom I purchased him, and as he has a wife there it is presumed he is somewhere in the neighborhood. He was lately hired to Mr. Staunton, bricklayer in Alexandria and Mr. Jas. Erwin near this place. –I will give ten dollars for apprehending said runaway if taken within 20 miles of Alexandria and secured so that I get him or the above reward if taken 60 miles from this place, and reasonable charges if brought home. Edward Lloyd. Sept. 4 (AG 1815).

It is not certain how long Lloyd held his lease on the Fendall Farm or what use he made of the property.

Actions precipitated by Mary Fendall's financial difficulties would; however, lead to the mortgage of the property in the 1820s and its eventual sale. Mary Fendall's financial situation continued to worsen, exacerbated by bank failures and the economic downturn that accompanied the war of 1812. From 1806 to 1822, she incurred nearly \$6000 in debts with local merchants (Miller 1986: 64). By 1823, Mary Fendall was deep in debt and was forced to borrow \$2000 from the Office of Discount and Deposit in Washington, D.C. The widow Fendall with her son Philip Richard Fendall, Lucy Eleanor Fendall, Richard Bland Lee, and Richard Marshall Scott mortgaged the Fendall house and real estate, including Fendall Farm, which were placed in trust to Robert J. Taylor and Thomson F. Mason by a deed dated February 28, 1823 (Alexandria County Deed Book M2: 488). In July of 1823, Mary Fendall signed another promissory note for \$1200 and put up several of her slaves for security (Miller 1986: 63).

Little information concerning Robert J. Taylor, a prominent Alexandria attorney during this time period, was located. Thomson F. Mason, a grandson of George Mason, began his law practice in Alexandria, in 1812 and later served eight years as a common councilman and three terms as mayor and as the first judge of the Criminal Court of the District of Columbia. Thomson died at age 53 on December 21, 1838, in Alexandria, leaving a widow and nine children under the age of 21. His estate consisted of vast real estate holdings, 90 slaves, and cash and collected debts over \$15,000 (Michie et al 1901: 707, AG 1838).

By 1827, a number of Alexandria merchants to whom Mary Fendall was indebted had filed suits to collect the debts. Mary Fendall died at a rooming house in Washington, D.C., impoverished, at the age of 69 on November 10, 1827. Her body was returned to Alexandria and funeral services were conducted at the home of her sister on the corner of Prince and Patrick Streets. Richard Marshall Scott, attorney and family friend recorded in his diary:

Attended this evening the funeral of my old friend Mrs. Mary Fendall who died in Washington Saturday evening the 10th and was brought down to the house of Mrs. Ann Page in Alexandria from which she was carried, attended by about 20 carriages and many on foot to the family burying ground in the vicinity of town (Miller 1986: 64).

Scott's diary indicates that Mary Fendall was buried at the Fendall Farm cemetery. Pippenger (1992) has supposed that Elizabeth Steptoe Fendall, Philip Richard Fendall's first wife, who died in 1789, may have also been buried at the cemetery.

Just over two years following the death of Mary Fendall, on November 10, 1828, the family home on Oronoco Street, Fendall Farm and other properties were sold at auction by Taylor and Mason. No deed of sale appears to have been filed for the farm at that time; however, a straw man deed dated October 21, 1836, records Robert J. Taylor and Thomson F. Mason conveying portions of the Fendall Farm property to Thomas Swann of Alexandria who in turn conveyed the lands to William D. Nutt of Alexandria. The deed read:

...Whereas Mary Fendall & Philip Richard Fendall, Lucy Eleanor Fendall and others by deed...conveyed to the said Robert J. Taylor and Thomson F. Mason certain lots or parcels of land situate near the Town of Alexandria ... [Taylor and Thomson] having caused the said parcels of land to be Laid off into small lots...and having appointed the sale thereof to be made on the eighth day of November, 1828... (Alexandria County Deed Book W-2:245).

The land conveyed was described as a tract:

...on the west side of the old Georgetown road and bounded as follows:

Beginning on the said road at the dividing line between the lot of Dr. John Richards & the lot intended to be conveyed, thence with the said road South 4 ½ degrees East forty one poles to To the Line of division of the lot intended to be conveyed to the heirs of Edward Lloyd deceased & thence with that line North 84 ½ degrees west ninety one and an half poles to the line of division with Lewis Beeler thence with that line North 5 degrees west forty four poles to the Line of division with the heirs of Jno. Smith deceased, thence with that line & the line of division with the said Richards South 84 ½ East ninety one and three quarter poles To the Beginning containing twenty three acres and eight poles to the same (Alexandria County Deed Book W-2:245).

William D. Nutt was a successful local auctioneer and commission agent in Alexandria prior to his appointment as a Clerk of the United States Treasury in 1838. The 1834 *Directory of Alexandria, D.C.* records that Nutt operated an Auction and Commission store at the corner of Prince and Union. It also appears that he was active in real estate speculation in Alexandria prior to the American Civil War. William D. Nutt is enumerated in the 1840 Federal Census as a resident of the Town of Alexandria, D.C. living with one male child under the age of five, one female child under the age of five, a female between ten and fifteen years old and a woman, possibly his wife, aged between 30 and 40. The 1840 Census also records two enslaved laborers in the Nutt household, a male between the ages of 36 and 55 and a female between the ages of ten and 24. William D. Nutt is enumerated in the 1850 Federal Census as a U.S. Treasury Cashier, aged 47 and a resident of Alexandria, Virginia with \$10000 in real estate. Nutt is recorded living with one female, Alia Nutt, aged 18, and Daniel Williams, a 20-year old black male.

Nutt resigned his Federal office following the secession of Virginia in 1861 and "went within the lines of the Confederate States and accepted office under the Confederate government" (Michie et al 1901: 734-736). Nutt was likely in Richmond, working for the Confederate Treasury, during the war years (ibid).

By a deed dated April 9, 1840, William D. Nutt conveyed to Joseph Grigg a moiety, consisting of the northern half of a parcel containing 23 acres and 8 poles described as:

...a lot of ground in the County of Alexandria on the West side of the old Georgetown road...Beginning on the said road at the south line of the lot of Dr. John Richards, Thence on the road S. 4 ½ degrees E. forty one poles to the Line of the Lot formerly Edward Lloyd's. Thence with that Line N. 84 ½ W. ninety one and an half poles To the Line of Lewis Beeler's Lot. Then with that line N. 5 degrees W. forty four poles to the Line of the Lot of John Smith's heirs, Then

with that Line and the Line of Richards S. 84 ½ E. ninety one and three quarter poles To the Beginning containing twenty three acres and eight poles being the same more or less which lot of ground was conveyed to The said William D. Nutt by deed from Robert J. Taylor and Thomson F. Mason dated on the 21st of October, 1836 (Alexandria County Deed Book G-3:176).

In 1847, Joseph Grigg was taxed for a house and lot at King and West, likely his residence, assessed at \$1500. Grigg appears to have owned several other properties including two houses and lots on Pitt Street assessed at \$600 and \$800 and a house and lot on Wilkes Street assessed at \$400 (Alexandria County Land Tax Records 1847). The 1850 U.S. Census for the Town of Alexandria, Virginia enumerates a Joseph Griggs, aged 56, a merchant, born in England, owning \$5500 in real estate and living with his wife Caroline along with adult and minor children. No details concerning the use of the property under Grigg's ownership have been located. Based upon Grigg's substantial real estate holdings, his purchase of the property was likely speculative.

Following the completion of the Alexandria Canal in 1843 land speculation in the vicinity of the project area may have increased considerably. An advertisement in the Alexandria Gazette of September 11, 1849, touted a parcel along the navigation:

LOOK AT THIS - What a splendid opportunity to make an immense and princely fortune. The subscriber, proprietor of the land and water rights for two or three thousand feet on the left and adjoining the Alexandria Canal Property at its terminus in the river Potomac respectfully informs the public that he will lease the same for twenty years or more to a responsible individual or company, who will make the necessary improvement or fixtures for the trade to the place (AG 1849).

Although being somewhat removed from the Canal, it is possible that the project area vicinity was made more appealing to investors due to the bettered economic prospects for the city and the potential for industrial development along the Canal.

On November 25, 1852, Joseph Grigg and wife conveyed the parcel acquired from Nutt in 1840 to Benjamin Deford of Baltimore, Maryland for \$1800 (Alexandria County Deed Book O-3:115). Taken two years prior to the conveyance, the 1850 Federal Census enumerates Benjamin Deford as a 50 year old resident of Baltimore City, Maryland with real estate holdings valued at \$50000.

Benjamin Deford was born in Anne Arundel County, Maryland circa 1799, son of Benjamin and Ann Hutton Deford. Deford was orphaned in 1810 and briefly lived on the Anne Arundel County, Maryland farm of his uncle, Richard G. Hutton, prior to being apprenticed to James C. Doddrell, a tanner in Baltimore, in 1813. Deford opened his own successful leather business in 1823 on Calvert and Lombard in Baltimore. After amassing a considerable fortune, he became involved in textiles, banking, and railroad and steamship lines; was a prominent director in the Baltimore and Ohio Railroad Co. for many years, founder of Boston Steamship Company, built two large cotton mills at Ellicott City, Maryland, was a director in the First National Bank of Baltimore, the Mechanics Bank, the Savings Bank the Equitable Insurance Company, and the Mount Vernon Manufacturing Company of Maryland, (Mayer 1871: 245-246). Despite the

similarity in name and industry, this latter company appears to have no formal associations with the Mount Vernon Manufacturing Company founded in Alexandria in 1847. That firm constructed a four-story cotton factory to the south of the project area at the corner of Washington and Pendleton Streets (Sharrer 1977).

All deeds relevant to the conveyances of the property following its acquisition by Nutt and its subsequent conveyances have not been located at this time. It remains unclear how Nutt disposed of the other half of the parcel; however, by 1881, its ownership appears to have been consolidated. By a deed dated June 21, 1881, Henry W. Ellicott Commissioner conveyed several contiguous parcels (totaling 37 acres and 40 poles) located in the County of Alexandria, Virginia to John B. and Charles C. Smoot. The sale was mandated by an order of the Circuit Court of the County of Alexandria dated November 5, 1879 in the chancery cause "between Benjamin F. Deford and others, complainants, and Henry W. Ellicott and others, defendants" (Arlington County Deed Book E-4:469). Although the bill and proceedings of the cause have not been located at this time and thus specific details of the case remain unknown, the land conveyed in the deed is described as:

...being the same land conveyed to Benjamin Deford by deeds recorded in Liber O 3. folios 115, 116, and 117...Beginning at a point on the west side of the Old Georgetown Road forty seven and one quarter poles ($47 \frac{1}{4}$ P.) north of a stone at the intersection of the west side of said road with the north side of Montgomery Street and running thence south 86 degrees W, one hundred & sixteen poles, two links (116 P. 2 L.); thence North $1 \frac{1}{2}$ E. eighteen poles, three links (18 P. 3 L.); thence North $86 \frac{1}{2}$ degrees E., twenty two poles seventeen links (22 P. 17 L.); thence North $\frac{1}{4}$ degree E., four poles, 11 links (4 P. 11 L.); thence N. 5 degrees W., forty four poles (44 P.); thence South $84 \frac{1}{2}$ degrees E. Ninety one and three quarters poles ($91 \frac{3}{4}$ P.), and thence South $4 \frac{1}{2}$ degrees E. on the west side of said road, sixty two and three quarters poles ($62 \frac{3}{4}$ P.) to the point of beginning. (ibid).

Benjamin Deford died April 17, 1873 in Baltimore Maryland. Benjamin Franklin Deford was the son and heir of Benjamin Deford and also a leather merchant and a resident of the State of Maryland. (U.S. Census, Baltimore Maryland 1870; Loizeaux n.d.). Andrew and H.W. Ellicott are listed as iron manufacturers based in Baltimore, Maryland Thomson's Mercantile and Professional Directory, 1851-1852 (Thomson 1851:55).

Charles C. and John B. Smoot were brothers and part owners of a successful family business in Alexandria, C.C. Smoot and Sons, Co., a tannery established in 1820 by their father, Charles Smoot. The Smoot's had acquired at least 42 acres of land in the vicinity of the Braddock Gateway property and to the west in West Alexandria by 1894-much of which appears undeveloped on period maps (see Exhibit 11).

The property would remain in the Smoot family for over twenty years until its sale following the death of both Charles C. and John B. Smoot (who served as mayor of Alexandria from 1885 until 1887). By deed dated July 7, 1904, the heirs of Charles C. and John B. Smoot conveyed the entirety of the northern parcels within the project area to the Washington Southern Railway Company. The land conveyed was described as:

Beginning at a point in the north line of said Smoot's property, and the south line of park Addition where the same is crossed by the east right of way line of the new alignment of the Washington Southern Railway; thence with said north line of said Smoot's tract North 88 50' E. 664.8 feet to a point which is in a line drawn parallel with the old Washington Southern Railway track and twenty-five (25) feet distant therefrom in a westerly direction; thence parallel with said centre line of said track and twenty-five (25) feet distance westwardly therefrom by a line curving westwardly with a radius of 1004.7 feet for a distance of 109.6 feet; thence still parallel with and twenty-five (25) feet distant westwardly from said centre line S. 15 7' West 768.85 feet to a point in said line where the same is crossed by the Alexandria City Corporation line; thence with said corporation line N 74 55' West 535.0 feet to a point in said corporation line which is south 74 56' East 224 feet distant from the north west corporation corner; thence South 31 37-½' West 791.7 feet where the aforesaid corporation line crosses the east property line of formerly Mrs. S.P.A. Calvert, now the property of the Washington Southern Railway Company; thence with said line of said Calvert's tract North 0 14' East 298.9 feet to the east right of way line of the Washington Southern Railway; thence parallel with the centre line of said right of way and 75.0 feet distant eastwardly therefrom North 24 30' East 1179.43 feet to the beginning containing 15 and 164/10000 acres (Arlington County Deed Book 110: 247).

No details of the railroad's use of the property between 1904 and 1912 have been located. In the spring of 1912, the Richmond, Fredericksburg, and Potomac (RF&P) Railroad (successor to the Washington Southern Railway) leased the northern portion of the project area to Armour Car Lines, who sublet the premises to the Mutual Ice Company that same year (Alexandria Corporation Deed Book: 119:237). Details of the industrial use of the property by the Mutual Ice Company between 1913 and 1970 are presented in a separate section of this report.

Following the closing of the Mutual Ice Company plant in 1969, the property appears to have been vacant for several years. By a Memorandum of Lease, filed May 1, 1980, between RF&P Properties, Inc. and RF&PRR Co. and Federal Express Corporation, interest was assigned to National Car Rental System (Alexandria Deed Book 1032:195).

Two new buildings were constructed on the property following the demolition of the Mutual Ice Plant. The smaller building, according to tax records, was constructed in 1960. This appears to be an error; however, as aerial photographs and the property history indicate that the building was constructed after 1969 but prior to 1975. City archive officials have not been able to locate the permit or plans for this building at this time. According to tax records, the DCA City Station Federal Express Building was constructed on the northern portion of the property in 1981. Although plans for the building were located in City archives, the building permit was not found.

In 1993, a Memorandum of Lease was executed between RF&P Properties, Inc., RF&PRR Co. and DCS Corporation, granting DCS a ten year lease on the parcel (Alexandria Corporation Deed Book 1421:0080).

Commonwealth Atlantic Properties Inc., a land company organized to manage properties owned by the railroad, conveyed the 6.025 acre parcel to Crescent Potomac Properties, on March 22, 2001 (City of Alexandria Instrument # 010007093).

Less than two years later, on December 5, 2003, Crescent Potomac Properties, LLC conveyed the same parcel to NMA Alexandria, LLC, Next Alexandria, LLC and GZG Alexandria, LLC (City of Alexandria Instrument # 030049629) who, on August 3, 2005, conveyed the parcel to Fish Construction Co., Inc. and Force Alexandria, LLC (City of Alexandria Instrument # 050026560).

Finally, on December 26, 2007 Fish Construction Co., Inc. by Special Warranty Deed of Gift conveyed its interest in the property to Force Alexandria, LLC (City of Alexandria Instrument # 070028502).

Conway's Lot

The southernmost portion of the project area (City of Alexandria Parcel 054.01-02-04) was also a part of the lands conveyed prior to September 28, 1786 from the estate of Jacob Harman to Elisha Cullen Dick and his wife Hannah (see Fairfax County Deed Book Q: 320 and Q: 444).

The property history for this portion of the project area diverges in the late 18th century. Although not all relevant deeds have been located; a portion of the property subject to this chain of title was conveyed by a deed dated May 4, 1787, from Elisha Cullen Dick and his wife Hannah to Baldwin Dade. The conveyance included a 31.5 acre tract to the west of Fendall Farm and the project area and a four acre parcel adjacent and south of Fendall Farm within the project area. The metes and bounds were given as:

Beginning at a stake the northwest corner of another Tract of land belonging to Philip Richard Fendall near to a swamp and running thence along the line of Robert Alexander South Eighty-five degrees West One hundred and twenty one poles and five links to a stake in the Said Line, thence South five degrees East Forty one poles and fifteen links to another stake thence North Eighty-five degrees East Forty one poles and fifteen links and parallel with the said Line of Alexander One hundred and twenty one poles and five inches to another stake thence north five degrees west Forty one poles and fifteen links to the beginning containing Thirty one acres and an half (Fairfax County, Virginia Deed Book Q:435).

...also one other Tract or parcel of land ...adjoining the last mentioned tract and bounded...Beginning at a stake the third corner of the above tract at the end of the Second course and running thence South-five degrees East three poles to the line of Charles Alexander ...thence with that line North Eighty-five degrees East to the East side of the George Town Road, thence with that road to the South East corner of a Tract of Land sold by the said Elijah Cullen Dick to Philip Richard Fendall, thence with the line of the said Philip Richard Fendall first and the line of the first mentioned tract... South Eighty-five degrees west to the beginning containing four acres... (Fairfax County, Virginia Deed Book Q: 435).

Less than one year later on December 20, 1787, Baldwin Dade conveyed a 15 acre portion of the tracts that he had acquired from Dick to Richard Conway (Fairfax County Deed Book R:7). An additional conveyance from Dade to Conway on October 2, 1795 (Fairfax County Deed Book Y:158) consolidated all the land lying to the south of Fendall Farm, and within the property subject to this research, prior to 1791 when surveyor George Gilpin sketched a plat map of Conway's lands in the vicinity (Exhibit 21).

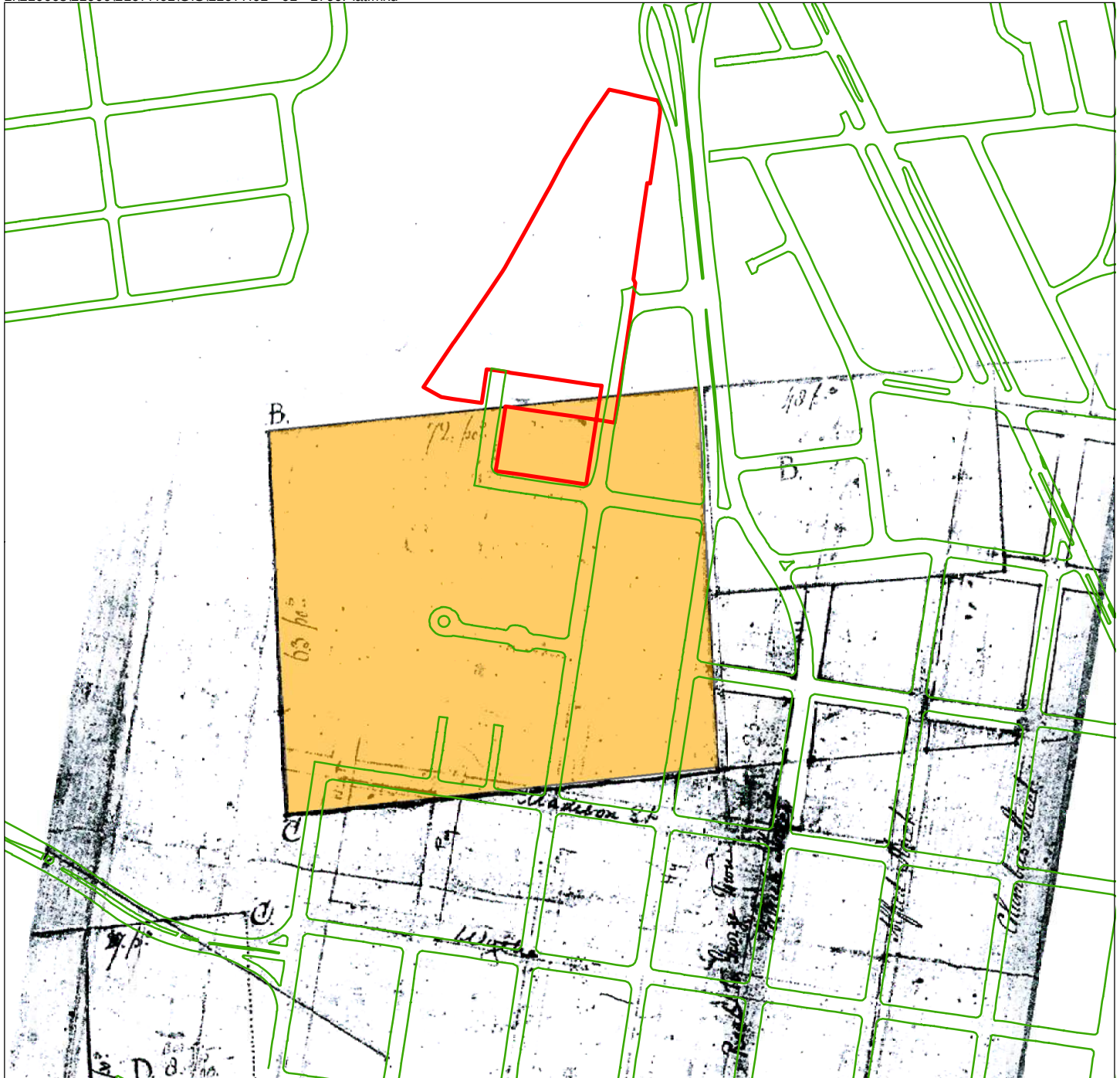
Captain Richard Conway was one of several wealthy landholders who owned various tracts of land on the outskirts of Alexandria in the late 18th century. Conway was both an army captain during the Revolution and the captain of a merchant vessel, the "Friendship". In 1783, Conway was elected Mayor of Alexandria and, at that time, was also a stockholder in local banks, the Marine Insurance Company, and the Alexandria Theatre. Although Conway owned Spring Park, a large estate outside of town, his chief residence was Beverly, situated off Oronoco and Union Streets in Alexandria. In addition to the main dwelling house on this property, there were ancillary buildings including a smokehouse, lumber house, stone cellar, and a brick stable on that property. Captain Richard Conway lived at Beverly with his wife, Mary, who was the daughter of Major John West and Margaret Pearson. Although additional details of Conway's household have not been located, he was a slaveholder as evidenced by his advertisement of a \$10 reward offered for a runaway slave (Miller 1991:78).

After his death around the turn of the 19th century, Richard Conway's executors sold several parcels of land to interested parties. A 28 acre parcel, which included a portion of the project area, was sold to John Gadsby by deed dated December 6, 1813 (Alexandria, Virginia Deed Book X: 240). John Gadsby had been living in Baltimore for several years when he purchased the tract from Conway's executors. This purchase included the southern portion of the project area.

The land John Gadsby purchased from Conway's executors was described as:

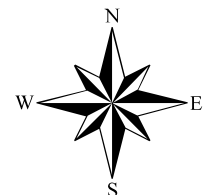
All that Lot of parcel of ground situate lying and being in the County of Alexandria in the District of Columbia and bounded as follows to wit: Beginning at a stone standing on the West side of the road leading from Alexandria to Georgetown in the line of the said Conway's land and running thence West, seventy two poles, to a Stone, thence South five degrees East Sixty three poles to a stone thence East seventy poles to another stone on the side of the road, thence north five degrees, West seventy poles two with the said road to the beginning containing twenty eight 56/160 acres with all and singular appurtenances... [sic] (Alexandria County Deed Book X: 240; Y: 39).

Gadsby's purchase of the land was likely speculative, as he subdivided and sold the property to others within one month. The 28 and 56/160 acres conveyed from Conway's executors to Gadsby were divided into four separate parcels, the northernmost of which represents the southern portion of the property subject to this property history was conveyed, by deed dated December 31, 1813, to Jacob Hoffman of Alexandria by John and Provey Gadsby of Baltimore, Maryland "in consideration of the sum of thirteen hundred and ten dollars". The property description referred to the Gilpin survey (see Exhibit 21):



-  Project Area
-  Gadsby Lot 1790's
-  Road Edges 2007

Plat Map Circa 1790
Braddock Gateway
WSSI #21677.01
Scale: 1" = 400'



Map Source: Alexandria, Virginia Deed Book Y:39. Showing a portion of Captain Richard Conway's estate, including a lot designated as "C", which is 28 acre and 56/160 poles conveyed to John Gadsby.

Road Edges - City of Alexandria GIS Department, 2006.

Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.

Exhibit 21

...one lot contiguous to the Town of Alexandria part of a lot conveyed by the executors of the late Richard Conway to the said John Gadsby by deed dated the sixth day of this month which lot is designated in the plat of the said Richard Conway's lots made for his executors by Colonel George Gilpin by red C. Beginning on the west side of the old Georgetown road in the east line of said larger lot at the distance of forty two poles northwardly from a Stone the Southeast corner of the said larger lot thence northwardly on the said road and with the line of the said lot twenty one poles –thence westwardly parallel to the south boundary of the said larger lot seventy-two poles to the west line thereof-thence with the said west line Southwardly twenty one poles thence Eastwardly seventy two poles to the Beginning containing nine acres and seventy two poles (Alexandria, Virginia Deed Y:313).

Jacob Hoffman, a Pennsylvanian and ethnic German, operated a shop on Fairfax Street during the late 1790s. Prior to 1807, Hoffman's primary business was the sale of imported textiles. He became prominent in local civic affairs, serving twice as Mayor of Alexandria (as part of the District of Columbia), in 1803 until 1804, and again from 1818 until 1821. He also served as director of the Alexandria Library Company in 1803. At the time of his purchase from Gadsby, Jacob Hoffman served as a City Councilman, as he did from 1805-1806, 1811-1813, and 1816-1817 (Dennee 2004).

Hoffman, as a wealthy business man and investor, much like the previous owners of the property, most likely did not live on this parcel of land and was probably interested in the property only as a real estate investment. It is unclear what he did with the property while it was in his possession or whether there were any buildings or improvements made on it. By 1807, Hoffman was leasing the building at the corner of Washington and Queen (now known as the Lloyd House) as his residence. Three years prior to his purchase of the property included in this chain of title, Hoffman, described in tax records as a tailor, owned a house and lot on Prince Street that was assessed at \$850. No tax records for Hoffman's properties located outside the town during this period have been located. In 1807, Jacob Hoffman completed the construction of a sugar refinery to the south of his house; and made additions and alterations to it as late as 1818. The sugar house was described as "A SUGAR REFINERY...connected by a brick wall and shed with a large two story Brick Warehouse and Smokehouse" (ibid).

In 1807, Jacob Hoffman's household contained thirteen slaves. Some of these were undoubtedly household servants; the 1820 census of manufactures indicates that seven slaves were actually employed in the sugar house, some as young as eight years old. By 1810, Hoffman manumitted three servants—Samuel, age 42; Benjamin Cryer, 40; and Cryer's wife, Beck. In the early 1820s, Hoffman, possibly due to financial difficulties, also set free Anthony Minor, age 30; Fortune Ann Minor, 32; Pleasant James, 38; William Brannan, 36, and James Minor, born circa 1782 (ibid).

Hoffman, like the widow Fendall, placed his real estate in trust to Robert J. Taylor in 1823. He was forced to sell the property containing the sugar refinery, its warehouse, smokehouse and shed, and a "two-story Brick Dwelling House, lately erected on Queen Street, and two dwelling houses" less than two years later (ibid).

The property history for this portion of the project area remains poorly understood following Hoffman's tenure of ownership. Descriptions of adjacent properties in deeds filed later in the 19th century indicate that Edward Lloyd may have owned this parcel at one time (see Alexandria County Deed Book G-3:176). No deeds from Hoffman to Edward Lloyd, Benjamin Waters or any other later property owners who are a part of this chain of title have been located. It seems likely that the property was conveyed to Edward Lloyd and possibly other grantees in the 1820s.

Although no records that show occupation of the project area in the early to mid 1800s have been located, evidence indicates that several of the other parcels of Gadsby's subdivided land (to the south of the project area and within the town limits) were occupied by tenants. As early as 1832, William Veitch had a tenant named John Blisk or Blish, identified in tax records as a resident at "Henry & Fayette" Streets, just south of the property subject to this chain of title. William Veitch's tenant was living near another tenant named Philip Dogan, who was renting one-half lot and a house on an adjoining block, owned and leased by Charles Scott. By 1834, another tenant, George Soloman, was renting from William Veitch; Soloman also appears to have rented a house on one-half lot at "Henry to Fayette". In tax records for 1836, the assessor noted a "c" next to George Soloman's name, indicating that he was of African decent. Another tenant on this same tax sheet also had a "c" by his name, suggesting that the neighborhood was being settled by free African-Americans. George Soloman appears is documented as a "free Negro" in 1831 and again in 1847 (Provine 1990:48, 174). There is no evidence that this neighborhood extended into the project area.

It is known that at some time prior to 1864, Benjamin Waters of Alexandria, Virginia acquired the parcel. Maryland born, Benjamin Waters is enumerated in the 1860 Census as a resident of Alexandria, aged 70. Waters appears to have been a wealthy lumber merchant with \$30,000 in real property and \$15,000 in personal property at the time. Waters may have used the property contained within this chain of title in association with his lumber business although no confirmation of this has been found. As his real estate holdings were very substantial in 1860, he may also have been engaged in land speculation.

The property remained in the Waters family following Benjamin's death circa 1864. In his will, taken on February 2, 1864, Benjamin Waters bequeathed what is certainly the same parcel that was conveyed from Gadsby to Hoffman to his son Thomas A. Waters. The property was described in the will as:

The lot I own binding on the Lane leading to the Poor House near said city, containing nine acres, seventy-two poles... (Alexandria City Will Book 8:185).

The parcel was subsequently passed down from Thomas A. Waters to Benjamin Water's granddaughter, Eugenia Alverda. On March 28, 1881, Eugenia Alverda Easter of Baltimore, Maryland conveyed nine acres and 72 poles to Charles C. Smoot and John B. Smoot. The property representing the southern portion of the current project area was described as follows:

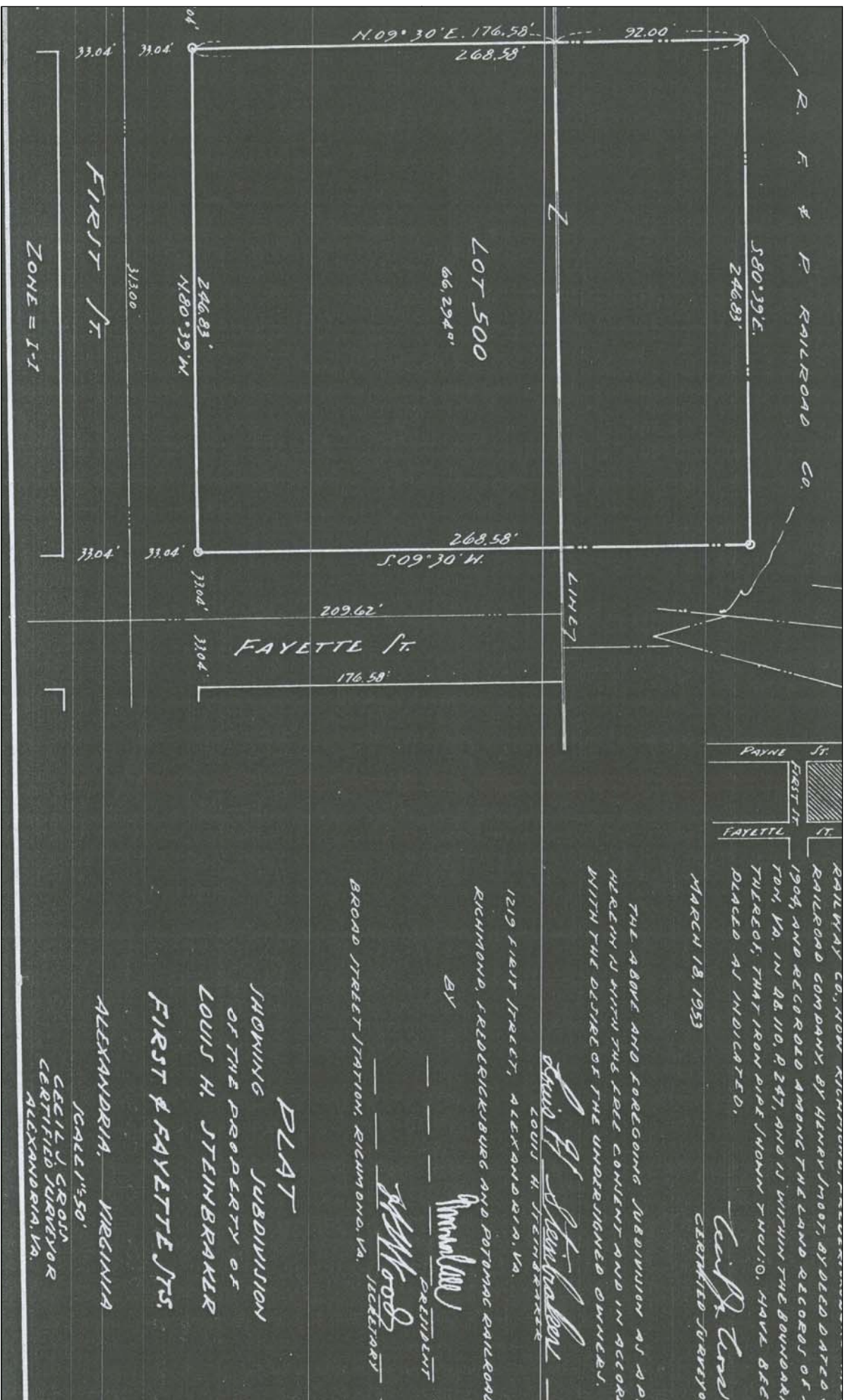
Beginning on the west side of Georgetown road at the distance of forty two poles north of a stone at the southeast corner of a lot conveyed by Richard Conway's Executors to James Gadsby in the plats of said Conway land marked with the red letter "C", running thence north on said road twenty one poles thence west parallel with the southern boundary of said lot seventy two poles to the west line thereof, thence with the said west line southwardly twenty one poles and thence Eastwardly seventy two poles to the beginning, containing within the lines aforesaid described, nine acres and seventy two poles. And being the same lot of ground devised to the said granter, by her grand father, the late Benjamin Waters of Alexandria, Virginia (Arlington County Deed Book E4:419).

In June of 1902, the heirs of Charles C. Smoot and John B. Smoot conveyed the northern portion of the parcel acquired from Easter to the Washington Southern Railway Company along with the tract that comprises the northern portion of the Braddock Gateway property. According to deeds, the southern portion of the Easter property was still owned by the Smoot Family as late as 1924 (see Alexandria, Virginia Deed Book 79:466). It is unclear how William T. Burch and Olga Burch, his wife acquired the southern portion of the Easter tract but, by a deed dated September 28, 1942, they conveyed it to Donald MacEocagan (Alexandria Corporation Deed Book 79:466).

The City of Alexandria issued Building Permit No. 3688 on August 17, 1945 to property owner H.C. Woodall. The permit approved the construction of a one story brick building on a cement foundation at First and Payne. The dimensions of the building were given as 40 feet by 60 feet. The permit describes the purpose of the building as an office and repair shop for highway machinery. No record was located for the construction of the second building on Woodall's lot but it appears to have been constructed at the same time.

Several years after the construction of the buildings, on March 28, 1952 Harold C. Woodal conveyed the parcel formerly owned by the Burches to Louis H. Steinbraker (Alexandria Corporate Deed Book 335:553). Two buildings are included in a 1963 House Location Survey map included with Application for Permit for Repairs, Alterations, etc. No. 10943. The purpose of this permit was for the addition of a small office on the north elevation of the western building. The owner of the buildings was Louis H. Steinbraker.

On May 6, 1953, the RF&PRR Co. conveyed the northern portion of the Easter property (that was acquired from the Smoots in 1902) to Louis H. Steinbraker (Alexandria Corporation Deed Book 357:362). A plat submitted with the deed shows Steinbraker's property (Lot 500- including the parcel acquired from Woodal and that acquired from the railroad) bounded by First Street on the south, Fayette Street on the east and railroad property on the north (Exhibit 22). Steinbraker soon subdivided Lot 500 into two lots, 601 and 602 with a Deed of Subdivision filed October 15, 1953 by Louis H. Steinbraker (Alexandria Corporate Court Deed Book 367:294).



Map Source: Plat Showing Subdivision
of Property of Louis H. Steinbraker,
Alexandria, Virginia DB 357-369, 1953

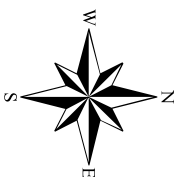
Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.

1953 Louis Steinbraker Property Map

Braddock Gateway

WSSI #21677.01

Not to Scale



Sanborn Insurance maps from 1957 show the western building in use as a warehouse and the eastern building in use as a dairy supplies warehouse for the COMICO milk plant located to the south. Crowder's Transfer and Storage Co., Inc. rented the property between sometime after 1949 until 1965 when the company purchased the property from Louis H. Steinbraker's heir, Frances A. Steinbraker on June 21, 1965 (Alexandria Corporation Deed Book 628:458). Another plat was prepared and submitted with this deed (Exhibit 23). Crowder's Transfer and Storage Co., Inc. was later reorganized as Crowder Corporation and, by a deed dated January 8, 2003, Crowder Corporation conveyed Lot 601 to Count Du Greenmonet, LLC (City of Alexandria Instrument # 040038663) who conveyed the parcel to Fayette Properties, LLC on September 15, 2004 (City of Alexandria Instrument # 040038663).

The Mutual Ice Company

Introduction

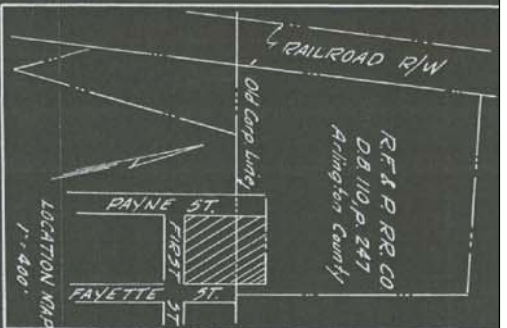
In 1900, an entrepreneurial ice dealer named James W. Hammond went into business with his only Alexandria competitor, William M. Reardon. Hammond's background was in groceries and ice while Reardon's was in shipping and ice. The company which they named the Mutual Ice Company was a staple of Alexandria's economic and social life for seven decades. It began with an ice warehouse and wharf along the Potomac River and a mission to sell and deliver ice to Alexandria's homes and businesses. Quickly after incorporation, the firm's principals expanded the company's scale and scope to accommodate a profitable arrangement with the railroad industry to ice cars in transit northbound from Southern agricultural field and southbound from urban meat packing plants.

The company's history reflects the rapid technological and structural changes the ice industry underwent during the twentieth century. The Mutual Ice Company's physical footprint in Alexandria included its two plants and warehouses and a string of satellite retail stations where consumers could purchase ice for household use. The company's carts, and later its trucks, plied Alexandria's streets delivering ice to homes, restaurants, and hotels. They installed ice-chilled air conditioning systems in businesses and sold individual units to the general public. Throughout its history, the company exploited the clear fresh water it raised from its artesian wells to alternately sell and give away drinking water under the Mico brand. To take advantage of the reduced demand for ice during the winter months, the company puts its transportation fleet and rail yard location to use in the fuel oil business. By the time the company had closed its plant in 1969, its profits came not from ice but from the other business lines diversified into as a means of adapting to widespread mechanical refrigeration in the freight industry and the increasing obsolescence of railroads as highway trucking came to dominate transportation after the Second World War.

11/3/53
(date)

I hereby certify that the financial requirements of the City Planning Commission for public improvements have been met.

W. J. McMillan
City Manager



The above and foregoing subdivision as appears herein is with the free consent and according to the desire of the undersigned owner

The R. F. & P. R. R. Co by Nominal
President

Louis H. Steinbraker by Louis H. Steinbraker
Assn. Secretary
Louis H. Steinbraker
179 First Street
Alexandria, Va.

SURVEYORS CERTIFICATE

I hereby certify that I have carefully surveyed the parcel of land shown hereon and that it is correct to the best of my knowledge and belief; that it is the land conveyed to Louis H. Steinbraker, by Harold C. Woodall et ux, by deed dated Mar. 28, 1952 and recorded in D. 8. 335, p. 553, and a part of the land conveyed to the Washington Southern Railway Co. now the Richmond Fredericksburg & Potomac Railway Co. by Henry Smoot by deed dated July 7, 1904 in D. 8. 110 p. 247 (Arlington County Va. land records) and the land conveyed to Louis H. Steinbraker from the R. F. & P. R. Co. by deed dated May 6, 1953 and recorded in D. 8. 377, p. 962, all recorded, except as noted, among the land records of the City of Alexandria, Va. and is within the boundaries thereof; that iron pipe shown thus "o", have been placed as indicated.

APPROVED
CITY PLANNING COMMISSION
ALEXANDRIA, VA.

Cecil J. Cross
Cecil J. Cross
Certified Eng'r & Surveyor

10/1/53
DATE
W. J. McMillan
VICE CHAIRMAN
DIRECTOR OF THE SUBDIVISION OF THE LAND OF

PLAT
LOUIS H. STEINBRAKER
FIRST & FAYETTE STS.
ALEXANDRIA, VA.

Scale: 1"=50'

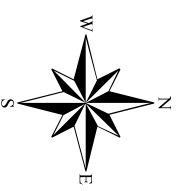
CECIL J. CROSS

1953 Louis Steinbraker Lot No. 500 Map

Braddock Gateway

WSSI #21677.01

Not to Scale



This discussion of the company's history provides an overview of the ice industry and its relationship to consumer markets and to transportation. The technology of ice making and distribution is presented to provide a technological context for the company's development and changes through time. Legal instruments, maps, photographs, trade and industrial publications, historical studies, and oral histories provide the basis for contextualizing the Mutual Ice Company in the local and national economies. The materials provide a fine-grained lens through which the company's physical remains in the built environment and in archeological contexts may be evaluated.

This report relies on research conducted in Alexandria and Washington, D.C., repositories. Trade publications, historical newspapers, government documents, and general historical sources on the history of the American ice industry were consulted at the Library of Congress and the District of Columbia's Martin Luther King Jr. Library. In Alexandria, the Clerk of Circuit Court provided legal instruments (land records, incorporation documents, etc.). The Alexandria Library's manuscript collection, vertical files, and other sources provided valuable information on the Mutual Ice Company and Alexandria history. Documents also were obtained in the collections of the Lyceum, Alexandria's History Museum. O. Ashby Reardon, the last president of the Mutual Ice Company, generously shared his memories of the firm in a series of recorded oral history. Verbatim transcripts were produced (Appendix III).

The Ice Industry and Refrigerator Cars: A Brief Overview

Ice is basically frozen water. It occurs naturally in favorable, i.e., cold, environmental settings with bodies of water. As domestic, industrial, and commercial demands for ice increased after the eighteenth century, entrepreneurs began exploring ways to have ice year-round in all climates. In 1806, Frederic Tudor became a first mover in the ice trade by successfully developing insulation and shipping methods capable of keeping ice frozen for long distance trade. His first shipments of ice from New England to the West Indies are credited with creating the natural ice trade (Hall 1888:2; Jones 1984:93). During the first half of the nineteenth century, the ice industry was slow to develop. Population centers capable of supporting an annual ice consumption of between one and two thousand tons began stockpiling ice surpluses. U.S. Census special agent Henry Hall wrote in his 1883 report on the ice industry, "All of the cities and many villages of the north adjacent to waters that freeze in the winter time now have ice-houses of sufficient capacity to carry along all the ice that will be needed the following summer".

The first significant commercial ice shipments after Tudor's initial success did not occur until the 1840s. Ice harvested in Massachusetts rivers and ponds was shipped from Boston to coastal cities from Philadelphia to Galveston, Texas, and stored in warehouses for sale and distribution (Plate 1). Concentrations of ice harvesting and shipping operations in Massachusetts and Maine emerged and, by the 1870s, ice was being harvested on a significant scale in these states and was being shipped around the world. Maine's Kennebec River quickly became a preferred source for ice after ice harvested in upstate New York and in Pennsylvania melted in an unusually warm winter (Hall 1888:21; Weightman 2003). Harvested between January and March, the ice was cut and stored in large ice houses before being loaded on schooners bound for market. Although the harvest was confined to the winter, Maine's ice was shipped all year long (Jones 1984:97).

WM. T. WOOD & CO. ESTABLISHED 1834.

MANUFACTURERS OF FINE QUALITY ICE TOOLS

Having manufactured first-class Ice Tools for nearly *sixty years*, and making them our exclusive business, we can guarantee to every customer perfect satisfaction in **Harvesting or Delivery Outfits. Repairing promptly and thoroughly done.** Please ship tools for repair early. **MARKERS AND PLOWS, PONY OR MAN PLOWS, HAND PLOWS, SPECIAL ICE SAWS, CHISELS, BARS, HOOKS, TONGS, AXES, SHAVERS, SCALES, PATENT V RUN IRON, ETC.,** in every variety and style and in large stock.

SEND FOR NEW 1892-3 ILLUSTRATED CATALOGUE AND PRICE LIST.

WM. T. WOOD & CO., ARLINGTON, MASS.

PLATE 1
Typical Advertisement for Ice Harvesting and Handling Tools, c. 1892

Artificial refrigeration and freezing began modestly with a toolkit as simple as a ceramic pot, some water, and cool night air. As water evaporated through the unglazed ceramic body; the remaining water inside cooled (Hall 1888:1). More sophisticated approaches emerged in the 19th century with experiments by Jacob Perkins, John Twining, and John Gorrie, all of whom successfully produced ice by mechanical means between 1834 and 1851 (Hall 1888:19; Jones 1984:149-151). It was Jacob Perkins who first combined the four basic elements required by refrigeration machinery: compressor, condenser, expansion valve, and evaporator (Jones 1984:150).

The first successful use of ammonia in ice making was by French inventor Ferdinand Carré in 1848. Ammonia was found to be an effective refrigerant when used under pressure with brine. The first ammonia compressor refrigeration machines were introduced in the 1870s and were deployed in the nation's first large-scale artificial ice plant which was constructed in New Orleans in 1864 (Hall 1888:20; Jones 1984:151-152; Weightman 2003:228-229). In 1860, there were only four artificial ice plants in the United States. The number inched upward during the next decade to 35 and the industry ballooned during the 1880s with 222 documented in 1889. Over the next decade the number of ice plants in the United States doubled to 787 and by 1909 there were 2,004 (Jones 1984:158).

Manufactured ice was known as raw water ice: water that was "taken direct from a town supply, artesian well, or a neighboring stream" and fed directly into the ice plant without distillation (Springett 1921:73). In the United States, two types of ice plants were active at the turn of the 20th century: those making plate ice (Plate 2) and others making can ice (Plate 3). Plate ice, which was commonly found in Europe, was among the earliest techniques used in the United States. It involved filling "cellular plates or walls of sheet or cast iron" with water", while cold brine is circulated through the hollow dividing walls" (Springett 1921:78-79). The resulting block of ice that was created weighed about five tons and measured approximately 15 feet by 6.5 feet and was 12 inches thick. Can ice, which became the more commonly used method in the United States, involved using tapered metal cans that were "nearly filled with cold water, and placed in a tank of cold brine" that was circulated among long rows of cans (Plates 3 and 4) (Springett 1921:75-78). Of the two systems, plate ice fell out of favor because of the high capitalization required, large space requirements, and the bulky nature of its output (Pownall 1912:229).

Money could be made in the ice industry by harvesting, storing, or selling ice (Jones 1984:94). Successful entrepreneurs usually integrated the three in either the natural ice trade or in manufacturing ice. In the late nineteenth and early twentieth centuries, ice usually reached consumers by one of three ways: retail sale at delivery wagons or carts; wholesale at the ice plant; or, retail sales to customers at ice stations (Breedlove 1932a:241).

Communities with concentrations of industries that consumed large quantities of ice created a high demand for ice. Meatpacking plants, breweries, and dairies led the early industrial demand for refrigeration technology and ice to store and ship their products. Shipping by rail was the quickest and most economical method; to take advantage of the railroads, manufacturers, and shippers had to develop an effective way to turn railroad freight cars into "traveling cold storage warehouses" (U.S. Congress. Senate 1906:2396).

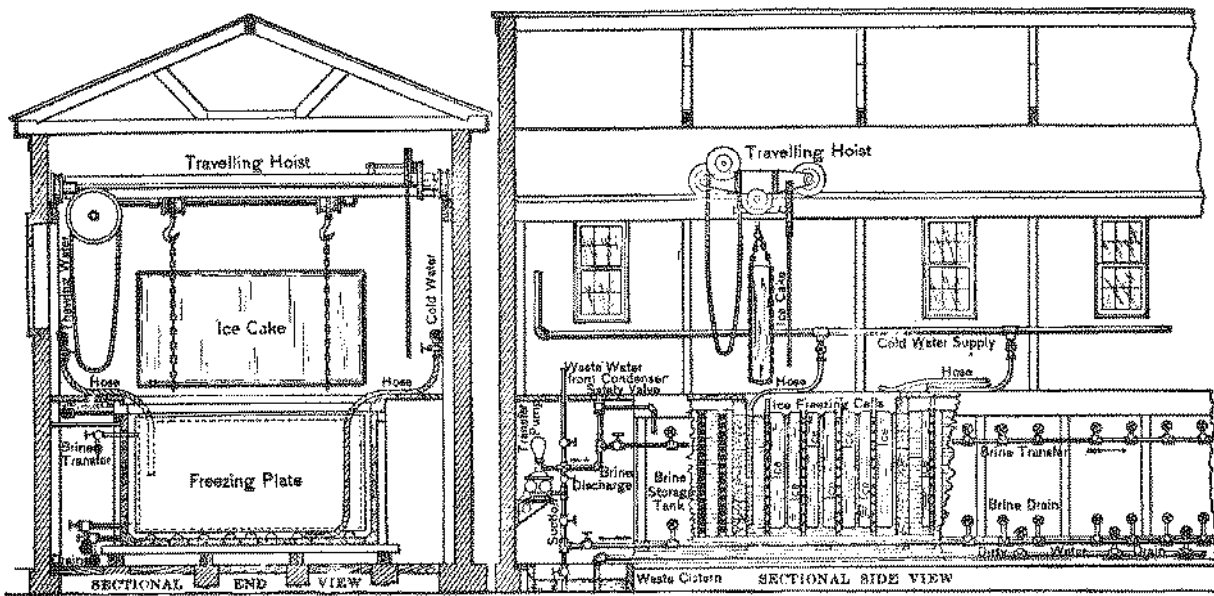


FIG. 236.—Plate Ice-tank.

FRICK COMPANY.

PLATE 2
Typical Plate Ice Plant;
Adapted from Lorenz 1905

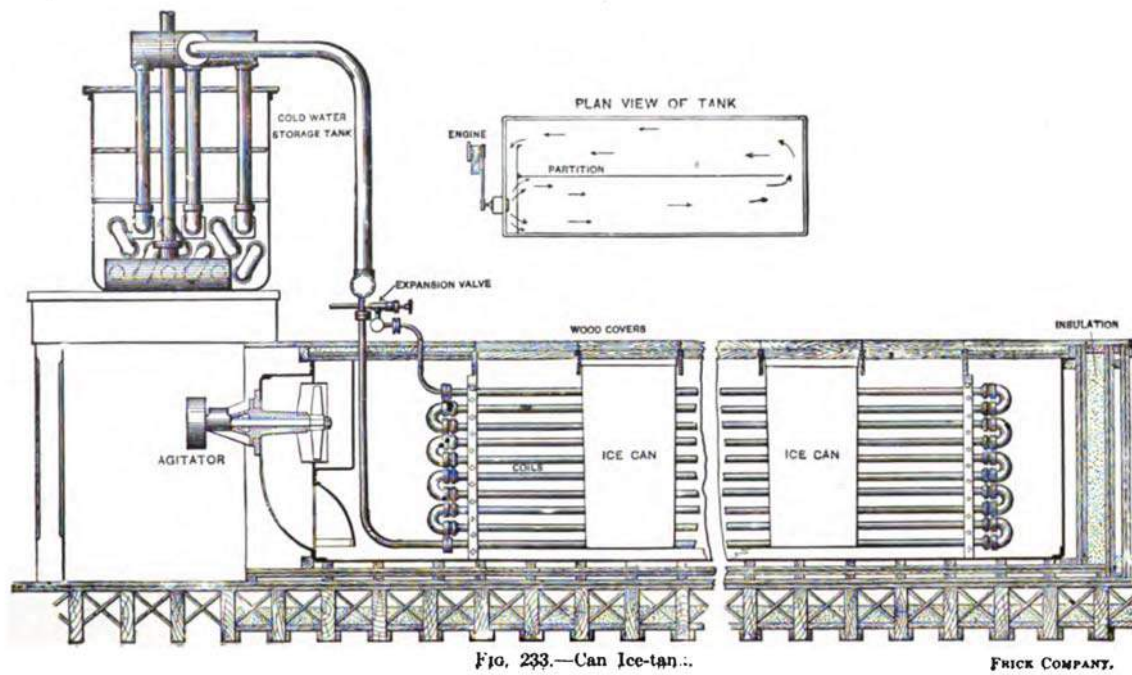


PLATE 3
 Typical Can Ice Plant;
 Adapted from Lorenz 1905

Write for Prices

GALVANIZED STEEL ICE CANS

Write for Prices



CAPACITY, 300 PER DAY.

OVER 82,000
OF OUR
**CANS IN USE AND DISTRIBUTED
IN 24 STATES, AS FOLLOWS:**

ALABAMA COLORADO DIST. OF COLUMBIA FLORIDA GEORGIA ILLINOIS INDIANA KANSAS KENTUCKY LOUISIANA MISSISSIPPI MISSOURI	NEW JERSEY NEW YORK NORTH CAROLINA OHIO OKLAHOMA TER. PENNSYLVANIA SOUTH CAROLINA TENNESSEE TEXAS VIRGINIA WEST VIRGINIA WISCONSIN
---	---

Established 1861. Incorporated 1890.

CHRIS. KIECHLER, Pres.



CAPACITY, 300 PER DAY.

THE KIECHLER MANUFACTURING CO.
Sheet Metal Works. **CINCINNATI, OHIO.**

PLATE 4

Advertisement for Ice Making Cans;
Ad Run by *Ice and Refrigeration* throughout the Early 20th
Century

Experiments in the use of refrigerated railroad cars began in the 1860s and 1870s. These were mainly undertaken by meatpackers like Augustus Swift and George Hammond (United States Federal Trade Commission 1919a:25-28; Wade 1987:105-109; Yeager 1981:51-53). In 1867 and 1868, two Detroit inventors, William Davis and J. B. Sutherland, independently invented and patented refrigerated railroad cars. Sutherland's "Improved Refrigerator" car included top-loaded ice bunkers at each end of the car and gas pipes running along the inside roof of the car "for hanging meats and other edibles" (Sutherland 1867). Davis's patent was for "An Improvement in Apparatus for Preserving Fresh Meats, Fish, Fruits, etc." and included top-loaded ice bunkers (Davis 1868).

There is no definitive history of railroad icing stations available, but information contained in the various federal investigations of shippers and meatpackers during the first quarter of the 20th century provide a cohesive overview. According to the Federal Trade Commission, natural ice was preferred to artificial ice for use in refrigerator cars. This assertion was based on three factors: lower harvesting costs for natural ice, its slower melting rate, and ammonia shortages driving up the price of the refrigerant (United States. Federal Trade Commission 1919a:144). The belief was unfounded; however, since the costs to manufacture and store ice in sufficient quantities decreased while the costs to transport and store natural ice increased (Handling of Perishable Freight by Railroads 1924:196). To maintain a constant temperature in the refrigerator car – in the case of fruits and vegetables 36 to 40 degrees Fahrenheit, and for meat 15 to 36 degrees Fahrenheit – a combination of air circulation, insulation, and ice replenishment was necessary. The engineering for vegetable cars and the icing procedures differed significantly from those used for meat.

By the turn of the 20th century, refrigerator cars based on the 1860s designs comprised approximately 60 percent of what were known as private car lines, e.g., freight cars owned by shippers and not the railroads (United States. Federal Trade Commission 1919a:43). Among those shippers, meatpacker Armour and Company was the leading private car line owner (U.S. Congress. Senate 1906; United States. Federal Trade Commission 1919a:79-80). Through its subsidiary, Armour Car Lines, the company shipped perishable food products throughout the United States using icing stations it owned and operated or leased to ice operating companies like the Mutual Ice Company.

To accommodate the particular lines of perishable foodstuffs shipped by rail, two types of refrigerator cars were developed. For meat, there were brine or tank cars and, for vegetables and other perishables, there was the ventilator refrigerator car. "These two types are alike in general shape and size," reported the Federal Trade Commission in 1919. "The main distinction is to be found in the cooling system" (United States. Federal Trade Commission 1919a:31). Brine cars used crushed ice mixed with salt which was placed in tanks located at either end of the car. Ventilator cars have a pair of bunkers, also placed at opposite ends of the rail car. The bunkers used block ice (United States. Federal Trade Commission 1919a:31; United States. Federal Trade Commission 1919b:133-134).

The railroad car icing facility required a place for storing ice and elevated icing docks or platforms high to load ice into the bunkers. The platforms were fed ice by way of motorized conveyor belts that moved ice from the ice storage house across an ice trestle approximately 22 feet above the grade at which the railroad was situated, and then to gravity-fed or motorized loading devices that lowered the ice to the icing platform, at which point, the ice is moved along the platform by yet another set of conveyors (Handling of Perishable Freight by Railroads 1924:197). Icing platforms were "from six hundred to one thousand feet in length ... of the island type ... separated from the ice manufacturing plant itself by an intervening railroad track, so that cars may be iced simultaneously from both sides" (Handling of Perishable Freight by Railroads 1924:197). These icing stations remained essential elements for shippers until the 1960s when mechanical refrigeration obviated ice-chilled air.

Ice in Alexandria

In the 18th and early 19th centuries, Alexandria relied on a seasonal local supply of ice which was cut from local ponds and rivers and stored in brick ice houses and ice wells (Alexandria Gazette 1952; Miller 1991a). Circa 1793, John Wise had a large ice well constructed in the building that would become known as Gadsby's Tavern in Alexandria. The well, over 17 feet wide and almost 12 feet deep could hold at least 68 tons of ice and was accessible from the basement of the tavern through a brick-lined vaulted passageway and through a removable panel at street level (Gadsby's Tavern Museum Society n.d.).

During his proprietorship of the tavern, Gadsby appears to have engaged in the retail sale of ice as advertised in the Alexandria Gazette in June 1805, "Ice for Sale. Persons may be supplied with ice at eight cents per pound on application to John Gadsby" (AG 1805).

After the Civil War, ice harvested from northern rivers and lakes began arriving at Alexandria's wharves in the holds of schooners bound directly for Alexandria or lightered across the Potomac River from the port at Georgetown in the District of Columbia.

Advertisements and articles in the *Washington Post* and *Alexandria Gazette* illustrate a steady intensification of Alexandria's ice trade from the 1870s to the turn of the twentieth century mirroring national trends (Plate 5). Notices for ice deliveries at Alexandria's wharves to dominant post-bellum dealers such as F.A. Reed & Co., John Beach, and J.W. Hammond document the increased demand for ice, predominantly from Maine's Kennebec River. As early as 1884, J.W. Hammond's ice wagons were navigating Alexandria's streets driven by African American deliverymen (Washington Post 1884). F.A. Reed & Company's wagons were reported to have been active two years earlier in 1882 (Washington Post 1882a).

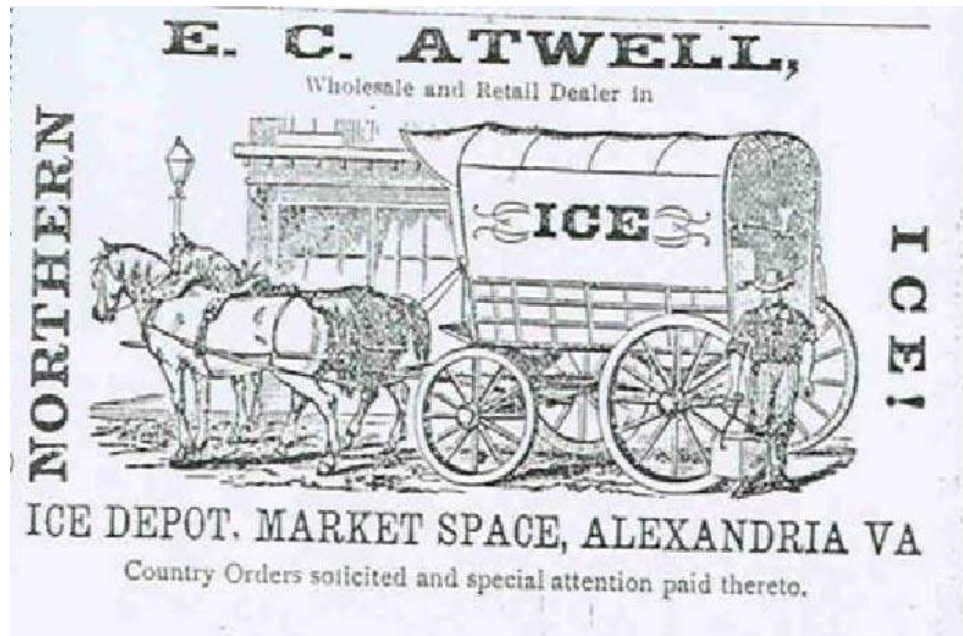


PLATE 5
Advertisement for Ice Dealer Ewell Atwell;
Undated Alexandria Gazette Ad

While Alexandria's ice dealers had storage, distribution, and sales facilities throughout the city, including space at Alexandria's public market, the industry concentrated early along the Potomac River. Among the first large-scale dealers to receive and sell ice along the waterfront was F.A. Reed & Company. Francis "Frank" A. Reed was a Massachusetts native who arrived in Alexandria circa 1855 and began working in the shipping business as a clerk (Miller 1989:33-34; Washington Post 1895). Reed went into business on his own in the 1870s and he located his ice warehouse at Janney's Wharf (later named Reed's Wharf and then Reardon's Wharf). Although ice was a major part of his business, he also acted as an agent for various railroads and river shipping companies.

In 1882, Reed completed a new system for unloading ice from ships. "F.A. Reed & Co., on the wharf, have had created an elevated slide from their ice house to the end of the dock and by the use of a steam engine and the necessary machinery will unload cargoes of ice, which will be carried into their large ice house upon the slide with much more dexterity and considerable less expense," the *Washington Post* reported (Washington Post 1882b). Fire insurance maps show Reed's warehouses on the east side of Union Street south of Cameron Street and north of Prince and they clearly illustrate the 1882 improvements (Exhibit 24).

F.A. Reed & Co. came to an ignoble end when Frank Reed put a gun to his head in his home and committed suicide the morning of 23 August 1895. Press accounts attributed the act to depression though no one could explain why he killed himself just before a long-anticipated trip back to New England (Ice and Refrigeration 1895:186; Washington Post 1895). One year later, William M. Reardon was doing business under his own name in the firm's locations along the Potomac River (Exhibit 25).

Attempts to manufacture ice in Alexandria didn't appear until the 1870s. In 1878, speculators were eyeing the city for a site to build a new ice plant (Washington Post 1878a). That same year, local brewer Robert Portner announced his intention to build an ice factory and, within three years, it appears that he was making ice from distilled water and water pumped from four artesian wells in his St. Asaph Street brewery (Sanford 1913:137-138; Washington Post 1878b; Washington Post 1880; Washington Post 1883). Portner's requirements for ice to cool beer in his brewery reflect a highly specialized production and it does not appear from surviving accounts or advertising that the brewery engaged in any widespread retail or wholesale ice trade.

The first commercial ice factory built in Alexandria was built in 1893 along the Potomac River. On 7 December 1892 A.C. Cazenove and Robert Walker sold a warehouse and lot on the east side of North Union Street to a pair of speculators from Asbury Park, New Jersey. Alexander H. Smith Jr. and Louis Moore paid \$5,150 for the property and the *Washington Post* reported on the anticipated construction of an ice factory capable of producing thirty tons of ice per day (Alexandria Clerk of Circuit Court 1892; Washington Post 1892). The following month, the trade

**1885 Sanborn Map
F.A. Reed's Ice House
S. Union Street, Alexandria
Braddock Gateway
WSSI #21677.01
Not to Scale**

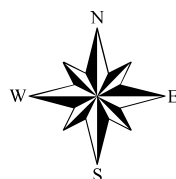
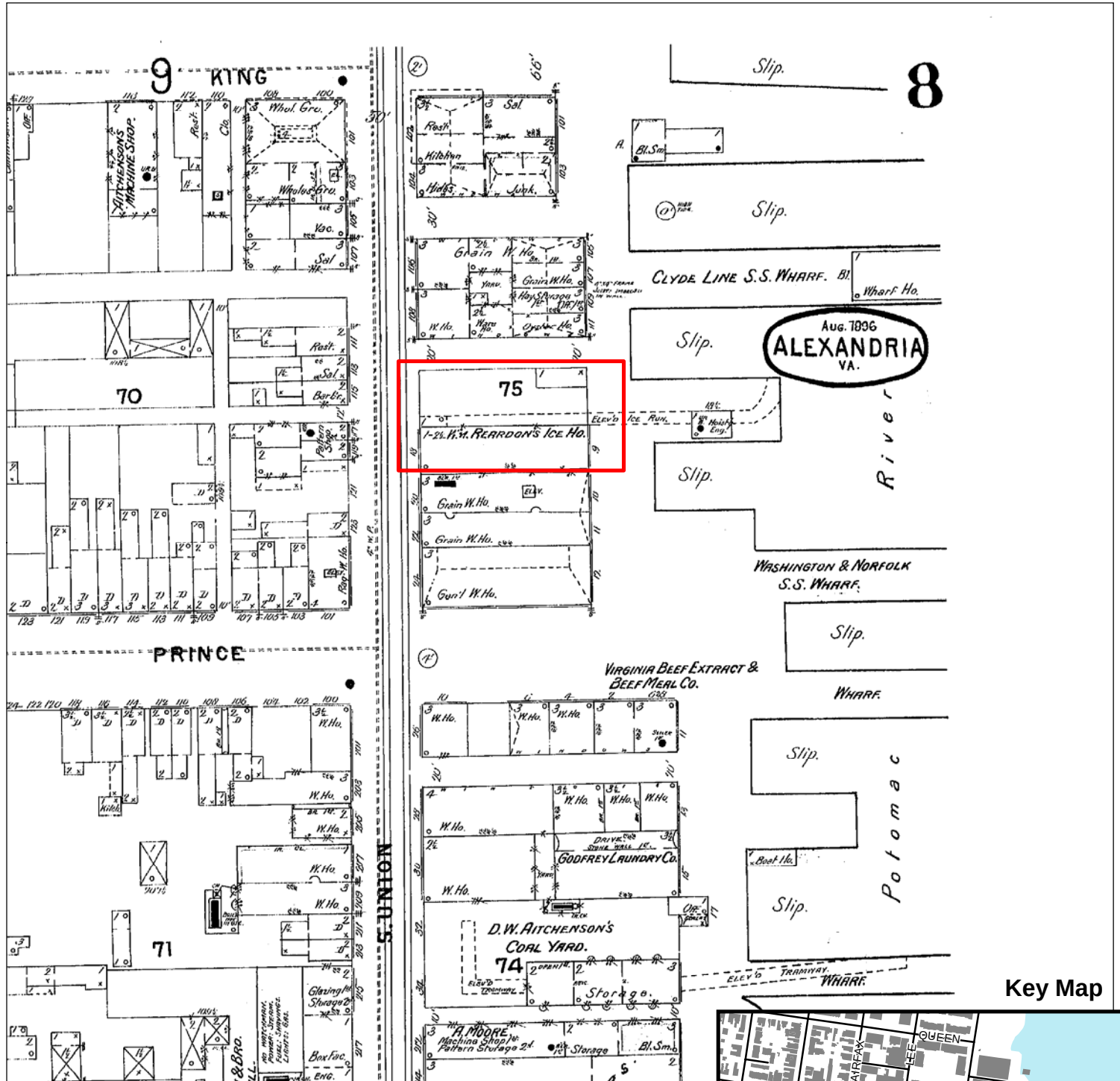
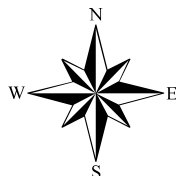


Exhibit 24



Map Source: "Alexandria, 1896". Sheet 8.
Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.

1896 Sanborn Map
William M. Reardon Ice House
S. Union Street, Alexandria
Braddock Gateway
WSSI #21677.01
Not to Scale



Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.

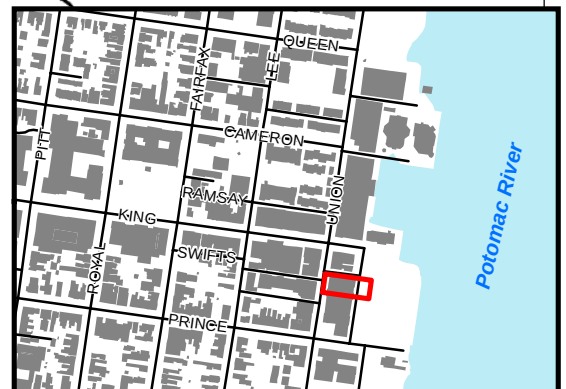


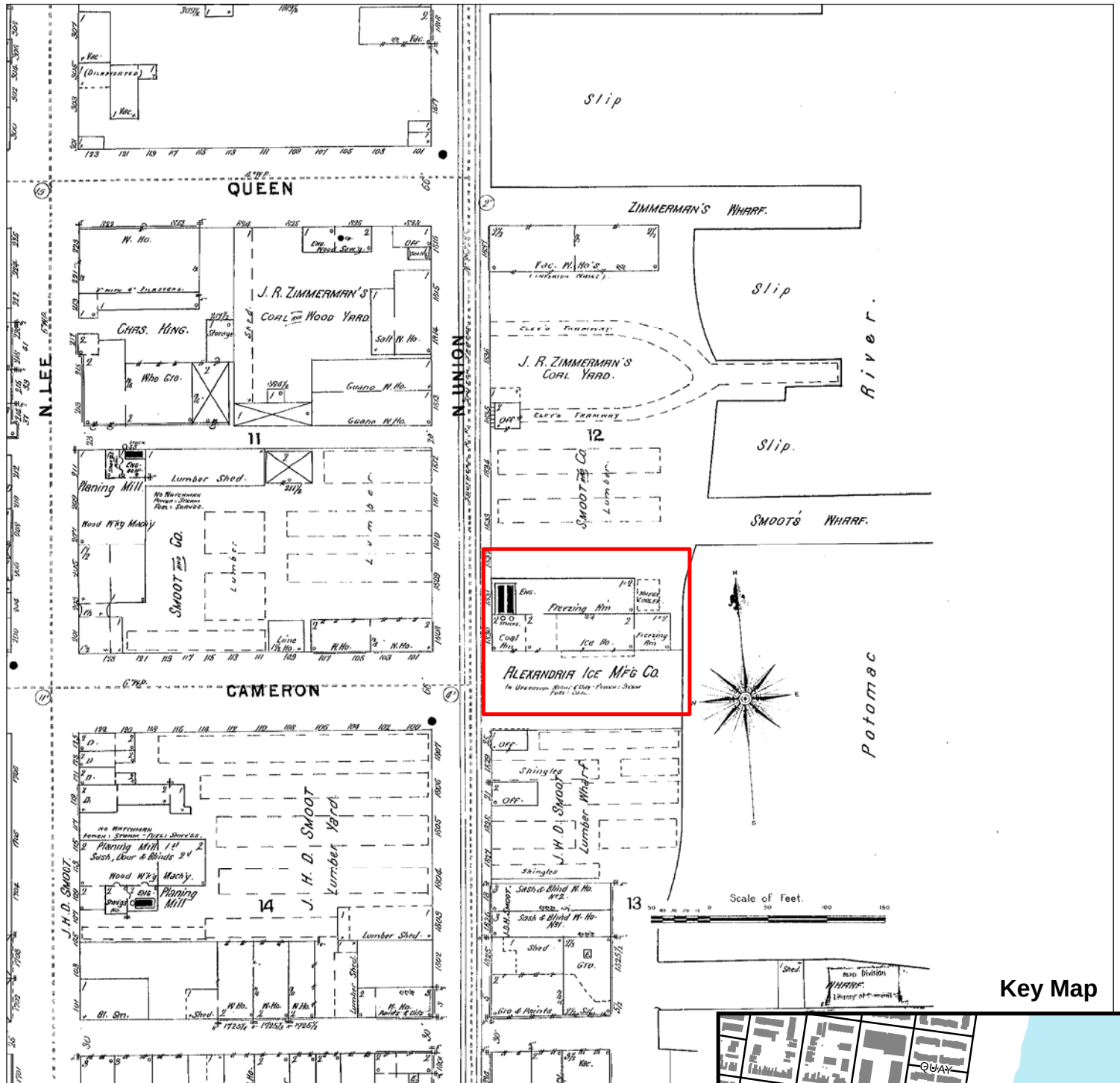
Exhibit 25

publication *Ice and Refrigeration* announced that, "Messrs. Moore and Smith, of New Jersey, are preparing to erect an ice factory" (Ice and Refrigeration 1893a:29). There are conflicting accounts of the firm name Smith and Moore traded under. The February 1893 issue of *Ice and Refrigeration* reported it as the "Alexandria Ice Company", while legal instruments filed in the Alexandria Clerk of Circuit Court identify the firm as the "Ice Manufacturing Company of Alexandria". A Sanborn fire insurance map published in 1896, one year after the firm was defunct, identified the plant as the "Alexandria Ice Manufacturing Company" (Exhibit 26). Regardless of the actual name Smith and Moore traded under, the firm does not appear to have been incorporated and it was organized as a partnership.

The Smith and Moore enterprise had trouble from the start. To pay for the Cazenove warehouse, they borrowed more than \$3000. Their debt increased significantly in March 1893 when Smith borrowed \$6500 from his wife for start-up capital. Smith borrowed the money "to pay for the machinery which is to go in the building on the premises hereinafter described, to be used in the manufacture of ice by the Ice Manufacturing Company of Alexandria, Virginia ... and the balance to be put there and used for the manufacture of ice" (Alexandria Corporation Deed Book 29: 320).

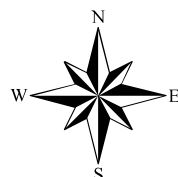
The machinery the pair bought included a twenty-five ton compressor from the York Manufacturing Company (Ice and Refrigeration 1893b:111). Throughout the spring of 1893 as they were outfitting their plant, Smith and Moore were drilling an artesian well to provide the essential raw material for raw water ice making. They missed their expected opening date of April 1, 1893 and contemplated using water bought from the Alexandria Water Company because of difficulty striking a sufficient flow of water after drilling more than 125 feet (Ice and Refrigeration 1893b:111; Ice and Refrigeration 1893c:193; *Washington Post* 1893a; *Washington Post* 1893a; *Washington Post* 1893b). The plant ultimately did begin producing ice on June 5, 1895 (Ice and Refrigeration 1893d:34).

Over the winter of 1893-1894, the plant underwent improvements to increase its capacity. According to *Ice and Refrigeration*: "The work of enlarging the plant of the Alexandria Ice Co., foot of Cameron Street is completed. The changes just made will make the capacity twenty-five tons of ice per day. The plant makes ice by the plate system, in cakes twenty feet long, five wide, and six deep" (Ice and Refrigeration 1893e:256). The *Washington Post* also reported on the improvements. The paper published just across the Potomac wrote that the steam engines were started February 26 in anticipation of removing the first ice of the season a week later. "The ice is made in long tanks and not in cans, as is the common system," wrote the newspaper (*Washington Post* 1894).



Map Source: "Alexandria, 1896". Sheet 9.
Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.

1896 Sanborn Map
Alexandria Ice Company
N. Union Street, Alexandria
Braddock Gateway
WSSI #21677.01
Not to Scale



Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.

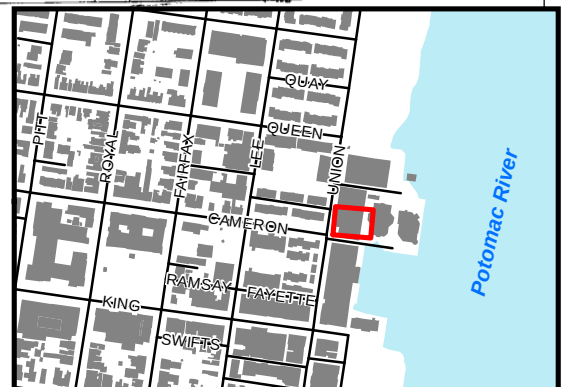


Exhibit 26

No accounts documenting the Alexandria Ice Company's market have been identified and its client base remains unknown. Perhaps its founders succumbed to the pitfalls of the cost of starting and operating a plate ice plant (Pownall 1912:229). The company was doomed to fail from the outset. With an uneconomical plant in an arguably unfamiliar market, heavily in debt to his wife, and needing more capital to resume making ice in the spring of 1895, Smith borrowed more than \$10000 between the summer of 1894 and February 1895. Smith – now doing business without Moore – succumbed to the crushing debt and sold the ice factory to James W. Hammond in November 1895. Hammond paid Smith and his wife \$11200 for the plant, in turn using the property as security for a \$10000 mortgage (Alexandria Corporation Deed Book 34: 451; Alexandria Corporation Deed Book 35: 460). The 26 November 1895 instrument transferring title from the Smiths to Hammond is instructive. In addition to the property's legal description, the deed also granted Hammond:

... all the coal and material of every kind and description, and also all of the office furniture, and all appliances, of every kind and description, now on the said premises or belonging thereto, except the ice now manufactured on the said premises. For which said ice the said party of the second part [Hammond] is to pay two dollars (2) and fifty (50) cents per ton for so much thereof as he may use ... (Alexandria Corporation Deed Book 34: 451).

Hammond had been in Alexandria's ice trade since the 1870s. Up until his purchase of the former Alexandria Ice Company, his business as it related to ice was limited to buying it from northern ice harvesters and selling and delivering it to his Alexandria customers. By vertically integrating his business backwards into production, Hammond gained economizing advantages unavailable to his only apparent competitor: William M. Reardon.

J.W. Hammond & Sons

James W. Hammond (c. 1844 -1917) was the son of an English immigrant who was born in Piney Point, Maryland. He served in the Civil War on the Confederate side as one of Mosby's Rangers and was captured by the Union army midway through the war (Plate 6) (Williamson 1896). After the war, Hammond appeared in Alexandria and began his work life as a peddler. He married Virginia Kirk, the daughter of Harrison Kirk – identified in the 1860 census as a "huckster" and in later sources as the founder of a successful ships' chandlery business – and neighbor of ice merchant Ewell Atwell (United States Census 1860; Washington Herald 1910). In the 1870s, Hammond settled into a comfortable career as a grocer in a partnership with Joseph S. Beach. The pair owned a store at the corner of Pitt and Queen Streets from which they sold ice they bought from northern dealers. They also rented an ice storehouse from ice dealer Atwell.

In 1881, Hammond and Beach dissolved their partnership, a firm engaged in the "trade of groceries, liquors, provisions, and ice". Beach assumed all of the firm's liabilities while Hammond retained "the stock of ice stored in the ice house of said Ewell C. Atwell, and ... all the wagons, carts, horses, harness and implements and other articles belonging to said firm and used in the ice trade" (Alexandria Corporation Deed Book 9: 588). The 1881 break with Beach appears to have marked Hammond's fulltime entry into the ice trade.



**J. W. HAMMOND, CO. B,
(Light Coat),
and
JOHN B. PROUT, CO. A,
(Dark Coat),
From a Photograph taken in March, 1863.**

PLATE 6
J.W. Hammond in 1863;
Adapted from Williamson 1896

During the 1880s, Hammond consistently appeared in Alexandria city directories as one of two ice dealers in the city (Chataigne 1887; Chataigne 1888). He owned an ice house on the south side of the Alexandria canal basin and continued to sell ice from the store at Pitt and Queen Streets (Alexandria Corporation Deed Book 13: 73). As an ice dealer, Hammond delivered his product in horse-drawn wagons driven by African American employees (Washington Post 1884). In the early 1890s, Hammond moved to a space in Alexandria's public market where city directories place him until 1895 when he bought the defunct Alexandria Ice Company on North Union Street at Cameron Street (Plate 7). His sons, Harry and Edgar, entered their father's business and worked with him in the ice factory where the firm did business as J.W. Hammond and Sons.

William Reardon

William Reardon (1839-1919) was a Virginia native who went to work for Frank Reed at F.A. Reed & Company in the late 1870s or early 1880s (Miller 1989:34; Reardon 2008a). According to his grandson, O. Ashby Reardon Jr., "My grandfather was in the ships chandlery business ... handling cargoes to leave Alexandria by ship and handling cargoes coming into Alexandria by ship with an office and a warehouse on the river" (Reardon 2008a).

Unlike Hammond the entrepreneur, Reardon was employed first as a clerk and later as a bookkeeper. Reardon may have bought into the business as a partner as many later accounts suggest, but no contemporary documentation has been identified to support that assertion (Esso Oilways 1946:1-3; Miller 1989:34; Reardon 2008a). It is clear that Reardon retained the strong ties to the transportation industry developed by F.A. Reed & Co. Like Hammond, Reardon and his late employer, Reed, received ice from ships carrying it from Maine; he sold it from his warehouse and he delivered it throughout the city (Plate 8).

Around the turn of the 20th century, the Armour Car Lines established a railroad car icing station alongside the Southern Railway Company's tracks just west of what were then Alexandria's corporate limits in Fairfax County. One article on the Mutual Ice Company's history suggests that Reardon began icing railroad cars in 1895 for the Southern Railway Company (Esso Oilways 1946:3); this requires further research in railroad company archives to support.

Reardon and his first wife, Catharine (Kate), had one son: William Jr. Catherine's father, Joseph, was a merchant and land agent and her brother, Joseph Jr., went into the real estate business and also became a partner with Reardon during the early 20th century in the shipping company Reardon and Grimes after working with Reardon at F.A. Reed & Company (Washington Post 1916a). Kate Reardon died and William married her nurse, Nora M. Underwood, according to O. Ashby Reardon (Reardon 2008a). "My grandmother was hired as a nurse to take care of her and also to do housework for Mr. Reardon", recalled Reardon. "And when Mrs. Reardon died, it wasn't too long after that Mr. Reardon told Nora you might as well move in my bedroom now 'cause you're going to be my wife and she just went right along with it" (Reardon 2008a). William and Nora Reardon had four children; only William M. Jr., his son from his first marriage, and O. Ashby entered the family business as partners and then successors to the elder Reardon.

	ICE.	
I CE!	ICE!	ICE!
J. W. HAMMOND, DEALER IN NORTHERN ICE, Market Space, Alexandria, Va. Orders left with my drivers, at my office or sent by telephone will receive prompt atten- tion. Personal attention given to packing ice for country delivery.		
		my16

PLATE 7

1892 advertisement for J.W. Hammond's Ice Business;
 Published in the Alexandria Gazette

ICE. ICE.

A full supply of

NORTHERN ICE,

from the clearest of water, and of unusual PURITY and SOLIDITY, constantly on hand.

Packing for shipment to the country a specialty.

Persons, desiring to secure their summer's supply of the article ABSOLUTELY FREE FROM ALL IMPURITIES, and at REASONABLE RATES, can do so by leaving their orders at my office, with my drivers, or with Mr. Wm. T. Emerson, corner Prince and Royal streets.

F. A. REED

JANNEY'S WHARF

my 4—17

PLATE 8

Advertisement for F.A. Reed & Co. Ice Business;

Published in the Alexandria Gazette

The Mutual Ice Company

The Reardon and Hammond firms likely began negotiating to combine in 1899. Each firm had specific assets to bring to the table. Hammond had site assets dedicated to ice manufacturing due to his backward integration by acquiring the capacity to produce ice, while Reardon had valuable ties to transportation. Both enterprises were entrepreneurial firms in that they were owner controlled and managed with minimal hierarchical organization (Chandler 1994:24). Hammond and Reardon each had established businesses with assets based in distributing a product: ice. With no detailed corporate records to consult, we can only speculate why the two firms elected to merge and internalize production and distribution in a corporate governance structure rather than remain separate. The combination of assets by unifying the firms would have been a significant measure capturing economies of scale, scope, and transaction costs (Chandler 1994; Williamson 1985). The strategic move is reflected in a February 1900 announcement in the industry trade magazine *Ice and Refrigeration*: "J.W. Hammond & Sons, ice manufacturers, Alexandria, Va., and Wm. Reardon, ice dealers, have combined and incorporated as the Mutual Ice Company" (*Ice and Refrigeration* 1900:127).

On 5 January 1900, the Mutual Ice Company was granted a corporate charter by the Commonwealth of Virginia. Capitalized at \$5000 divided into fifty shares, ownership and control were divided equally among the Hammond and Reardon families. The new company's charter declared that its business would be, "to buy, sell, and deliver ice, and to do all other things necessary to carry out the purposes of its formation, and essential to the said business to be transacted" (Mutual Ice Company of Alexandria 1900). William M. Reardon became the new company's president and Harry Hammond its treasurer. William M. Reardon Jr. was the company's secretary. Three Hammonds – Harry, James W., and Edgar H. – and the two William M. Reardons, senior and junior, were the first directors.

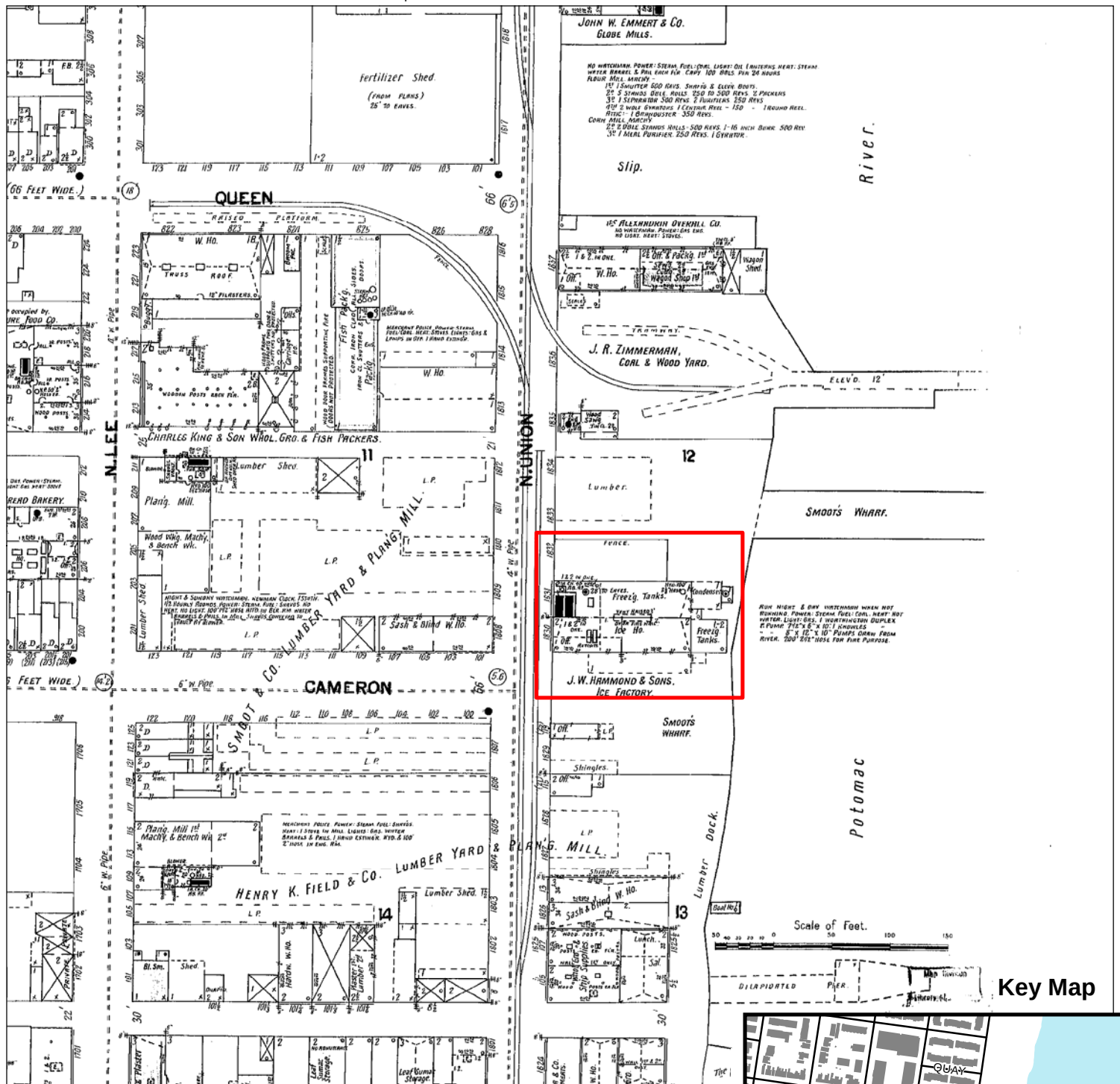
The company remained entrepreneurial and its governance structure emerged as a family firm shared solely among two families, the Reardons and the Hammonds. Legal instruments filed in 1920 to support a bond issue document the company's ownership and control. There were six stockholders and three directors at that time. The directors and stockholders were William M. Reardon (25 shares), Harry Hammond (10 shares), O. Ashby Reardon (1 share), and Edgar H. Hammond (1 share). The two stockholders were Harry Hammond as administrator for the estate of J.W. Hammond (14 shares) and Lulie C. Reardon (1 share; she was William M. Reardon Jr.'s widow). Each family retained fifty percent ownership in the company (Alexandria Corporation Deed Book 87: 301; Alexandria Corporation Deed Book 87: 305). Various legal instruments and charter amendments filed throughout the company's history demonstrate little change in governance.

The Mutual Ice Company located itself in the plant on North Union Street owned by J.W. Hammond & Sons (Exhibit 27). After the creation of the Mutual Ice Company, J.W. Hammond & Sons continued as a separate firm for approximately six years. Reardon also retained separate interests as an agent for the Maryland, Delaware, and Virginia Railway Company and Randall's Lines (shipping). While the 1902 Sanborn fire insurance map illustrates the J.W. Hammond & Sons ice factory, it does not show the Mutual Ice Company nor is the entity listed in the map's index (Sanborn Map Company 1902: Index). Reardon's ice house appears as a separate entity in the 1902 map (Exhibit 28).

When the Mutual Ice Company was created, the Hammond plant may have made only plate ice using the original equipment and modifications made by the Alexandria Ice Company. Improvements to the plant occurred in 1900 or 1901 with the construction of a new wharf (Alexandria Gazette 1900). A sequence of fire insurance maps published in 1896, 1902, and 1907 illustrate key changes to the company's physical assets. The plant as it was shown in 1902 is a rectangular two-story brick building. The office was located in the building's southwest corner, fronting North Union Street. Ice was frozen in tank rooms located in the northern half of the main block and in a rear (east) bump out. A steam engine was situated in the northwest corner of the building and ammonia condensers were in another rear bump out off the northeast side.

Among the new ice company's first clients was Alexandria brewer Robert Portner. Active in Alexandria since the 1860s, Portner had a brewery on St. Asaph Street. An early element of the brewery complex was an ice house to keep the beer chilled (Alexandria Archeology n.d.). In the 1870s, Portner began experimenting with mechanical refrigeration and, by the 1880s, had his own ice plant in operation using equipment he patented (Dennee 2008). Portner made distilled water ice and was selling surplus ice locally during the warm months. In 1901, the Robert Portner Brewing Company entered negotiations with the Mutual Ice Company to sell surplus ice from April through September (Robert Portner Brewing Company 1901). The two companies executed a contract in January 1902 in which the ice company bought the brewery's ice for \$2.50 per ton in the months of April, May, and September and \$3.00 per ton in June, July, and August. Papers donated to the Lyceum – Alexandria's History Museum suggest that the contract was renewed annually through 1912.

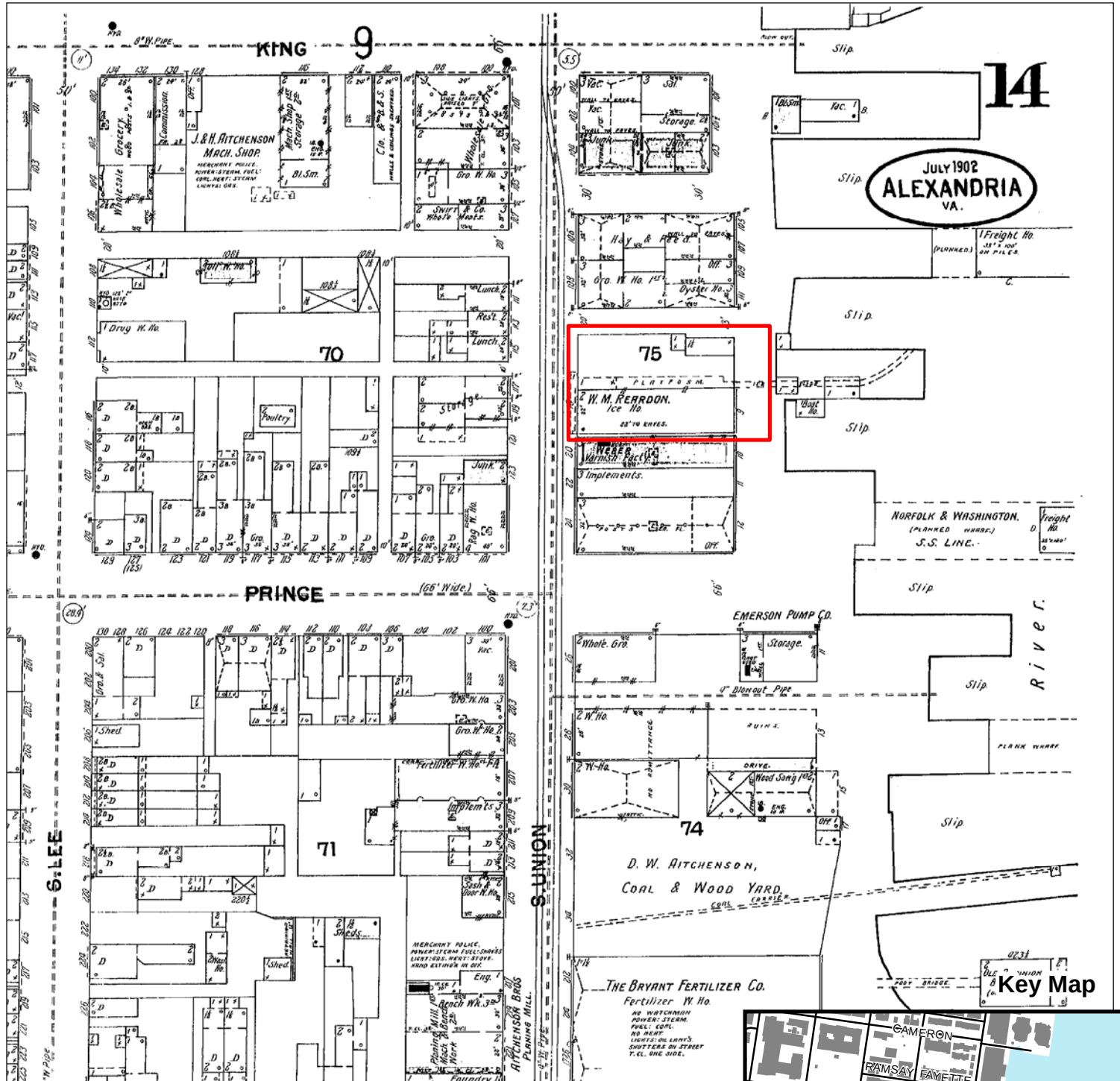
The company experienced significant changes in 1906 and 1907 when J.W. Hammond sold the property to the ice company and the corporate charter was amended. Among the major changes were the construction of a frame ice house on an adjacent lot to the north which the company bought in 1906, a motorized ice slide (conveyor) leading from the wharf to the ice storage building (Plate 9). A building permit, issued by the City of Alexandria in January 1907, notes that the Mutual Ice Company was approved to construct the rectangular (sixty by one hundred feet) one-story pitched roof building on a concrete foundation for approximately \$5000 to \$6000. The company's contractor was identified as U.G. Winston (City of Alexandria 1907). Also in 1907, the Alexandria City Council approved the construction of a railroad spur track to the company's plant (Washington Post 1907a).



Thunderbird Archeology

A Division of Wetland Studies and Solutions, Inc.

Exhibit 27



1902 Sanborn Map
Reardon's Ice House
S. Union Street, Alexandria
Braddock Gateway
WSSI #21677.01
Not to Scale

Map Source: "Alexandria, 1902". Sheet 14.
 Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.

Thunderbird Archeology
 A Division of Wetland Studies and Solutions, Inc.

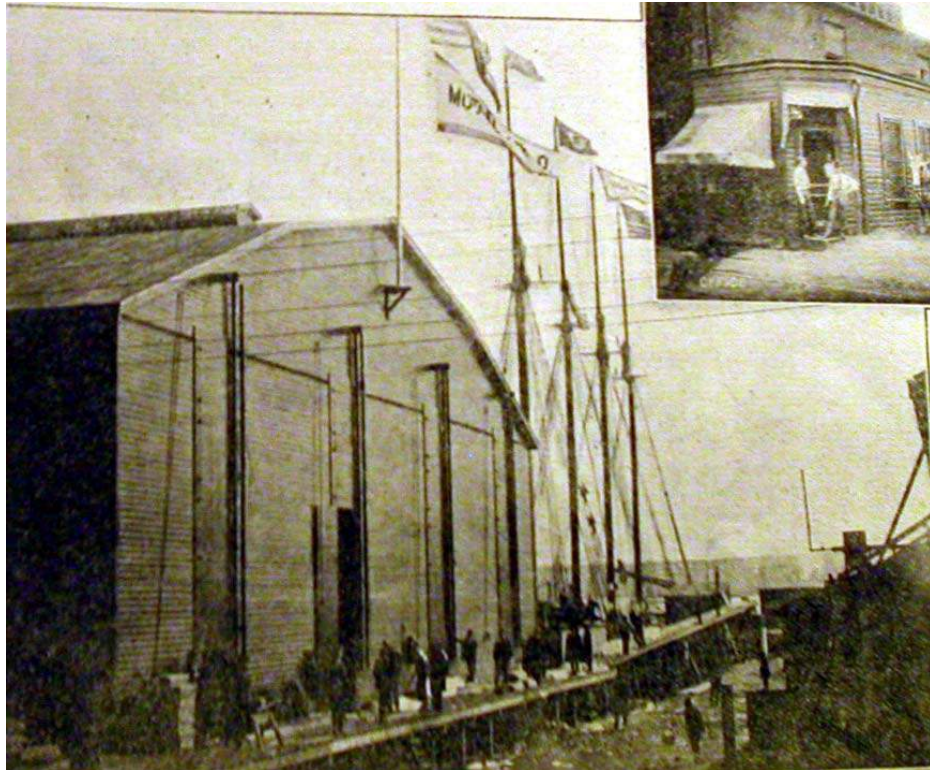


PLATE 9
Mutual Ice Company Ice Warehouse Built In 1907;
the Company's Office is Shown in the Inset;
Adapted from Wedderburn 1907

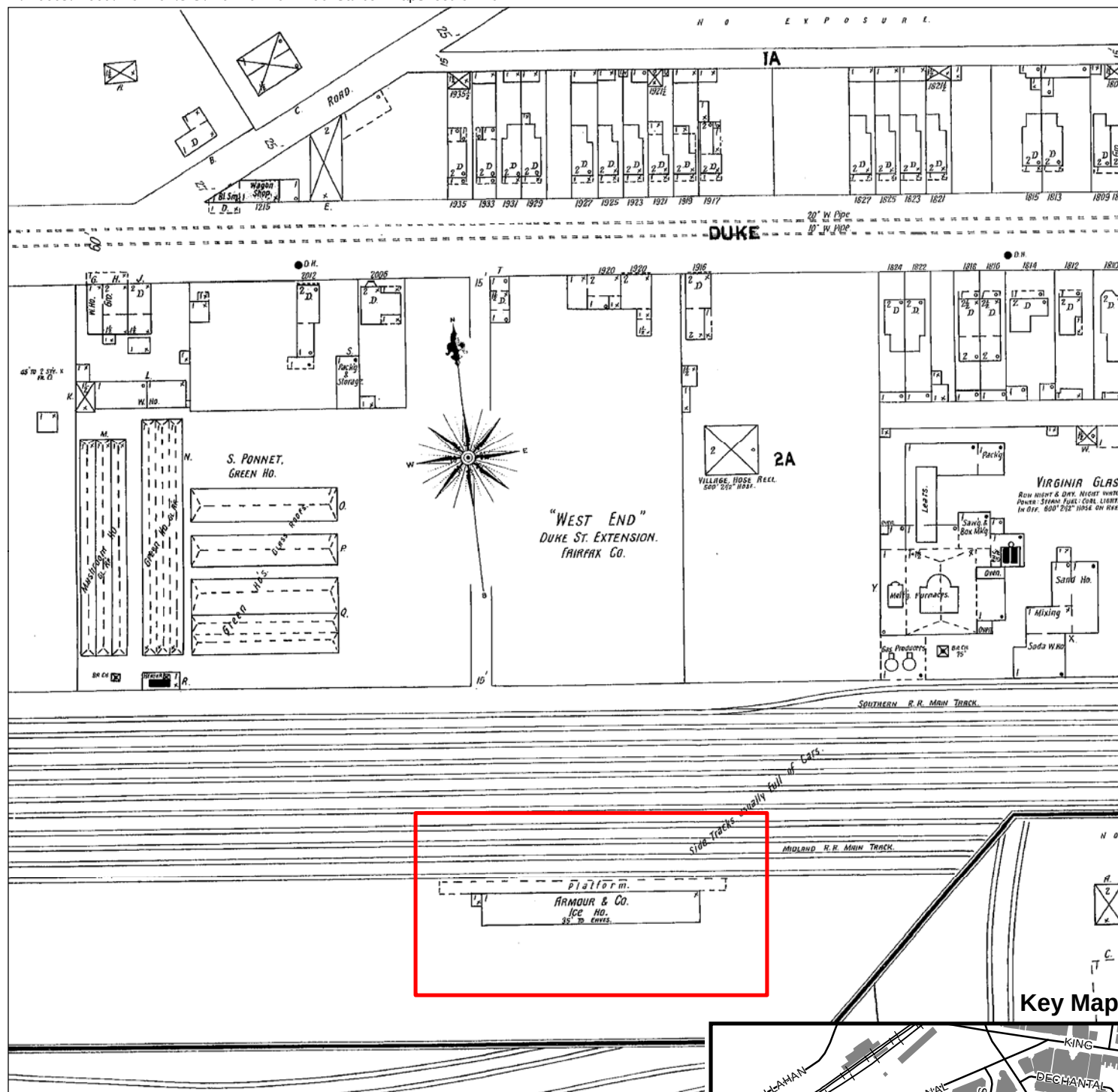
Two accounts published in 1907 describe the plant in that year. By February 1907, the company was manufacturing both plate and can ice and distributing surplus water from its artesian well under the "Mico" brand (Washington Post 1907b). Although capable of producing 40 tons of ice daily, the company continued to receive ice shipped from Kennebec, Maine, via the Potomac River. They had a storage capacity of 400 tons and employed between 30 and 50 men based on seasonal demand (Washington Post 1907b; Wedderburn 1907).

The 1906-07 improvements also marked the end of Reardon's ice house and wharf and may have signaled the inception of car icing at the new Potomac freight yards north of the city (Washington Post 1906). The Armour Car Lines ice house and platform, illustrated in the 1902 Sanborn fire insurance map along the Southern Railway Company's tracks west of the city (Exhibit 29) does not appear on later maps. There is anecdotal evidence that the Mutual Ice Company may have supplied ice to Armour prior to 1913 (Esso Oilways 1946:3). According to *Ice and Refrigeration*, Mutual was "supplying ice from their plant situated along the river bank in the town, by means of supply cars loaded from large storage houses and shifted to the car icing station as needed" (Ice and Refrigeration 1913a:335-336). According to Ashby Reardon Jr.:

Well, Potomac Yards was built before there was ever any icing done and there was places out there where we would go with truck and called it team track icing. We'd take a team of mules and a truck with a lot of ice in it and we'd go out there and cut it up and pass it up ladders and throw it in the top of the car. Team track icing was labor-intensive and slow and you couldn't do many cars. You didn't have the equipment to do them. But they wanted to do lots of cars and then when they – they had us build a plant out there with the idea that they're going to be bringing a lot of produce through there (Reardon 2008a).

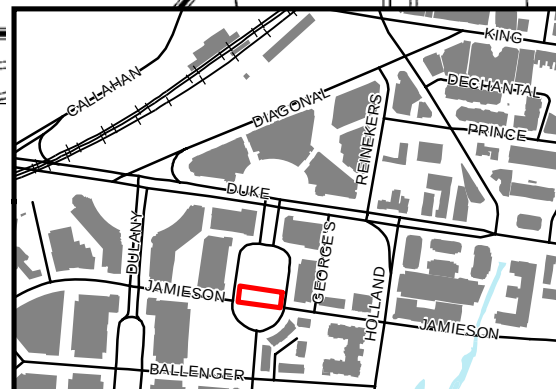
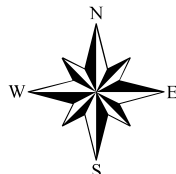
Potomac Yard

William Reardon's ties to the transportation industry likely played a key role in the company securing contracts to ice refrigerator cars passing through Alexandria. After 1906, Alexandria's icing station was located in the Richmond, Fredericksburg, and Potomac Railroad Company's (RF&P) Potomac freight yards which were opened in the summer of 1906 just north of Alexandria's corporate limits. The RF&P was owned by the Richmond-Washington Company, a holding company owned in turn by six railroads: The Atlantic Coast Line Railroad Company, the Baltimore & Ohio Railroad Company, the Chesapeake & Ohio Railway Company, the Pennsylvania Railroad Company, the Seaboard Air Line Railway Company, and the Southern Railway Company (U.S. Congress House of Representatives 1931:349; Schechter 2001).



1902 Sanborn Map
Armour Car Lines Ice House
Braddock Gateway
WSSI #21677.01
Not to Scale

Map Source: "Alexandria, 1902". Sheet 19.
 Copyright © 2001 ProQuest Information and
 Learning Company. All Rights Reserved. All
 Sanborn maps copyrighted © 2001 by The
 Sanborn Map Company, Sanborn Library, LLC.



Potomac Yard was a sprawling transportation facility built on the west side of the Potomac River and covering more than 450 acres with approximately 52 acres of tracks. The Yard was developed as a classification and transfer facility for freight moving between northern and southern states. The facility was subdivided into four blocks: northern main line freight tracks (Block A), a classification and interchange yard (Block B), southern main line freight tracks (Block C), and main line passenger tracks (Block D). Included in these divisions were locomotive and railroad car repair facilities, an engine terminal, and facilities for handling produce and meat in transit. Among the latter were stock pens for watering and resting livestock bound for urban stockyards and slaughterhouses and icing facilities for perishable fruits and vegetables (Humbert 1933:267-268; Mordecai 1941:65).

The icing facilities were located in Block B in the southern portion of Potomac Yard. Because of its strategic location at the interconnection of northern and southern lines, a considerable amount of fruit and vegetables harvested from Southern fields was expected to pass through the facility. To meet the demand, "extensive facilities for icing cars" were developed (Humbert 1933:268).

At first the icing station was operated by the Armour Car Lines Company, a subsidiary of Chicago meatpacker Armour & Company. Armour & Company owned two refrigerated car lines: Armour Car Lines and Continental Fruit Express. At the turn of the 20th century, Armour owned a combined 13674 private railroad cars, more than any of the other "Big Six" meatpackers (in addition to Armour, these were Swift, Morris, National Packing, Schwarzschild and Sulzberger, and Cudahy). The majority of Armour's cars, according to Armour Car Lines president George B. Robbins in congressional testimony given in 1905, were refrigerated fruit cars (U.S. Congress. House of Representatives 1905:270-271). Federal regulatory investigations into the railroads and meatpackers resulted in significant realignments among the private car lines. In 1914, Armour divested itself of its fruit and vegetable shipping lines and sold the assets to Fruit Growers Express, Inc. (Plate 10). "The ice houses, icing platforms, and all other appurtenances ... used for icing fruit and vegetable cars were turned over to the Fruit Growers Express, Inc." (United States. Federal Trade Commission 1919b:141). When Armour transferred its assets to Fruit Growers Express, it operated 18 icing stations and platforms and owned an additional seven stations that were leased to five ice companies which operated them under contract to the shipper. The Mutual Ice Company was one of those five operating companies (United States. Federal Trade Commission 1919a:145).

Demand for refrigerator cars and consequently icing and re-icing stations was high at the turn of the twentieth century. The 1904 Georgia peach crop, for example, yielded 5000 carloads; Armour dedicated 4000 individual cars during the six week harvest season. In North Carolina, at the last icing station in the northbound lines before Potomac Yard, Armour in one month iced 3000 cars of strawberries at a rate of about 200 cars daily (U.S. Congress. Senate 1906:2367-2368).



PLATE 10
Fruit Growers Express Refrigerator Car;
Photograph Courtesy of the Alexandria Library

Armour's icing station in 1912 was only a modest improvement over the icing station in the Southern Railway's yards west of the city. At Potomac Yard, Armour built a two-story rectangular ice house in between tracks with a pair of platforms from which train cars could be iced (Plate 11; Exhibit 30). The demand for icing rose as the volume of fruits and vegetables passing through the yards increased. Once source suggests that, at the time the Mutual Ice Company signed its contract with Armour, as many as 3940 cars were iced in the yards in a month, 427 in one day (Ice and Refrigeration 1913a:335).

In the spring of 1912 Mutual Ice Company entered into a contract with Armour Car Lines and the Richmond, Fredericksburg, and Potomac (RF&P) Railroad to ice cars at Potomac Yard while subletting Armour's premises (Arlington County Deed Book 119:237). The original ten-year contracts – the industry norm – were filed with the companies but were not recorded publicly. According to Ashby Reardon Jr., the contract required the ice company to be available to ice cars seven days a week, twenty-four hours a day. In return, the company paid a modest monthly rent (in 1964 it was \$225 per month) and received guaranteed revenues from icing refrigerator cars owned by the shippers: "We referred to them as the railroad but the Fruit Growers Express Company was who we dealt with", explained Reardon (Reardon 2008a).

The increased scale at which Mutual would have to produce ice required the company to secure funds to build and equip a new ice plant without hurting its existing business. *Ice and Refrigeration* reported in its August 1912 issue, "The Mutual Ice Company has arranged for the issue of bonds to the amount of \$75000 to provide funds for proposed enlargement of the ice making plant. The company has recently secured contract for reicing cars for the Armour line" (Ice and Refrigeration 1912:72). The actual amount was \$80000; of that, \$69000 was outstanding in 1920 (Alexandria Corporation Deed Book 70: 7).

Completion of the new plant was expected to eliminate Alexandria's need for Kennebec River ice and the company quickly proceeded with constructing and outfitting the plant, including drilling an artesian well (Washington Post 1912a; Washington Post 1912b). Newspapers and trade publications reported that the company retained the Frick Company of Waynesboro, Pennsylvania, to install the equipment; production capacity was expected to be fifty tons of ice per day dedicated to icing "refrigerator cars laden with fruits or vegetables from the South" (Ice and Refrigeration 1913b:245; Washington Post 1913).

When it was completed in March 1913, the new Mutual Ice Company plant was a solid brick building constructed on a concrete foundation located east of the yard's icing tracks (Plates 12 and 13) The L-plan building was constructed with gable roof, its long axis parallel to the railroad tracks (Exhibit 31). There were four major divisions in the plant: the storage building, a freezing room (Plates 14 and 15), a compressor room (Plate 16), motor room (Plate 17), and the boiler room (Plate 18). Appurtenances included a coal siding, a conveyor leading from the storage building to the icing platform, the platform itself, and a 10000 gallon cistern to hold water pumped from a 280-foot artesian well.

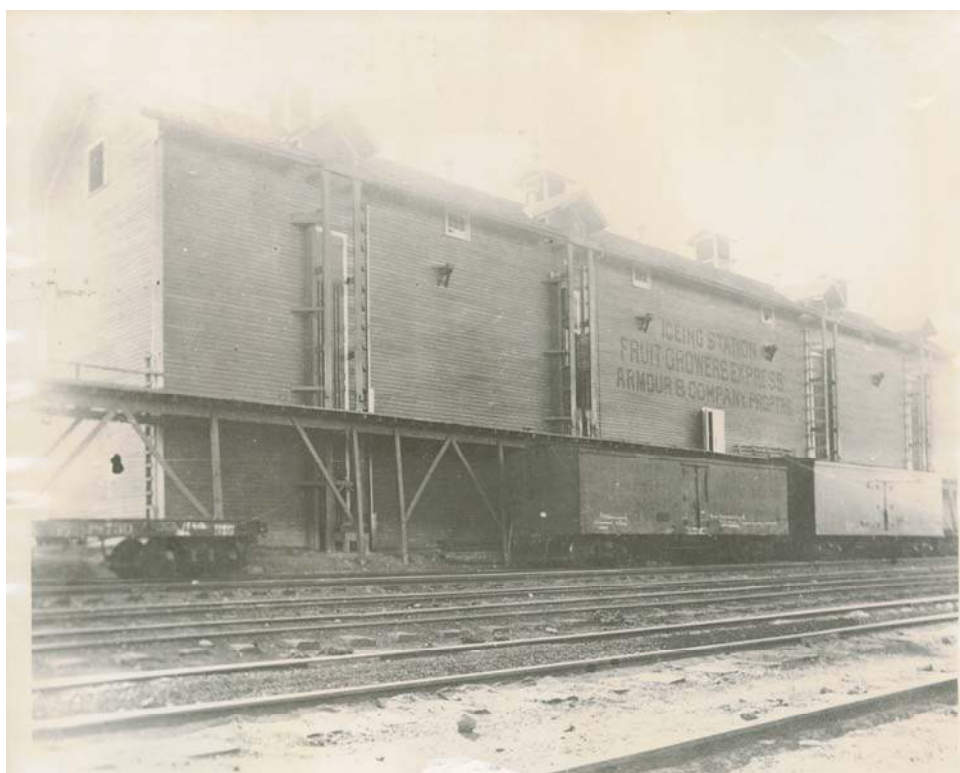
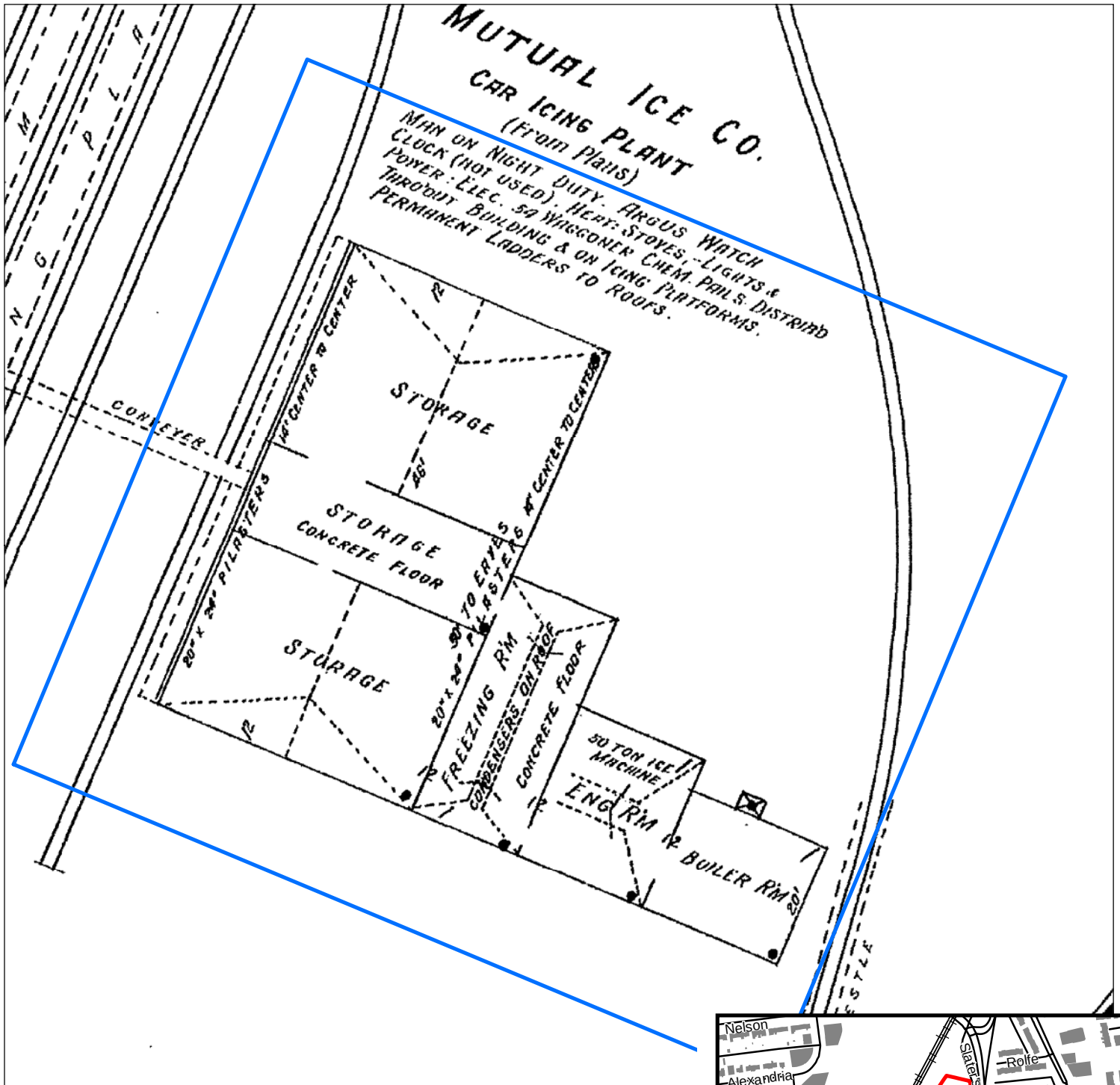
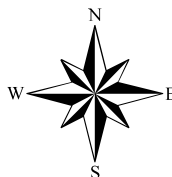


PLATE 11
Armour Car Lines Icing Station, Potomac Yard;
Undated Photo Courtesy of the Foley Collection

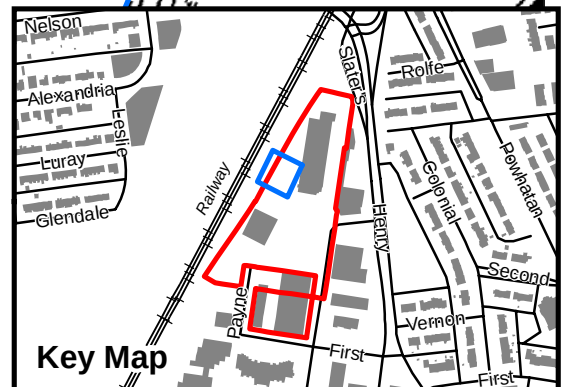


Map Source: "Alexandria, 1912". Sheet 24.
Copyright © 2001 ProQuest Information and
Learning Company. All Rights Reserved. All
Sanborn maps copyrighted © 2001 by The
Sanborn Map Company, Sanborn Library, LLC.

**1912 Sanborn Map
Mutual Ice Company Plant
Potomac Yard, Virginia
Braddock Gateway
WSSI #21677.01
Not to Scale**



Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.



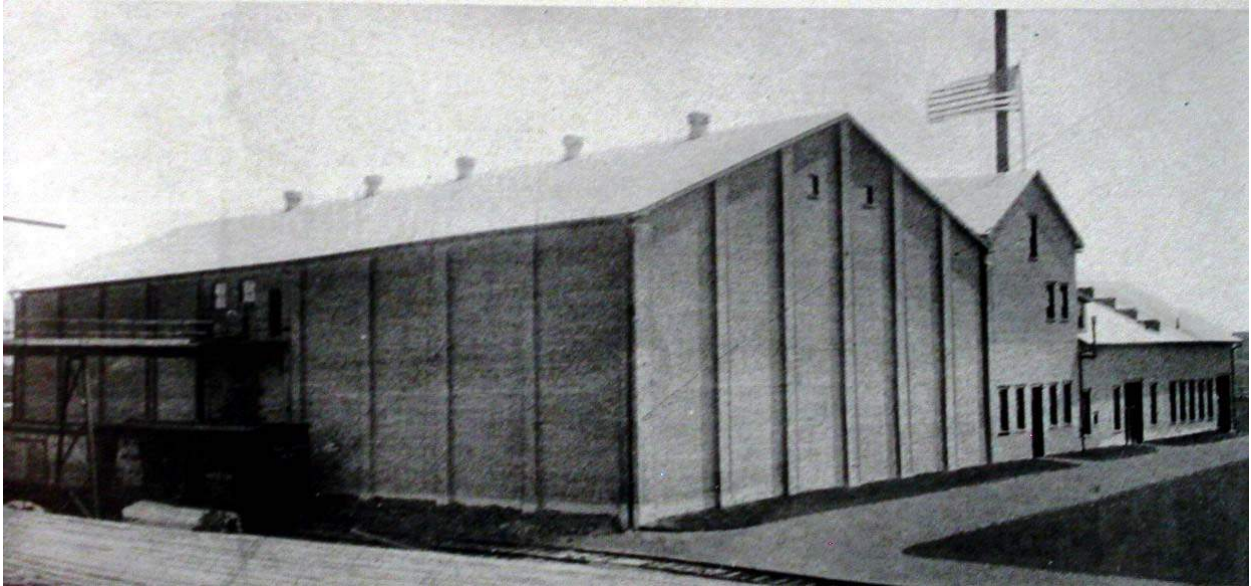


PLATE 12
Mutual Ice Company Potomac Yard Plant;
Adapted From *Ice and Refrigeration*, 1913

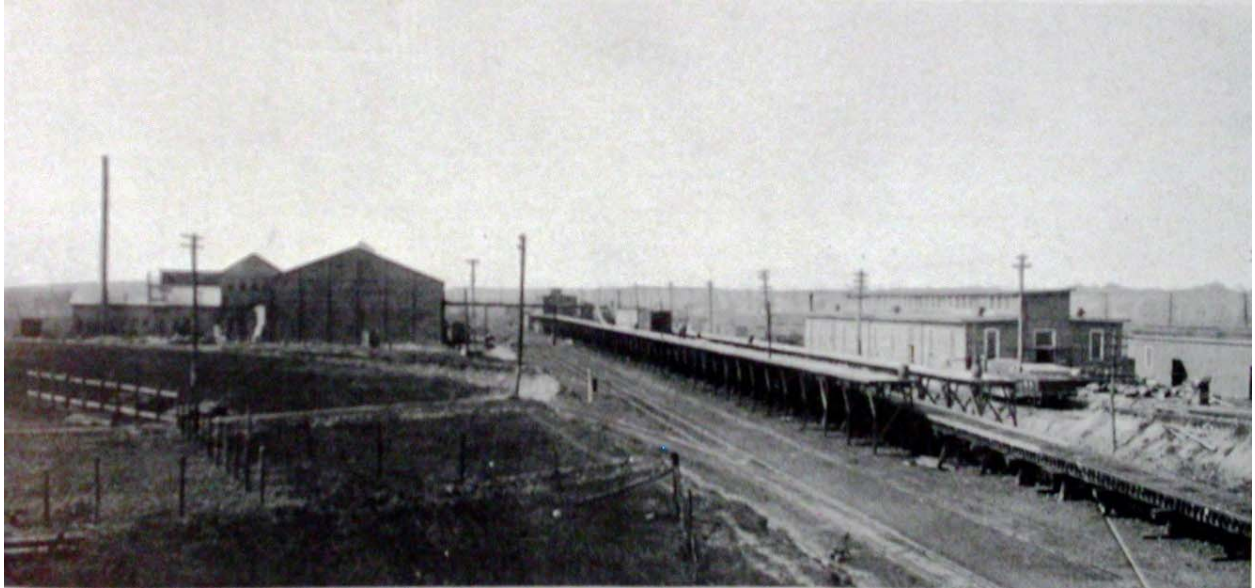
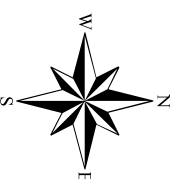


PLATE 13
Mutual Ice Company Potomac Yard Plant and Icing Platforms;
Adapted From *Ice and Refrigeration*, 1913

1913 Mutual Ice Company Floorplan

etc. Mutual Ice Company, Alexandria, VA".
Adapted from Ice and Refrigeration. 1913.

WSSI #21677.01
Not to Scale



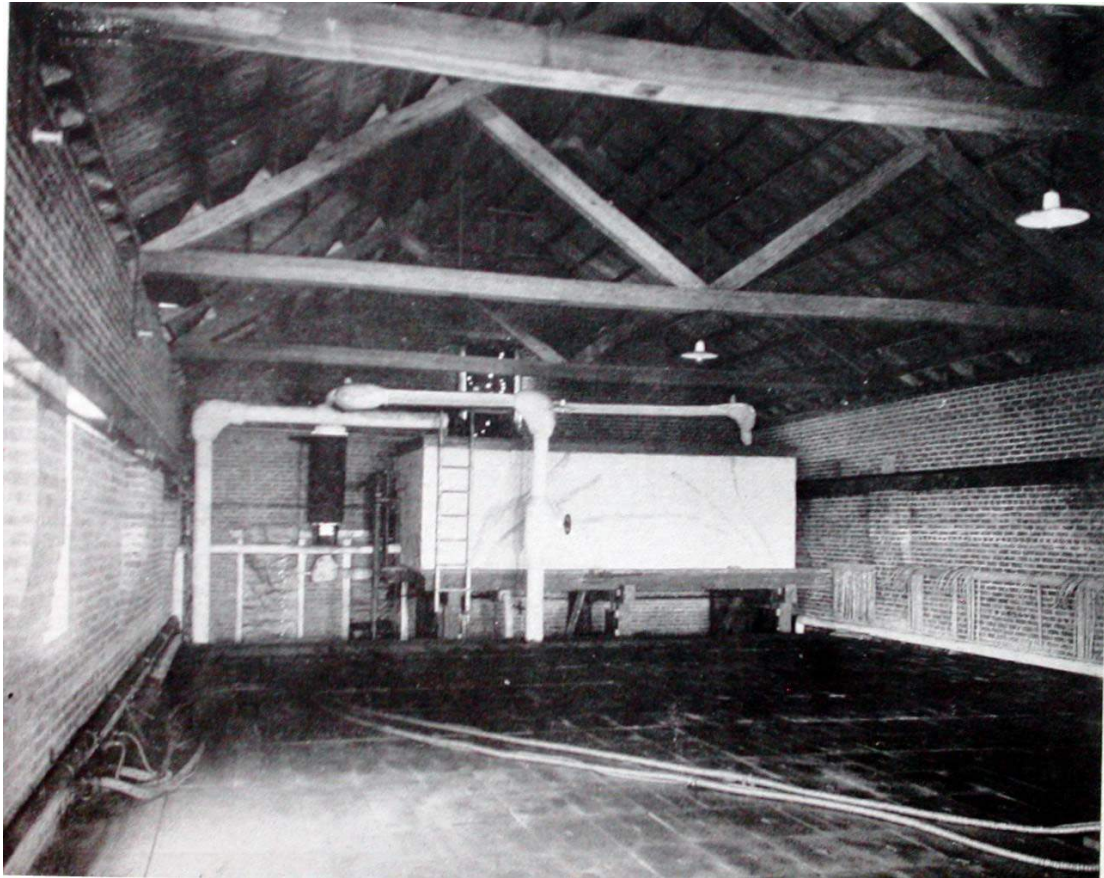


PLATE 14
Mutual Ice Company Freezing Room;
Adapted from *Ice and Refrigeration*, 1913

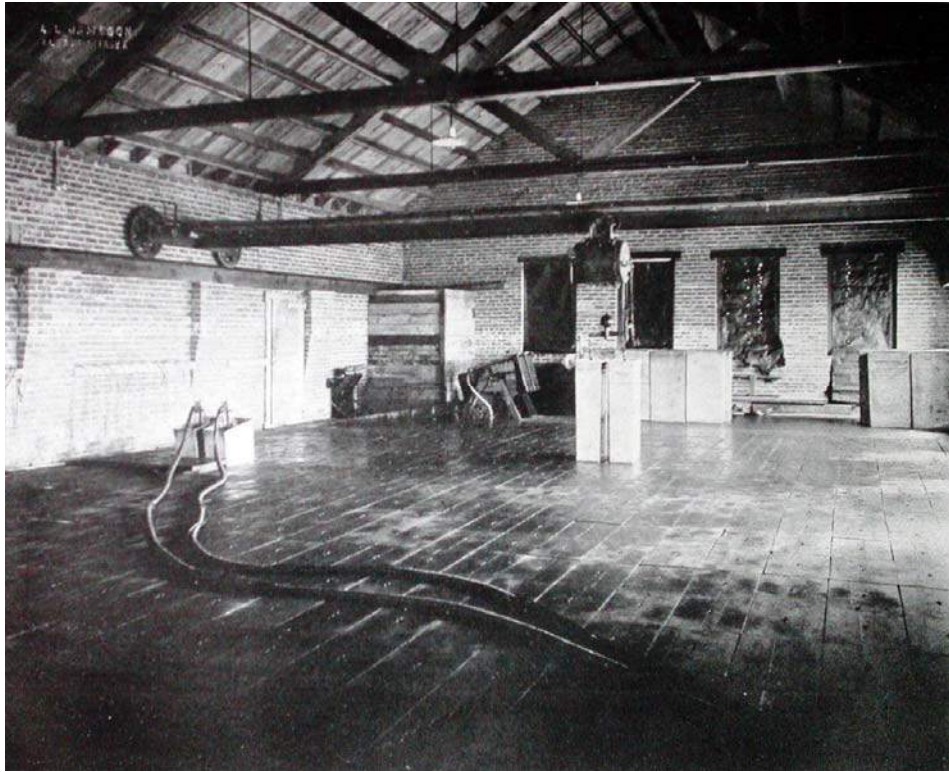


PLATE 15

Mutual Ice Company Freezing Room; Note Cans Being Filled and Overhead Hoist; Adapted from *Ice And Refrigeration*, 1913

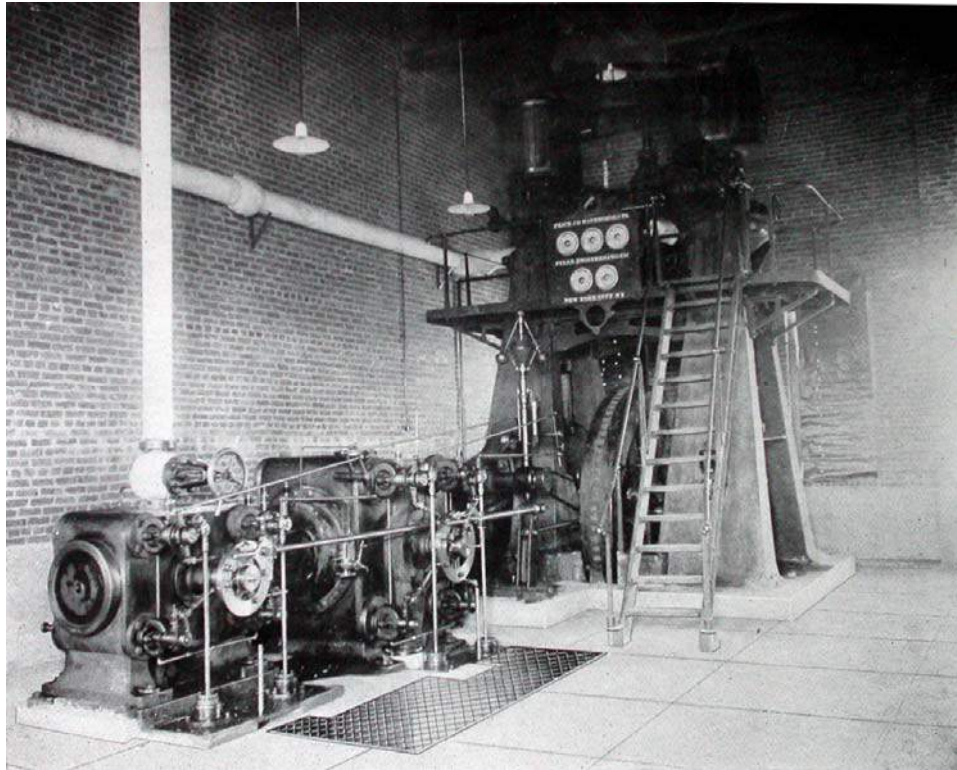


PLATE 16
Mutual Ice Company Frick Compressor;
Adapted from Ice and Refrigeration

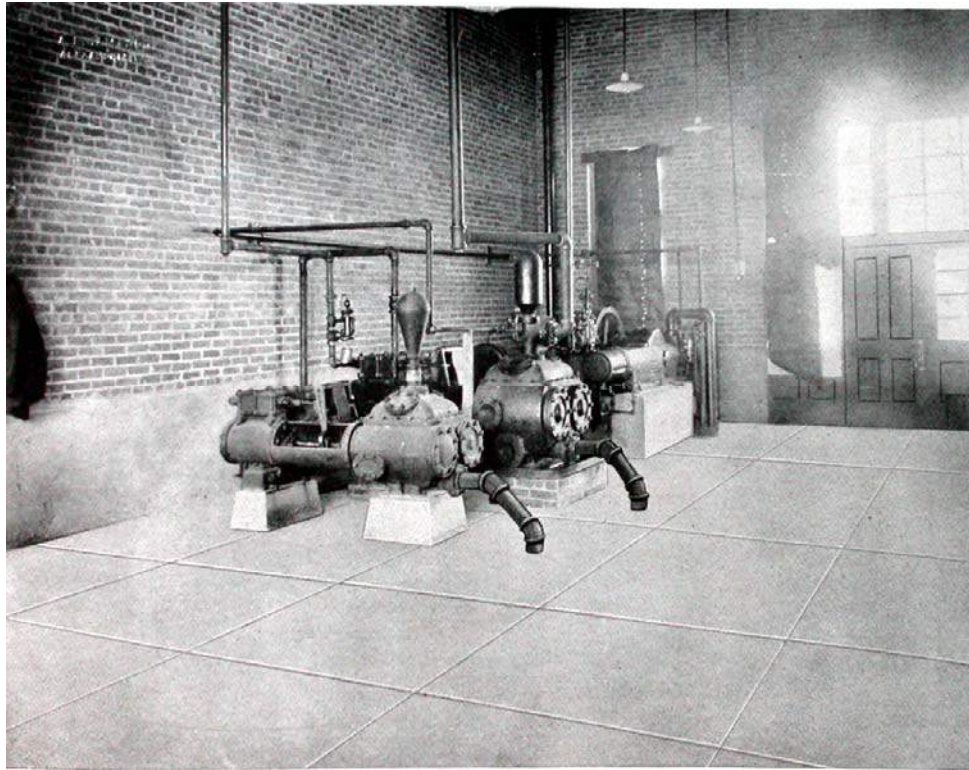


PLATE 17
Mutual Ice Company Engine Room;
Adapted from *Ice And Refrigeration*; 1913

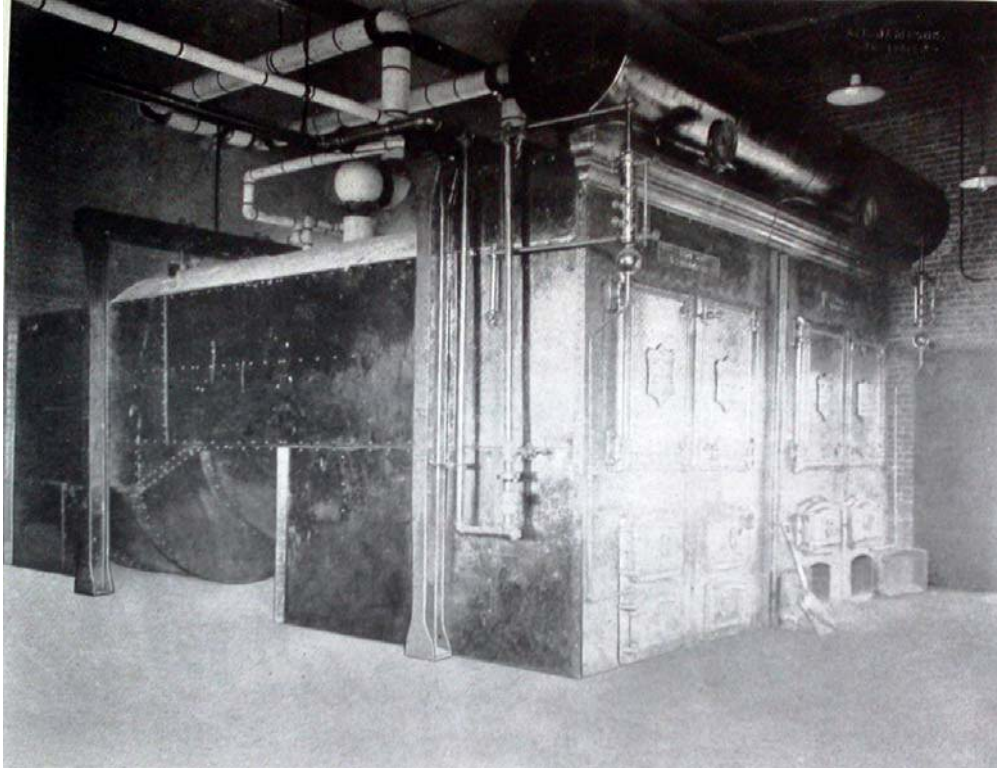


PLATE 18
Mutual Ice Company Boilers;
Adapted From *Ice And Refrigeration*; 1913

Unlike the earlier Alexandria plant, the Potomac Yard facility was designed to make only raw water can ice. Ashby Reardon Jr. described the system:

The process that lasted the longest came along in about I'd guess 1912 or '13, which was the raw water compression method of making artificial ice. That was the engineering name for the process and the equipment to produce it. And here, as I've mentioned before, ice was made by immersing galvanized steel containers that were rectangular shaped – actually they were a tapered rectangular shape with a cross-section a little bigger at the top of the can than at the bottom so that the ice could be slid out of the tank when it was frozen and then harvested.

Then the process was – liquid ammonia was pumped through a coil system in the bottom of a brine tank and it lowered the temperature of the brine by taking the heat from the brine, which is a salt water solution – taking the heat out of that brine to the point where it went to a temperature below the freezing point of raw water. And then it was compressed back into liquid again after it passed through all of the coils in the bottom of the tanks and came back in a closed circuit system that put it back into the compressors to compress the gaseous state back to liquid again Reardon 2008a).

The artesian well water was transported into the holding cistern by an Ingersoll-Rand compound air compressor. From the cistern, it was pumped to the ammonia compressors. Steam boilers powered the plant's pumps. Throughout its history, the Potomac Yard used ammonia compressors manufactured by the Frick Company. The first compressor installed was a vertical single-acting unit. According to Ashby Reardon Jr.:

The machinery that we used for this, the compressors and the pumps, were manufactured by the Frick Company, which is Pennsylvania-based machinery manufacturing company that I think is still in business ...We were told continuously by people from Frick who visited us on occasion and sometimes brought customers there because our machinery was very, very functional and very effective fifty years after we bought it. It was well-maintained by a series of engineers who liked their work and worked hard at taking care of this machinery (Reardon 2008a).

The freezing room had a steel tank 57 feet long by 31 feet wide and 48 inches high. It had 24 rows of 25 cans each – a total capacity of 600 300-pound cans – and these rested on oak strips to elevate them from the tank bottom. "Oak frames and special oak covers suitable for the raw water system extend over the entire top" (Ice and Refrigeration 1913a:338). An overhead crane that rolled the length of the room used a Sprague hoist capable of raising two cans at a time during harvesting (Ice and Refrigeration 1913a:340). Most of the infrastructure was above the foundation level. "The agitators and motors and the core pump and motor are placed on the concrete floor under the storage tank. It will be remembered that the tank is placed on the second floor with storage room under it" (Ice and Refrigeration 1913a:340).

The ice made was, according to the 1913 plant description, "an unusually good quality of ice ... with a core so small that is not removed. Being made from raw water the core is absolutely

tasteless and not objectionable for family use" (Ice and Refrigeration 1913a:340). Ice industry insiders distinguished between clear ice and white ice. Ashby Reardon Jr. explained the difference:

Clear ice is made by aerating bubbling air through the water in the can and it's called aeration and it drives air out of the water as it freezes in. The freezing process, the water closest to the can freezes first and then it gradually freezes all the way in until it's solidly frozen in the center. And then at very nearly the end of the harvest – the freezing time before the harvest of the ice – these aeration systems are removed from the tanks. The air is pumped through a manifold of metal tubes that go down in the center of the block of ice and they're connected by rubber links to a main delivery pipe that runs across the whole twenty-eight tier cans of ice such that air is bubbled into them until they're just about ready to harvest. Then they pull these things out prior to taking the can down to be harvested. And there is a little white feather in the middle of that block but most of the ice is very clear.

Un aerated, it would be cloudy white and it would be brittle and it wouldn't leave itself to consumption for home use or for making ice cubes or crushed ice (Reardon 2008a).

Once the ice was harvested, it was moved into the massive storage building. The two-story storage building was divided into four rooms, each 30 feet high, and connected to central hall by elevators. Ice entered the storage building from the freezing room to the east and exited the building by way of a conveyor to the car icing platform:

That storage house is the one that has 8000 tons in it. The other ready rooms up there might have, oh, five or six hundred tons of ice ready to go down on the platform. And we would have men in there, these things would be headed up standing on end to get the most volume on the floor. And then they'd do what they called knocking them down. They'd come in with a set of tongs, lay the one – lay it down on its side and slide it into the conveyor belt where it would go down and get out, delivered out to the platforms where the ice was being [done] (Reardon 2008a).

1913 to 1925: Two Plants, Expansion, and Succession

Although the Potomac Yard plant began producing ice in March 1913, the company kept its offices at its first plant in Alexandria and continued to service its local customers. Between 1915 and 1921, the company added significant new refrigeration machinery to its inventory including new ammonia condensers and compressors. In June 1920, *Ice and Refrigeration* reported that the company had "recently completed the enlargement of its plant" by installing new Frick equipment including a compressor driven by a Corliss engine (*Ice and Refrigeration* 1920:376). The news briefs announcing the addition of new equipment do not specify which plant received the improvements.

While the company retained ownership of its wharf on the Potomac River – known as the ice wharf in the early 20th century after Reardon consolidated his activities – it restricted access to ships belonging to people doing business with the company. The Mutual Ice Company's wharf was detailed in a 1913 War Department report:

The wharf is a small wooden platform at the side of the slip. A wooden trestle leads from this platform to a large ice-storage shed. There is a double jib crane for loading ice into boats. This landing receives about 20 dockages per year. About 350 tons of ice per year are shipped out, and about 17000 tons per year are received. Unloading is generally done with rigging lashed to the masts of vessels (U.S. Congress. House of Representatives 1913:468).

In 1911 William M. Reardon Jr., who had been serving as the firm's secretary, died of pneumonia at age 37 and likely left a hole in his aging father's plan for succession within the company. For the first six years that the Potomac Yard plant was in service, the elder Reardon retained the position as firm president and Harry Hammond became the company's secretary-treasurer. Although it is evident from the many capital improvements the company made that business was good during this period, the Mutual Ice Company underwent significant changes.

During World War I, O. Ashby Reardon Sr. served as a pilot in the Army Signal Corps (Washington Post 1973). Although no records have been located to date that detail refrigerator car traffic through Potomac Yard during that war, it is likely that business for the Mutual Ice Company was brisk. The company played its part in the war by leasing two rooms (83150 cubic feet) on the first floor of the Potomac Yard plant to the U.S Army for use as cold storage (U.S. Congress. House of Representatives 1919:4529).

James W. Hammond died intestate at the age of 73 in January 1917. Though not an officer of the company – he was identified as the plant's superintendent – Hammond was a stockholder and director. In addition to the fourteen shares of Mutual Ice Company stock that he owned, Hammond also owned four lots in Alexandria and property in Newport News, Virginia. Hammond's surviving family members put his estate into a trust from which assets were disbursed to his widow, children, and grandchildren (Alexandria Corporation Deed Book 87:301).

Two years after Hammond died, William M. Reardon died on December 18, 1919. He left behind his widow Nora, two daughters, and two surviving sons: O. Ashby (Plate 19) and John Underwood Reardon. Reardon's brief will, dated May 19, 1913, named Nora his sole beneficiary and executrix (WB 2C: 73). "Now when my grandfather died, he left her the title of president of the company and she had a salary and she came out there one day a year", recalled O. Ashby Reardon Jr. (Reardon 2008a). Though Nora M. Reardon held the title of president, the company actually was run by James W. Hammond's son Harry:

... who was the generation after his father and sort of half a generation ahead of my father, who was a very sharp, competent businessman. And he and my father worked well, very well together. He was the boss as vice-president the whole time my grandmother was president. And he died before she did and then when she died my father became the president. But she was president for life and she had nothing to do with the running of the business. She had a yardman, who was also her chauffer, and a company car, and the only time that she came out there was on ... on annual meeting to make sure there was a Bible on the table. She was very religious (Reardon 2008a).

Harry Hammond (Plate 20) was an active businessman who developed a wide social network by serving as an officer in various state and regional industry organizations. For much of the 1910s, Hammond served as the Secretary-Treasurer of the Virginia Ice Manufacturers Association before becoming the group's President in 1918. In 1916, after serving as its Treasurer, Hammond was elected President of the Eastern Ice Association.

While the Mutual Ice Company was transitioning from the first generation owners in the Hammond and Reardon families, the company embarked on an ambitious expansion program, starting in May 1919, by building ice stations throughout Alexandria's neighborhoods. Building permits issued by the city document the appearances of small one-story frame ice houses (some later were built in brick), mostly 16 feet wide by nine feet deep, (Plates 21 and 22). The appearance of these ice sales stations was captured in the 1919 annual report on ice prices compiled by *Ice and Refrigeration*. Prior to 1919, the Mutual Ice Company reported on sales made at its ice plant and from deliveries (Ice and Refrigeration 1918:291; Ice and Refrigeration 1919:350). The company's largest footprint appeared in the mid-1920s when it had as many as seven ice stations located throughout the city (Table 1).

TABLE 1:
MUTUAL ICE COMPANY ICE STATIONS IN ALEXANDRIA, VIRGINIA

Station Number	Location
1	201 N. Union
2	406 S. Alfred
3	319-321 N. Alfred
4	200 Commerce
5	419 S. Royal
6	501 Princess
7	Oxford Ave., Del Ray



PLATE 19
O. Ashby Reardon Sr.



PLATE 20
Harry Hammond



PLATE 21
Mutual Ice Company Ice Station No. 1;
110 South Lee Street Alexandria, Virginia



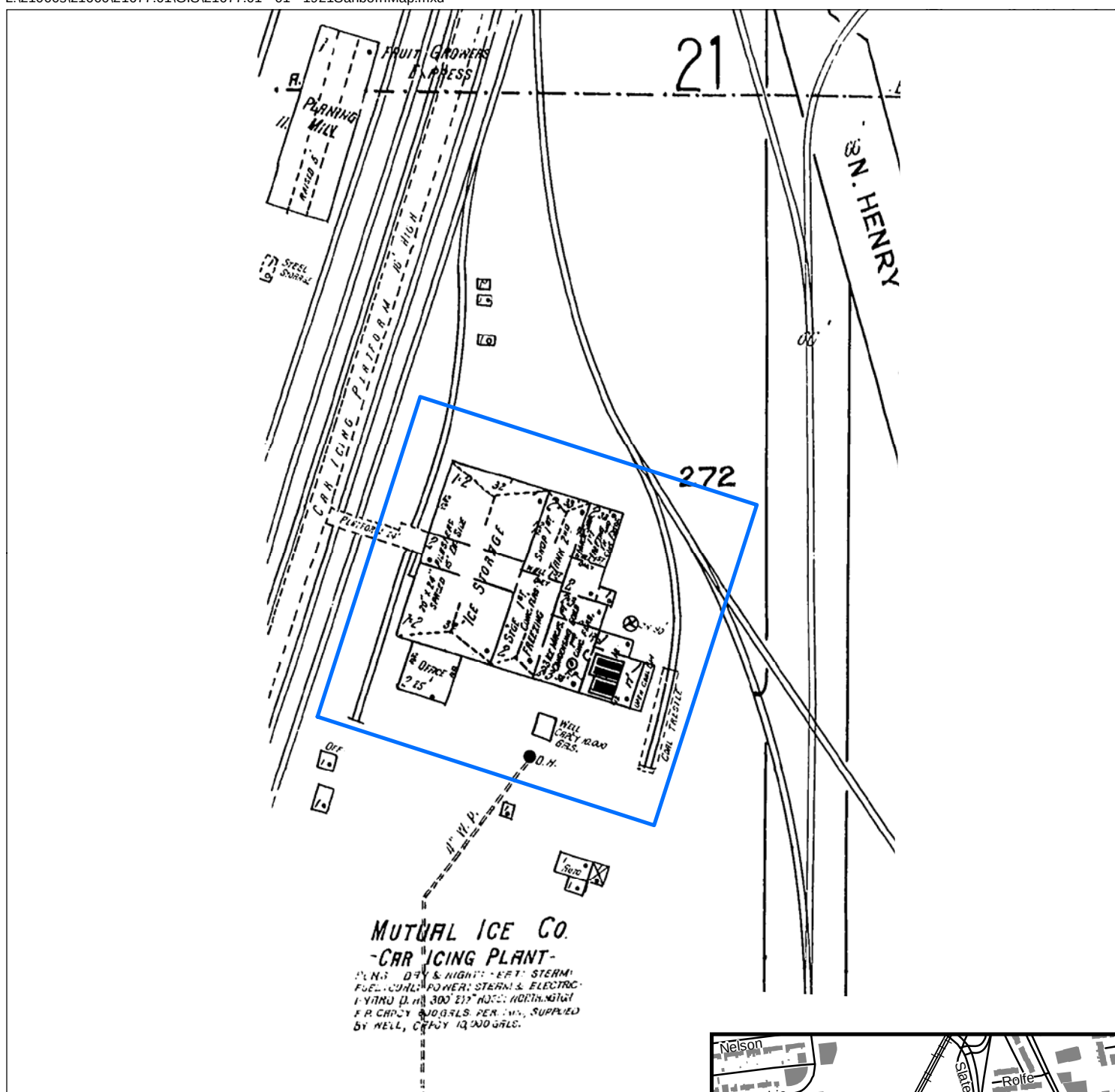
PLATE 22
Mutual Ice Company Ice Station at Payne and Commerce Streets

Significant improvements were made to the Potomac Yard plant prior to 1921. Some of those included ice-making machinery and others included expansion of the plant's premises within the area the company leased from the railroad. A Sanborn fire insurance map published in 1921 shows that the second story freezing room had doubled in size as did the space previously devoted to the ice making machinery (compressors) (Exhibit 32). The additional space in the freezing room block allowed the company to use the first floor for storage and as a shop. A two-story brick office wing was built on the storage buildings southern side; and, rather than stables for the company's mules, there is a garage in the southern portion of the property.

An aerial photograph, taken circa 1921, shows the office building with a symmetrical five bay façade, the enlarged freezing room with its pitched roof and three ventilators, and the expanded machinery building (Plate 23). The boiler building and coal storage comprise the plant's eastern end. In the circa 1921 photograph, the boiler building is 1.5-stories in elevation with gable dormers and a brick smoke stack on the north side. It appears that there is a scaffolding attached to the southern façade of the storage building, suggesting that construction was underway as the photograph was being taken.

It appears that the plant improvements made during its first eight years or so of operation were only setting the stage for a much more ambitious expansion program, perhaps in anticipation of closing down the old plant on North Union Street. On 1 January 1920, the company executed its second bond issue, this time for \$200000. Nearly a third of that amount – \$69000 –went to retire the debt from the company's 1912 bond issue. To secure the loan, the company put up its two plants as security. It is clear from the language in the resolution passed by the company's owners that there was some serious consideration being given to selling the North Union Street plant: "Provided that should the said Mutual Ice Company desire to sell its plant on Union Street and the Potomac River the same shall be released from the trust" after \$60000 had been taken in on the bonds or when the equivalent in cash or securities had been deposited with the holders of the note (Alexandria Corporation Deed Book 70: 7). Much of the money appears to have been earmarked for the Potomac Yard plant, as evidenced by the requirement that the Mutual Ice Company increase the \$55000 insurance policy on the premises by \$45000.

While the company was planning for its future and securing money for expansion, it was also starting to divest itself of its past in preparation of consolidating all of its operations in the Potomac Yard plant. In January 1919, the company sold the U.S. Navy a portion of its Old Town property (Alexandria Corporation Deed Book 68: 229). Although Ashby Reardon Jr. believes that the company abandoned the North Union Street plant in 1918 or 1919, roughly about the same time that the Navy bought the parcel in conjunction with their torpedo plant just to the south, the 1921 Sanborn fire insurance map shows the plant still active, albeit with reduced facilities (Exhibit 33).



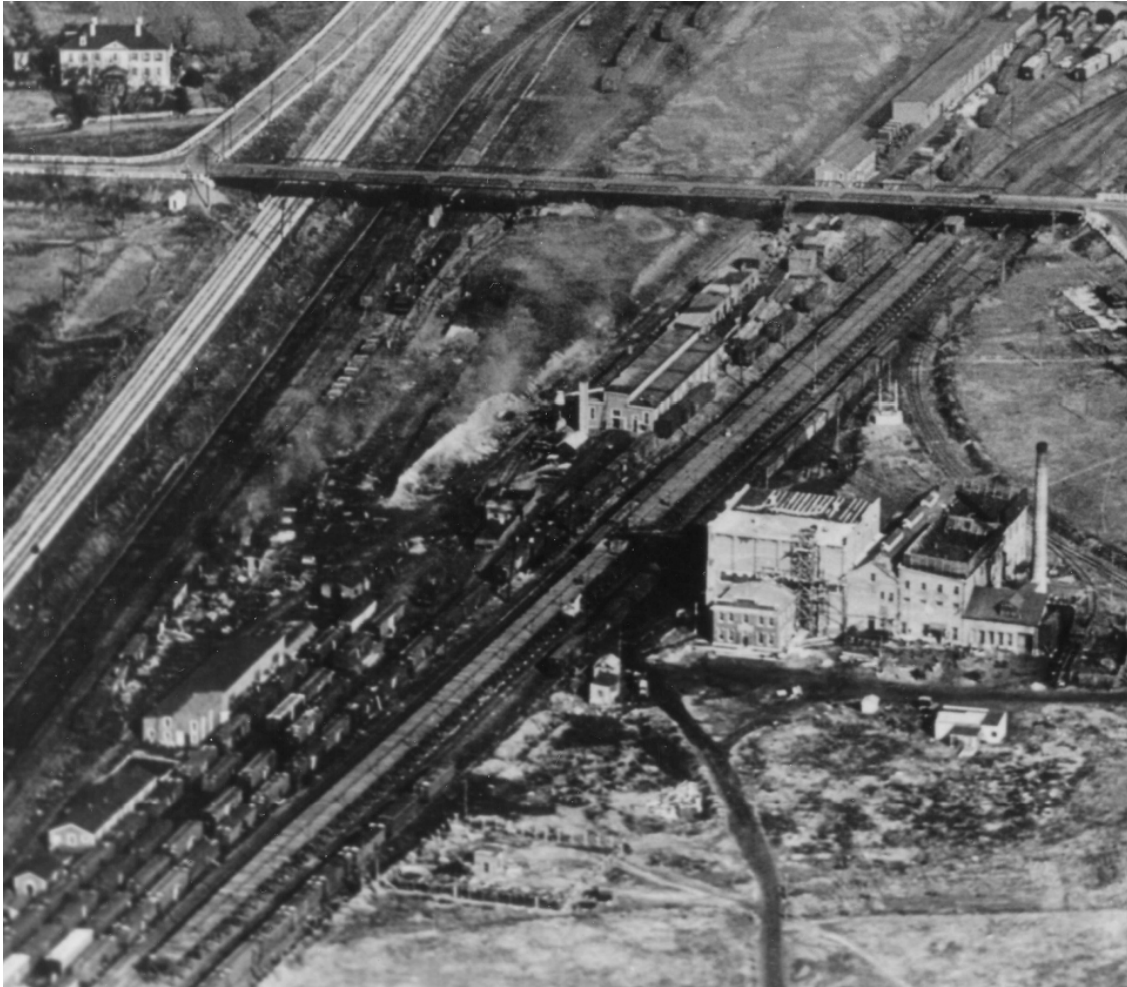
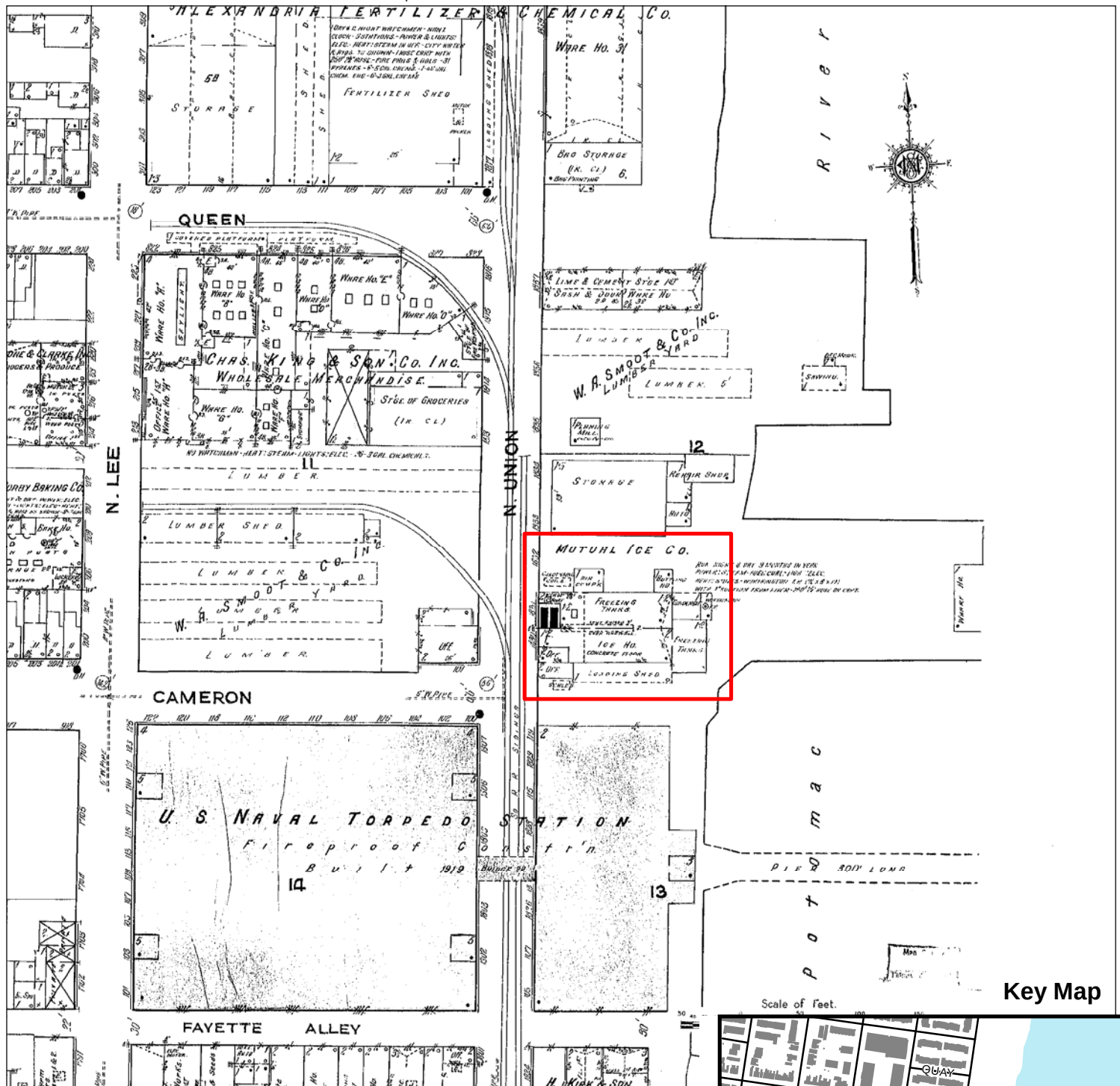
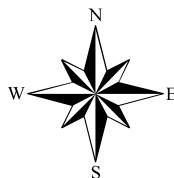


PLATE 23
Mutual Ice Company and Potomac Yard c. 1921;
Photograph courtesy of the James Foley Potomac Yard Collection



1921 Sanborn Map
Mutual Ice Company
N. Union Street, Alexandria
Braddock Gateway
WSSI #21677.01
Not to Scale

Map Source: "Alexandria, 1921". Sheet 6.
Copyright © 2001 ProQuest Information and
Learning Company. All Rights Reserved. All
Sanborn maps copyrighted © 2001 by The
Sanborn Map Company, Sanborn Library, LLC.



By 1921, it appears that the firm was slowly transitioning all of its operations to the Potomac Yard plant. A series of arson fires swept through Alexandria one night in September 1921 and one of the fires was started in the ice company's frame warehouse (Alexandria Gazette 1921). Four years later, the company leased its entire North Union Street property to the Stresbilt Tile Company for five years at an annual rent of \$2200 or \$183.33 per month with the option to buy the property at any time for \$52500 (Alexandria Corporation Deed Book 93: 211). After three years, the tile company defaulted on its lease and the Mutual Ice Company sued the tile works and received a \$2785 judgment (Mutual Ice Company v. Stresbilt Tile, 31 January 1928).

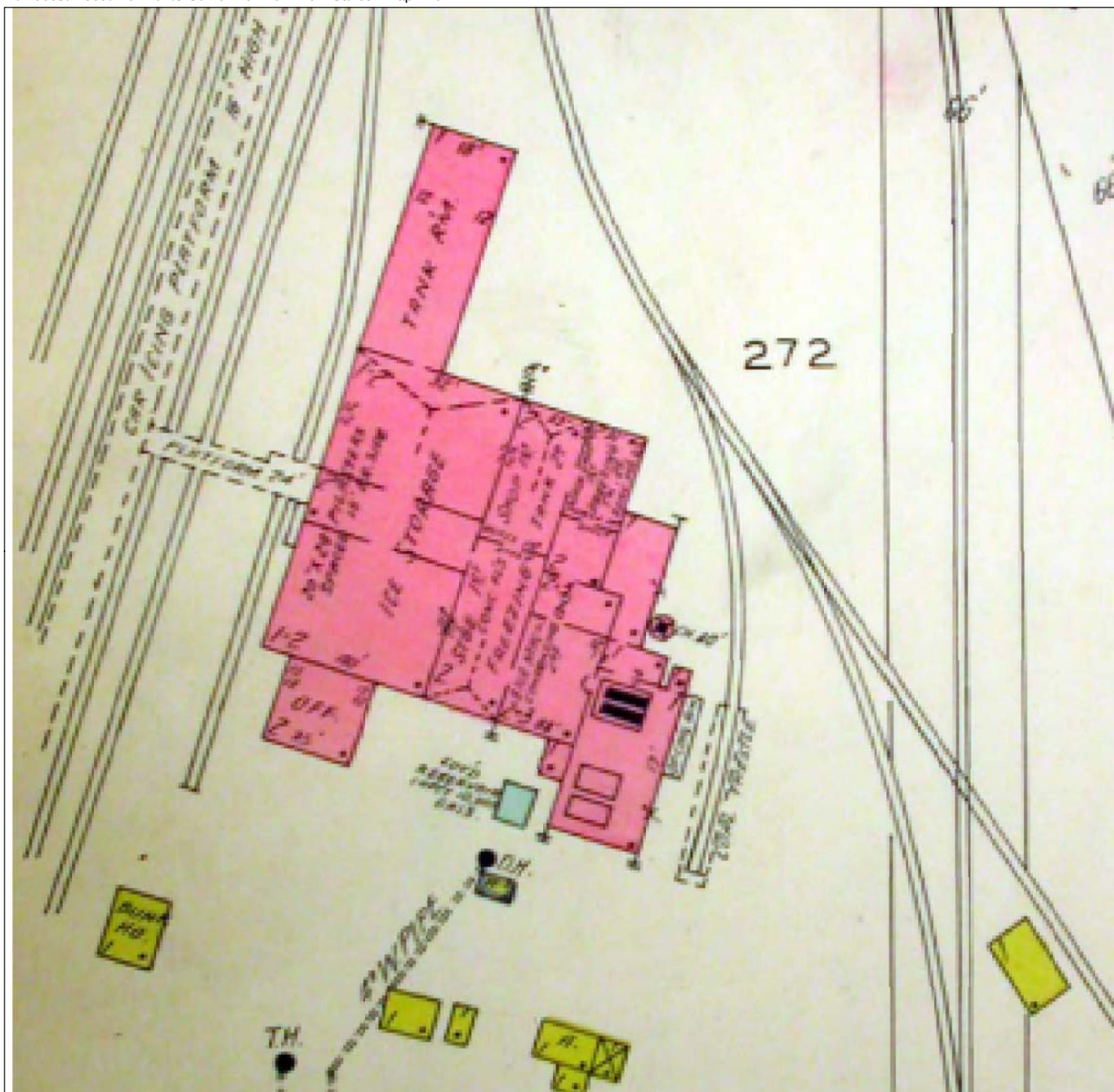
The dozen years from 1913 through 1925 were dynamic and provided the Mutual Ice Company with a firm foundation to build and grow their Potomac Yard plant during the middle years of the 20th century. The company appears to have been conservative in its approach to expansion, borrowing prudently. The succession from the founding generation to second generation descendants in the Hammond and Reardon families appears to have been managed – at least superficially – without conflict. Now solidly a bivalent family firm with a portfolio of assets for the production, sale, and delivery of ice in Alexandria, the Mutual Ice Company was well equipped to face the economic and technological challenges of the 1930s and the Second World War.

1925 to 1945: Diversification and Adapting to Change

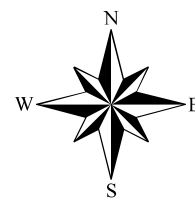
Between 1926 and 1931, the Mutual Ice Company installed a 90-ton refrigerating machine (1926); an 84-ton refrigerating machine and compression system and a 174-ton refrigerating machine (1928); another 174-ton refrigerating machine (1930); and, two 63-ton refrigerating machines (1931). While many businesses contracted with the onset of the Depression in 1929, the Mutual Ice Company seemed to not only be faring well, but prospering. This impression is reinforced by Ashby Reardon Jr.: "That's when we were growing and the food – the requirement for ice was there and labor was plentiful and cheap and we did well during the Depression. I imagine we paid our stockholders dividends every year during the Depression" (Reardon 2008a).

When the Sanborn Map Company published its fire insurance map of Alexandria in 1931, the sheet illustrating the Mutual Ice Company reflected many of the improvements hinted at by the almost annual announcements of equipment purchases reported in the trade publications. The map depicts a large rectangular addition off the north side of the ice storage house that is labeled as a tank room. The boiler house was enlarged and for the first time a frame bunkhouse appears south of the plant (Exhibit 34).

The company was still delivering ice by mule-drawn wagons well into the 1920s. Their stables at that time were located in an alley in the 100 block of South Lee Street, near the company's number one ice station which by then was located at 110 South Lee Street. "We had a stable and an ice storage house", explained Ashby Reardon Jr. "It's on South Lee Street, in the one hundred block of South Lee Street. And it's on the ... river side of the street. And behind that in an alley way there were stalls for mules" (Reardon 2008a). According to Reardon, the Mutual Ice Company employed its own mule skinner to train and manage the animals.



1931 Sanborn Map
Mutual Ice Company, Potomac Yard
Braddock Gateway
WSSI #21677.01
Not to Scale



Map Source:
Copyright © 2001 ProQuest Information and
Learning Company. All Rights Reserved. All
Sanborn maps copyrighted © 2001 by The
Sanborn Map Company, Sanborn Library, LLC.

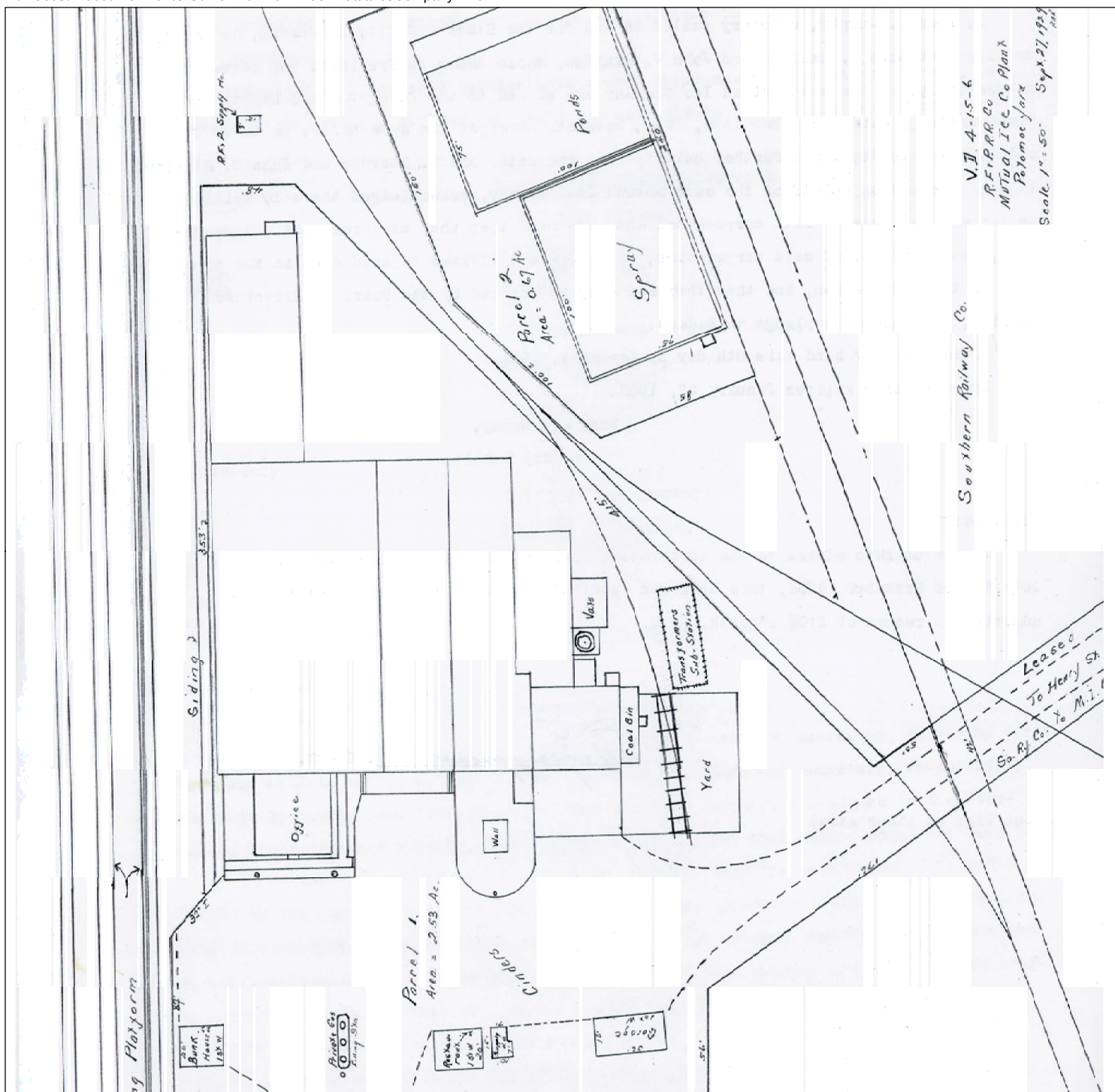
By the 1920s, automobiles began to dominate America's streets, obviating the need for equines. This change was reflected in a brief news item published in 1926 by the *Washington Post*; the paper reported that Harry Hammond had instructed his ice wagon drivers to avoid the increasingly congested King Street unless it was for the delivery of ice (Washington Post 1926). At the Mutual Ice Company's Potomac Yard plant, the increasing importance of automobiles is reflected in the appearance of a garage, clearly shown on a 1934 Plat Map (Exhibit 35) but present by 1921 (see Exhibit 32). At least one car owned by the company was destroyed in the arson fire of September 1921 (Washington Post 1921).

This was a period in which the ice industry was making the slow, but economizing transition to delivery by truck (Breedlove 1932a:242). In the 1930s, "When things modernized, we had ice delivery trucks", explained Ashby Reardon Jr. (Reardon 2008a).

The automobile was not the only technological change exerting pressure on the ice industry in the 1920s and 1930s. American consumers increasingly were scrapping their old iceboxes for newer more efficient models. Mechanical refrigerators were hawked by manufacturers taking advantage of pop culture trends towards marketing modernism and homes of the future (Isenstadt 1998:312; Jones 1984:159). The Mutual Ice Company took advantage of consumers' desires by selling brand new enameled iceboxes from the plant's small showroom. Reardon commented, "the company gladly took your old wood one away for no charge but with no credit applied to your new purchase, either" (Reardon 2008a).

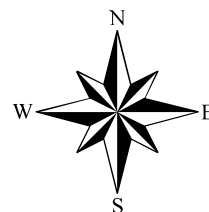
It was during the 1930s that the plant removed its massive boilers and converted entirely to electrical power. "Well we got rid of them", said Ashby Reardon Jr. of the boilers. "And we used that space for a shop to do repairs on things and then we had the machine shop in there and we had the tools necessary to take care of our place" (Reardon 2008a).

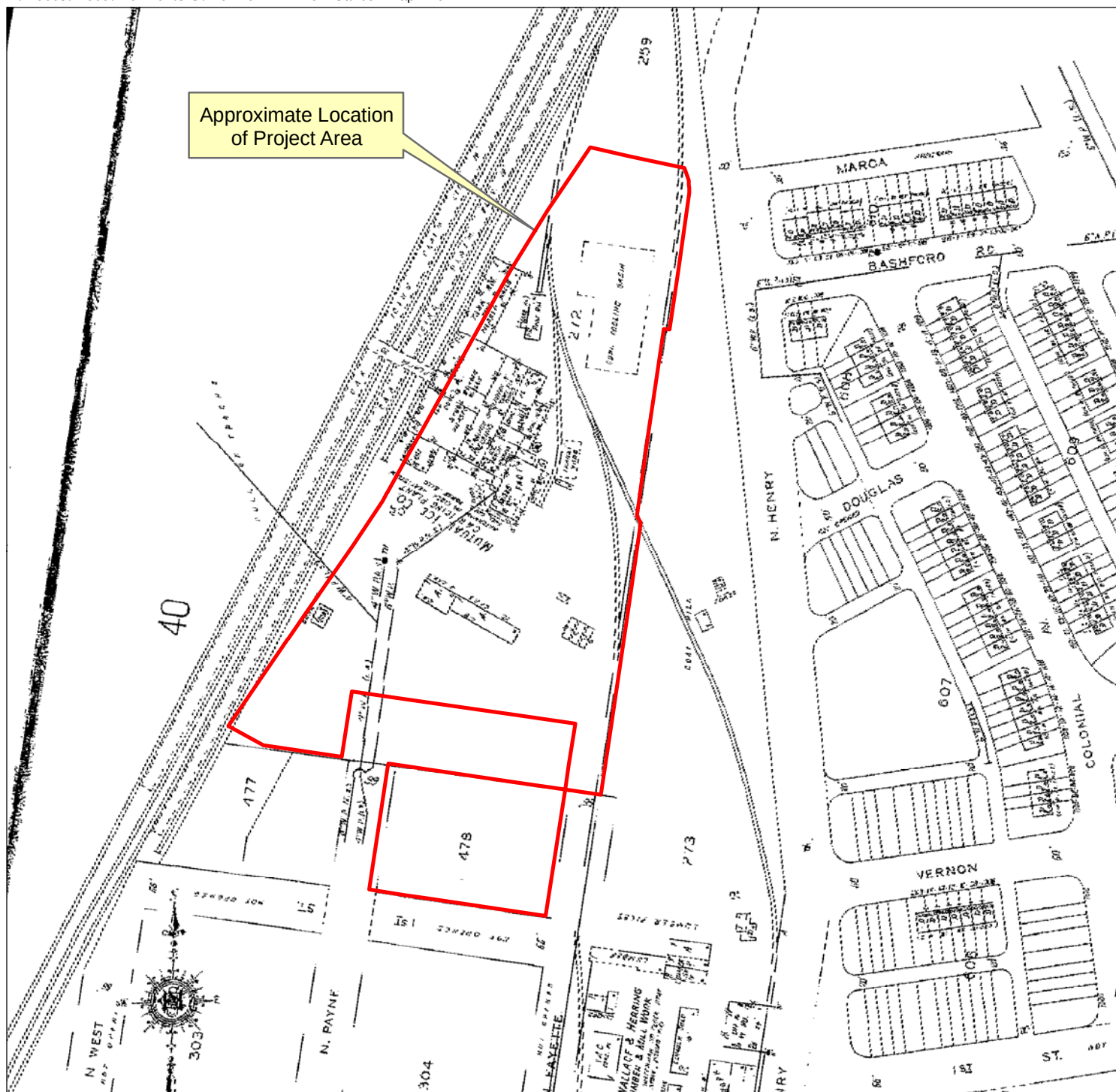
The shift to electrical power is reflected in the plant's plan as it was depicted in the 1941 Sanborn fire insurance map (Exhibit 36). Other significant changes to the plant's architecture and engineering included the construction of new buildings and structures within the area the company leased from the railroad. The one-story frame bunkhouse first illustrated in 1930 was rebuilt as a one-story concrete block building and the garage was enlarged to accommodate a total of twelve cars. Other significant elements to appear on the property include a rectangular test house at the end of the railroad spur north of the plant and an L-shaped "concrete cooling basin". There also was a cluster of "oil tanks" located east of the garage.



1934 Mutual Ice Company Plat Map
Braddock Gateway
WSSI #21677.01
Not to Scale

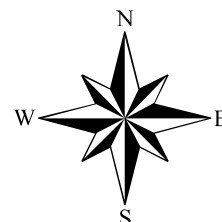
Map Source: "R.F. & P.R.R. Mutual Ice Company Plant, Potomac Yard". Arlington County DB: 119:240. 1934.





**1941 Sanborn Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'**

Map Source: "Alexandria, 1941". Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.



The test house or test room, a one-story asbestos-clad frame building, was built by the RF&P Railroad to test the plant's refrigeration capacities. Ashby Reardon Jr. explained how the building was used:

They'd bring a car in there and we'd get it very cold or very hot and see what happened to the load in the car, inside, if it was iced and see how much insulation would protect stuff from real cold. It was something that the railroad wanted and we built for them and we maintained it for them but it was hardly ever used.

I think it was some kind of an idea that they wanted to check up on what kind of temperatures our service would make by pulling a car out and checking it, but they found out it took so long that the thing would miss the market and the stuff in it would rot. They didn't do much with it (Reardon 2008a).

The concrete cooling basin was a shallow feature in which heated water exiting the ammonia compressors was air-cooled before returning to the compressors. According to O. Ashby Reardon, the ponds were 12- to 24 inches deep. "It had sprayers and it was sprayed up in the air and it would fall back down in the pond and it took the heat out of the water that way. The water lost its heat to the atmosphere", he recalled (Reardon 2008a).

The oil tanks illustrated in the 1941 Sanborn map (see Exhibit 36) are a visible reminder of how the company sought to diversify its revenue stream and accommodate a changing market, adapting to the widespread adoption of mechanical refrigeration systems in homes and businesses (Jones 1984:159). The tanks were a tank farm the company built to accommodate their subsidiary operation: the sale and distribution of heating oil under the brand name "Mico Fuel Oil".

In 1936 or 1937, the Mutual Ice Company bought the fuel oil business of their neighbors Stark & Slagle, owners of a coal yard and oil delivery trucks. To accommodate the new line of business, the company built six 12000 gallon tanks and mounted them on a steel structure. Ashby Reardon recalled that the fuel oil business began as a way to keep drivers busy during the slow season:

Well, we had these truck drivers that delivered ice to various customers and in the winter time there wasn't much demand for it and we didn't – we had nothing to keep all these drivers busy so we bought an existing fuel oil business. It had a couple of trucks and people wanted to get out of the business. We bought their oil business; they had a coal yard, too. And we started with that and then we got a franchise with Esso, which was Standard Oil, Eastern States Standard Oil. It's now Exxon (Reardon 2008a).

Ads for Mico Fuel Oil began appearing in Alexandria city directories and the company even mounted a sign on the roof of its storage building touting the product (Plate 24). By 1965, the company was distributing about 1.5 million gallons of heating oil annually (Douglas 1965). The company stayed in the fuel oil business until 1969, when it closed the ice plant and abandoned the property. Griffith Consumers, Inc. purchased the fuel oil business (Reardon 2008a).



PLATE 24
Mutual Ice Company and Refrigerator Car Icing;
Note Mico Fuel Sign above the Plant's Storage Building;
Potomac Yard vertical file, Alexandria Library

In 1945, the Mutual Ice Company was one of approximately 6800 United States plants producing 50 million tons of ice in a \$348 million industry. At Potomac Yard, the Mutual Ice Company produced approximately 105000 tons of ice annually and iced 53200 refrigerator cars (Esso Oilways 1946:3-4). As a distributor for Esso, the company was the subject of an extraordinarily detailed profile in a 1946 issue of the oil company's magazine, *Esso Oilways*. At the time the article was written, the company was operating with eight compressor units and three tank rooms with a 3856-can capacity. There was storage in the four store rooms for 8000 tons of ice. Still using Frick compressors to cool the ammonia gas, the company's tank rooms had tanks that were 55 inches deep. The rectangular water-filled cans in which 300-pound ice cakes were made were immersed in the freezing brine solution which was circulated by agitator. After 36 hours, the ice was harvested by rows using a mechanical hoist to transport the cans to a thaw tank to loosen the ice for removal and storage (Esso Oilways 1946:5-6). The 1946 article included a schematic illustrating the process flow through the plant (Plate 25).

One reflection of the increased scale in car icing at Potomac Yard may be seen in the doubling of the number of ice platforms serviced by the Mutual Ice Company. By 1941, there were two platforms, icing north-and southbound traffic. The number one platform was the closest to the plant while the number two platform was the furthest. A major improvement in the efficiency of moving ice from the storage building to the platforms was developed by the company. Ashby Reardon Jr. described in detail how the ice went from the plant to the trains and why the company developed its distinctive spiral chutes (Plates 26 and 27):

The ice came out of the platform – came out of the plant – on a conveyor belt that was recessed into the floor with lugs sticking up and recessed trough that was, had a level bottom and about two-inch, two- or three-inch ribs on each side to keep the ice in the trough upright. And the lugs pushed it out to a trestle where it was then just fed by the curvature of the track into a spiral chute that allowed the ice to roll around and not get so fast that it would break up.

We had gravity elevators for a while but it broke a lot of ice. And they built these spiral things, oh probably in the – I guess the spirals took place of the gravity chutes which were counterbalanced – they were hydraulically counterbalanced and the ice – an ice block would go on it and it would drop it and sometimes it would hit the bottom so hard it would break the ice up and that caused a jam up in the delivery of the ice down to the platform. So we invented our own little spiral slides, like a sliding board. Went around in circles and came out slowly to the bottom where the lugs would pick it up and push it down the platform, here again in a slot that would – the ice was lying on flat, on its width, sort of – it only stuck up about a foot. But when it was coming out of the house it was standing about two feet tall on the width dimension of the block of ice.

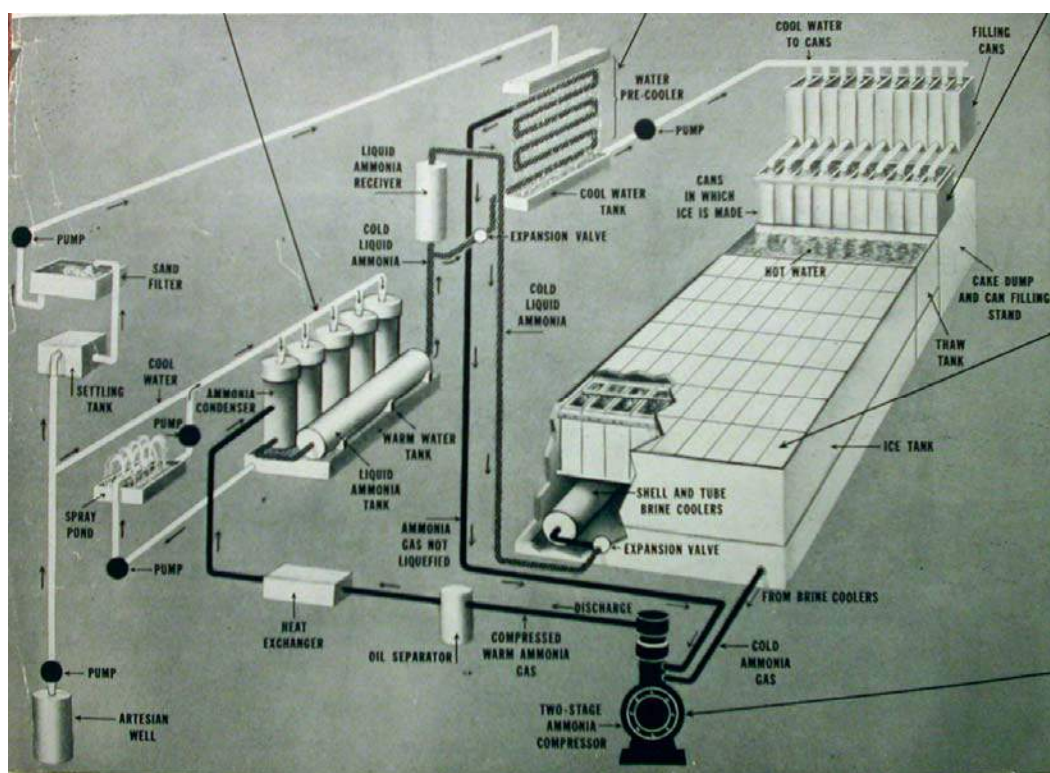


PLATE 25
Mutual Ice Company Process Flow Diagram;
Adapted from *Esso Oilways*, 1946



PLATE 26
Mutual Ice Company Icing Operation; Note Spiral Ice Chute;
Adapted from *Esso Oilways*, 1946

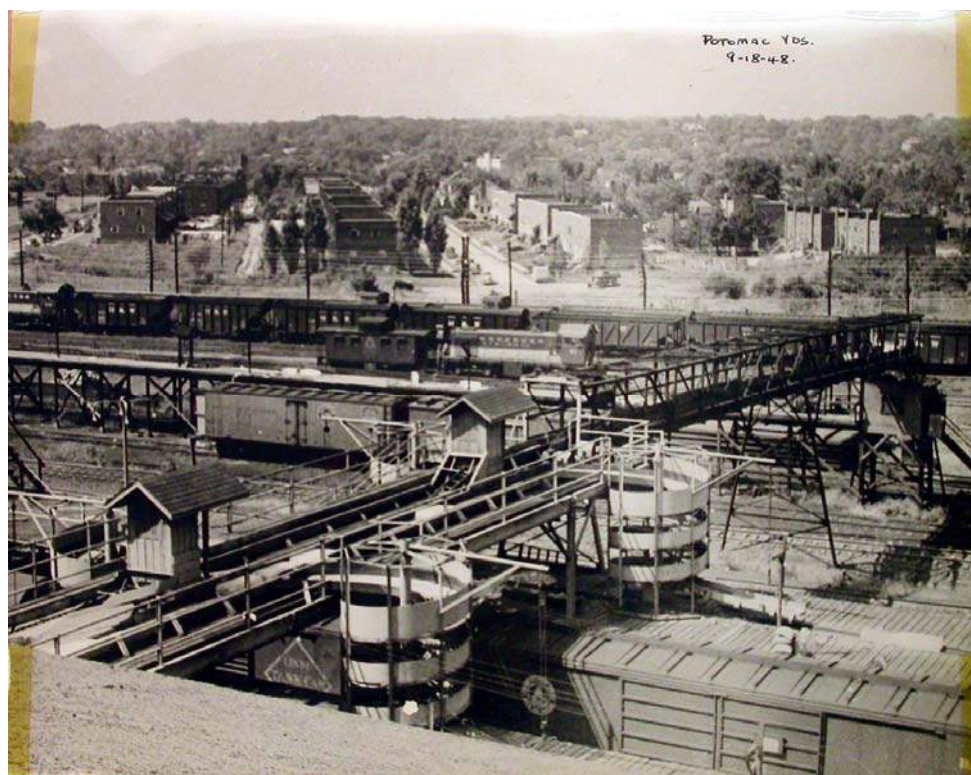


PLATE 27
Mutual Ice Company Icing Platforms and Ice Bridge; Note Spiral Ice Chutes;
Photograph Courtesy Alexandria Library

The block of ice was probably about four feet tall, one foot wide, and two or two and a half feet across. Tapered. And the lugs in this chain which looked like a huge version of a bicycle chain, lugs stuck up about two inches above the chain to push these blocks of ice down the mile or so of platform. And then laborers and these were mostly blacks but the early days they were mixed and then they were – later on they were all black. They would pull ice off this track, this chain it would pull them down, push them along the platform and they would lay them off to the car with their estimate of how many it would take to fill the car up (Reardon 2008a).

The growth in the Mutual Ice Company's railroad icing business and the required plant improvements made to keep up were part of an industry-wide trend. In the twelve years prior to 1931, the quantity of ice used in railroad icing increased by six percent and was attributed to increased consumer demand for perishable food products and the opening of more large-scale growing areas (Breedlove 1932b:238; U.S. Congress Senate 1906).

1945 to 1969: The Market Melts

The war years were good ones for the Mutual Ice Company; they were among the busiest the company experienced according to Ashby Reardon Jr. Military demands for refrigerated produce and meat for domestic and foreign destinations pushed the company to its limits. Despite the flush times created by World War II, the good times were short-lived as mechanical refrigeration and air conditioning for homes and businesses became the norm and railroad cars began to use mechanical refrigeration for perishable freight. As interstate trucking began to supplant the railroads for freight transportation, the Mutual Ice Company watched its entire market shrink.

While the demand for domestic ice slipped in the post-war years, Mutual continued to ice refrigerator cars and adapt its local output by changing sales and distribution methods. Between 1924 and 1950, the company went from having seven free-standing ice stations throughout Alexandria down to just two. By 1955, the company had abandoned the retail sale of ice from its sturdy ice stations and had discontinued home deliveries (Douglas 1965; Hill Directory Company 1955). Instead, sales were made directly at the plant or from vending machines at local stores and gas stations.

The company initially sold 50- and 25 pound bags of ice at its plant, while 12 pound bags were sold in a dozen vending machines placed in small wood frame shelters built inside the plant and delivered to locations throughout the city. Self-serve ice chests, according to Ashby Reardon Jr., were "made by the Lear Company that were just sitting out there in front of an entrance to the gas station where you could go in and buy some ice and then take it out and put it in your car" (Reardon 2008a).

Health regulators required that the ice be sealed in paper or plastic bags. The ice was:

Sewed into paper bags and marketed through the same vending machines and there was one place where you could buy block ice and one place where you could buy crushed ice. It was actually – what we called party ice was ice that had the snow screened out of it and the pieces were I guess about half the size of an egg and they were screened out for those to be close to ice cube size so that there was not any snow in the bag and any waste (Reardon 2008a).

In 1965, the company patented an ice cutting machine (Plate 28) designed by its longtime engineer Charles W. Coblentz (Coblentz 1966; Reardon 2008a). The machine reduced a 300-pound block of ice to 12.5-pound blocks which then were marketed as 12-pound blocks: "We sold them as 12 pounds because there was some, a little bit of loss in the cutting process with the snow that came out of the ice", recalled Ashby Reardon Jr. By 1965, the company had about 90 vending machines and ice chests in Northern Virginia within about a thirty-mile radius of the plant (Douglas 1965; Reardon 2008a)

As the company was adapting to changes imposed by the shifting market for local ice, it also was facing challenges in its business with the railroad. A 1947 Washington Post article on railroad icing in the Washington area noted that the company could load about 600 to 700 tons of ice on 500 cars daily (Washington Post 1947). After the war, however, mechanical refrigeration began to overtake icing in shipping and the 1950s appear to have been a critical decade for the company on a number of fronts.

The company lost two of its officers in the 1950s: Harry Hammond and Nora M. Reardon. After Nora Reardon's death in April 1955, O. Ashby Reardon Sr. became the President and J. Dulaney Hammond became the company's Vice-President. The succession pattern that crystallized in the 1910s continued with this third generation of ownership and control within the company. In its advertising to local consumers, the company emphasized first its fuel oil and then its "Mico Party Ice" (Hill Directory Company 1960). Although the company no longer sold its artesian water, customers could still walk up to the plant with their own containers and walk away with as much water as they wanted (Douglas 1965).

Comparison of the 1941 Sanborn map (see Exhibit 36), a 1949 aerial photo (Exhibit 37), the 1959 Sanborn fire insurance map (Exhibit 38), and a 1964 aerial photo (Exhibit 39), indicates that the plant appears to have changed little between 1941 and 1964. The icing platforms were rebuilt in 1947 to raise them higher above the tracks in conjunction with plans to improve drainage around the ice company. According to one RF&P Railroad source, "As to the height of the platforms, they were built when cars were lower and nothing has ever been done to them, they very definitely need to be raised to a more uniform height in relation to the present and possible future equipment" (Hastings 1947).

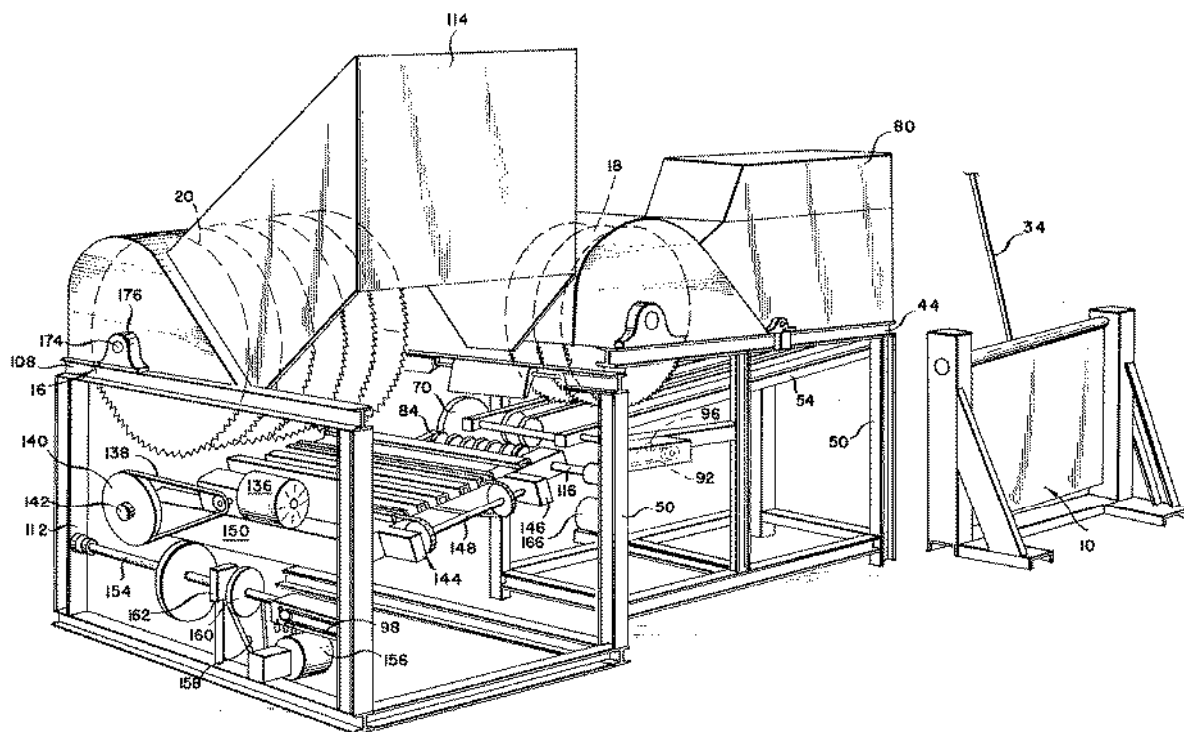
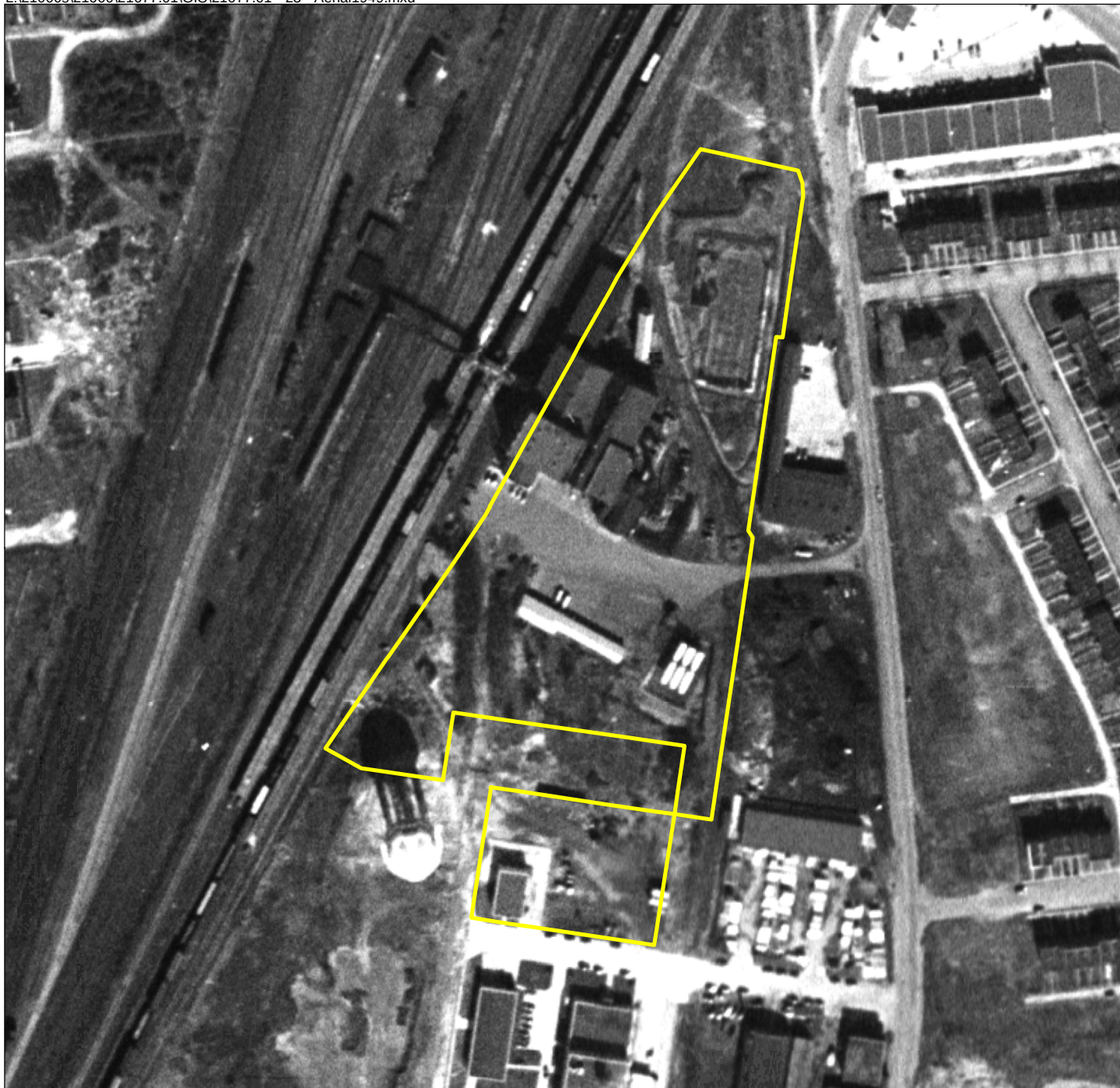


PLATE 28

Drawing for Ice Cutting Machine Patented by Mutual Ice Company Engineer Charles Coblentz



March 1949 Black and White Imagery
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'

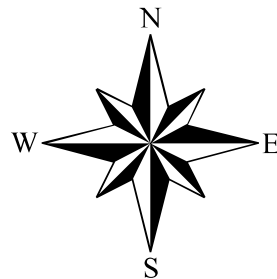
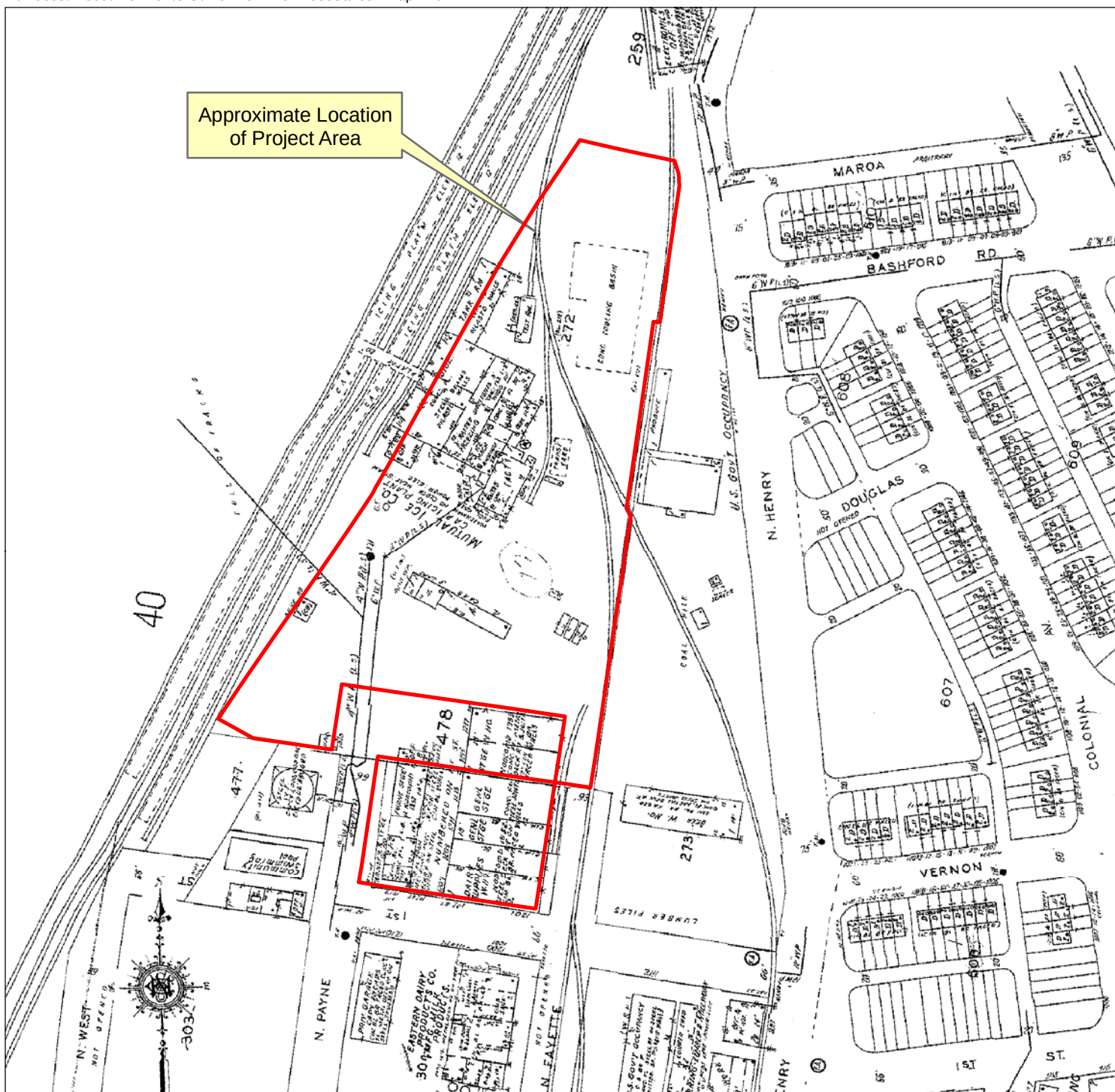
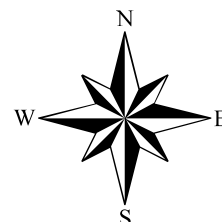


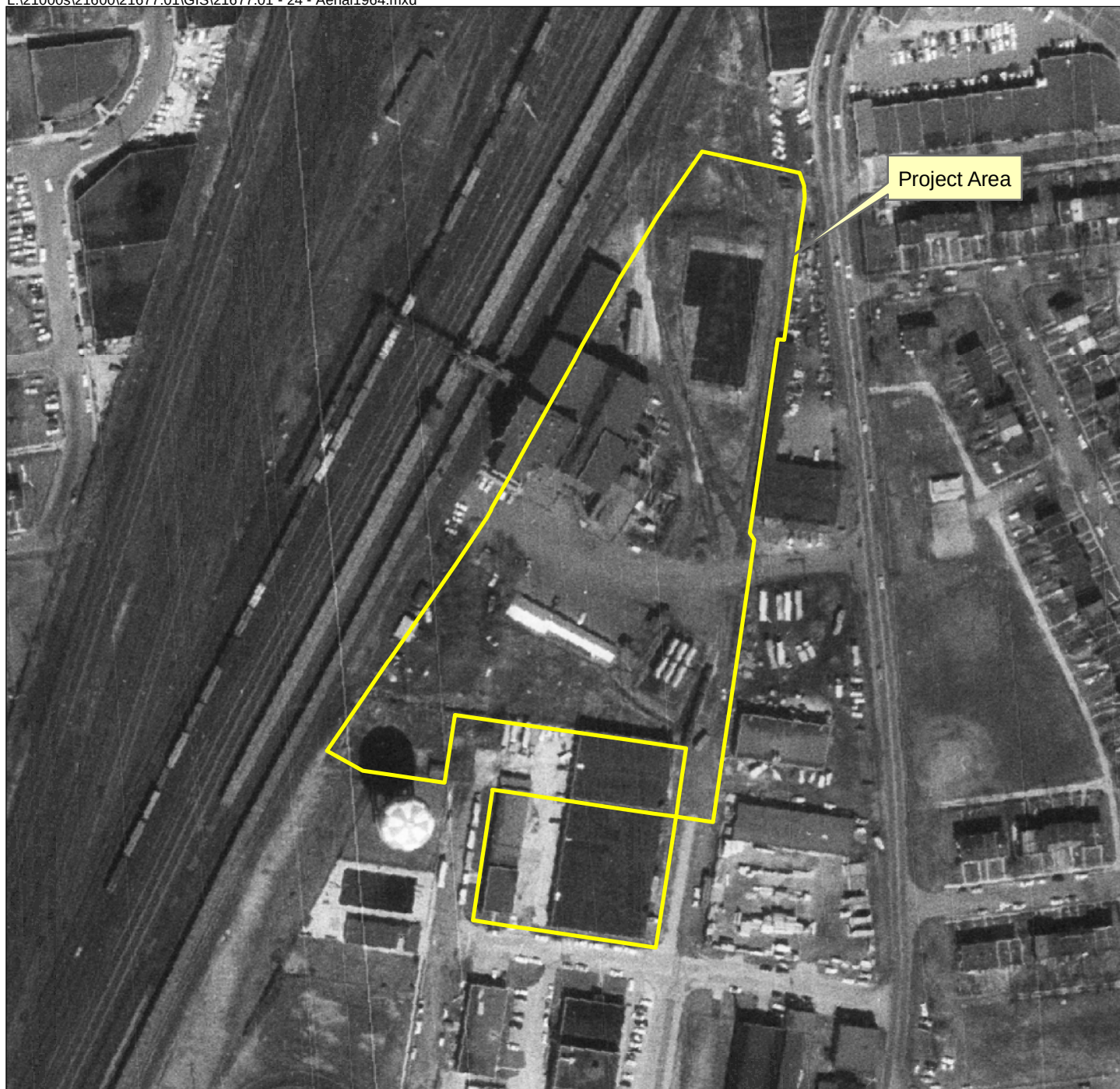
Photo Source: USGS - March 4, 1949



**1959 Sanborn Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'**

Map Source: "Alexandria, 1959". Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.





March 1964 Black and White Imagery
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'

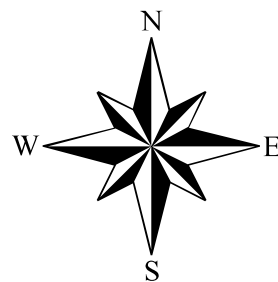


Photo Source: USGS - March 16, 1964

As the 1960s were drawing to a close, the Mutual Ice Company was moving towards a significant restructuring of its business. In 1968, Ashby Reardon Jr., who by then was the company's Treasurer (his father was the President, J. Dulaney Hammond was the Vice President, and H. Hammond Snyder was the company's Secretary), was preparing to close the plant. The railroad's need for ice had disappeared along with the local demand. "Well, it became obvious that there wasn't enough volume to make a living there and it became obvious because they stopped stopping at other stations", explained Ashby Reardon Jr. (Reardon 2008a). Although the lease with the railroad significantly reduced the company's operating costs, the loss of business on all fronts was just too much. "I wouldn't want to ... say what we made off the railroad but when the volume shrunk, we seldom ever made good profits out of that ice", Reardon lamented. "The more of our bottom line profits came from fuel oil and the city ice, which was vending machines and the customers that bought ice from us".

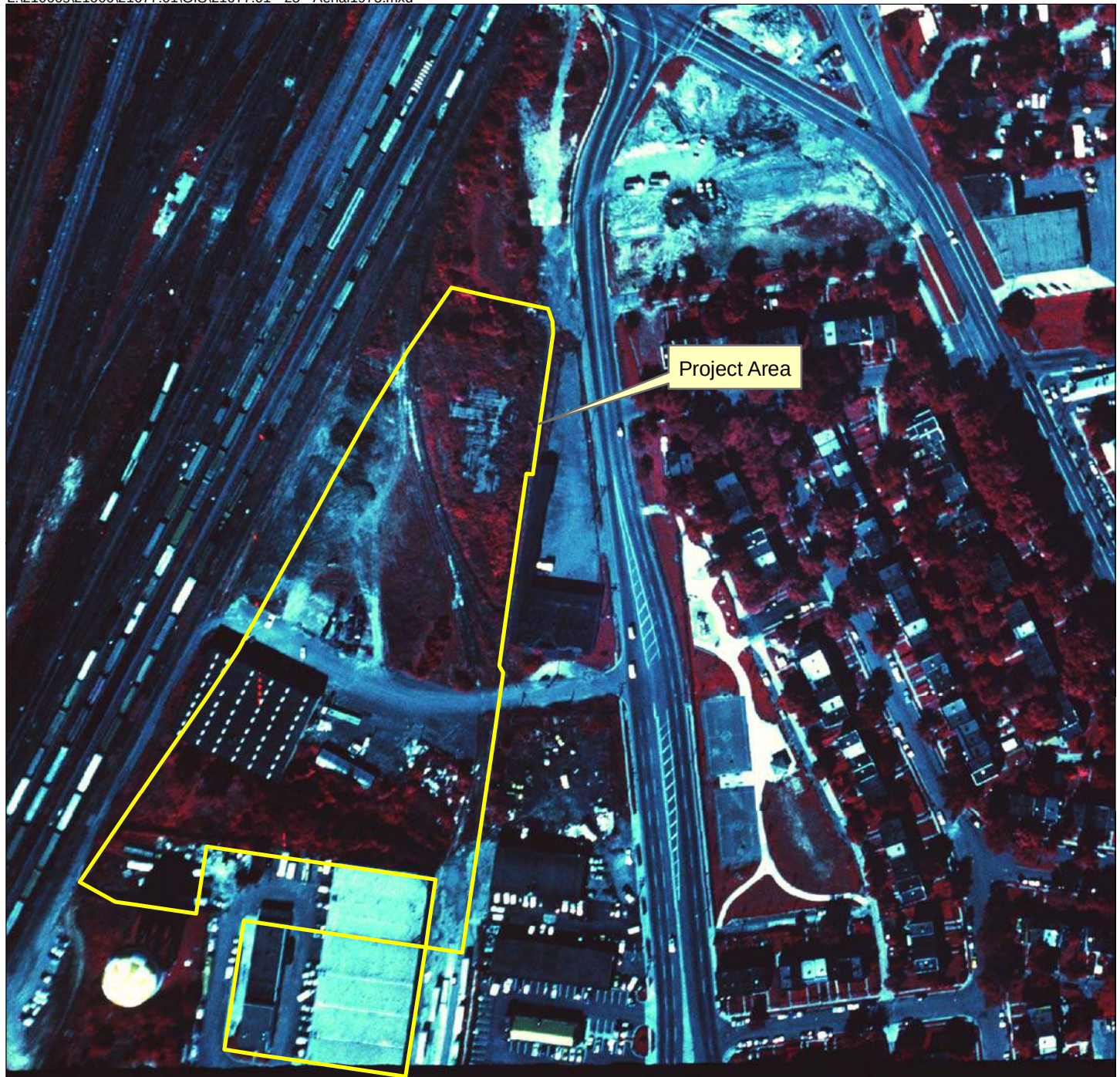
In addition to the fuel oil business, the Mutual Ice Company took advantage of its warehouse space by buying a controlling interest in Robinson Export-Import, a subsidiary of Robinson Terminal Warehouse. That, in turn, got them into the cabinet importing business and a distribution contract with Merillat Corporation. The company also bought the Rudolph and West Company, a Washington, D.C., hardware company. Their entry into the hardware and furniture markets put them in competition with the locally dominant Hechinger Company (Reardon 2008a).

The company saw the end of the road in 1968 and approached the railroad to give the required 120-day notice. The railroad rebuffed them urging them to remain open: "And when we negotiated this termination, they wanted us to stay in business for another year", Reardon recalled.

So we put it on a cost plus a fixed fee so it wouldn't eat our lunch and we kept on doing it. We didn't ice a whole lot of cars, but we cut down on our labor force and we managed during that year to sell off a lot of our equipment. Basically a lot of our refrigeration machinery was shipped to the Philippines. Some broker found a market for it over there and we put it on flatbeds and it was hauled down to New Orleans where it got on some ship that took it all the way to the Philippines – most of our heavy machinery (Reardon 2008a).

The plant closed in 1969 and the railroad quickly demolished it to make way for new tenants. A 1975 USGS aerial photograph shows the ruins of the plant and a newly constructed building to the south (Exhibit 40).

"Well, we had sold all of our equipment and we had gotten rid of all the ice and all of our trucks and everything like that", reflected Ashby Reardon Jr.



September 1975 Color Infrared Imagery
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'

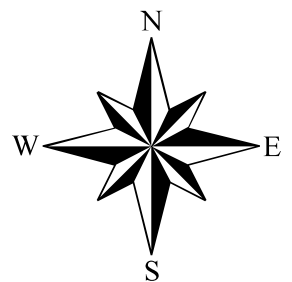


Photo Source: USGS - September 29, 1975

Labor

The Mutual Ice Company had a diverse workforce composed of permanent employees and transient temporary workers. Because of the nature of the work, there were seasonal fluctuations in the demand for labor. In 1907, according to one source, the company employed between thirty and fifty men depending on the season (Wedderburn 1907). In later years, with enlarged production and distribution capacities, the payroll could swell to as many as 200 people, recalled Ashby Reardon Jr.

The permanent employees were drawn from Alexandria and they worked inside the plant and delivered the ice throughout the city. There were engineers and machinists who kept the equipment running and laborers who moved the ice around inside the plant. There were office workers, including bookkeepers, clerks, and cashiers plus the company's officers. The plant was run around the clock, twenty-four hours a day as required by the contract they had with the railroad and Fruit Growers Express. African Americans and whites worked side by side inside the plant, while African Americans comprised the majority of the laborers and transient car icing crews.

"We had shift engineers who ran the whole shift and they had oilers that went around checking the lubrication of the machines and the proper running of them that were trained," explained Ashby Reardon Jr. "Some of them were black, some were white ... and then we had in the labor department of actually pulling the ice and handling it in the rooms, we had – here again, some white employees but they were predominantly black. And we had black supervisors in there who would be running the shift".

Although the company had a woman as its President for 36 of its 69 years as an ice producer, there were no women employed on the car icing crews or inside the plant. There were, however, women who worked in the office as clerks and bookkeepers. The plant, as far as Reardon could recall, never hired high school students because of the dangerous work environment. Reardon himself never worked at the plant when he was growing up. "There wasn't any kind of a job there for kids", he said. "We later on hired high school boys to run the cash register in the office and sell the various kinds of ice that we sold" (Reardon 2008a).

Permanent employees were paid every two weeks and company officers drew on an account. The company had a few employees who had built up significant tenure with the firm by working there for several decades. One was engineer Charles Coblentz and another was James Boyd Williams Jr. Williams had worked for a local express company making deliveries throughout Alexandria before coming to work for the Mutual Ice Company at age 19 or 20 as an icing foreman. It wasn't long before Williams was brought down into the office where he worked as an assistant to the bookkeeper before ultimately taking over that position when the incumbent retired (Reardon 2008b). Williams reminisced about the ice company several times during a pair of oral history interviews conducted by then-city historian Michael Miller (Williams 1990). Both Coblentz and Williams were among several Mutual Ice Company employees who retired with full pensions (Reardon 2008a).

The company's transient workers iced the refrigerator cars that made up the bulk of the company's business (Plates 29 and 30). The labor pool for these jobs consisted of transients who came into Potomac Yard on trains or from nearby hobo camps. There also were a few locals who took one of the unskilled labor jobs. All potential workers had to do to get a job at the plant was to approach the office to ask if work was available. Ashby Reardon Jr. seems to recall that most of the transient workers came from Georgia and the Carolinas with some from Florida and other southern states.

To accommodate the transient workers and to ensure the required round-the-clock workforce that the railroad required, the company built bunkhouses on the property. At first they were segregated but, through time, only African Americans lived in them. No descriptions have survived of the first frame bunkhouses, but Ashby Reardon Jr. recalls the cinderblock replacements that were built. By the time he came to work at the company in the 1950s, there were two one-story cinderblock buildings housing workers:

The bunkhouse was a cinderblock building with a composition roof; it was regular shingles. And it had a kerosene stove and no air conditioning; it had windows and they could be shut and then shuttered from, in bad weather. And it had a shower room behind it with four showers in it and it had a bathroom area in addition to that, toilets. They were like jail toilets. They were jail toilets. We bought them, got them – wherever the jail found their toilets, we found – they didn't have any tops on them 'cause they wouldn't get broken – These guys were drunk and brawling and falling down and tearing up stuff and you can't wreck a jail toilet. That's what we put in there. We had them – we had four of them and four shower stalls for about maybe twenty people that lived in the big bunkhouse and the little bunkhouse had – oh, two, four, six, eight – it had probably eight people in it (Reardon 2008a).

The bunkhouse residents frequently cooked outside, sometimes with food bought using meal tickets provided by the company and redeemable at a nearby grocery store. Alcohol abuse was a constant problem in the bunkhouses. Ashby Reardon Jr. explained:

Because these people lived in a transient labor facility, they provided their own – did their own cooking and they would get meal tickets between pay days if they ran out of money just so they could eat. The tickets were not supposed to be good for the purchase of wine and we had to battle with the little grocery store that handled them to keep them from selling these guys wine on their meal tickets because some of them would want it all the time. They wouldn't bother to eat and we didn't need them drunk during the week (Reardon 2008a).



PLATE 29
Undated Photograph of Icing Operations;
Photograph in the Collections of the Library of Virginia



PLATE 30
Undated Photograph of Car Icing Operations;
Photograph from the Del Ray Sun Web Site <<http://www.delraysun.net/>>

Bunkhouse residents and the other transient workers were paid weekly, on Wednesdays, in cash. This was done to discourage weekend absenteeism because frequently the weekends had some of the heaviest icing traffic. The Mutual Ice Company didn't charge its workers to stay in the bunkhouses; if you agreed to work when asked, you had a bed. The bunkhouses, however, were hives of illegal activities ranging from random brawls by intoxicated residents to prostitution, assaults, and even murders. The railroads and the industries they relied on were magnets for marginalized people trying to avoid mainstream society and the Mutual Ice Company bunkhouses provided a refuge for fugitives from the law since as early as the 1920s (Washington Post 1925a).

Articles began appearing in the *Washington Post* as early as 1944 documenting the illicit activities involving the bunkhouses and their residents. "There were fights and there was arguments and it was – a lot of tawdry stuff about that thing", reminisced Ashby Reardon Jr. Among the more colorful activities were the efforts by the company to keep the prostitutes away on payday. There were "several episodes where a cab driver would bring a whore out and they would get in the back seat, get the guy in the back seat thinking he's going to get – have intercourse – and the cab driver would hit him in the head with a blackjack and they'd steal his money", said Reardon. "And before long when they came out there with these whores, nobody would get in the car with them because they figured that's what might happen".

Violence was rampant. In 1953, Sydney "Florida Boy" Hearon killed fellow worker Lawrence Moore in an argument after a party in the bunkhouse (Washington Post 1953). A decade later, in 1964, Mack Jarrett was fatally shot inside the bunkhouse (Washington Post 1964). Ashby Reardon Jr. recalled the episode: "There was some guns around there and one of the blacks had a pistol under his pillow and when this Little Tight Nut, whose name I think was Mack Jarrett, when he was shot, the guy who shot him just disappeared never to be seen again" (2008a).

The use of nicknames by bunkhouse workers was common. "A lot of these guys went by nicknames", explained Reardon. "There was one guy whose name was "Fertilize Slim" and I never knew – well I did know what his name was, but I've forgotten because when I ran the payroll, I knew all the real names of them". One worker was dubbed "Pick Handle" due to his lanky frame and another was known as "Young Boy" because of his size.

Alexandria's residents were well aware of the goings on up at the ice company's bunkhouses. Resident Helen Miller told one oral history interviewer: "And they had a little shanty up there. Some of the men used to live in them. My husband's brother used to live in. And he used to drink. If he got sick we would take him. And as soon as he got better my husband sent him right back up there". She added later in the interview,

And of course they let some guys live there in the ice house. Trains came in all hours of the night. Uncle Joe was one of the tenants, my husband's brother. Yes, because Uncle Joe had nobody but himself. He was the oldest brother. Because my husband was the baby. We used to have to go up there every now and then rescue Uncle Joe. Take him to the hospital or something of that sort. But it was a haven like for men that didn't have a lot of responsibilities up there - the ice house was (Historic Alexandria 1999).

The Mutual Ice Company's employees never unionized. There were attempts over the years, especially among the delivery drivers, but none were successful according to Ashby Reardon Jr. Only one reported case (in 1945) of a worker taking legal action against the company for allegedly unpaid wages has been found (Washington Post 1945). There is little information available at present to document the industrial culture inside the company.

Besides the hazards of living in the bunkhouse, there were several accidents that resulted in the injury or death of workers. Among the reported accidents were a worker burned by ammonia in 1909 in the company's first plant; a worker fatally crushed in a shaft in 1916; and the 1925 fatal scalding of a worker who fell into the thaw tank (Washington Post 1909; Washington Post 1916b; Washington Post 1925b). One worker, whose name Ashby Reardon Jr. could not recall, fell off one of the icing platforms. "Now we took him to the hospital and we took care of him", Reardon said. "And I guess they were just taking care of those indigents because any time there was any doctor's bill we had a company doctor and we'd send them to him".

The Company and the City

The Mutual Ice Company was an important part of Alexandria's social and economic fabric. Beyond being a major employer, the ice company provided the city with an essential product. On the other hand, its bunkhouses and itinerant workforce created some conflicts. Also, because the company had a natural monopoly on Alexandria's ice trade after 1900, there were some concerns by local residents. Some Alexandrians displayed resentment in 1907 when the company lobbied the city to build a spur for the Southern Railway Company in front of its North Union Street plant. One resident objected to the permit because "the Mutual Ice Company was monopolistic in its nature" (Washington Post 1907a).

Older Alexandria residents have recounted the company's familiar ice deliveries and ice stations in articles and oral histories (Historic Alexandria 1999; Williams 1990; Williams 2002:11). In addition to the valuable commodity the ice company sold and the artesian water it gave away for much of its history, the company also assisted the town in various crises. At the turn of the 20th century, there was a regional ice shortage created by the consolidation of ice companies in Washington and Baltimore; the city and the Mutual Ice company resisted raising prices (Washington Post 1907b; Jones 1984:114). In 1930, Alexandria was hit by a serious water shortage and the company responded by allowing the Alexandria Water Company to lay a four-inch main from one of the ice company's artesian wells (Sanborn Map Company 1931; Washington Post 1930). During the Depression, the Mutual Ice Company made monthly cash contributions to local relief agencies and donated labor, splitting railroad ties provided by the railroad for distribution by the United Charities (Washington Post 1931).

Besides selling ice and fuel oil to Alexandria's homes and businesses, the Mutual Ice Company sold the equipment necessary to use these commodities. In addition to the iceboxes the company sold, they also sold a small number of ice-chilled room air conditioners and they sold burners and other supplies to their oil customers. In one instance, they installed an ice-chilled air circulating system in one of Alexandria's early movie houses, the Richmond Theatre (Reardon 2008a).

With a natural monopoly and steady work icing refrigerator cars, there was little need for local advertising. The company's ads appeared in city directories and in the Alexandria Gazette. A brief fling with radio ads during Arthur Godfrey's morning shows on radio station WJSV occurred because Ashby Reardon Sr. liked the performer (Reardon 2008a). At a 1917 meeting of the Virginia Ice Manufacturers Association, Harry Hammond explained that his company advertised in local newspapers. He also explained how the company used another marketing trick. "He had found the ice pick to be one of the best means of advertising and actually forced them on the customers", reported *Ice and Refrigeration*. "Each pick, he said, pays for itself in a week. With a good pick convenient, more ice is used in the household" (*Ice and Refrigeration* 1917:67).

The company signed up new customers with the help of its drivers. Getting new business was one of Ashby Reardon's first responsibilities with the company. "When I first went there, one of my jobs was going out and we subscribed to a list of new move-ins and I would call on them and if they had oil burners try to get the business and if they hadn't already been contacted or signed up, I usually got it", he recalled. "And the drivers sometimes spotted things and we would give them ten bucks if they brought us a lead that became a customer. It was just out of pocket, you know, very informal". Sometimes, like in earlier years, ice picks were used – sometimes in unexpected ways: "You know, on occasion we would give ice picks to customers or take them around to the – the truck drivers had them for sale, but I'm sure they gave some of them away. I'm sure some of them got used as weapons, too" (Reardon 2008a).

Previous Archeological Research

The following inventory of previously recorded architectural resources near the project area was established by using VDHR's online Data Sharing System as well as examining cultural resource files and reports at the Thunderbird Archeology office in Gainesville, Virginia.

No archeological sites or architectural resources have been previously recorded within the project area (Exhibit 41). Three archeological sites located in the vicinity of the project area are shown on Table 2.



VDHR Architectural Resources and Archeological Sites Map

2007 Natural Color Imagery

Braddock Gateway

WSSI #21677.01

Scale: 1" = 500'

- VDHR Architectural Resource
- VDHR Archeological Site
- Project Area

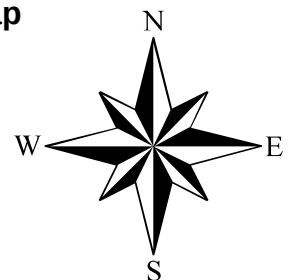


Photo Source: October 2007 Aerials Express natural color imagery

Thunderbird Archeology

A Division of Wetland Studies and Solutions, Inc.

Exhibit 41

TABLE 2:**VDHR ARCHEOLOGICAL SITES IN THE PROJECT AREA VICINITY**

DHR ID	Resource Name	Description	Temporal Designation
44AX0028	Alexandria Canal	Canal	19 th century
44AX0099	Alexandria Canal Turning Basin	Canal	19 th century
44AX0169	City Bicentennial Time Capsule	Other	20 th century

The Alexandria Canal (1843–1886) has been recorded as 44AX0028. An associated resource, 44AX0099, represents the Canal Turning Basin. These resources are located to the east of the project area in the documented course of the historic canal. Site 44AX0169 records the location of the City Bicentennial Time Capsule, buried in 1949.

Eight architectural resources located within or in the immediate vicinity of the project area are shown on Table 3.

TABLE 3:**VDHR ARCHITECTURAL RESOURCES IN THE PROJECT AREA VICINITY**

DHR ID	Resource Name	Eligibility
029-0218	Mount Vernon Memorial Highway (portion of George Washington Memorial Parkway)	V/N see 029-0228; 029-5524
100-0121	Alexandria Historic District	V/N/NHL
100-0133	Parker-Gray Historic District	potential; nomination, 2007
100-0153	House, 709 Ramsey St.	
100-0156	House, 305 Braddock Road	
100-0157	House, 309 Braddock Road	
100-0158	House, 323 Oak Street	
100-0159	House, 401 Braddock Road	

Resource 029-0218, the Mount Vernon Memorial Highway (a portion of George Washington Memorial Parkway), is listed on the Virginia and National Registers of Historic Places for its significance in the areas of landscape architecture in the second quarter of the 20th century and for its significance as a commemoration to George Washington.

The Old Town Historic District of Alexandria (100-0121) was placed on the National Register of Historic Places (NHRP) in 1966. About 200 historic structures comprise the District; these are located in an area bounded roughly by the Potomac River, Franklin Street, Washington Street and Queen Street. These structures include both warehouses and handsome dwellings of brick or frame. The District includes numerous late 18th and 19th century buildings of various types and architectural styles. Buildings in this historic district are protected by the guidelines of the City's Board of Architectural Review.

The Parker-Gray Historic District (100-0133) represents the historic African American neighborhood also known as Uptown in Alexandria. It has not been listed on the NHRP but has been considered eligible since 1990.

The remaining recorded structures in the vicinity of the project area represent single family dwellings dating to the first half of the 20th century. None of these have been fully evaluated for eligibility on the NRHP.

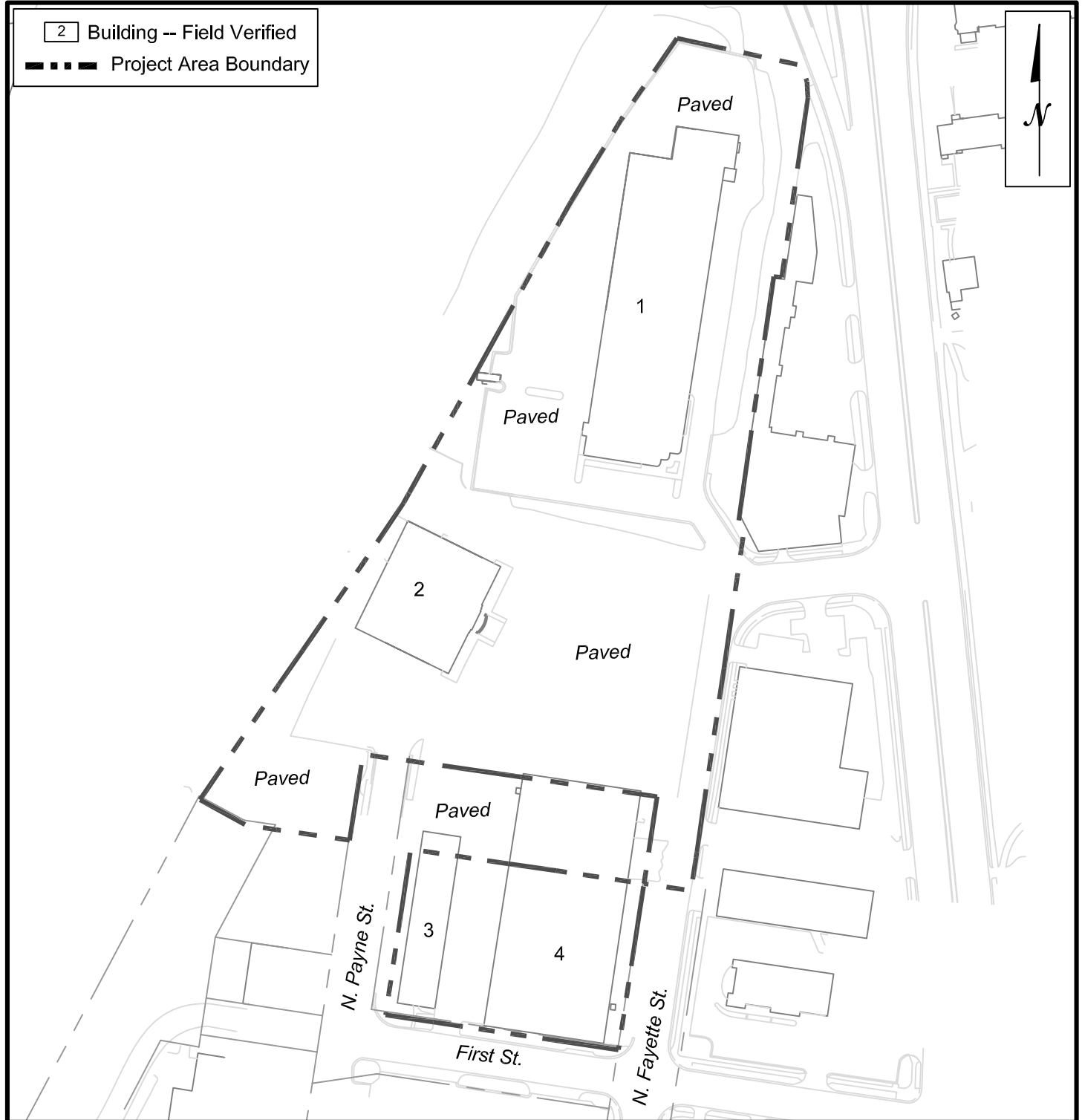
RESOURCE MANAGEMENT PLAN

Current Conditions within the Project Area

Overview

The Braddock Gateway property is situated on developed land north of First Street between N. Payne and N. Fayette streets (Exhibit 42). Almost the entire area with the Braddock Gateway property is paved or the site of one of four standing buildings (see Exhibit 42; Plate 31). The project area surroundings may be generally described as inner city urban with rail lines and vacant land (formerly Potomac Yards) to the west, highway infrastructure to the east and north and mixed commercial and residential buildings to the south.

Exhibit 42 shows the locations of the extant buildings within the project area. The Braddock Gateway property is currently in use as a rented commercial space with associated parking. The northern parcels within the project area contain Building 1 (Plates 32 and 33), a one story brick and concrete building occupied by National Car Rental at 1200 N. Fayette (ANC Property); and Building 2 (Plates 34-36), a two story brick and concrete building occupied by Next Realty at 1100 N. Fayette (DCS Property). The southern parcel contains Buildings 3 (Plates 37-39) and 4 (Plates 40-42), two one-story brick warehouse buildings. These buildings are currently used as leased space for a waste management company and an auto repair company. Based on data from building permits and plans and environmental survey reports, Building 1 was constructed in 1980, Building 2 was constructed after 1969 but prior to 1975, and Buildings 3 and 4 were constructed circa 1945. Buildings 1 and 4 were built on concrete slabs and have no basements. Potential ground disturbance associated with the construction of Buildings 2 and 3 could not be verified.



Locations of Standing Buildings within the Project Area
Braddock Gateway - WSSI # 21677.01
Scale: 1" = 150'



PLATE 31
Paved Parking Area on the Braddock Gateway Property,
View to East



PLATE 32
Building 1 and Surroundings on the Braddock Gateway Property,
View to North



PLATE 33
Building 1 and Surroundings on the Braddock Gateway Property,
View to Northeast



PLATE 34
Building 2 and Surroundings on the Braddock Gateway Property,
View to West



PLATE 35
Building 2 and Surroundings on the Braddock Gateway Property,
View to Southwest



PLATE 36
Building 2 and Surroundings on the Braddock Gateway Property,
View to Northwest



PLATE 37
Building 3 and Surroundings on the Braddock Gateway Property,
View to Northeast



PLATE 38
Building 3 and Surroundings on the Braddock Gateway Property,
View to Northwest



PLATE 39
Building 3 and Surroundings on the Braddock Gateway Property,
View to Southwest



PLATE 40
Building 4 and Surroundings on the Braddock Gateway Property,
View to Northeast



PLATE 41
Building 4 and Surroundings on the Braddock Gateway Property,
View to Northwest



PLATE 42
Building 4 and Surroundings on the Braddock Gateway Property,
View to South

Exhibit 43 shows the extant building and the locations of the former buildings associated with the Mutual Ice Company as depicted on the 1959 Sanborn map.

Geotechnical Data

Data points based on the results of soil borings carried out during Phase I and Phase II environmental assessments of the property conducted by Schnabel Engineering and Engineering Consulting Services, Ltd. of Chantilly, Virginia in 2005 are shown on Exhibit 44. The locations of these data points are also shown on the structures overlay map (Exhibit 45).

Data Point B-1 is located in the southern parcel within the project area. The bore hole was placed in the paved parking lot between Buildings 3 and 4 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 4.

TABLE 4:
SCHNABEL ENGINEERING
BORING RESULTS B-1

Depth (Feet)	Strata Description
0 - 0.3	Asphalt
0.3– 1.5	Silt Fill with sand, trace gravel , moist, brown and grey
1.5 – 6.0	Sandy, LEAN CLAY, trace mica and lignite, moist, brown, trace gray
6.0 – 9.0	LEAN CLAY with sand, trace lignite, moist, brown and gray
9.0 – 13.5	Silty SAND, trace mica, moist, brown and gray
13.5 – 28.5	poorly graded SAND, with silt, trace mica, moist, brown, trace gray

Data Point B-1 shows the soil profile as recorded in the boring; consisting of 0.3 foot asphalt overlying 1.2 feet of fill. Below 1.5 feet sandy clay, clay and sand were encountered.

Data Point JB-1 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot south of Building 1 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 5.

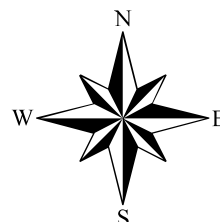


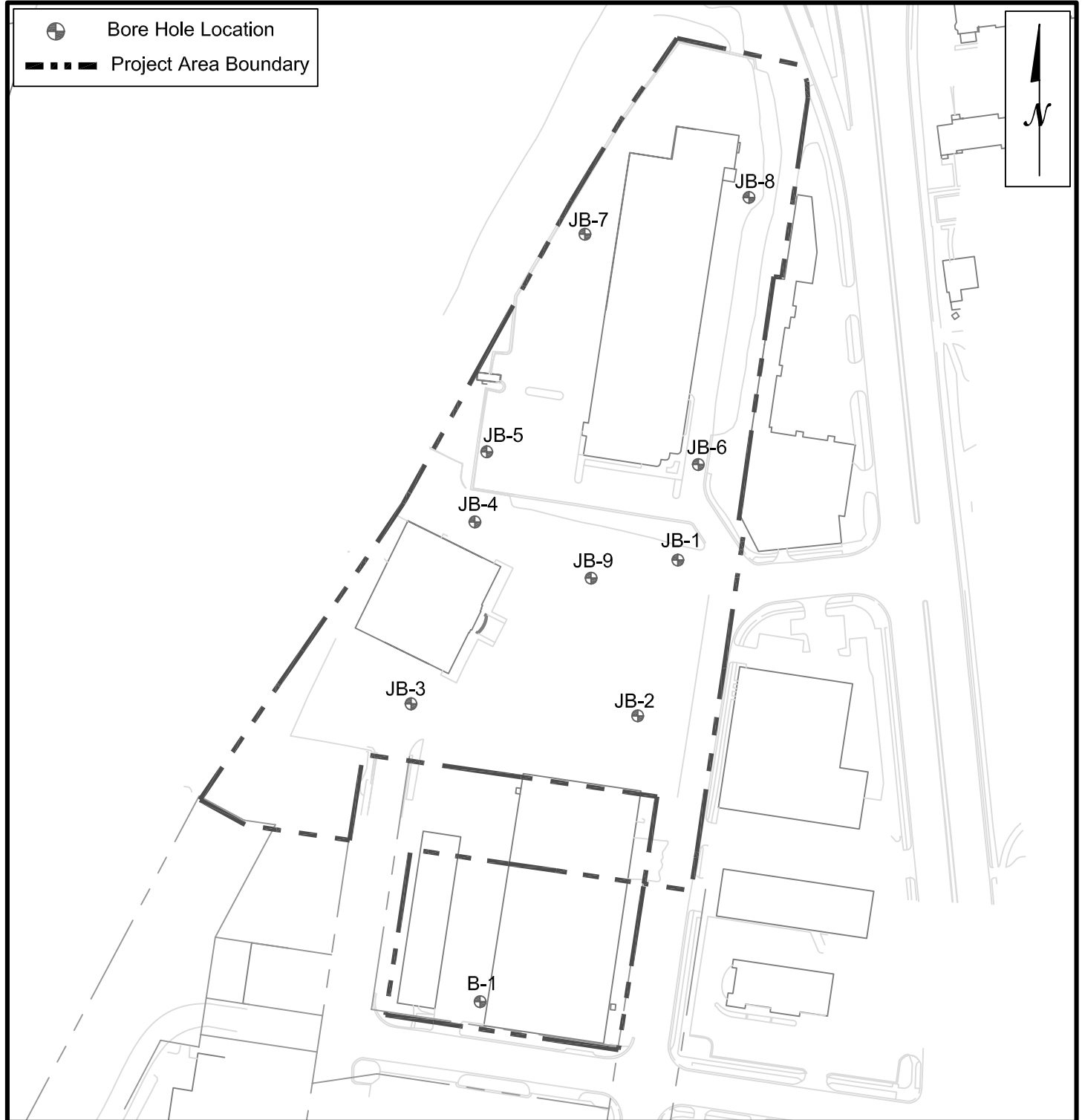
- Project Area
- Buildings (2006)

Map Source: "Alexandria, 1959". Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.

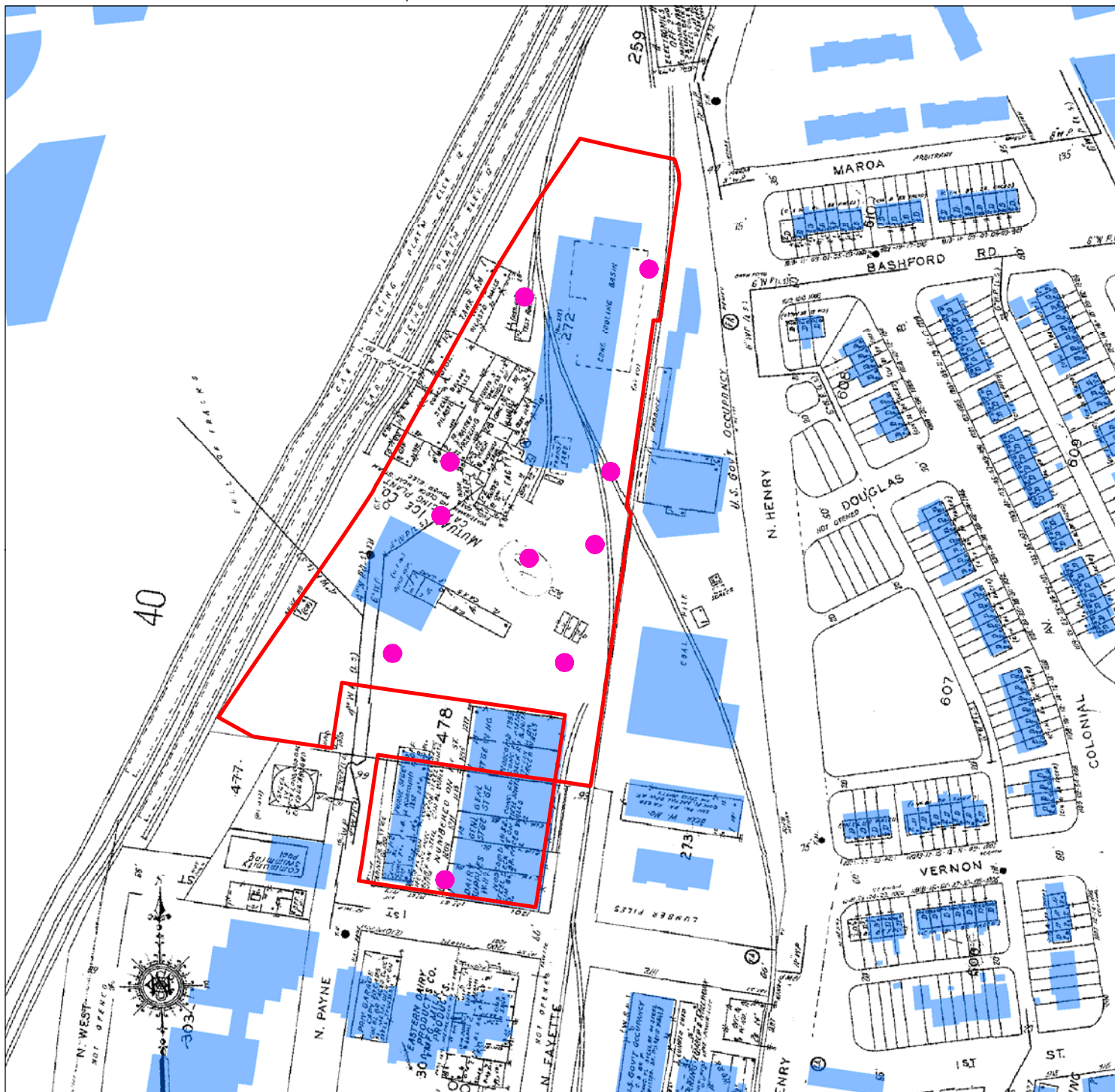
Building Source: City of Alexandria GIS (2006)

1959 Sanborn Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'





Locations of Bore Hole Tests Previously Conducted within the Project Area
Braddock Gateway - WSSI # 21677.01
Scale: 1" = 150'



- Project Area
- Buildings (2006)
- Bore Holes

Map Source: "Alexandria, 1959". Copyright © 2001 ProQuest Information and Learning Company. All Rights Reserved. All Sanborn maps copyrighted © 2001 by The Sanborn Map Company, Sanborn Library, LLC.

Building Source: City of Alexandria GIS (2006)

1959 Sanborn Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'

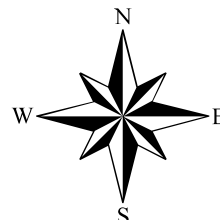


TABLE 5:**ECS MID-ATLANTIC BORING RESULTS JB-1**

Depth (Feet)	Lithologic Description
0-0.6	Asphalt fragments with gravel
0.6–2.0	Sandy silt, black, moist and loose
2.0–8.0	Silt, light grey, moist and medium tight
8.0–14.0	Silt, light grey with orange mottles, moist and soft
14.0–24.0	Very fine sand, brown, moist and loose*

* Soils encountered from 18.0–24.0 were saturated

Data Point JB-1 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 1.4 feet of black, loose sandy silt, possibly a fill. Below 2.0 feet, moist silty soils were encountered.

Data Point JB-2 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot north of Building 4 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 6.

TABLE 6:**ECS MID-ATLANTIC BORING RESULTS JB-2**

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 3.0	Fill, Sandy silt with red brick fragments and cobbles, black moist and soft (fuel odor noted)
3.0 – 16.0	Silty clay, dark brown, moist and tight
16.0 – 24.0	Very fine sand, brown, moist and loose*

* Soils encountered from 20.0 – 22.0 were saturated

Data Point JB-2 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 2.4 feet of black, sandy silt fill with brick fragments and cobbles. Below 3.0 feet, moist silty clay and fine sand were encountered.

Data Point JB-3 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot south of Building 2 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 7.

TABLE 7:

ECS MID-ATLANTIC BORING RESULTS JB-3

Depth (Feet)	Lithologic Description
0 – 2.0	Asphalt fragments with gravel
2.0 – 3.0	Fill, Sandy silt, black moist and loose
3.0 – 12.0	Silty clay, orangish brown, moist and medium tight
12.0 – 14.0	Sandy silt, brown, wet and loose*
14.0 – 18.0	Very fine sand, light brown, moist and loose*
18.0 - 23.5	Sandy silt, dark brown, wet and loose*

* Saturation points encountered

Data Point JB-3 shows the soil profile as recorded in the boring; consisting of 2.0 feet asphalt overlying 1.0 foot of black, sandy silt fill. Below 3.0 feet, moist silty clay and sand were encountered.

Data Point JB-4 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot north of Building 2 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 8.

TABLE 8:**ECS MID-ATLANTIC BORING RESULTS JB-4**

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 3.0	Fill, Sandy silt with red brick fragments and cobbles, black moist and loose
3.0 – 16.0	Silty clay, light grey, moist and tight
16.0 – 20.0	Very fine sand, light grey, wet and loose*
20.0 – 22.0	Silt, grey moist and soft
22.0 – 24.0	Very fine sandy silt, orangish brown, wet and loose

* Saturation points encountered

Data Point JB-4 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 2.4 feet of black, sandy silt fill with brick fragments and cobbles. Below 3.0 feet, moist silty clay, sand, silt and very fine silt were encountered.

Data Point JB-5 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot west of Building 1 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 9.

TABLE 9:**ECS MID-ATLANTIC BORING RESULTS JB-5**

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 7.5	Fill, Sandy silt with red brick fragments and cobbles, black moist and soft (fuel odor noted)
7.5 – 16.0	Clay, orange, moist and medium tight*
16.0 – 24.0	Sandy silt, brown, wet and loose**

* Perched water table

** Saturation points encountered

Data Point JB-5 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 2.4 feet of black, sandy silt fill with brick fragments and cobbles. Below 3.0 feet, moist silty clay, sand, silt and very fine silt were encountered.

Data Point JB-6 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot southeast of Building 1 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 10.

TABLE 10:

ECS MID-ATLANTIC BORING RESULTS JB-6

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 6.0	Fill, Sandy silt with red brick fragments, wood debris, cobbles and black rock fragments, brown moist and medium tight
7.5 – 16.0	Clay, light grey, moist and tight
16.0 – 22.0	Sandy silt, grey with orange mottles, wet and very soft
22.0 – 24.0	Silt, brown moist and soft

Data Point JB-6 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 5.4 feet of sandy silt fill with brick fragments, wood debris and cobbles. Below 6.0 feet, moist clay, sandy silt and moist silt were encountered.

Data Point JB-7 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot west of Building 1 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 11.

TABLE 11:**ECS MID-ATLANTIC BORING RESULTS JB-7**

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 19.0	Fill, Silty clay with red brick and quartz fragments, cobbles and wood debris, yellow brown moist and medium tight
19.0 – 20.0	Fill, Silt grey, moist and soft
16.0 – 22.0	Sandy silt, grey with orange mottles, wet and very soft*
22.0 – 24.0	Silt, brown moist and soft

* Saturation point encountered

Data Point JB-7 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 18.4 feet of yellowish brown silt clay fill with brick fragments, wood debris and cobbles. Between 19.0 and 20.0 feet, a grey silty fill was recorded. Below 20.0 feet, wet sandy silt and moist silt were encountered.

Data Point JB-8 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot east of Building 1 (see Exhibit 44). The soil profile recorded for the data point is shown on Table 12.

TABLE 12:**ECS MID-ATLANTIC BORING RESULTS JB-8**

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 4.0	Fill, Clay with brick fragments and cobbles, brown, moist and tight
4.0 – 9.0	Clay, brown, moist and tight
9.0 – 24.0	Very fine sand, orangish grey, wet and loose*

* Saturation point encountered

Data Point JB-8 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 3.4 feet of clay fill with brick fragments and cobbles. Below 4.0 feet, moist clay and fine sand were encountered.

Data Point JB-9 is located in the northern parcel within the project area. The bore hole was placed in the paved parking lot near the center of the parcel (see Exhibit 44). The soil profile recorded for the data point is shown on Table 13.

TABLE 13:

ECS MID-ATLANTIC BORING RESULTS JB-9

Depth (Feet)	Lithologic Description
0 - 0.6	Asphalt fragments with gravel
0.6 – 2.0	Fill, Sandy silt, black, dry and loose
2.0 – 12.0	Clay, light grey, moist and very tight
12.0 – 18.0	Very fine sandy silt, grey, moist and soft*
18.0 – 22.0	Very fine sand, very light grey, dry and loose*
22.0 – 24.0	Silt, grey, moist and soft

* Saturation point encountered

Data Point JB-9 shows the soil profile as recorded in the boring; consisting of 0.6 foot asphalt overlying 1.4 feet of sandy silt fill. Below 2.0 feet, moist clay, very fine sand and moist silt were encountered.

No soil borings were made within the standing building s; however several bore holes were placed at the locations of the no longer extant buildings associated with the Mutual Ice Company (see Exhibits 44 and 45). Data Point JB-5 may record a soil profile within the footprint of the 1913 ice plant building. Data Point JB-7 may record a soil profile within the footprint of the associated test room. Data Point JB-8 was placed in the vicinity of the plant’s concrete cooling basin.

As these bore holes were excavated in association with environmental testing on the property and the resulting stratigraphic data is fairly low in resolution, a few general statements relevant to this study may be made concerning the results. All data points showed a soil profile that included a layer of asphalt overlying varying depths of fill, overlying what appear to be C horizons and/or subsoil. No stratigraphic levels appear to conclusively represent intact prehistoric or historic living surfaces. Some fills contained brick rubble and wood debris that may represent detritus from the destruction of no longer extant buildings at the site. The depths of the fills were notably shallower in the southern parcel and the southern portion of the northern parcel. An extremely

deep fill was recorded in Data Point JB-7, located at or near the location of the no longer extant test room associated with the Mutual Ice Company plant. This very deep fill may represent the location of an earlier well, a deep pit excavated during the demolition of the early 20th century buildings or some other unknown deep feature. Most profiles show what appears to be subsoil underlying fill at depths between 3.0 and 7.5 feet. Generally, these results are indicative of either extensive filling throughout the project area or the presence of a cultural destruction level.

Summary and Recommendations

Overview

This documentary study of the ± 7 acre Braddock Gateway property at 1200 North Fayette Street in Alexandria, Virginia, was conducted by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc., of Gainesville, Virginia, for Jaguar Development, L.C. of Fairfax, Virginia. The project area is bounded by First Street on the south, North Fayette Street on the east and Potomac Yards to the west. The property is the site of the former Mutual Ice Company Potomac Yards plant, which operated from 1913 until 1969. The study was initiated in anticipation of the planned development of the project area and the concern that significant archeological resources may be impacted by this construction.

Documentary research has indicated that the Braddock Gateway property was a part of an estate bequeathed by Robert Alexander' to his daughter Parthenia Alexander Massey Dade and her husband Townshend Dade in the mid 18th century. During this period, the lands may have been utilized for the cultivation of tobacco or other crops or as pasture; however, little detailed information is available to support such conclusions. Domestic use of the project area by enslaved laborers or tenants in the 18th century must be considered a possibility; but no solid documentary evidence of such use has been found. In the last quarter of the 18th century, the property history indicates that the project area was a part of a large tract of land that was conveyed to and from businessmen in Philadelphia and Alexandria; including William Hartshorne, Jacob Harman, Baldwin Dade, Elisha Cullen Dick, and Richard Conway. Use of the land by tenants or enslaved laborers remains a possibility during this period of absentee ownership; however, the documents strongly indicate that the various landowners' interest in the property was merely speculative. By the terminal 18th century and into the early 19th century, the property appears to have been owned and leased by several wealthy residents of Alexandria. The northern portion of the property became, in the late 18th century, a part of Phillip Richard Fendall's Fendall Farm. The southern portion of the project area was contained within a parcel owned by John Gadsby and Jacob Hoffman, amongst others. During this period, the properties that included the project area were likely used as farms, pasture and household or market gardens by the various landowners or lessees. As all of these individuals were documented slave owners; it is possible that enslaved laborers were residing on the property during this period but no documented evidence of any residents on the property was found.

Following the bankruptcy and death of Phillip Richard Fendall, Fendall Farm was leased by John Gadsby and Edward Lloyd prior to circa 1820. Notations in a deed, Fendall's will and a diary from the period indicates that the Fendall Family cemetery was present on Fendall Farm. Although research conducted for this study has demonstrated that a portion of the project area was a part of Fendall Farm, the location of the cemetery remains unknown and it may or may not be located on the Braddock Gateway property.

By the mid 19th century, the property history is again characterized by what appears to be speculative interest with multiple conveyances between wealthy businessmen and investors in Alexandria and Baltimore. During this period, free African Americans may have leased property near or within the project area. Although no specific details concerning such use of the property subject to this research were found, documentary evidence does indicate that a community of free African Americans had formed just south of the project area after circa 1830.

In the early 20th century, the vicinity of the study area was the site of industrial development in Alexandria and, in 1913, the Mutual Ice Company Potomac Yard plant was built within the project area. There have been no maps or records located that show any structures on the property prior to 1913.

Potential for the Presence of Prehistoric Archeological Sites

The probability for locating prehistoric sites generally depends on the variables of topography, proximity to water, and internal drainage. Sites are more likely on well-drained landforms of low relief in close proximity to water. Plowing and other historic or modern disturbances lessens the significance of archeological sites by disturbing soil stratigraphy, thereby mixing artifact contexts and disturbing potential features.

The topography of the project area prior to filling and urban landscaping in the 20th century remains somewhat unclear. The earliest topographic map showing the project area (made in 1894, see Exhibit 11) indicates that the vicinity was on level terrain approximately 50 feet a.s.l.; just over one half mile to the west of the Potomac River. There is some indication in 19th century land descriptions that a marsh or wetland may have been present in the northern portion of the study area, where historic elevations may have been significantly lower.

The southern portion of the Braddock Gateway property was likely a level, well drained landform prior to 20th century filling and development, this and its location, possibly near a marsh in or near the northern portion of the project area would indicate at least a moderate probability for the presence of prehistoric sites. The northernmost portion of the project area may have been sloped, low lying or a combination thereof. This area would have a low probability for the presence of prehistoric sites.

Prehistoric archeological sites dating from the Paleoindian through Contact period are possible; however Paleoindian sites are considered unlikely as few have been found in Northern Virginia. No prehistoric sites have been recorded in the vicinity of the project area; however, based upon the topographic and environmental setting, site types expected in the project area would be small temporary resource exploitation camps dating to the Archaic and/or Woodland periods.

Raw geotechnical data from environmental testing does not indicate the presence of intact prehistoric surfaces beneath the overlying fill in the project area. It appears very likely that the entirety of the project area was disturbed during the 1913 construction of the Mutual Ice Company plant, subsequent use of the land by the Mutual Ice Company, the 1969 demolition of the facility and/or later construction of other buildings on the property, greatly reducing the chance of locating intact prehistoric archeological resources in these areas. Further, plowing of the land prior to the 20th century may have disturbed any prehistoric archeological resources present. The most common features associated with temporary campsites of the type expected in the project area would be shallow hearth features which are very rarely found intact in plowed or otherwise disturbed contexts. Overall, the presence of any intact prehistoric archeological resources within the project area is likely low, due to the degree of disturbance associated with historic plowing, the 1913 construction of the Mutual Ice Company plant, subsequent use of the land by the Mutual Ice Company, the 1969 demolition of the facility and later construction of other buildings on the property.

Potential for the Presence of 18th and 19th Century Archeological Sites

As previously stated, domestic use of the project area by enslaved laborers and/or tenants in the 18th century and early to mid 19th century must be considered a possibility; however no solid documentary evidence of such use has been found. Many of the 18th and 19th century owners of the various properties in the chain of title for the study area were documented slave owners. No evidence of any buildings having been extant on the property prior to 1913 were located; however dwellings associated with enslaved laborers and impoverished tenants are rarely shown on historic maps or detailed in deeds or other property records. Additionally, archeological sites associated with agricultural or other uses of the property during these periods are possible. The types of subsurface features associated with tenant or slave dwellings during these periods would include architectural features such as hearths and building foundations or piers and pit features such as refuse and sub-floor pits. Historic agricultural buildings on the property would be less likely to have associated features with post holes being most likely. Generally, due to 20th century land disturbances indicated by the geotechnical survey results, the probability of the presence of intact features of these types within the project area is low, assuming such features were ever present.

No specific information documenting historic military use or activity on the project area was located. The possibility for archeological sites associated with small military encampments dating to the late 18th century and to the Civil War era does however exist. The Braddock Gateway property is in the vicinity of documented encampments occupied by elements of the French army during marches to and from Yorktown during the Revolutionary War. The sites of these camps are based on historic sketch maps and their locations remain unknown. During the Civil War, Union troops were certainly present in the project area vicinity and some Union soldiers may have set up encampments nearby. Features associated with short term military camps in the 18th or 19th century would also likely be shallow and ephemeral. Overall, the probability of intact features of these types within the project area is low, due to the lack of evidence that military sites were present and in consideration of the effects of 20th century disturbance on any such features present.

As previously stated, primary sources indicate that the Fendall Family cemetery was present on Fendall Farm, a 35 acre tract that included most of the Braddock Gateway property and lands to the east and west. Although research conducted for this study has demonstrated that a portion of the project area was a part of Fendall Farm, the location of the cemetery remains unknown and it may be located on the Braddock Gateway property. It is equally possible that it lay on the portions of the Fendall Farm outside of the project area.

No definitive information was obtained on the number of interments within the cemetery or the specific identifies of these interments. It is believed that Phillip Richard Fendall was likely interred there in 1805 and his wife Mary was likely buried there in 1827. Pippenger (1992) has supposed that Elizabeth Steptoe Fendall, Philip Richard Fendall's first wife, who died in 1789, may have also been buried at the cemetery.

Several local historians, including T. Michael Miller (Miller Personal communication 2008; c.f. Miller 1986, 1992b, Pippenger 1992) believe that the cemetery was located near the north end of Payne Street and thus, likely within the Braddock Gateway property. According to long time Alexandria resident and Potomac Yards historian James Foley:

[the location of the Fendall Family Cemetery near the] north end of Payne St. and West St. is based on my many conversations over the years (1955-1970 or so) with Willie (Mugwump) Hammond who was employed by Mutual Ice and I believe was a Reardon family member through marriages, but am not sure of this.

This location was also known to many of the old time men in Alex who worked as boys at the Belle Pre bottling plant and the glass plant on Fayette St at Montgomery St. at the turn of the century (1900) whom I knew as old men in the late 50s...A couple of old Black men who worked at the ice house and were still alive in 2000 when we started the PY history project remember what they thought was an old cemetery down behind Mutual's fuel truck garage (Foley 2008 Personal communication).

The Mutual Ice Company garage was located adjacent to the bunkhouses, just east of the location of the standing structure within the project area described as Building 2 (see Exhibits 38 and 42). Pedestrian reconnaissance in this portion of the project area found no sign of burials at the landscaped and paved location (Plate 43). It should also be noted that, according to Miller, the cemetery was located on the 12 acre parcel that Fendall acquired from Dick in 1786, adding that it was one half acre in area (Miller 1986: 47 cited Alexandria Deed Book Q: 239). An examination of this deed book reference revealed that it did not pertain to the project area and the reference is likely a typographic error. The correct deed reference was not found although a number of variations of the deed reference cited by Miller were also examined. If Miller is correct concerning the location of the cemetery, it would have been located to the east of the Georgetown Road and to the east of the Braddock Gateway property. Michael Miller has been contacted in this matter and kindly offered to reexamine his relevant research notes; however the issue has not been resolved at this time.



PLATE 43
Vicinity of North End of N. Payne Street on the Braddock Gateway Property,
View to South

The presence of any intact archeological resources pre-dating the 20th century is dependent upon the degree of disturbance associated with the 1913 construction of the Mutual Ice Company plant, subsequent use of the land by the Mutual Ice Company, the 1969 demolition of the facility and later construction of other buildings on the property.

Industrial Archeological Potential

The Mutual Ice Company occupied the property leased from the RF&P Railroad between 1913 and 1969. Prior to that time, the Armour Car Lines had built and operated an icing station southwest of where the ice company built its plant. The technology involved in producing ice required extensive infrastructure, much of it internalized in the upper floors of the ice plant itself. The Mutual Ice Company plant was a substantial brick building constructed on a concrete foundation: "It had a very deep concrete foundation and pilings under some of it" (Reardon 2008a). Its walls above the foundation were a foot thick and all of its first story floors were concrete. According to the company's last owner, there was no basement or cellar and there were no underground conduits. All of the equipment was removed prior to the building's 1969 demolition. Wheel pits and raised concrete machinery platforms may still be present in the ammonia compressor room. Other areas inside the plant, e.g., the former boiler room, may have machinery mounts that may be preserved and the base of the brick smokestack may be preserved in subsurface contexts.

Outside of the plant, there are several areas within which subsurface features may be present. The wood icing platforms appear to have been constructed on wood trestles. It is unclear from surviving photographs whether the trestles were on concrete piers. The rail spurs leading to the ice plant siding, test house, and coal platform are indicated in railroad plats and Sanborn fire insurance maps and traces of these may be preserved.

The one-story bunkhouses were constructed on concrete slab foundations and there were no cellars or basements. If present, archeological features should reflect the mixed domestic and industrial use through time. Cooking areas, e.g., open-air hearths were used by bunkhouse residents and these features may be intact, depending on the level of disturbance involved in the plant's demolition and subsequent building activities at the property. However, given that the features were likely very shallow, it is doubtful that traces of them remain.

According to the 1964 railroad plat, the two concrete spray ponds/basis located north of the plant were enclosed in a fenced compound. The concrete basins had aerating sprayers and may have been as much as two feet deep. These features and electrical and plumbing features would provide information on how the compressor water was cooled and re-circulated into the plant.

Depending on post-1969 disturbances, intact subsurface features could further refine our understanding of the mixed industrial, commercial, and domestic activities at the property between 1913 and 1969. A well-documented sequence of plant additions and improvements and the accompanying installation and removal of equipment has the potential to yield information on how the plant owner's met the challenges of increasing scale and keeping up with technological changes in their industry.

Recommendations for Additional Documentary Research

Based on the results of any future archeological work and the presence of any significant archeological sites some additional documentary research may be valuable.

Additional research should be conducted to clarify and complete the chain of title and property history for portions of the project area and provide any relevant additional details where significant 18th or 19th century archeological sites may be found.

Additional documentary research may also be conducted relevant to the Mutual Ice Company presence on the property. The Mutual Ice Company was a 20th century firm with 19th century antecedents in Alexandria's business and industrial communities. The company's seven-decade history included two ice manufacturing plants that operated concurrently for nearly a decade as well as a network of retail ice sales locations throughout Alexandria. Potomac Yard was a significant node in a transportation and food distribution network with local, regional, and national impacts. As a critical part of the yard's operation and a link with other icing stations up and down the line, the Mutual Ice Company's plant played a key role in twentieth century economic and social history.

A bivalent family firm, the company's business history has the potential to provide significant information about entrepreneurial enterprises in Alexandria during the 20th century. While there is extensive literature on family firms and entrepreneurial enterprises, the bivalent family model – intergenerational ownership and control by two families – is a relatively unexplored area. Additional research into the history of this business and its antecedents and successors is warranted.

While there is considerable primary information available locally to document the Mutual Ice Company's history and the technology it used, much more is likely to be found in the corporate papers of the Richmond, Fredericksburg, and Potomac Railroad, the Southern Railway Company, and the Fruit Growers Express. Nineteenth century credit reports on the firm's antecedent entities would provide invaluable information on the path taken to vertical integration and consolidation among the firm's founders and the failed Alexandria Ice Company. Older Alexandria residents who did business with the Mutual Ice Company are a source of potential oral historical research. Finally, archeological investigations of the plant's site could yield important information to address a wide array of technological and social history questions.

REFERENCES CITED

Alexandria Archeology

- n.d. Robert Portner Brewery (44Ax0196) Summary. Electronic document.
<http://oha.alexandriava.gov/Archeology/pdfs/portnersummary.pdf>.

Alexandria Archeology Museum

- 1999a *Discovering the Decades: 1609-1729*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1609.html>
1999b *Discovering the Decades: 1730s*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1730.html>
1999c *Discovering the Decades: 1780s*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1780.html>
1999d *Discovering the Decades: 1790s*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1790.html>
1999e *Discovering the Decades: 1850s*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1850.html>
1999f *Discovering the Decades: 1860s*. Electronic Document,
<http://oha.alexandriava.gov/Archeology/decades/ar-decades-1860.html>

Alexandria Gazette (AG)

- 1805 Ice for Sale, John Gadsby Advertisement 20 June.
1815 Reward for Runaway Slave, Edward Lloyd Advertisement 4 September.
1838 Thomson F. Mason Obituary 22 December.
1849 Alexandria Canal Property Advertisement 11 September.
1900 New Wharf. *Alexandria Gazette* 7 November.
1921 Two Big Structures Reduced by Flames. *Alexandria Gazette* 12 September.
1952 Alexandria -- 100 Years of Progress. *Alexandria Gazette* 5 May.

Alexandria Washington Lodge No. 49, Ancient Free & Accepted Masons

- 1920 A Memorial to Washington, the Mason. Alexandria-Washington Lodge 49, Alexandria.

Baer, Christopher T.

- 2004a PRR Chronology 1862. May 2004 Edition. Electronic document,
<http://www.prrths.com/Hagley/PRR1862%20June%2004.wd.pdf>
2004b PRR Chronology 1865. June 2004 Edition. Electronic document,
<http://www.prrths.com/Hagley/PRR1865%20June%2004.wd.pdf>
2005a PRR Chronology 1871. January 2005 Edition. Electronic document,
<http://www.prrths.com/Hagley/PRR1871%20Jan%2005.pdf>
2005b PRR Chronology 1905. March 2005 Edition. Electronic document,
<http://www.prrths.com/Hagley/PRR1905%20Mar%2005.pdf>
2005c PRR Chronology 1856. March 2005 Edition. Electronic document,
<http://www.prrths.com/Hagley/PRR1856%2020Mar%2005.pdf>

Barber, James G.

1988 *Alexandria in the Civil War*. H.E. Howard, Inc. Lynchburg, Virginia.

Barse, William P.

1978 Preliminary Notes on the West Shore Site, 18AN219. *Archeological Society of Maryland Newsletter*, January 1978.

1990 A Trial Formulation of Vessel Shapes for the Early and Middle Woodland Ceramic Assemblages. Paper presented at the 21st Middle Atlantic Archeological Conference, Ocean City, Maryland.

1991 *Phase III Data Recovery Excavations at 28GL209, Gloucester County, New Jersey*. Report prepared for Transcontinental Gas Pipeline Corporation by Louis Berger & Associates.

1994 *Phase III Data Recovery Excavations at the Clifton Site (18CH358), Maryland Route 228 Wetland Mitigation, Charles County, Maryland*. Maryland State Highway Administration, Project Planning Division, Archeological Report Number 86.

2002 *An Archeological Survey, Inventory and Evaluation Study, and Data Recovery for the Fletchers Boathouse Site (51NW13) C&O Canal National Historical Park, Washington, D.C.* Report submitted to the National Capital Region, National Park Service.

Bergman, Christopher A., John F. Doershuk and Joseph Schuldenrein

1994 A Young Archeologist's Summary Guide to the Deeply Stratified Sandts Eddy Site, Northampton County, Pennsylvania. In *Recent Research into the Prehistory of the Delaware Valley*, edited by Christopher A. Bergman and John F. Doershuk, *Journal of Middle Atlantic Archeology*, Volume 10.

Bianculli, Anthony J

2001 *Trains and Technology: The American Railroad in the Nineteenth Century*. University of Delaware Press, Newark.

Bloomberg, Belinda

1988 Free Black Adaptive Responses to the Antebellum urban environment: neighborhood formation and socioeconomic stratification in Alexandria, Virginia 1790-1850. Masters thesis for George Washington University.

Board of Public Works

1858 *Doc. No. XVII. Annual Reports of the Railroad Companies Of The State Of Virginia, Made To The Board of Public Works, for the year ending September 30, 1858*.

Breedlove, L. B.

1932a The Ice Industry: Its Economics and Future II. *Journal of Land and Public Utility Economics* 8(4 August):404-417.

1932b The Ice Industry: Its Economics and Future I. *Journal of Land and Public Utility Economics* 8(3 August):234-247.

Brown, Lois

1979 *Fluted Points in Maryland*. Unpublished, on file at the Maryland Geological Survey, Division of Archeology.

Broyles, Bettye J.

1971 *Second Preliminary Report: The St. Albans Site, Kanawha County, West Virginia*. West Virginia Geological Survey, Report of Investigations 3.

Carbone, Victor A.

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

Carper, Robert S.

1992 Farewell to Potomac Yard. *Trains* 52(5): 31-39. On file with Alexandria Archeology Museum, Alexandria, Virginia (Potomac Yard Archeological Sites and History).

Chandler, A. D.

1994 *Scale and Scope: The Dynamics of Industrial Capitalism*. Belknap Press, Cambridge, Mass.

Chapman, Jefferson

1975 *The Rose Island Site and the Bifurcate Point Tradition*. Knoxville, University of Tennessee, Department of Anthropology.

Chataigne, J.H.

1887 *Chataigne's Alexandria City Directory*. J.H. Chataigne, Washington, D.C.

1888 *Chataigne's Alexandria City Directory*. J.H. Chataigne, Washington, D.C.

City of Alexandria

1907 Alexandria Building Permits. Application for Permit to Build. Mutual Ice Company. 11 January, Manuscript collection, Alexandria Library

Coblentz, C.

1966 Ice Cutting Machine. U.S. Patent No. 3,261,383. Alexandria, VA, 19 July. Assigned to the Mutual Ice Company.

Coe, Joffre L.

1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society* 54 (5), Philadelphia.

Commonwealth of Virginia

- 1850 *Acts Of The General Assembly Of Virginia Passed At The Extra And Regular Sessions in 1849 & 1850, And In The Seventy-Third and Seventy-Fourth Years Of The Commonwealth.* William F. Ritchie, Public Printer, Richmond, Virginia.
- 1867 *Virginia Acts of the Assembly 1866-'67.* James E. Goode, printer, Richmond, Virginia.
- 1871 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia at Its Session of 1871.* R. F. Walker, Richmond, Virginia.

Cox, Al

- 1996 The Alexandria Union Station. *Historic Alexandria Quarterly.* 1(1).

Cross, Dorothy

- 1956 *Archeology of New Jersey, Volume 2: The Abbot Farm.* Trenton: Archeological Society of New Jersey and the New Jersey State Museum.

Crothers, Glenn A.

- 2005 "Quaker Merchants and Slavery in Early National Alexandria, Virginia: The Ordeal of William Hartshorne" in *Journal of the Early Republic* 25.1: 47-77.

Curry, Dennis and Maureen Kavanagh

- 1994 A New Radiocarbon Date for Popes Creek Ware. *Maryland Archeology* 30(1):29-32.

Darmody, R.G. and J.E. Foss

- 1978 *Tidal Marsh Soils of Maryland.* Maryland Agricultural Experimental Station Publication 930:1-69.

Davis, W.

- 1868 Improvement in Preserving Meat, &c. U.S. Patent No. 78,932. Detroit, Michigan, 16 June.

Dennee, T. J.

- 2004 A History of Lloyd House, Part I The Early Years: 1796 – 1832. In *Historic Alexandria Quarterly.* Fall 2003/Winter 2004. Electronic Document.
<http://oha.alexandriava.gov/oha-main/haq/pdfs/haqfallwin04.pdf>
- 2008 Portner Brewery. Email to David Rotenstein, 28 April.

Dent, Richard J.

- 1995 *Chesapeake Prehistory: Old Traditions, New Directions.* Plenum Press, New York.

Dincauze, Dena

- 1976 *The Neville Site: 8,000 Years at Amoskeag, Manchester, New Hampshire.* Peabody Museum Monographs Number 4, Cambridge, Massachusetts.

Douglas, W. B.

1965 Firm Gives Alexandria Away Water. *The Washington Post* 24 April.

Escherich, Susan

1992 *Town of Potomac, Alexandria, Virginia*. National Register of Historic Places Registration Form.

Esso Oilways

1946 Frozen Assets. *Esso Oilways* [Houston, Texas], July: 1-6.

Fiedel, Stuart J.

1999 *Connecting Late Prehistoric Ceramic Lineages with Early Historic Ethnic-Linguistic Groups: Prospects and Problems*. Paper presented at the Middle Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Gardner, William M.

1974 *The Flint Run Paleo Indian Complex: Report on the 1971-1973 Seasons*. Occasional Publication 1, Department of Anthropology, Catholic University of America, Washington, D.C.

1976 *Excavations at 18PR141, 18PR142 and 18PR143 Near Piscataway, Maryland*. Report submitted to the Washington Suburban Sanitary Commission.

1980 The Archaic. Paper presented at the 11th Middle Atlantic Archeological Conference, Rehoboth Beach, Delaware.

1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archeology: Methods and Interpretations*, pp. 53-86, Roger W. Moeller, editor. American Indian Archeological Institute, Occasional Paper No. 3, Washington, Connecticut.

1985 *Prehistoric Site Distribution in the Greater Washington, D.C. Area*. Paper presented at the Annual Meeting of the American Anthropological Society, Washington, D.C.

1987 Comparison of Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain Archaic Period Site Distribution: An Idealized Transect. In *Journal of Middle Atlantic Archeology*, Vol 3, pp. 49-80, Roger W. Moeller, editor. Archeological Services, Bethlehem, Connecticut.

1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (circa 9200-6800 B.C.). In *Paleoindian Research in Virginia: A Synthesis*, pp. 5-51, J. Mark Wittkofski and T.R. Rhinehart, editors. Archeological Society of Virginia, Special Publication No. 19. The Dietz Press, Richmond, Virginia.

1991 *Notes for the Territory Presentation*. Presented at the 1991 Middle Atlantic Archeological Conference.

Gadsby's Tavern Museum Society

n.d. "Gadsby's 18th Century Hi Tech Ice Well." Electronic document.
<http://gadsbys.home.att.net/icewell.htm>

- Gardner, William M. and Charles W. McNett, Jr.
 1971 Early Pottery in the Potomac. *Proceedings of the Second Middle Atlantic Archeological Conference*. Washington, D.C.
- Gardner, William M. and Lauralee Rappleye
 1979 *A Cultural Resources Reconnaissance and Impact Area Assessment of the Great Dismal Swamp Wildlife Refuge, Chesapeake and Nansemond Counties, Virginia*. Report prepared for the U.S. Department of the Interior, Interagency Archeological Services, Atlanta, Georgia, by the Thunderbird Research Corporation, Front Royal, Virginia.
- Gardner, William M. and Joan M. Walker
 1993 *A Phase I Cultural Resources Reconnaissance of the Proposed Mitchell Substation and Mitchell Transmission Line in Culpeper County, Virginia*. Report prepared for Rappahannock Electric Cooperative, Fredericksburg, by the Thunderbird Archeological Associates, Inc., Woodstock, Virginia.
- Geddes, Jean
 1967 *Fairfax County Historical Highlights From 1607*. Denlinger's, Fairfax, Virginia.
- Griffin, James B.
 1967 Eastern North American Archeology: A Summary. *Science* 156:175-191.
- Griffin, William E., Jr.
 1984 *One Hundred Fifty Years of History Along the Richmond, Fredericksburg and Potomac Railroad*. Richmond, Fredericksburg and Potomac Railroad Company, Richmond, Virginia.
- Hahn, Thomas Swiftwater, and Emory L. Kemp
 1992 *The Alexandria Canal: Its History and Preservation*. West Virginia University Press, Morgantown.
- Hall, H.
 1888 The Ice Industry of the United States with a Brief Sketch of Its History. In *United States Bureau of the Census*. Volume 22.
- Handling of Perishable Freight by Railroads
 1924 *Ice and Refrigeration* [Chicago, Illinois], February: 196-198.
- Hantman, Jeffrey L. and Michael J. Klein
 1992 Middle and Late Woodland Archeology in Piedmont Virginia. In *Middle and Late Woodland Research in Virginia: A Synthesis*, pp. 137-164, Theodore R. Reinhart and Mary Ellen N. Hodges, editors. Archeological Society of Virginia, Special Publication No. 29. The Dietz Press, Richmond, Virginia.

Hastings, E.

1947 Letter. L.D. Gross, Fruit Growers Express Company, 1 August. Potomac Yard Collection, Alexandria Library.

Hening, William Waller

1820 *The Statutes At Large; Being A Collection Of All The Laws Of Virginia, From The First Session Of The Legislature, In The Year 1619. Volume IV.* Franklin Press, Richmond, Virginia.

Hill Directory Company

1955 *Hill's Alexandria (Virginia) City Directory.* R.L. Polk, Richmond.

1960 *Hill's Alexandria (Virginia) City Directory.* R.L. Polk, Richmond.

Historic Alexandria

1999 Oral History. Interview with Helen Miller. Electronic document.

Historic Congressional Cemetery

2001 July 13 Obituary entry for John Gadsby. Electronic document,
<http://www.congressionalcemetery.org>

Humbert, R. L. (editor)

1933 *Virginia, Economic and Civic, Prepared in the Virginia Polytechnic Institute in Collaboration with the Virginia State Chamber of Commerce.* Whittet & Shepperson, Richmond.

Ice and Refrigeration

1893a New Ice Plants. *Ice and Refrigeration*, January.

1893b New Ice Plants. *Ice and Refrigeration*, February.

1893c New Ice Plants. *Ice and Refrigeration*, March.

1893d New Ice Plants. *Ice and Refrigeration*, July.

1893e New Ice Plants. *Ice and Refrigeration*, April.

1895 Obituary Items. *Ice and Refrigeration*, September.

1900 New Incorporations. *Ice and Refrigeration*, February.

1912 New Plants and Improvements. *Ice and Refrigeration*, August.

1913a Raw Water Ice Plant for Car Icing Station. *Ice and Refrigeration* [Chicago, Illinois], June: 335-340.

1913b New Plants and Improvements. *Ice and Refrigeration*, April.

1917 Virginia Association. *Ice and Refrigeration*, February.

1918 Annual List of Ice Prices. *Ice and Refrigeration*, May.

1919 Annual List of Ice Prices. *Ice and Refrigeration*, May.

1920 New Plants and Improvements. *Ice and Refrigeration*, June.

Isenstadt, S.

- 1998 Visions of Plenty: Refrigerators in America Around 1950. *Journal of Design History* 11(4):311-321.

Jirikowic, Christine

- 1999 *Keyser Ware Ceramics at the Hughes Site and in the Potomac Basin*. Paper presented at the Middle Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Johnson, Michael

- 1983 The Evolution of the Bifurcate Hunting System in the Interior Piedmont of Fairfax County, Virginia. In *Piedmont Archeology*, pp. 55-73, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia, Special Publication No. 10, Richmond, Virginia.
- 1986 *Fairfax County Archeological Overview*. Heritage Resources Branch, Fairfax, Virginia.

Jones, J. C.

- 1984 *America's Icemen: An Illustrative History of the United States Natural Ice Industry, 1665-1925*. Jobeco Books, Humble, Texas.

Kavanaugh, Maureen

- 1983 Prehistoric Occupation of the Monocacy River Region, Maryland. In *Piedmont Archeology*, pp. 40-54, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia Special Publication No. 10. Richmond, Virginia.

Kerr, John Bozman

- 1880 *Genealogical Notes of the Chamberlaine Family of Maryland*. J. B. Piet, Maryland.

Kilmer, Kenton and Donald Sweig

- 1975 *The Fairfax Family in Fairfax County*. Fairfax County Office of Comprehensive Planning, Fairfax, Virginia.

Kinsey, W.F. III

- 1972 *Archeology in the Upper Delaware Valley*. Harrisburg, Pennsylvania Museum and Historical Commission, Anthropological Series 2.

Leefendallhouse.org

- n.d. About Residents. Electronic document.
www.leefendallhouse.org/about_residents.htm

Loizeaux, David

- n.d. A Brief History of West Towson. Electronic document.
<http://www.historictowson.org/HistoryofWestTowson.pdf>

Manson, Carl

1948 Marcey Creek Site: An Early Manifestation in the Potomac Valley. *American Antiquity* 12(3):223-227.

Mayer, Brantz

1871 *Baltimore: Past and Present: With Biographical Sketches of Its Representative Men*. Richardson and Bennett. Baltimore, Maryland.

McClearen, Douglas C.

1991 *Phase III Archeological Investigations of the "522 Bridge Site" (44WR329) Warren County, Virginia*. Virginia Commonwealth University, Archeological Research Center, Richmond, Virginia.

McNett, Charles W., and William M. Gardner

1975 *Archeology in the Lower and Middle Potomac Valley*. Unpublished manuscript in possession of the author.

Michie, Thomas Johnson, Thomas Jefferson, and Peachy Ridgway Grattan

1901 *Virginia Reports. Jefferson --33 Grattan. 1730-1880*. Michie Co., Charlottesville, Virginia.

Miller, Glenda F. and Joan M. Walker

n.d. *Competing Agendas: The Fur Trade and Native Americans*.

Miller, T. Michael

1986 *Visitors from the Past—A Bicentennial Reflection on Life at the Lee-Fendall House 1785-1985*. Virginia Trust for Historic Preservation-Lee-Fendall House. Alexandria, Virginia.

1988 *Captain Richard Conway: Plutocrat Extraordinaire*. Fireside Sentinel. Volume II, No. 1, January. Alexandria, Virginia.

1989 Wandering Along the Waterfront. *Fireside Sentinel* 3(3 March):29-36.

1991a Keeping Cool. *Fireside Sentinel* 5(6 June):78-80.

1991b *Artisans and Merchants of Alexandria, Virginia 1780-1820*. Heritage Books. Bowie, Maryland.

1992a Horse Racing. *The Fireside Sentinel* 6(6): 59-64.

1992b The History of Potomac Yards: The Alexandria Canal. *The Fireside Sentinel* 6(11): 105-116.

Monmouth County Historical Association

n.d. Hartshorne Family Papers II, 1664 – 1915. Electronic document. <http://www.monmouth.com/~mcha3/coll24.html>

Mordecai, J. B.

- 1941 *A Brief History of the Richmond, Fredericksburg and Potomac Railroad*. Old Dominion press, inc., Richmond.

Morgan, Maxine Goff

- 1965 A Chronological History of the Alexandria Canal (Part I). *Arlington Historical Magazine* 3(1): 3-16.
1966 A Chronological History of the Alexandria Canal (Part II). *Arlington Historical Magazine* 3(2): 3-21.

Mouer, Daniel, Robin L. Ryder and Elizabeth G. Johnson

- 1981 The Elk Island Tradition: An Early Woodland Society in the Virginia Piedmont. *Quarterly Bulletin of the Archeological Society of Virginia* 36:49-76.

Mounier, Alan and Jack Cresson

- 1988 A Case of Lachrymose Archeology in Southern New Jersey. *Archeological Society of New Jersey Newsletter* 146:5-8.

Mutual Ice Company of Alexandria

- 1900 Corporate Charter. 5 January, Alexandria Clerk of Circuit Court

Netherton, Nan, Donald Sweig, Janice Artemel, Patricia Hickin and Patrick Reed

- 1992 *Fairfax County, Virginia. A History*. Reprinted, Anniversary Commemorative Edition. Originally published 1978, Fairfax County Board of Supervisors, Fairfax, Virginia.

Office of Historic Alexandria

- n.d. Bonds to Education: Alexandria's Black Public Education, 1800-1965. In *Alexandria Black History Museum Website*. Electronic document, <http://oha.ci.alexandria.va.us/bhrc/bh-bonds.html>, accessed May 9, 2008.

Pippenger, Wesley, E.

- 1990 *John Alexander: A Northern Neck Proprietor, His Family, Friends and Kin*. Gateway Press, Inc., Baltimore, Maryland.
1992 *Tombstone Inscriptions of Alexandria, Virginia*. Vol. 3. Willowbend Books, Maryland.

Potter, Stephen R.

- 1982 *An Analysis of Chicacoan Settlement Patterns*. Dissertation on file, Department of Anthropology, University of North Carolina, Chapel Hill.
1993 *Commoners, Tribute and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University Press of Virginia, Charlottesville.

Pownall, H.

1912 The Development of Raw Water Ice Making. *Ice and Refrigeration* [Chicago, Illinois], December: 229-232.

Provine, Dorothy S., edited and indexed by

1990 *Alexandria County, Virginia: free negro registers 1747-1841*. Heritage Books. Bowie, Maryland.

Reardon, O. A.

2008a File: Oral History Interviews with David S. Rotenstein. 21-22 April. Transcripts and audio on file with Alexandria Archeology.

2008b Personal Communication. 28 April.

Robert Portner Brewing Company

1901 Letter. Mutual Ice Company, 28 October. The Lyceum -- Alexandria's History Museum. Papers of James Boyd Williams Jr.

Rose, C.B., Jr.

1976 *Arlington County, Virginia: A History*. Arlington County Historical Society. Port City Press, Baltimore, Maryland.

Sanford, S.

1913 *The Underground Water Resources of the Coastal Plain Province of Virginia*. Virginia Geological Survey Bulletin No. V. University of Virginia, Charlottesville.

Schechter, U.

2001 A Guide to the Richmond, Fredericksburg, and Potomac Railroad Records, 1834-1997. Accession Number 36460 A Collection in the Library of Virginia. Electronic document. <http://www.lva.lib.va.us/> Richmond.

Sharrer, G. Terry,

1977 "Commerce and Industry" in *Alexandria: A Towne in Transition, 1800-1900*. John D. Macoll, ed., Alexandria 250th Anniversary Commission, City of Alexandria, VA.

Slattery, Richard G.

1946 A Prehistoric Indian Site on Selden Island, Montgomery County, Maryland. *Journal of the Washington Academy of Sciences* 36 (8):262-266.

Springett, B. H.

1921 *Cold Storage and Ice-Making*; Sir I. Pitman & sons, ltd., London.

Stephenson, Richard W.

1981 *The Cartography of Northern Virginia: Facsimile Reproductions of Maps Dating From 1608-1915*. Fairfax County, Virginia: Fairfax County Board of Supervisors.

Stephenson, Robert L., Alice L. Ferguson and Henry G. Ferguson

1963 *The Accokeek Site: A Middle Atlantic Seaboard Culture Sequence*. Anthropological Papers (20) Museum of Anthropology, University of Michigan, Ann Arbor.

Stetson, Charles W.

1935 *Four Mile Run Land Grants*. Mimeoform Press, Washington, DC.

Stevens, J. Sanderson

1989 *Environmental Site Predictors and Prehistoric Settlement Patterns in the Central Piedmont of Virginia*. Paper presented at the Middle Atlantic Archeological Conference, Rehoboth Beach, Delaware.

Stewart, R. Michael

1990 The Middle to Late Woodland in the Lower/Middle Delaware Valley. *North American Archeologist* 11 (3): 231-254.

Sutherland, J.

1867 Improved Refrigerator-Car. U.S. Patent No. 71,423. Detroit, Michigan, 26 November.

Stewart, R. Michael

1990 The Middle to Late Woodland in the Lower/Middle Delaware Valley. *North American Archeologist* 11 (3): 231-254.

Terrie, Philip G.

1980 Alexandria Merchants: The Beginning of the Turnpike Movement in Northern Virginia. *Northern Virginia Heritage* 2(3): 7-10.

Thomson, William

1851 *Thomson's Mercantile and Professional Directory, 1851-1852*. William Thomson, Baltimore.

Thurman, Melburn D.

1985 A Cultural Synthesis of the Middle Atlantic Coastal Plain, Part I: Culture Area and Regional Sequence. *Journal of Middle Atlantic Archeology* 1:7-32.

United States. Federal Trade Commission

1919a *Food Investigation. Report of the Federal Trade Commission on Private Car Lines*. Government Printing Office, Washington, D.C.

1919b *Summary and Part I. Food Investigation. Report of the Federal Trade Commission on the Meat-Packing Industry*. Government Printing Office, Washington, D.C.

U.S. Congress. House of Representatives

1905 *Report of the Commissioner of Corporations on the Beef Industry*. 3 March. 58 Cong., 3d sess. H. doc. 382.

1913 *Water Terminal and Transfer Facilities*. 6 September. 63 Cong., 1st sess. H. doc. 226.

1919 *War Department Annual Report, Chief of Ordnance and Miscellaneous Reports*. 30 June. 66 Cong., 2d sess. H. doc. 426.

1931 *Regulation of Stock Ownership in Railroads*. 71 Cong., 3d sess. H. Rept. 2789.

U.S. Congress. Senate

1906 *Regulation of Railway Rates. Hearings Before the Committee on Interstate Commerce*. 59 Cong., 1st sess. S. Doc. 243.

Wade, L. C.

1987 *Chicago's Pride : The Stockyards, Packingtown, and Environs in the Nineteenth Century*. University of Illinois Press, Urbana, Illinois.

Walker, Joan M.

1981 *A Preliminary Report on the Prehistory of Prince William County, Virginia*. Report prepared for the County of Prince William by the Thunderbird Research Corporation, Woodstock, Virginia.

Walker, Joan M. and William M. Gardner

1989 *Phase I Archeological Survey, Telegraph Woods Sanitary Sewer Line, Fort Belvoir, Virginia*. Report prepared by Thunderbird Archeological Associates, Inc., Woodstock, Virginia, for Paciulli, Simmons and Associates, Ltd., Fairfax, Virginia.

Walker, Mark and Marilyn Harper

1989 *Potomac Yard Inventory of Cultural Resources*. Report prepared for HOH Associates, Alexandria, Virginia by Engineering Science, Inc. of Washington, D.C.

Wallace, Alton S. et al.

2003 *I Once Was Young. History of the Alfred Street Baptist Church 1803-2003*. Tapestry Press, Ltd. Littleton, Maine 01460.

Ward, Ruth M.

1980 The Alexandria Alms House and Work House. *Arlington Historical Magazine* 6(4):64-67.

Waselkov, Gregory A.

1982 *Shellfish Gathering and Shell Midden Archeology*. Ph.D. Dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Washington Herald

1910 Representative Alexandria Business Houses. *The Washington Herald* 20 October.

Washington Post

1878a Alexandria. *The Washington Post* 2 February.

1878b Alexandria Annals. *The Washington Post* 27 December.

1880 Alexandria Annals. *The Washington Post* 14 June.

1882a Alexandria Annals. *The Washington Post* 3 August.

1882b Alexandria Annals. *The Washington Post* 26 April.

1883 Alexandria Annals. *The Washington Post* 27 September.

1884 Alexandria. *The Washington Post* 20 May 1884.

1892 Alexandria News in Brief. *The Washington Post* 14 December.

1893a Alexandria News in Brief. *The Washington Post* 23 March.

1893b Alexandria News in Brief. *The Washington Post* 22 April.

1894 Alexandria. *The Washington Post* 2 March.

1895 Frank Reed's Suicide. *The Washington Post* 24 August.

1906 Move to New Quarters. *The Washington Post* 12 March.

1907a Pass Paving Measure. *The Washington Post* 27 March.

1907b Forty Tons Daily Capacity. *The Washington Post* 24 February.

1909 Employee Burned by Ammonia. *The Washington Post* 15 July.

1912a Ice Company Issues Bonds. *The Washington Post* 4 July.

1912b Well for Ice Plant. *The Washington Post* 7 September.

1913 Ice Plant Completed. *The Washington Post* 14 March.

1916a Train Kills 2 in Auto. *The Washington Post* 22 December.

1916b Crushed in Ice Plant Shaft. *The Washington Post* 30 July.

1921 \$262,000 Fire Loss. *The Washington Post* 11 September.

1925a Charles Brown Arrested for Florida Authorities as Violating Parole. *The Washington Post* 28 March.

1925b Youth Cooked Alive, in Ice House Tank, Dies from Injuries. *The Washington Post* 7 July.

1926 Alexandria Trades Council Approves Free School Plan. *The Washington Post* 14 November.

1930 Alexandria Obtains New Water Supply. *The Washington Post* 28 October.

1931 Firm to Give \$100 Month to Charity. *The Washington Post* 16 December.

1945 \$24,290 Suit Alleges Unpaid Overtime Work. *The Washington Post* 21 December.

- 1947 Icemen Sweat to Cool Trains at Alexandria and Washington. *The Washington Post* 17 August.
- 1953 'Florida Boy' is Indicted for Murder. *The Washington Post* 13 November.
- 1964 Migrant Dies After Fight in Bunkhouse. *The Washington Post* 23 October.
- 1973 O.A. Reardon, Alexandria Civic Leader. *The Washington Post* 15 March.
- Wedderburn, A. J.
- 1907 *Souvenir Virginia Ter Centennial of Historic Alexandria, Va., Past and Present*. Alexandria, VA.
- Weightman, G.
- 2003 *The Frozen-Water Trade: A True Story*. Hyperion, New York.
- Weinschenk, Mitch
- 1999 Interview with Helen Miller. In *Historic Alexandria, Oral Histories Website*. Electronic document, <http://oha.ci.alexandria.va.us/oha-main/oralhistory/oha-helenmiller.html>
- Weiss-Bromberg, Francine
- 1987 *Site Distribution in the Coastal Plain and Fall Zone of the Potomac Valley from ca. 6500 B.C. to A.D. 1400*. Master's Thesis, Department of Anthropology, The Catholic University of America, Washington, D.C.
- Williams, Ames W.
- 1977 Transportation. In, *Alexandria. A Town in Transition 1800-1900*, 49-75. Alexandria Bicentennial Commission, Alexandria Historical Society, Alexandria, Virginia.
- Williams, J. B. J.
- 1990 File: Oral History Interviews with Michael Miller. . Audio cassettes, manuscript collection, Alexandria Library
- Williams, Neville
- 1977 The Tribulations of John Bland, Merchant. London, Seville, Jamestown, Tangier, 1643-1680" in *The Virginia Magazine of Biography and History*, 72: 30-41.
- Williams, S.
- 2002 A Nostalgic Account of Growing up in Old Town in the 1950's. *Historic Alexandria Quarterly*, Fall: 1-12.
- Williamson, J. J.
- 1896 *Mosby's Rangers*. Ralph B. Kenyon, New York, New York.

Williamson, O. E.

1985 *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. Free Press, New York.

Winfrey, Waverly K., [editor]

1971 *The Laws of Virginia; being a Supplement to Henning's the Statutes at Large, 1700-1750*. Virginia State Library, Richmond, Virginia.

XENOPHON Group

2001 *Researching the French Camps of 1781 and 1782 at Alexandria, Virginia*. Electronic document, http://xenophongroup.com/mcjoynt/alex_hrm.htm

Yeager, M.

1981 *Competition and Regulation: The Development of Oligopoly in the Meat Packing Industry*. JAI Press, Greenwich, CT.

Public Records Consulted

Alexander v. Pendleton, 12 U.S. 462 (1814)

Alexandria Corporation Deed Books

Alexandria Corporation Will Books

Alexandria County Deed Books

Alexandria County Will Books

Alexandria slave schedules

Alexandria County land tax records

Alexandria (city) personal property tax records

Alexandria (city)/ District of Columbia business directories

Alexandria County birth and marriage records

Alexandria County chancery court cases

Arlington County Deed Books

Arlington County Will Books

City of Alexandria building permits

City of Alexandria land tax records

City of Alexandria personal property tax records

Fairfax County Deed Books

Northern Neck Land Grants

Prince William County Land Causes

Stafford County Order Book

Stafford County Wills

United States. Bureau of the Census

Maps Referenced

Berry, Josiah

1741 *Survey of Howsing's Patent for 6000 Acres.* Fairfax County, Virginia Record of Surveys.

Barnard, Bvt. Major Gnl. J.G.

1862 *Map of the Environs of Washington.* Library of Congress. Geography and Maps Division, Washington, D. C

Boschke, A.

1861 *Topographical Map of the District of Columbia.* Library of Congress. Geography and Maps Division, Washington, D. C.

Gilpin, George

1798 *Plan of the Town of Alexandria.* Library of Congress Geography and Map Division.

Hampton, Jeremiah, Ferdinando O'Neale and Joseph Dorsey

1746 *Survey of Robert Howsons Patent.* Fairfax County, Virginia Record of Surveys.

Hopkins, G. M.

1878 *Alexandria County, Virginia.* Library of Congress Geography and Map Division.

1894 *Alexandria, Virginia.* Library of Congress Geography and Map Division.

McDowell, General Irwin

1862 *Map of Northeastern Virginia And Vicinity Of Washington. Surveys For Military Defenses.* Topographical Engineers Office, Arlington, Virginia.

Mitchell, Beth

1987 *An Interpretive Historical Map of Fairfax County, Virginia in 1760.*

Sanborn Map Company

1902 *Insurance Maps of Alexandria, Virginia.* Sanborn Map Company, New York, New York.

1912 *Insurance Maps of Alexandria, Virginia.* Sanborn Map Company, New York, New York.

1921 *Insurance Maps of Alexandria, Virginia.* Sanborn Map Company, New York, New York.

1931 *Insurance Maps of Alexandria, Virginia.* Sanborn Map Company, New York, New York.

Sanborn-Perris Map Company

1891 *Alexandria, Virginia*. Sanborn-Perris Map Company, New York, New York.

Shipman, A.J.

1886 Map of *Fairfax County, Virginia*. Drawn for O.E. Hine.

United States Department of Agriculture

1915 *Fairfax County Soils Map*.

United States Geological Survey

1929 *Washington DC Vicinity Quadrangle* (Topographic Map).1:62,500. 15
Minute Series U.S. Geological Survey, Washington, D.C.

1932 *Washington DC Vicinity Quadrangle* (Topographic Map).1:62,500. 15
Minute Series U.S. Geological Survey, Washington, D.C.

1944 *Washington DC Vicinity Quadrangle* (Topographic Map).1:62,500. 15
Minute Series U.S. Geological Survey, Washington, D.C.

1956 *Washington DC Vicinity Quadrangle* (Topographic Map).1:62,500. 15
Minute Series U.S. Geological Survey, Washington, D.C.

1965 *Alexandria VA-DC-MD Quadrangle* (Topographic Map).1:62,500. 15
Minute Series U.S. Geological Survey, Washington, D.C.

Washington, George

1749 A Plan of Alexandria now Belhaven. Reprinted in *The George Washington Atlas*, 1932, Washington, D. C.

APPENDIX I
Documentary Study Scope of Work

**Scope of Work for a
Braddock Gateway
1200 N. Fayette Street
Alexandria, Virginia**



Documentary Study

March 14, 2008

ARCHAEOLOGY

This Scope of Work calls for a full Documentary Study of the Braddock Gateway property, placing it in a historical context, and presenting a full cultural and landscape history. Historical records indicate that a section of this property was part of the Fendall Farm, bought by Philip Fendall in 1786 and utilized for subsistence farming by the Fendalls until the sale of the farm to John Gadsby in 1805. A half-acre parcel of land on the farm served as the Fendall family cemetery. The graveyard may have been located on this development property, near the terminus of North Payne Street. The 1921 Sanborn insurance map indicates that this property was the site of the Mutual Ice Co. Car Icing Plant. The footprint of the extant square building on the western edge of the development lot roughly corresponds to the footprint of the ice storage facility that appears on the 1921 map. Information available about this site before its use by the Fendalls and between the Fendall farm period and the construction of the ice house is limited, and the research needs to fill in these gaps. The property has the potential to yield archaeological resources that could provide insight into 18th and 19th-century domestic and agricultural activities and into industrial activities of the early 20th century.

The goals of this scope of work are to complete the full Documentary Study and to provide recommendations concerning the need for archaeological investigation on this property prior to development. It is clear that some archaeological work will be required to ascertain the location and limits of the cemetery, and possibly to excavate any burials that will be disturbed by construction. The documentary research may indicate other areas that will require archaeological investigation. The strategy and budget for the archaeological excavations will be determined after completion of the documentary research. The Documentary Study shall present the historical significance of the property, determine the potential for the recovery of resources relating to Native American occupation, and provide a historic context for the interpretation the site. The study shall also consider the effects of previous disturbances and grading on potential sites as well as the impact of the proposed construction activities on the areas of potential. All aspects of this investigation will comply with the *City of Alexandria Archaeological Standards*, the *Guidelines for Conducting Cultural Resource Survey in Virginia*, and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*. Project details are as follows:

Documentary Study Report and Recommendations

The ultimate goals of the research are to understand the history of the project area, to develop a historical context for the interpretation of the site, and to identify, as precisely as possible, the potential locations of archaeological resources that may be preserved. The consultant shall develop a full cultural and landscape history and shall identify significant themes through the research and articulate them in the report and summary. In addition, the consultant shall work with the developer, architect, and landscape architect to provide information in a way that can be used to integrate these themes and elements of the historic character of this place into the design and open space for the project.

The Documentary Study will consist of maps, plus primary and secondary source information. The archival research shall include, but is not limited to, a search of deeds, plats, title documents, probate and other court records; tax and census records; business directories; published and unpublished manuscripts of first-hand accounts (such as letters, diaries, and county histories); historical maps; newspaper articles; previous archaeological research; pedological, geological and topographic maps; modern maps, previous construction plans and photographs that can indicate locations of previous ground disturbance; and information on file with Alexandria Archaeology and the local history sections of public libraries in northern Virginia.

The archival research shall result in an account of the chain of title, a description of the owners and occupants, and a discussion of the land-use history of the property through time. The work will address issues relating to the changes in agricultural use of the land through time, will present information on those who may have worked the land (slaves, tenant farmers, etc.) as well as landowners, and will discuss the effects of the nearby turnpike and railroad on the development of the property. The work will also include a discussion by an industrial archaeologist of the history of the icing plant, its context, and how it functioned, along with the industrial archaeologist's assessment of the types of resources that would be expected at this site. It will identify significant themes and include the development of research questions that could provide a framework for the archaeological work and the development of historic contexts for the interpretation of the site. The work will present the potential for the archaeological work to increase our understanding of Alexandria's past and will highlight the historical and archaeological significance of the property.

In addition to the narrative, the Documentary Study report shall include the production of a map or series of overlay maps that will indicate the impact of the proposed construction activities on all known cultural and natural features on the property. The scale of the overlay map(s) will be large (such as 1 inch to 100 feet). The map(s) will depict the locations of features discovered as a result of the background documentary study (including, but not limited to, historic structures, historic topography, and water systems), the locations of any known previous disturbances to the site (including, but not limited to, changes in topography, grading and filling, previous construction activities), and the locations and depths of the proposed construction disturbances (including, but not limited to, structures, roads, grading/filling, landscaping, utilities). From this information, a final overlay map shall be created that indicates the areas with the potential to yield significant archaeological resources that could provide insight into Alexandria's past. The

report will present specific recommendations in a Scope of Work that delineates the archaeological testing strategy needed to complete an Archaeological Evaluation. The map shall indicate locations for backhoe scraping or trenching, hand excavation, and/or monitoring. The recommendations will be based upon the specific criteria for evaluating potential archaeological significance as established and specified in the Alexandria Archaeological Protection Code. After the recommendations are approved by the City Archaeologist, the consultant shall prepare a budget for the required testing for the Archaeological Evaluation.

Public Interpretation

The *City of Alexandria Archaeological Standards* require that a public summary be prepared as part of the Documentary Study. The public summary will be approximately 4 to 8 pages long with a few color illustrations. This should be prepared in a style and format that is reproducible for public distribution and use on the City's web site. Examples of these can be seen on the Alexandria Archaeology Museum website. A draft of the summary should be submitted to Alexandria Archaeology for review along with the draft of the Documentary Study report. Upon approval, a master copy (hard copy as well as on CD) will be submitted to Alexandria Archaeology. The summary and graphics should also be e-mailed to Alexandria Archaeology for publication on the web site.

Tasks

The following is a summary of the tasks to be completed:

1. Meet with Alexandria Archaeology staff to go over the requirements of the project and to gather available information, including to-scale historical maps, site reports, and secondary compilations and indexes, from City files. The historian who will be doing the documentary research shall be present at this meeting and shall have a copy of this Scope of Work. Resumes of the historian and industrial archaeologist shall be sent to Alexandria Archaeology for approval prior to beginning the research.
2. Visit other repositories to complete research from primary and secondary sources.
3. Analyze the compiled data to evaluate the potential for the recovery of significant archaeological resources on the property.
4. Produce a preliminary draft of the Documentary Study report with recommendations, including a Scope of Work for the Archaeological Evaluation, and submit it for review by Alexandria Archaeology staff. Upon approval by Alexandria Archaeology, prepare a budget for the Archaeological Evaluation.
5. Meet with the City Archaeologist and the developer/architect/landscape architect to provide information that might be useful in integrating the historic character into the design of the development.

6. Make required revisions and deliver 1 unbound and 3 bound copies of the final Documentary Study report to Alexandria Archaeology, along with a CD of the final report and a separate CD of the public summary with graphics.

Formats for Digital Deliverables:

- | | |
|--------------------------------|--|
| 1. Photographs: | .jpg. |
| 2. Line Drawings: | .gif or .jpg as appropriate. |
| 3. Final Report/Public Summary | Word, PageMaker and/or PDF |
| 4. Oral History | Word |
| 5. Catalogue: | Word, Access or Excel |
| 6. Other Written material: | Word, Access, Excel, PageMaker or PDF as appropriate |

APPENDIX II
Chain of Title

Chain of Title for Braddock Gateway Property

Parcels 044.03-06-03, 044.03-06-03.L1, and 044.03-06-03.L2

2007, December 26

Fish Construction Co., Inc. Force Alexandria, LLC 6.0625 acres
Special Warranty Deed of Gift (City of Alexandria Instrument # 070028502)

2005, August 3

GZG Alexandria, LLC Fish Construction Co., Inc. 6.0625 acres
Next Alexandria, LLC Force Alexandria, LLC
NMA Alexandria, LLC
Special Warranty Deed (City of Alexandria Instrument # 050026560)

2003, December 5

Crescent Potomac Properties, LLC NMA Alexandria, LLC 6.0625 acres
Next Alexandria, LLC
GZG Alexandria, LLC
Special Warranty Deed (City of Alexandria Instrument # 030049629)

2001, March 22

Commonwealth Atlantic Properties Inc. Crescent Potomac Properties, LLC 6.0625
acres
Special Warranty Deed (City of Alexandria Instrument # 010007093)

1993, March 25

RF&P Properties, Inc. DCS Corporation 2.24 ac.
RF&PRRCo.
Memorandum of Lease [Lease from March 9, 1991 to July 14, 2001] (Alexandria Deed Book 1421:0080)

1980, May 1

RF&P Properties, Inc. Federal Express Corp.
RF&PRRCo.
Memorandum of Lease- Interest assigned to National Car Rental System (Alexandria Deed Book 1032:195)

1964, May 1

RF&PRRCo. Mutual Ice Co. 1.16 acres “for use as
a warehouse site”
Deed of Trust [10 year Lease] (Alexandria Corporate Court Deed Book 628:484)

1964, April 30

RF&PRRCo. Fruit Grower's Express, Mutual Ice Co. 1.16 acres

[Decreases Fruit Grower's Express Lease by 1.16 ac. adds to Mutual Ice Co. lease]
Supplemental Agreement-Lease (Alexandria Corporate Court Deed Book 628:480)

1948, December 18

RF&PRRCo. Fruit Grower's Express, Mutual Ice Co.
Supplemental Agreement-Lease (see Alexandria Corporate Court Deed Book 628:480)

1943, May 14

RF&PRRCo. Fruit Grower's Express, Mutual Ice Co.
Agreement-Lease (see Alexandria Corporate Court Deed Book 628:480)

1904, July 7

Henry Smoot et al Southern RRCO.
(Arlington County Deed Book 110:247)

1881, June 21

Henry W. Ellicott John B. and Charles C. Smoot 37.25 ac.
(Arlington County Deed Book E-4:469)

1852, November 25

Joseph Grigg and wife Benjamin Deford one half of
23 ac., 8 p.
(Alexandria County Deed Book O-3:115)

1840, April 9

William D. Nutt Joseph Grigg one half of
23 ac., 8 p.
(Alexandria County Deed Book G-3:176)

1836, October 31

Robert J. Taylor and Thomson F. Mason William D. Nutt 23 ac., 8 p.
(Alexandria County Deed Book W-2:245)

1823, February 28

Mary Fendall Robert J. Taylor and Thomson F. Mason
Philip Richard Fendall
Lucy Eleanor Fendall
Richard Bland Lee
Richard Marshall Scott
Trust (Alexandria County Deed Book M2: 488)

1808, August 30

John Gadsby Edward Lloyd “about 35 ac.”
Lease (Alexandria County Deed Book Q: 331)

1806, October 1

Mary Fendall John Gadsby “about 35 ac.”
Charles Lee
Richard Bland Lee
Richard Marshall Scott
Lease (Alexandria County Deed Book O:289)

May 20, 1789

Elisha Cullen Dick Phillip Richard Fendall 3.5 acres
Hannah Dick
(Fairfax County Deed Book R: 509)

November 2, 1786

Elisha Cullen Dick Phillip Richard Fendall 31.5 acres
Hannah Dick
(Fairfax County Deed Book Q: 320)

1786

Mordica Lewis Elisha Cullen Dick
William West
Jonathan Brown
(Exors for Jacob Harman)
(see Fairfax County Deed Book Q: 320 and Q:444)

1779, May 22

William Hartshorne
and Susanna, his wife
(see Fairfax County Deed Book Q: 320)

Jacob Harman

1778, April 3

Parthenia Dade
Catherine Dade
Behethland Dade
Elizabeth Dade
(see Fairfax County Deed Book Q: 320)

William Hartshorne

400 acres

1777, February 21

Townshend Dade
Parthenia Dade

Parthenia Dade
Catherine Dade
Behethland Dade
Elizabeth Dade

400 acres

(see Fairfax County Deed Book Q: 320)

1776, December 17

Lee Mafsy [Massey]

Townshend Dade
Parthenia Dade

400 acres

Release (see Fairfax County Deed Book Q: 320)

1731/2, January 17

Robert Alexander

Dade Mafsy Jr.
Parthenia Dade

400 acres

(see Fairfax County Deed Book Q: 320)

1693/94, February 19

Philip Alexander

Robert Alexander

2150 acres*

* one-half of the 5300 acres on Little Hunting Creek (less 700 acres)
(Prince William County, Virginia Land Causes 1789-1793:221)

1690, February 6

John Alexander	Robert Alexander Philip Alexander	2150 acres*
----------------	--------------------------------------	-------------

* one-half each of the 5300 acres on Little Hunting Creek (less 700 acres)
(Prince William County, Virginia Land Causes 1789-1793:221; Stafford County, Virginia Order
Book 1692-1693:193a-194a)

November, 1669

Robert Howson	John Alexander	6000 acres
---------------	----------------	------------

(Prince William County, Virginia Land Causes 1789-1793:220)

October 21, 1669

Sir William Berkeley (Virginia Land Patents 6:262)	Robert Howson	6000 acres
---	---------------	------------

Parcel 054.01-02-04

2004, September 15

Count Du Greenmonet, LLC	Fayette Properties, LLC	Lot 601
Deed (City of Alexandria Instrument # 040038663)		

2003, January 8

Crowder Corporation	Count Du Greenmonet, LLC	Lot 601
Deed (City of Alexandria Instrument # 040038663)		

1965, June 21

Frances A. Steinbraker	Crowder's Transfer and Storage Co., Inc.	Lot 601
Deed (Alexandria Corporate Court Deed Book 628:458)		

1953, October 30

Louis H. Steinbraker	Charles Steinbraker (trustee)	Lots 601
Blanche W. Steinbraker	Roy H. Halquist (trustee)	and 602
Deed of Bargain and Sale (Alexandria Corporate Court Deed Book 367:298)		

1953, October 15

Louis H. Steinbraker	Trustees of Perpetual Building Assoc.	Lot 500 into
		Lots 601 and
		602
Deed of Subdivision (Alexandria Corporate Court Deed Book 367:294)		

1953, May 6

RF&PRRCo.	Louis H. Steinbraker et al.	Lot 500 (part)
Deed (Alexandria Corporate Court Deed Book 357:362)		

1952, March 28

Harold C. Woodal	Louis H. Steinbraker.	Lot 500 (part)
Deed (Alexandria Corporate Deed Book 335:553)		

1942, September 28

William T. Burch	Donald MacEocagan	Lot 500 (part)
Olga Burch		
Deed (Alexandria Corporate Deed Book 79:466)		

1904, July 7

Henry Smoot et al (Arlington County Deed Book 110:247)	Southern RRCo.?	Lot 500 (part)
---	-----------------	----------------

1881, March 28

Eugenia Easter (Alexandria County Deed Book E4:419)	John B. and Charles C. Smoot	9 ac. 72 p.
--	------------------------------	-------------

1864, February 2

Benjamin Waters (Alexandria County, Virginia Will Book 8:185)	Eugenia Easter	9 ac. 72 p.
--	----------------	-------------

1813, December 31

John and Provey Gadsby (Alexandria, Virginia Deed Y:313)	Jacob Hoffman	9 ac., 72 p.
---	---------------	--------------

1813, December 6

Richard Conway	John Gadsby	28 ac., 56/160p.
----------------	-------------	---------------------

(Alexandria, Virginia Deed Book X:240)

1787, December 20

Baldwin Dade	Richard Conway	15 acres
--------------	----------------	----------

(Fairfax County, Virginia Deed Book R1:7)

1787, May 4

Elisha Cullen Dick Hannah Dick	Baldwin Dade	35 acres
-----------------------------------	--------------	----------

(Fairfax County, Virginia Deed Book Q1:435)

1786

Mordica Lewis William West Jonathan Brown (Exors for Jacob Harman) (see Fairfax County Deed Book Q: 320)	Elisha Cullen Dick
--	--------------------

1779, May 22

William Hartshorne and Susanna, his wife (see Fairfax County Deed Book Q: 320)	Jacob Harman
--	--------------

1778, April 3

Parthenia Dade Catherine Dade Behethland Dade Elizabeth Dade (see Fairfax County Deed Book Q: 320)	William Hartshorne	400 acres
--	--------------------	-----------

1777, February 21

Townshend Dade Parthenia Dade (see Fairfax County Deed Book Q: 320)	Parthenia Dade Catherine Dade Behethland Dade Elizabeth Dade	400 acres
---	---	-----------

1776, December 17

Lee Mafsy [Massey] Release (see Fairfax County Deed Book Q: 320)	Townshend Dade Parthenia Dade	400 acres
---	----------------------------------	-----------

1731/2, January 17

Robert Alexander (see Fairfax County Deed Book Q: 320)	Dade Mafsy [Massey] Jr. Parthenia Mafsy [Massey]	400 acres
---	---	-----------

1693/94, February 19

Philip Alexander	Robert Alexander	2150 acres*
------------------	------------------	-------------

* one-half of the 5300 acres on Little Hunting Creek (less 700 acres)
(Prince William County, Virginia Land Causes 1789-1793:221)

1690, February 6

John Alexander	Robert Alexander Philip Alexander	2150 acres*
----------------	--------------------------------------	-------------

* one-half each of the 5300 acres on Little Hunting Creek (less 700 acres)
(Prince William County, Virginia Land Causes 1789-1793:221; Stafford County, Virginia Order Book 1692-1693:193a-194a)

November, 1669

Robert Howson	John Alexander	6000 acres
---------------	----------------	------------

(Prince William County, Virginia Land Causes 1789-1793:220)

October 21, 1669

Sir William Berkeley	Robert Howson	6000 acres
----------------------	---------------	------------

(Virginia Land Patents 6:262)

APPENDIX III
O. Ashby Reardon Interview

MUTUAL ICE COMPANY

Alexandria, Virginia

The Mutual Ice Company Documentation Study

Interview Subject: O. Ashby Reardon
Interviewer: David S. Rotenstein
Interview Dates: 21 and 22 April 2008

David S. Rotenstein, Ph.D.
10308 Edgewood Ave.
Silver Spring, MD 20901
(240) 461-7835
david.rotenstein@earthlink.net

Introduction

Oliver Ashby Reardon, who lives in Florida, was interviewed by telephone three times Monday and Tuesday 21 and 22 April 2008. The first interview was recorded using an analog cassette recorder (Marantz PMD 222) and the second and third interviews were recorded digitally using a Fostex FR2-LE recorder. The 21 April 2008 cassette was converted to a digital .WAV file. Each interview was conducted by David S. Rotenstein, who also prepared this transcript. Verbal consent to record and transcribe the interviews was obtained and recorded and a consent form and City of Alexandria Deed of Gift was signed by Mr. Reardon.

The interviews were conducted to support the preparation of a documentary history of the Mutual Ice Company and its former ice plant in Alexandria, Virginia. Dr. Rotenstein was retained to conduct the research into the company and its manufacturing facilities by a consultant under contract to prepare a report to be submitted to the City of Alexandria.

O. Ashby Reardon Jr. was born 29 August 1928 in Alexandria, Virginia. After attending the U.S. Naval Academy and serving for eight years in the U.S. Navy, Reardon returned to Alexandria to work at his family's ice plant, The Mutual Ice Company, Inc. Reardon served in several executive positions with the firm until it closed in 1969. The following year the company changed its name to Mico, Inc., and continued to do business as a holding company for several of the older firm's subsidiary enterprises.

Table of Topics

Introduction.....	ii
Table of Topics	iii
First Interview (21 April 2008).....	1
Origins of the Mutual Ice Company	1
Early Business.....	3
Icing Railroad Cars: Early Years	4
Icing Railroad Cars: How It Was Done	4
Doing Business With the Railroad.....	5
Icing Cars Before Potomac Yard	6
Potomac Yard: Leased Land	6
Other Icing Stations	7
Icing Meat Cars.....	8
Icing Trucks at the Plant	8
Changing Business Models and Declining Demand.....	9
Robinson Export-Import	9
Mico Fuel Oil.....	10
Mutual Ice: The Premises	11
Mutual Ice: The Bunkhouses	12
The Plant: Inside and Out	13
Cooling Ponds.....	15
Refrigerator Car Test House	16
Closing Down the Old Plant	17
From Mutual Ice Company to Mico	18
Mico Artesian Water.....	18
Deciding to Stop Making Ice	19
Disposing of Assets and Razing the Plant	20
Family Business: The Hammonds and Reardons	22
Second Interview (22 April 2008)	26
Making Ice: How it was Done	26
Clear Ice versus White Ice	27
The Market for Ice	28
Ice Stations, Vending Machines, and Walk-Up Sales	28
The Competition	30
Cool Appliances: Iceboxes and Air Conditioners.....	30
From the Naval Officer to Ice Company Executive	32
Labor at the Mutual Ice Company	33
Social Life in the Bunkhouses	35
Where the Workers Came From	37
Nicknames Among the Workers.....	39
Battling Vice in the Bunkhouses.....	40
Mutual Ice Company Advertising.....	42
Third Interview (22 April 2008)	43
Advertising, Continued.....	43
Cooling the Richmond Theatre	44

Reefer Cars and Fruit Growers Express.....	45
Some Reardon Family History.....	47
Mico and Life After Ice	49
Diversification: Hardware and Furniture	50
Index	52

Interviewee: O. Ashby Reardon
Interviewer: David S. Rotenstein
Interview Date: 21 April 2008 (First Interview)
Interview Location: Telephone interview

ROTENSTEIN: I'd like to get a couple of preliminaries out of the way and can you grant me your permission to record this and transcribe it for historical research?

REARDON: Yes.

ROTENSTEIN: Okay.

Can you tell me your name please?

REARDON: I'm Oliver Ashby Reardon Jr.

ROTENSTEIN: Okay. And may I have your age?

REARDON: I am seventy-nine years old.

ROTENSTEIN: And I guess the reason I'm calling is to ask you about the Mutual Ice Company. Can you tell me how your family got into the ice business?

REARDON: My grandfather was in the ships chandlery business, other words handling cargoes to leave Alexandria by ship and handling cargoes coming into Alexandria by ship with an office and a warehouse on the river. During the time that some sailing ships came to Alexandria with potatoes, sometimes, and sometimes some other crops perhaps, with a ballast of ice in their holds to keep them upright when they got in enough water sailing down here from Maine. They would throw the ice over because they were taking gravel and other things back as ballast and ice was melting.

It was taken on by my grandfather and his partners and put in a warehouse insulated with sawdust and cork to be sold to people's homes who had ice chests where they would keep stuff cool. And this was the beginning of ice being sold to the homes in Alexandria and at the early stages of it being done in the country.

ROTENSTEIN: What -- Was your grandfather's name William M. Reardon?

REARDON: William M. Reardon.

ROTENSTEIN: And who was his partner at the time?

REARDON: His partner, at that time, was a man by the name of J.C. Reed who died and he ended up owning the thing by himself. I don't know whether there was a buyout or what, but

Reed was killed in an automobile accident and William M. Reardon inherited the balance of the business.

ROTENSTEIN: What year did William M. Reardon go into business with Reed, do you know?

REARDON: I seem to recall a date of about 1874, but I'm not positive. That's just hearsay – talk from years ago. I've nothing to – no documents to support it.

ROTENSTEIN: Do you know what the name of the firm was?

REARDON: Reed and Reardon.

ROTENSTEIN: Okay. And do you know where they did business?

REARDON: At the foot of Prince Street in Alexandria on the river.

ROTENSTEIN: Okay. When William Reardon took over the business, was he doing business with the Hammond family at that time?

REARDON: No.

ROTENSTEIN: How did he come into contact with the Hammonds?

REARDON: The Hammond family had a wholesale grocery business and they were getting some produce and groceries from ships coming in here. They were cutting ice out of a pond, which is up where the current Reagan National Airport is located. They sold ice cut locally and it wasn't very clear and it didn't last very long. And – but they had an interest in the ice business and they were delivering some of it to homes like we were.

And in 1900 the two families got together – William M. Reardon and Mr. James W. Hammond – and they decided to merge the two businesses fifty-fifty and that shows up in the original stock book of records, which I think I might be able to get my hands on that. That may still be around.

ROTENSTEIN: That would be useful to be able to refer to.

REARDON: Well, I won't be able to get, do it until the end of June so it might be too late.

ROTENSTEIN: Okay. Well we can talk about that later on.

REARDON: Anyway, in 1900 the original corporation was formed with ten shares of stock and five of them were held by the Hammond family and five of them were held by the Reardon family.

ROTENSTEIN: And the name of the company was?

REARDON: Mutual Ice Company; that was the name they chose when they merged in 1900.

ROTENSTEIN: Do you know why they called it Mutual?

REARDON: For the mutual benefit of both parties.

ROTENSTEIN: And what type of business were they doing after they incorporated?

REARDON: After they incorporated they were rapidly getting into the ice business and they took their combined resources and bought an artificial ice making machine. Anything, any man-made ice was called artificial ice in those days. But it was real ice.

ROTENSTEIN: Do you know what year they bought the machine?

REARDON: I would say probably somewhere between 1900 and 1905. I don't know the dates. That may be in that record of the meeting of the board of directors and the stockholders' meetings. If I can get my hands on them – and I can call somebody tomorrow and find out if she's got them.

ROTENSTEIN: Okay. And what type of business were they doing? Were they just selling to homes and to businesses?

REARDON: They were selling to homes and people were starting to get iceboxes for their kitchens or the back porch and it was delivered in mule-drawn wagons to their homes, ice was.

ROTENSTEIN: Where did the company keep its mules?

REARDON: We had a stable and an ice storage house that was, that was behind – the ice storage house is still there as a building. It's got a big insulated door on it and it's – I think an architectural firm has it now.

ROTENSTEIN: What's the address, do you know?

REARDON: It's on South Lee Street, in the one hundred block of South Lee Street. And it's on the south – the river side of the street. And behind that in an alley way there were stalls for mules.

ROTENSTEIN: How many mules did the company have?

REARDON: I don't know, probably six or eight. Could be – call it ten mules. I don't know, I just don't – I don't have anything but vague memories of the fact that they had guy named – was a mule skinner who knew how to buy them and knew how to take care of them and train them.

ROTENSTEIN: He worked for the company?

REARDON: He worked for the company. And – oh he's long dead. His name was Mr. Price. I don't know what his first name was, I just hear tales about him; I never knew him.

ROTENSTEIN: Who drove the carts?

REARDON: [Exhales] You know, I don't know whether they were blacks or whites. I couldn't tell you. I don't recall.

ROTENSTEIN: Were they permanent employees of Mutual?

REARDON: They were permanent employees of the company. They drove the carts and delivered ice and put it in people's iceboxes. Now they continued to do that till we started making bigger blocks of ice.

ROTENSTEIN: And then what?

REARDON: Well, then when things modernized, we had ice delivery trucks.

ROTENSTEIN: When did you stop using mules and go strictly to trucks?

REARDON: Probably in the early thirties, like 1931 or two.

ROTENSTEIN: Okay. When did the company start icing railroad cars?

REARDON: In 1913 the railroad asked us to build a plant in their railroad yards and to build icing docks to ice their railroad cars at car-top height – that we had platforms where we'd lay the ice out and put it in the cars. And we had just one platform at the time. It grew to be, be twice as big and then twice as many and then yet another one. But we had over two miles of siding there.

ROTENSTEIN: And how was the ice moved along the platform from the plant?

REARDON: The ice came out of the platform – came out of the plant – on a conveyor belt that was recessed into the floor with lugs sticking up and recessed trough that was, had a level bottom and about two-inch, two- or three-inch ribs on each side to keep the ice in the trough upright. And the lugs pushed it out to a trestle where it was then just fed by the curvature of the track into a spiral chute that allowed the ice to roll around and not get so fast that it would break up.

We had gravity elevators for a while but it broke a lot of ice. And they built these spiral things, oh probably in the – I guess the spirals took place of the gravity chutes which were counterbalanced – they were hydraulically counterbalanced and the ice – an ice block would go on it and it would drop it and sometimes it would hit the bottom so hard it would break the ice up and that caused a jam up in the delivery of the ice down to the platform. So we invented our own little spiral slides, like a sliding board. Went around in circles and came out slowly to the bottom where the lugs would pick it up and push it down the platform, here again in a slot that would – the ice was lying on flat, on its width, sort of – it only stuck up about a foot. But when it was coming out of the house it was standing about two feet tall on the width dimension of the block of ice.

The block of ice was probably about four feet tall, one foot wide, and two or two and a half feet across. Tapered. And the lugs in this chain which looked like a huge version of a bicycle chain, lugs stuck up about two inches above the chain to push these blocks of ice down the mile or so of platform. And then laborers and these were mostly blacks but the early days they were mixed and then they were – later on they were all black. They would pull ice off this track, this chain it would pull them down, push them along the platform and they would lay them off to the car with their estimate of how many it would take to fill the car up. And the foreman would come around and write down in his logbook what he thought the volume of ice would be in pounds and note it down for each car. And each car had bunkers in each end. So if he put down 9,600 pounds of ice that meant the car was empty and it'd take 4,800 pounds in each end.

That was – at first it was estimated by the railroad's employees and when they decided that they'd just let us do it because they didn't want to pay for the labor of an inspector to check all these cars. So for years we just did it ourselves and it was an honor system but there was no cheating there. It was all very much aboveboard.

ROTENSTEIN: How long would it take to ice a train?

REARDON: Well, in the old days they'd come in there – trains would be all ice cars and we could get a train out with say twenty-five cars in a row, we could get that out in about oh hour, hour and a half; maybe two hours. And sometimes they were scattered through a great long expanse of cars; that took longer.

But had – we never had much more than about two and a half hours to completely ice a train no matter how many cars it had in it. We just had to have more men to get the job done.

And if it was late, we had to pay demurrage charges so we were never late.

ROTENSTEIN: And who actually paid you? Was it the railroad? Was it the shippers?

REARDON: No, the railroad – railroads themselves had, owned another corporation called the Fruit Growers Express Company. And it was jointly owned by the RF&P, the Southern, the Seaboard, the Coastline, the C&O, and the B&O and the Pennsylvania. They all had an interest in it. And then the Fruit Growers cars were FGE – FGEX with a number. And we had to put down all that on our, our book. We had an icing book for each, each shift. And they had icing books and they'd fill them up and start another one. It'd have the train, the train number, the line, whether it was the RF&P or Coastline or Seaboard or whatever railroad it was we wrote that down. We wrote down the car number and how much ice went in it. And the date and the time of day.

Now these things were – every now and then we would – they would – people were constantly making claims against us for produce that didn't get sold in the market up there and they claimed it was our fault that it went bad because it wasn't iced.

ROTENSTEIN: Who usually won those arguments?

REARDON: We always won them.

ROTENSTEIN: Why's that?

REARDON: We only lost but one argument and that was stupidity on the part of a foreman. A carload of beer came in here going south and if it's in kegs, it was body iced. If it were in crates, cardboard cartons like beer cases, beer – a case of beer is now – you put the ice in the ends not on the boxes. Well we had a foreman who thinking it was barrels got ice up there and just blew ice all over these boxes and it ruined the whole load. And we bought a whole carload of beer but we never got to claim it because it was all the way down in Texas when they found out that's the way it had been iced.

ROTENSTEIN: What year was that?

REARDON: I don't know, probably 1948, '49, something like that. 1950. Call it 1950. That was the only claim we paid. And that was a long history. We iced railroad cars at that facility between, about 1915 and 1969 continuously.

ROTENSTEIN: Wasn't there an ice station before Potomac Yards was built?

REARDON: Yeah.

ROTENSTEIN: Can you tell me about the icing operations?

REARDON: Well Potomac Yards was built before there was ever any icing done and there was places out there where we would go with truck and called it team track icing. We'd take a team of mules and a truck with a lot of ice in it and we'd go out there and cut it up and pass it up ladders and throw it in the top of the car. Team track icing was labor-intensive and slow and you couldn't do many cars. You didn't have the equipment to do them. But they wanted to do lots of cars and then when they – they had us build a plant out there with the idea that they're going to be bringing a lot of produce through there.

And they did. We could ice just – we had some days where we sold a thousand tons of ice a day to the railroad – to the Fruit Growers – and we referred to them as the railroad but the Fruit Growers Express Company was who we dealt with.

ROTENSTEIN: Okay, so they're the ones who cut your checks then?

REARDON: They're the ones that cut our checks and we got paid monthly for the ice that we sold them. And it was a per-ton price and we would negotiate that just about every year and we negotiated it with them at their headquarters office in Philadelphia. We'd go up there in person and do it.

ROTENSTEIN: And who was your lease with? You leased the property at the yards.

REARDON: The lease was with the RF&P Railroad Company who owned that yard.

ROTENSTEIN: And did the terms of the lease change any during its lifespan?

REARDON: No, it was a tripartite agreement.

ROTENSTEIN: Can you describe that for me?

REARDON: A Tripartite, three parties. There was a three-party agreement. We were one party and the RF&P Railroad was another and the Fruit Growers Express Company was another. And we were required – it was – this contract – to be prepared to ice cars seven days a week, twenty-four hours a day, year-round. We were never closed. Some days we didn't have any business, any railroad business, but we a lot of local business on weekends. And we had railroad cars coming in there on the weekends too.

The busiest days were generally Sunday night, Saturday night and Sunday night.

ROTENSTEIN: Why is that?

REARDON: Well that's just when the railroads arrived there and wanted, needed to be iced before they got out. It was just where they came from.

ROTENSTEIN: Okay.

REARDON: There were other icing stations between here and the growing fields in Georgia and Florida. There was an icing station in Florence, South Carolina. There was an icing station in Hamlet, North Carolina and there was ours and we were where Seaboard – the Seaboard and the Coastline was later merged into one. Seaboard, Coastline, and the Southern Railroad all came into Potomac Yards and sometimes they came in and were changed by a Potomac Yard – by an RF&P locomotive in Richmond who pulled them the last hundred miles and brought them into the yard.

And then they left the yard going north on the B&O, C&O, and the Pennsylvania. Potomac Yards was the junction, a large junction, of railroad yards – of railroads coming into one yard. And that's all gone now.

ROTENSTEIN: If you could pick out one time period when Mutual was its busiest, do you think you could do that?

REARDON: Yeah: all of World War II.

ROTENSTEIN: Why is that?

REARDON: Because there was a lot of movement of food and vegetables to military bases and it always had to be iced and there was meat going in both directions and there was stuff going overseas out of Norfolk. And we shipped ice, sometimes whole carloads of ice, places where they didn't have enough. We shipped ice as far north as Maine and as far south as Georgia. And

whole carloads of ice – a hundred and forty-four three hundred pound blocks in a car. WE would sell it to other ice companies who would use it down there.

ROTENSTEIN: When we talked earlier you told me you also started doing meat cars at this time?

REARDON: Meat cars? Yeah, meat cars were primarily military cargo but there was some other meat cars that we got from time to time. But most of them came from the north going south. Very rarely did we ever have a meat car coming out of the South going north but we could handle them easily.

They used – if you wanted to maintain the lower temperature in a car, you would put a lot of rock salt in the salt – in the ice – and you would, if you could put maybe three hundred pounds in each end. And that would keep it at a temperature for a while below freezing.

You're too young to remember making homemade ice cream with crushed ice but we used to do it and we had fine crushed rock salt that we put in those things to get them cold enough to freeze. The cream batter that was made for ice cream was frozen by turning a churn around inside of a bed of ice that was full of salt. And that made it take heat out of the content of the can that the cream was in to the point where it would freeze and get hard. That same process was used to ice meat down and keep it very cold.

ROTENSTEIN: Okay. Can you tell me what the slowest time was while the company was active?

REARDON: The slowest time? Well in its later years when we decided that – we could see the handwriting on the wall. They had stopped using icing stations coming towards us and there were fewer and fewer cars. They were losing business to the railroad – to the trucks – and although we did a lot of truck icing at our plant, that gradually went to mechanical refrigeration and then the railroads lost all of that business. They don't have any of it any more.

ROTENSTEIN: How did you ice trucks at the plant?

REARDON: We had a platform and we could haul ice up and put in the bunkers in the front end of the truck. And they had a little electric, little gasoline motor that ran a fan that circulated it through the car to the trailer. The engine was mounted on a little platform in front of the trailer and it blew a fan into the ice bunker that was up there in the top of the car. And heat from the produce that's in there would rise to the top and if you just chilled it at the top, it would settle down and keep the whole thing cool.

ROTENSTEIN: Which side of the plant was this truck icing platform?

REARDON: The truck icing was on the opposite side of plant from the railroad icing.

ROTENSTEIN: Okay.

REARDON: And it was nowhere near the volume. We only had places for one truck at a time and sometimes there'd be five or six of them waiting there to get ice. But they didn't ever have anywhere near the volume of ice that we sold the railroad.

ROTENSTEIN: How did the company do during the Depression?

REARDON: We did fine. That's when we were growing and the food – the requirement for ice was there and labor was plentiful and cheap and we did well during the Depression. I imagine we paid our stockholders dividends every year during the Depression.

I really – I was born in 1928 so my recollection of how things were in the Depression is all hearsay.

ROTENSTEIN: Okay. Can you tell me the steps that Mutual Ice took to compensate for the decline in demand for ice?

REARDON: Well, we first – we invested money out of our surplus in the stock market. We built up a little surplus fund there and we did it to eventually replace the businesses that we had that we knew would be antiquated. And we bought – the first thing we bought was a hardware business in Washington which did well for a number of years.

ROTENSTEIN: And what was it's name –

REARDON: – And when Hechingers came in here and then after them Home Depot, it just killed that business. It just dried it up.

ROTENSTEIN: What was the name of the hardware business?

REARDON: The hardware business was Rudolph and West. It was an old Washington hardware company.

ROTENSTEIN: Okay. And what else did you all do?

REARDON: And we also bought a company called Robinson Export-Import. It was a river-based company that was started by Clarence Robinson who owned the wharfs on the river that newsprint came in on ships from Finland and Sweden and Norway, mostly Finland. And that paper was sold to the newspapers in Washington and Baltimore. And Philadelphia. It went as far north as Philadelphia. I don't think they went to New York.

But they had trucks that would take the paper to their warehouse from the docks and then they would take it daily – you'd see great rolls of newsprint going to the *Washington Post* or the *Washington Star* or the *Daily News* and over to Baltimore to a couple of newspapers and on to Philadelphia for a couple more. And they had a lock on that paper business.

That was Robinson Terminal Warehouse Corporation and their primary business was newsprint.

ROTENSTEIN: What year did you buy the Robinson business?

REARDON: We didn't buy that end of it. We bought the one that was importing plywood, another corporation. Down there in their warehouse space and we outgrew it so we built our own warehouse. And that grew to be quite a sizable operation and then that led us into the kitchen cabinet business where we became a very large wholesaler of kitchen cabinets. And that business grew to the point – when I sold the business it was up around \$50 million a year in sales.

ROTENSTEIN: What name did you do business under?

REARDON: Reico – R-e-i-c-o. From Robinson Export Import. We never exported anything, just imported. But you had to have the export-import license to do business.

ROTENSTEIN: Can you tell me how you – I'm sorry –

REARDON: That was a federal license.

ROTENSTEIN: Okay. Can you tell me how you got into the fuel oil business?

REARDON: Yes. We had truck drivers that were delivering ice to restaurants and to grocery stores and to hotels and to peoples' homes. Some of them bought crushed ice, some of them bought block ice. Block ice went into the refrigerators at home, peoples' homes. Block ice went to the cooling room of the, of the middle-sized movie theater in Alexandria. It was the best at one time. We had two and then they built the third one.

ROTENSTEIN: And that was the Richmond?

REARDON: That was the Richmond, which is now the Old Town Theatre, if it's still open. It opens and closes.

But – where were we? You asked another question?

ROTENSTEIN: Yeah, how you got into the fuel oil business?

REARDON: Well, we had these truck drivers that delivered ice to various customers and in the winter time there wasn't much demand for it and we didn't – we had nothing to keep all these drivers busy so we bought an existing fuel oil business. It had a couple of trucks and people wanted to get out of the business. We bought their oil business; they had a coal yard, too. And we started with that and then we got a franchise with Esso, which was Standard Oil, Eastern States Standard Oil. It's now Exxon.

ROTENSTEIN: And what was the name of the company that you bought?

REARDON: We didn't buy a whole company; we just bought out their business. The company was Stark & Slagle. It had a coal yard and a couple of oil trucks.

ROTENSTEIN: Where was this coal yard?

REARDON: Right next to our plant. On Route 1 in Alexandria.

Route 1 coming through there was Henry Street and our address was 1200 North Henry Street.

ROTENSTEIN: Okay. So you were delivering fuel oil in the off-season –

REARDON: In the off-season we delivered fuel oil and – there was some of it delivered all season, year round and it added a nice piece of profit and a nice – a nice way to make some more money out of the facility that we had. We built a tank farm that probably had over a hundred thousand gallons of tank storage there where we could – and we unloaded our fuel from railcars. Of course we had siding right there.

ROTENSTEIN: Where was the tank farm located?

REARDON: The tank farm was located east of the plant but on the land that we leased from the railroad.

ROTENSTEIN: Okay. How many tanks did you have?

REARDON: There were six big tanks on a trellis aboveground. And I think they were probably – I can't tell you what they were. I would just guess that they were probably about twelve thousand gallons apiece and we had a total of six of them. So that would be seventy-two thousand gallons. It might have been bigger than that. I really don't know and I don't know anybody who does.

ROTENSTEIN: How long did you stay in the fuel oil business?

REARDON: Oh, I guess from about 1936, '37, somewhere in there. Let's say '37 until we shut the plant down in '69. We sold that to Griffith Consumers, we sold our oil business to Griffith Consumers.

ROTENSTEIN: Griffith Consumers?

REARDON: Griffith Consumers. It's a company that bought it. Somebody else owned them and I don't know what their name is now.

ROTENSTEIN: I'm looking at a 1959 map of the plant that shows the oil tanks on the southeast side.

REARDON: That's correct.

ROTENSTEIN: And there's a long rectangular building to the west of that that says "cars." What was that building?

REARDON: That's the garages for our trucks.

ROTENSTEIN: Okay. And how many trucks could you keep in those garages?

REARDON: Well we had four oil trucks and four ice trucks and some other storage in there. That's roughly what it was.

ROTENSTEIN: Okay. And to the west of that, there's a bunkhouse.

REARDON: That's where our railroad labor lived.

ROTENSTEIN: Can you describe that bunkhouse for me?

REARDON: The bunkhouse was a cinderblock building with a composition roof; it was regular shingles. And it had a kerosene stove and no air conditioning; it had windows and they could be shut and then shuttered from, in bad weather. And it had a shower room behind it with four showers in it and it had a bathroom area in addition to that, toilets. They were like jail toilets. They were jail toilets. We bought them, got them – wherever the jail found their toilets, we found – they didn't have any tops on them 'cause they wouldn't get broken – These guys were drunk and brawling and falling down and tearing up stuff and you can't wreck a jail toilet. That's what we put in there. We had them – we had four of them and four shower stalls for about maybe twenty people that lived in the big bunkhouse and the little bunkhouse had – oh, two, four, six, eight – it had probably eight people in it.

ROTENSTEIN: Where was this little bunkhouse at?

REARDON: The little bunkhouse was just north of the big one.

ROTENSTEIN: How many stories were these bunkhouses?

REARDON: They were just one story but they had upper and lower bunks built in. We built the bunks and they put their own bedding in them.

ROTENSTEIN: They have basements?

REARDON: They what?

ROTENSTEIN: Did they have basements?

REARDON: No, no. They were all on concrete slab.

ROTENSTEIN: Okay. Alright, moving up in the property to the actual ice plant itself, can you describe how it was laid out?

REARDON: Well it was laid out – there was an engine room that had compressors that compressed the returning ammonia vapor to liquid which would then be cycled through the pipes

in the bottom of the brine tanks above it on – two stories above. This thing was like a huge swimming pool and it was on the third story of a commercial building. And there was no second story – just a long way up there. And it was built to hold a lot of weight because it had – in the original part of the plant we had I guess about a third of our capacity was in that big plant. So let's say that that was three hundred tons of ice a day to be made out of there. By keeping on harvesting – you'd harvest all day long and you'd fill up – take a row of cans out with a gantry crane operated by a man walking on the tops of these things and had plugs on them that made them like a wooden floor.

And he would walk that thing down with the crane running along a track on each side with twenty-eight 300-pound cans of ice and he would get it to the back to the end of it where they would be harvested and he'd lower it slowly until they were in a – they'd hit a little dump bin that would take the whole rack and lower it down slowly to where the cans were angled out at about maybe a fifteen degree down angle. But prior to that, warm water was – flowed into the tanks to loosen the cans up. Then they would all come loose and they would slide down to a conveyor belt that pushed them into another conveyor belt where they'd come off of that row of twenty-eight one at a time and go into the cold storage house.

And we had one big ready room up there and we had one big store room that had elevators that held eight thousand tons. And we kept that thing refrigerated and loaded almost all the time just in case we broke down. That would give us eight days in which to make repairs and get our plant back in order again.

ROTENSTEIN: Can you tell me about the construction of the plant itself?

REARDON: The plant was constructed to be very strong, to resist any kind of storms.

ROTENSTEIN: What kind of foundation did it have?

REARDON: It had a very deep concrete foundation and pilings under some of it. And it – well, the ice storage house, if you – when you see these pictures, you'll see a big tall section of it. That storage house is the one that has eight thousand tons in it. The other ready rooms up there might have, oh, five or six hundred tons of ice ready to go down on the platform. And we would have men in there, these things would be headed up standing on end to get the most volume on the floor. And then they'd do what they called knocking them down. They'd come in with a set of tongs, lay the one – lay it down on its side and slide it into the conveyor belt where it would go down and get out, delivered out to the platforms where the ice was being – you know, I'm describing all of this and if you're taking it down or recording it, you will probably see what I'm talking about in the pictures 'cause it's interior pictures, there's exterior pictures. There's pictures of the platform and I think my father's in one of those pictures walking up and down the platform because he used to go up there and keep an eye on it all the time just like I did when I got there.

ROTENSTEIN: Well talking about the actual floors in the plant, was there a cellar or a basement?

REARDON: No.

ROTENSTEIN: There wasn't?

REARDON: No.

ROTENSTEIN: What was the first floor then?

REARDON: The first floor was machinery that ran compressors and delivery systems that cycled the ammonia through the tanks and the brine. The bottom of a big bath, like a big long swimming pool, Olympic-sized swimming pool, had a tank that you could immerse a three hundred pound galvanized steel can in. And those cans were aerated. When you put the – when you filled the tanks after the ice had been dumped out of them, you'd fill them with fresh water and took them back and lowered them into the bath of brine which was very cold and the thing that you, you called that a eutectic solution. It's being chilled by a refrigerant, which is ammonia in this case; later on it became Freon but we never used it. And Freon is now illegal and something else is used as a refrigerant.

But the eutectic solution was the brine tank. And the brine tank had calcium chloride brine and why it was calcium rather than sodium, I don't know but I guess it did a better job and it was less corrosive.

Anyway, that – the pipes, the impetus to those pipes came from the compressors and the pumps down below that sent up stuff. Once it was compressed to liquid, they sent it under pressure up to the coils in the tanks and then when it came out at the other end, it had become gaseous – it had become liquid again.

ROTENSTEIN: How were these compressors and other large pieces of machinery mounted to foundation?

REARDON: They were, they probably had some kind of underpinnings in the foundation and they had pits where you could get under them and lubricate them and they were bolted down to leg bolts that tied them to slab. And I guess it was a pretty deep slab. I guess – I don't think there were separate pilings under each of those things but I don't really know. It was built before I was born. And I don't think anybody else is around that would know.

ROTENSTEIN: Can you describe the office for me? Where was that located?

REARDON: The office was in front of the big building that is the eight thousand ton warehouse and also the upper regions of that place was where the ready room was and the ice came out of the house on about the third floor at a level maybe ten feet above the platforms where it went down the spiral chutes to each platform.

And we had four spiral chutes. We had one going northbound and one going southbound on the number one platform and we had the same two north and south on the number two platform.

ROTENSTEIN: Is the number one platform the closest to the plant?

REARDON: That's correct.

ROTENSTEIN: Okay. And how was the office set up?

REARDON: The office was set up as a two-story old-fashioned office building. There was a counter as you came in and you could come in and order your fuel oil or you could order ice delivered. Or, you know, the mailman came in and put the mail there. It was a counter that – what somebody would always come and wait on you there. And there was a window that ice was sold out of with a cash register where people would come and buy ice and pick it up at our platform right there in the parking lot.

That's north of the garages that you see. And that was – there were basically three buildings that were built together. The one with machinery was underneath the tank that was where the stuff was frozen and then there was another building that was storage up and down where we processed ice and we sawed it into twenty-five pound blocks with a scoring machine. A twenty-five pound – a three hundred pound block of ice would go through that and it would be scored such that a truck driver with an ice pick could pick out a twenty-five pound block very easily. And they were scored such that the blocks would weigh about twenty-six pounds so nobody would ever complain that they weren't getting their money's worth.

We always went a little bit over just so we didn't have that problem. And we never did.

ROTENSTEIN: Where was your showroom at?

REARDON: The showroom was in a separate little building that was connected to the engine room. It was east of the engine room.

ROTENSTEIN: Okay. Can you tell me about these concrete cooling, the ponds and the concrete cooling basin?

REARDON: Well, that took heat out of water and that was part of the – that stuff went back into the brine solution and it was fresh water all the time. I can't –

[End Tape Side A]

ROTENSTEIN: – You were talking about the basin and you said a kid drowned there?

REARDON: I believe so, I'm not sure but I think one kid drowned there. It was about a foot and a half, two feet deep.

ROTENSTEIN: And it had sprayers?

REARDON: It had sprayers and it was sprayed up in the air and it would fall back down in the pond and it took the heat out of the water that way. The water lost its heat to the atmosphere.

And it was cooling water that went through the systems for what, I don't know. May be it was cooling the compressors. I really, I don't have a good answer for that. I think you'd have to find some old ice plant engineer who could tell you about it.

ROTENSTEIN: I'm looking at another map here that shows the spur right behind the spray ponds and a rectangular building that says "test house."

REARDON: Yeah –

ROTENSTEIN: What was that –

REARDON: We had a test house there that we would run refrigeration tests for the railroad. They'd bring a car in there and we'd get it very cold or very hot and see what happened to the load in the car, inside, if it was iced and see how much insulation would protect stuff from real cold. It was something that the railroad wanted and we built for them and we maintained it for them but it was hardly ever used.

I think it was some kind of an idea that they wanted to check up on what kind of temperatures our service would make by pulling a car out and checking it, but they found out it took so long that the thing would miss the market and the stuff in it would rot. They didn't do much with it.

It was there – you know, that might have been during the war that that thing came in there. I – all I know is that we built it and serviced it but the railroad owned it.

ROTENSTEIN: Okay. Can you tell me how it was built?

REARDON: We built it –

ROTENSTEIN: What was it constructed of?

REARDON: Wood – primarily.

ROTENSTEIN: Okay. What kind of roof did it have?

REARDON: Shingle roof.

ROTENSTEIN: And how many floors?

REARDON: Just one big thing you parked a railroad car in. It would hold one car – refrigerator car.

ROTENSTEIN: Were there any other buildings on the property?

REARDON: Yeah. There was some buildings that the army built next to it that we refrigerated stuff. It was for Fort Belvoir or Fort Myer or both. I don't know which. I think it was a meat storage place and we ran refrigeration over to that during the war then they gave it up and those

buildings were developed by Dwyer, one of the Dwyer family bought them from the government and turned them into stores and stuff. We should have but we didn't. They were on leasehold land so you couldn't end up owning it; you had to get a long-term lease from the railroad for the land under it. And the railroad never sold land; they leased it to people.

ROTENSTEIN: When did the company abandon its property over on the wharf? Do you remember that?

REARDON: Well, we had that property long after we didn't use it anymore. It was just a wharf on the river. It didn't cost a whole lot to keep it and it was sentimental. And during World War II, there was a torpedo plant in Alexandria that built torpedoes for the navy. It was run by the navy and the torpedoes were made by navy men. They would actually manufacture their own torpedoes. They were for cruisers, destroyers, and submarines and towards the end the only people that had them were submarines but during most of the war, destroyers all had them to launch in combat. And they used them in the war. They used them very effectively.

Torpedoes were built there and during the war they came along and wanted to double the size of that plant and they wanted – they took over our plant and paid us a good piece of change for it which we invested in the stock market and did well with. We wanted to lease it to them and get it back but they didn't want any parts of that; they wanted to own it.

ROTENSTEIN: When did the company stop using that property, do you know?

REARDON: Probably along about 1918 or '19. The plant was built, started in 1913 and it was in operation for the railroad in 1915 and then we moved our offices and everything out there in probably 1918.

ROTENSTEIN: Didn't the company also lease that old plant to a tile making company? Stresbilt Tile, I think it was.

REARDON: Could be. Had a lot of different tenants in it. We owned the real estate for years and we had different people in it and then we finally sold it.

ROTENSTEIN: How about the ice stations throughout the city? How many of those did you have?

REARDON: We had four of them and somebody's taking one of them and put the name back on it. He's going to have a little coffee place in there. And one of my stockholder's who's my age, who's a woman got very upset that they put the name Mutual Ice Company on it.

And I said, "Why the hell would you be upset about that?"

"Well, I don't think anybody should use that name." [Changes voice to set off narration]

I said, "Well honey, we gave it up, our right to it, when we changed our name at the state corporation commission to Mico, Inc., so there's nothing we can do about."

ROTENSTEIN: Why did you change the name in 1970?

REARDON: Well we didn't – we weren't in the ice business any more. Why call it the Mutual Ice Company when it had no meaning?

ROTENSTEIN: Now the Mico brand was something you used for the fuel oil and didn't you also sell artesian water?

REARDON: Yes – we didn't sell it, we gave it away. Well, yes, at one time, we did deliver it to people with water coolers in big carboys. And that didn't last long and it should have. That was beautiful water. That was soft, nice water.

ROTENSTEIN: Did you ever bottle it?

REARDON: No, just – well, big carboys, yeah we did, but we never bottled it in small bottles.

ROTENSTEIN: And where did the water come from?

REARDON: It came from an artesian well that was drilled down to about three or four hundred feet. Below the bottom of the river. Through rock. Artesian well that was really good water. Very soft.

ROTENSTEIN: I think I read you had four of them?

REARDON: Four wells, yes we did. They've all been capped off.

ROTENSTEIN: When did you stop distributing the water?

REARDON: I guess when the waters around here got good enough to be, to where people were just as happy to use tap water.

ROTENSTEIN: Okay. How about the –

REARDON: I don't really know, it was before my adult years.

ROTENSTEIN: It's one of those nasty things historians do: we're always asking questions about time before people could remember.

REARDON: I don't – I know that just from hearsay that we had trucks that went around with bottles of water in those big things you'd put on your shoulder and carry in. You still see people delivering these carboys into coolers somewhere but it's getting less and less.

Everybody now is using tap water. But I – you know, people are paying more and more in these little bottles into vending machines than they are for gasoline. Now, with the gasoline prices, they're still spending more for it. A dollar for a pint? How many pints are in a gallon? Eight.

ROTENSTEIN: It's a good business to be in.

REARDON: I wish the Hell we had gotten in it 'cause we'd be here today and wealthy.

ROTENSTEIN: Did people also used to walk up to the plant and just get water there?

REARDON: Yep. And when we shut the plant down they tried to sue us.

ROTENSTEIN: Why is that?

REARDON: "Well you're taking our water away from us!"

Well, it's not on our property. Folks, sue the railroad. They made us do it.

But nothing ever came of it. Just people – when people are used to getting something for nothing then all of a sudden they can't, they get mad.

ROTENSTEIN: Can you tell me about what led up to the decision to close the plant down?

REARDON: Well, it became obvious that there wasn't enough volume to make a living there and it became obvious because they stopped stopping at other stations. That they were not thinking of continuing to be in the iced produce business because they had refrigerated piggyback trailers that they were getting some produce in and they thought they'd get, go entirely to that because they'd bring the piggyback trailers in and trucks could come along and deliver them right to the places where they were going to get unloaded like the warehouses of the grocery store chains.

And that was going to be their entrée into the future of handling produce. But the trucks did it directly and they never succeeded with their piggyback game. Piggybacks – where there was two of them on a flat car and they were just tractor trailers latched down to that flat car and they went into a special place where a truck could – the thing would be pushed into a little notch, a truck would come up and pull the piggybacks off of it and then it would be moved and then another one would come in. It was very difficult to handle. There was no rapid way for those things to be unloaded so they failed.

But we saw that coming and we went over and gave them a hundred and twenty days notice, which was thirty more than our contract called for.

ROTENSTEIN: What year was that?

REARDON: Nineteen sixty-eight.

ROTENSTEIN: Okay.

REARDON: And I was the negotiator for that because the old guys, they just couldn't believe this was coming to an end. They didn't even – my father was – it did him in. He just could not believe that his ice plant was going to go. And when we negotiated this termination, they wanted us to stay in business for another year. So we put it on a cost plus a fixed fee so it wouldn't eat our lunch and we kept on doing it. We didn't ice a whole lot of cars, but we cut down on our labor force and we managed during that year to sell off a lot of our equipment. Basically a lot of our refrigeration machinery was shipped to the Philippines. Some broker found a market for it over there and we put it on flatbeds and it was hauled down to New Orleans where it got on some ship that took it all the way to the Philippines – most of our heavy machinery.

ROTENSTEIN: How many people were working for you at that time?

REARDON: Probably forty. We had engineers, we had shift engineers, we had to have them around the clock. We had to have people that handled ice inside the plant and we kept on making it for a while. And we didn't make it in the – first tank I told you about which could produce about three hundred tons of ice a day. Then the second section that we built during the war when we were really going crazy and we had to have more volume, we built a tank that would hold, that would do about seven hundred tons of ice a day. And it was white ice and we didn't aerate it; we made it fast and it was mostly for the railroad – entirely for the railroad.

And so that put us to a thousand ton a day plant and I don't think anybody ever had a plant that big in the country. We had a very special need for it and we built it with our own labor during the war. Our chief engineer was very good at that sort of thing.

ROTENSTEIN: What was his name?

REARDON: Charles Coblentz.

ROTENSTEIN: Was that with a C or a K?

REARDON: C.

ROTENSTEIN: Okay.

REARDON: Which is the German way of spelling it is with a K. It might have been with a K at one time, but.

ROTENSTEIN: Do you remember the last day the plant was in operation?

REARDON: You know the day, exact date, no.

ROTENSTEIN: You remember what was going on that last day?

REARDON: Well, we had sold all of our equipment and we had gotten rid of all the ice and all of our trucks and everything like that. My father was still going out to that office every day. He had lost his driver's license and I had to drive him there and then pick him up. But he'd just go

there and sit by himself. He couldn't believe it was coming to an end. It was like somebody going to his own wake; it was very sad, for him. And he was never the same after that. He had strokes – he died at eighty and he didn't live but two or three years after the plant was closed.

ROTENSTEIN: And after the plant was closed what happened to the building?

REARDON: We tore them down. We got out of having to do that because when the railroad wanted us to do it for another year, we said we're not going to do it for another year and tear these buildings down. And so the railroad said, "Well tear them down. We'll take care of it."

And boy it cost them a fortune. Because they were built – they were built to withstand any kind of hurricane, storm, or anything. If you dropped a bomb on them, it would bounce off.

ROTENSTEIN: How soon did the railroad take the building down after you left?

REARDON: Right away. They had contractors in there and they were pulling that down fast.

ROTENSTEIN: Do you know if they dug out the foundations and hauled it away or did they just cover it over?

REARDON: You know, I don't know because the – I think FedEx put a warehouse in there on the spot of our old plant and whether they used part of the footings of our plant or not, I don't really know. I think they were all taken out and they went in and built a brand new building in there. And that's – they operate that now – they leased that land from the railroad.

ROTENSTEIN: Do you know if there were any underground conduits between the main plant and some of the outlying buildings?

REARDON: No.

ROTENSTEIN: There weren't?

REARDON: No.

ROTENSTEIN: Was everything aboveground then?

REARDON: Yep.

ROTENSTEIN: Okay. What day in 1969 – I hate to put you on the spot like that, but –

REARDON: You know, I think it was probably – it was probably in the fall, let's say the fifteenth of October, something like that. I don't really know, but I would say it was about that time because we did ice some cars and we had ice in storage there and refrigeration going on until about that time and then that's when it stopped and they started tearing it down.

When we started putting the meatball to it, the wrecking ball, my father stopped going out there. We made him stop. He would have kept on going if somebody would take him. I wouldn't take him and he had some bad time over that.

ROTENSTEIN: Do you think you kept the business open out of sentimental reasons for your father longer than you probably should have?

REARDON: No.

ROTENSTEIN: Why is that?

REARDON: Well, we were still doing business and we knew we were up against a rock and a hard place and I wasn't the boss but I should have been. I mean I took over, I had to take the reins because the old guys couldn't do it anymore.

ROTENSTEIN: Who was the boss at that time?

REARDON: My father, the president of the company and the CEO. But he – he just – he just lost it over this completely. And I didn't get – there was no strife between us, I just took over and he was glad somebody would do it because he couldn't. He didn't get upset with me and when I had to – got them in a meeting, I said we've got to give notice. We can't – we've got to be able to negotiate here. If we have to tear this building down, it's going to cost us a fortune. And that was expensive and the railroad got sued by the contractor for more money and they beat him 'cause they wouldn't pay him more but it cost him a lot more than he estimated. And they wouldn't let him – they wouldn't pay him any more.

They are tough people to deal with over land. Very tough. But they were always fair with us.

ROTENSTEIN: After your grandfather died, you grandmother took over the business?

REARDON: Now when my grandfather died, he left her the title of president of the company and she had a salary and she came out there one day a year.

ROTENSTEIN: Who actually ran the business?

REARDON: A man by the name of Harry Hammond, who was the generation after his father and sort of half a generation ahead of my father, who was a very sharp, competent businessman. And he and my father worked well, very well together. He was the boss as vice-president the whole time my grandmother was president. And he died before she did and then when she died my father became the president. But she was president for life and she had nothing to do with the running of the business. She had a yardman, who was also her chauffeur, and a company car, and the only time that she came out there was on Christmas – I mean on annual meeting to make sure there was a Bible on the table. She was very religious.

ROTENSTEIN: And her name was Nora, right?

REARDON: Nora M. Reardon and she was a very active church woman and very active in the Society for Prevention of Leprosy, which is no more. She left them money and we couldn't find them to give it to them.

ROTENSTEIN: How was your family's relationship with the Hammonds?

REARDON: Always very good until the ice plant was closed and then it kind of went downhill.

ROTENSTEIN: Why is that?

REARDON: Well, greed probably.

ROTENSTEIN: Was there ever any point in the business's history where there was some competition between the two families?

REARDON: No.

ROTENSTEIN: No?

REARDON: Always very fair. Always – the Reardon's always put the Hammonds first and the Hammonds always put the Reardons first in the days of their generation. The days of my generation, there was problems.

[Material removed at the request of Mr. Reardon]

ROTENSTEIN: Who were the Snyders?

REARDON: Hammond Snyder was a grandson of Mr. Harry Hammond and he came and worked there his whole life. And he worked hard and was pretty easy to deal with until there was no more ice plant. He was the smallest stockholder and he inherited the title of president of the Mutual Ice Company or Mico, Inc., and both of our subsidiaries and I was – actually, he was chairman of the board of these things and I was president of them. But all of his cards said "H. Hammond Snyder, chairman of the board and CEO."

[Material removed at the request of Mr. Reardon]

I don't want anything mentioned about him and the difficulty I had with him. He died while I was on a safari trip in Africa.

ROTENSTEIN: Sure.

[Material removed at the request of Mr. Reardon]

ROTENSTEIN: Well let me let you go for the evening. I've kept you on the phone for quite a long time here.

REARDON: Well that's perfectly okay. I hope you can make sense out of this but call any time with questions because I've rambled and wandered on but if I could sit down with you sometime with maps and pictures – if you get these pictures – and if you copy them and make copies and – I can take them off of my computer.

[Exchange of contact information and arranged follow-up interview.]

REARDON: What is the purpose of this?

ROTENSTEIN: It's for the City of Alexandria. They have a historic preservation and archaeology law and I'm working for the consultant they hired to do the archaeological and historical study.

REARDON: Yes.

ROTENSTEIN: I'm a professional historian with a specialization in industrial history and archaeology.

REARDON: Yeah.

ROTENSTEIN: And I'm writing the business history of the Mutual Ice Company as well as a history of the evolution of the plant.

REARDON: Yeah. We also had a little ice plant in Quantico at one time that was outlying. But it was not a plant, it was a refrigerated storehouse for a box of ice and they were delivered down there sometimes by rail car, sometimes by truck. And they were sold to the Marine barracks there and sold to anybody in the little town of Quantico that wanted them.

ROTENSTEIN: What years was that open?

REARDON: I think it was open probably in the thirties and it ended up, oh it was – we gave it up right after World War II.

ROTENSTEIN: Alright, well let me let you go for the evening and I'll give you a call at eleven o'clock tomorrow if you're still okay with that.

REARDON: Anything else that pops into my head, I'll tell you. I'll write anything – I'll jot stuff down that I might think about.

ROTENSTEIN: I look forward to hearing it.

REARDON: Okay.

ROTENSTEIN: Thank you very much. Have a good evening.

REARDON: You too. Bye.

ROTENSTEIN: Bye now.

--- End of Interview ---

Interviewee: O. Ashby Reardon
Interviewer: David S. Rotenstein
Interview Date: 22 April 2008 (Second Interview)
Interview Location: Telephone interview

ROTENSTEIN: Mr. Reardon, I'd like to again ask you a few personal questions. You said you're seventy-nine years old. Could I have your birth date please?

REARDON: August the twenty-ninth 1928.

ROTENSTEIN: Okay. And were you born in Alexandria?

REARDON: Yes.

ROTENSTEIN: Okay. Can we talk a little bit about how the ice was made at the Mutual Ice Company?

REARDON: Yes.

ROTENSTEIN: Can you describe the process?

REARDON: Well, the initial process was an ammonia refrigerant plate that water was poured over and frozen to ice gradually. And plate ice was not very thick. It was merely an inch thick. Now we sold that in chunks for a while around town. Was one of the first processes we went to after the merger. The process that was principal – now you're going to hear some noise in the background; we've got people with chipping hammers working on our balconies here because they've got some rebar problems.

ROTENSTEIN: Sure, that's not a problem.

REARDON: It's a problem for me, but it's – if you can hear me okay and that doesn't drown me out, that's fine. It was right behind my ears.

ROTENSTEIN: So far we're okay on this end.

REARDON: The process that lasted the longest came along in about I'd guess 1912 or '13, which was the raw water compression method of making artificial ice. That was the engineering name for the process and the equipment to produce it. And here, as I've mentioned before, ice was made by immersing galvanized steel containers that were rectangular shaped – actually they were a tapered rectangular shape with a cross-section a little bigger at the top of the can than at the bottom so that the ice could be slid out of the tank when it was frozen and then harvested. You'll see pictures of that when you get these pictures from my son.

ROTENSTEIN: Okay.

REARDON: Then the process was – liquid ammonia was pumped through a coil system in the bottom of a brine tank and it lowered the temperature of the brine by taking the heat from the brine, which is a salt water solution – taking the heat out of that brine to the point where it went to a temperature below the freezing point of raw water. And then it was compressed back into liquid again after it passed through all of the coils in the bottom of the tanks and came back in a closed circuit system that put it back into the compressors to compress the gaseous state back to liquid again.

And that cycle just repeated itself. If the system was nice and tight, you didn't have to replace the ammonia very often. But aqueous ammonia is pretty powerful stuff and it's very corrosive and explosive if it's not handled right. And there were a number of ice plant explosions around the country but we never had one.

The machinery that we used for this, the compressors and the pumps, were manufactured by the Frick Company, which is Pennsylvania-based machinery manufacturing company that I think is still in business. And they may have some historical data on when we got things. We were told continuously by people from Frick who visited us on occasion and sometimes brought customers there because our machinery was very, very functional and very effective fifty years after we bought it. It was well-maintained by a series of engineers who liked their work and worked hard at taking care of this machinery. The one who was there the longest was Charles Coblentz and he died at almost a hundred up in suburban Maryland, up near Middletown, Maryland, where he came from. After he retired we carried him on retirement until he died, along with a number of other employees.

ROTENSTEIN: Can you distinguish for me the difference between clear ice and white ice and how each came about?

REARDON: Clear ice is made by aerating bubbling air through the water in the can and it's called aeration and it drives air out of the water as it freezes in. The freezing process, the water closest to the can freezes first and then it gradually freezes all the way in until it's solidly frozen in the center. And then at very nearly the end of the harvest – the freezing time before the harvest of the ice – these aeration systems are removed from the tanks. The air is pumped through a manifold of metal tubes that go down in the center of the block of ice and they're connected by rubber links to a main delivery pipe that runs across the whole twenty-eight tier cans of ice such that air is bubbled into them until they're just about ready to harvest. Then they pull these things out prior to taking the can down to be harvested. And there is a little white feather in the middle of that block but most of the ice is very clear.

Un aerated, it would be cloudy white and it would be brittle and it wouldn't leave itself to consumption for home use or for making ice cubes or crushed ice. We packaged ice made from this sort of thing in fifty pound bags and twenty-five pound bags and through our vending machines and our on-site ice chest locations, we marketed twelve-pound packages of ice and then we cut them back to eight and a half pounds for size just because this is the customers were telling us we – they were buying more than they needed.

We sold also cut to size twelve and a half pound blocks of ice that we cut with a special machine we designed and had it patented. The machine sawed up a twelve pound block into a whole series of – I mean a three hundred pound block – sawed it up into a whole series of twelve pound blocks. They were actually twelve and a half fractionally but we sold them as twelve pounds because there was some, a little bit of loss in the cutting process with the snow that came out of the ice.

They were sewed into paper bags and marketed through the same vending machines and there was one place where you could buy block ice and one place where you could buy crushed ice. It was actually – what we called party ice was ice that had the snow screened out of it and the pieces were I guess about half the size of an egg and they were screened out for those to be close to ice cube size so that there was not any snow in the bag and any waste.

We marketed them through twelve coin-operated vending machines which were in little houses that we built most of ourselves and we had a territory of oh I guess maybe a thirty-mile radius of our plant in Virginia. We didn't go into Washington with our products at all. Or Maryland. We just sold strictly in Virginia.

ROTENSTEIN: Did you also supply restaurants and hotels?

REARDON: Yes, but that was in the early stages. That probably died when the ice making machines came on the market. But we did have a lot of restaurant and hotel business up until probably the early fifties. And then most of them got ice makers that made a lot of ice and it was always available.

ROTENSTEIN: You described the market area being about a thirty mile radius from the plant. In the city of Alexandria did you deliver to all of the neighborhoods, the black as well as the whites?

REARDON: Yeah. The – we had ice locations in neighborhoods that were predominantly black. They were – some of these were at gas stations where the local guy would help keep the things loaded or they were in ice chests made by the Lear Company that were just sitting out there in front of an entrance to the gas station where you could go in and buy some ice and then take it out and put it in your car.

They were in – the vending machines, the bigger machines, were in mixed neighborhoods. Some of our neighborhoods in Virginia had coteries of black community and white pretty close together. There was no – in northern Virginia there was no big section of black communities like you have in big cities like Watts in California or Harlem in New York. There were little groups of housing developments that had black – some blacks owned, some blacks rented. The city had public housing which was largely occupied by blacks; there was some whites intermixed. These places were very close to our ice plant. And we had a retail sale out of that ice plant that was very convenient for people just to come by and pick up what ice they needed.

ROTENSTEIN: Was it cheaper to come pick it up or buy it at the vending spots?

REARDON: Well if you would buy big bags of it, it was cheaper to buy it at our plant. If you wanted to buy the little small bags of it, we sold them at the same price.

ROTENSTEIN: Remember what that price was?

REARDON: Well, it started out as a quarter for the bag when we first did it and it got to be up around a dollar when we closed them out. But we had these vending machines in operation for probably fifteen or twenty years.

ROTENSTEIN: Okay.

REARDON: So the escalation of prices just followed the escalation of prices for everything. I don't think they were any more rapid.

The ice in the bag was just a few pennies. The bag cost more than the ice did. And the delivery and the handling on a truck was part of the cost and the maintenance and depreciation of a vendor station was part of the cost. Probably – the ice was probably the smallest single element of cost in a package of ice sold to the public. Labor and packaging and storage were the other, the rest of it.

ROTENSTEIN: How would you describe the margins you worked on?

REARDON: What?

ROTENSTEIN: How would you describe the margins?

REARDON: Well, the margins were probably around 50 percent on the smaller packages to 30 percent on the bigger packages. And the margin on ice sold to the railroads was quite small but it was a big tonnage. I – you know, I'd have to go back and I don't know where I'd find the records. I wouldn't want to, wouldn't want to say what we made off the railroad but when the volume shrunk, we seldom ever made good profits out of that ice. The more of our bottom line profits came from fuel oil and the city ice, which was vending machines and the customers that bought ice from us.

But the railroad paid a lot of our overhead. We were on land that we rented very cheaply and it made doing business from that place more economical. The railroad never increased their land rent because they didn't want the cost of ice to be increased based on their land rent. They could – they cooperated with us in keeping our costs down so that the cost of putting ice in their cars didn't escalate too rapidly.

Certainly not any sort of price fixing because we didn't have any competition. There was only one person icing in our state, icing railroad cars. And there was only one outfit in North Carolina and one in South Carolina and we all iced the same trains.

ROTENSTEIN: How about competition for local ice supplies? Who were your local competitors?

REARDON: We had two competitors in Washington and one who got out of the business because he used his refrigeration equipment to run a big ice rink and that was the Uline Ice Company. They were not really competitors 'cause they didn't come into Virginia and they quite often bought their extra needs of ice in busy times from us. They were a decent customer.

The other producer in Washington was the American Ice Company, which was part of a company known as the American Consumers Industries and they didn't come over and compete with us but they did go after some of our wholesale business. We had, I think as I mentioned earlier, a bunch of little ice plants in cities within about a fifty-mile radius of where we were. WE delivered ice to Fredericksburg, to a plant down there that stopped making it and just bought it from us 'cause we could sell it to them cheaper than they could make in the quantity they made it.

And we sold ice to an ice plant that just became a storage house that was a wholesale customer in Manassas and also Leesburg. The facility in Quantico we owned and built because there was no ice available down there and we had the ice house in Quantico.

And early on, we had four or five little – we had four little brick small ice houses; one of them is still in existence in Alexandria and its – somebody's turning it into a little coffee house. It's been a shop for a painter and it's been a number of other little things but it's very small brick building. It's probably oh maybe eight by ten in dimensions, eight-foot by ten feet. And it just – it was a lock-up storage for paint, for a painting contractor for a while.

We sold them many years ago. They were built out of brick and they were built to last.

ROTENSTEIN: How about some of the appliances that you sold. The iceboxes and air conditioning units. Can you tell me about those?

REARDON: The air conditioning units were a very low volume. They were a special, a special thing and I think that they, they lasted maybe four or five years before window-unit air conditioners came along that the people could use if they needed it for sick room needs. But then air conditioning became a part of everybody's house as a way of life. But that was long after we were out of business when that got to be popular.

That little portable ice air conditioner that would do one room was about the size of a sixty-gallon water heater. Round and it was on rollers and it was in three sections and it could be carried in one at a time by the average homeowner. And then they'd buy ice in fifty-pound bags and put fifty pounds of ice in it and that would last almost a whole day. And he could go buy that fifty pounds of ice – sometimes people bought the twenty-five pound bags of ice and put them in there.

ROTENSTEIN: How did these units work?

REARDON: They had drains that had to be taken care of like – the drains would come out of the bottom and you'd put a hose and have it go to some kind of a container 'cause it melted the

ice – no, wait a minute. You could drain that into a bucket and take it out of there. It was – I was a little kid when I saw this thing and I know that we were doing it, but I don't know anything about the statistics of it 'cause it was before I was ever interested in anything like that.

ROTENSTEIN: Do you know who manufactured them?

REARDON: No, I don't. We didn't manufacture them. We didn't manufacture anything but ice. We built our icing platforms; we maintained them. We built a lot of our vending stations in a part of our plant that we had room to do that sort of thing. It had been part – it had been part of a section of the plant that was a boiler at one time because before electrical systems came in we had a steam-fired – steam engines ran our compressors rather than electric motors.

ROTENSTEIN: Do you know when you switched to electricity?

REARDON: Probably in the early thirties, late twenties, early thirties.

ROTENSTEIN: And what did you do with your boilers at that point?

REARDON: Well we got rid of them and we used that space for a shop to do repairs on things and then we had the machine shop in there and we had the tools necessary to take care of our place. Had a lot of workspace. It was big enough for us to build our vending houses in there and then haul them out and put them on skids and get them up into a big flatbed truck and deliver them to the site. We hired delivery.

ROTENSTEIN: So you sold the boilers offsite then to another company?

REARDON: I don't know what we – the truth. I've got a call coming in; it may be somebody trying to get in my door. Let me hang up and call you back.

[Call ends. He calls back a few minutes later from his cell phone and the interview resumes.]

ROTENSTEIN: So we were talking –

REARDON: We were talking about this air conditioning unit.

ROTENSTEIN: Right.

REARDON: You know, that was so insignificant, it's hardly worth mentioning because we probably didn't – we probably didn't sell a hundred of those things. We probably didn't even sell fifty of them. And they weren't around that long. They were a lot of work to handle; an awful lot of work. You had to buy ice every day, you had to empty it every day, and it worked fine. It was a simple blower blowing air through ice and venting out through the upper part of the tank so that you would cool the ceiling area first or the upper part of the room as warm air rises and it would cool the whole room down beautifully. But it was a lot of work.

ROTENSTEIN: How about the iceboxes you sold?

REARDON: The iceboxes we sold were baked enamel on steel and they had an ice compartment in the top and a regular storage area which was cooled by the ice in the bottom. The ice compartment was probably bigger than your freezer compartment on the top of these current refrigerators that people have because they would hold fifty pounds of ice and the fifty pound block of ice is a pretty good size.

ROTENSTEIN: Do you know who manufactured them?

REARDON: No, I don't remember who manufactured them.

ROTENSTEIN: What kind of special offer did you have for people who had the old wood-type iceboxes?

REARDON: No deals whatsoever and we just busted them up when we sold them the new ones. There was no – they did not become collectors items days.

[Answers knock on door in his home; speaks to housekeeper.]

ROTENSTEIN: So did you offer any credit for the folks who brought in the wood boxes?

REARDON: No. We picked them up just to get rid of them for them but we didn't buy them. And it's too bad that we didn't buy them and store them but who knew and how much space can you devote to storing something you don't know whether it's going to have a value up the road as an antique. That was not something people thought about in those days.

I get all that from hearsay because I – all I remember was seeing those, that room as a little kid and seeing these pretty shiny iceboxes.

ROTENSTEIN: When did you first go into the plant? How old were you?

REARDON: Oh, probably six or seven.

ROTENSTEIN: And did your family try to put you to work doing odd jobs while you were a kid?

REARDON: No. No. No, they thought that I'd be better off going to find my own job and they didn't want – my father didn't particularly want me to be around there, to get hurt doing stuff – there wasn't any kind of a job there for kids. We later on hired high school boys to run the cash register in the office and sell the various kinds of ice that we sold. And that was not a difficult job but I never did that because I went to work for the city as a surveyor's helper and I had that job regularly every summer when I was out of school and I didn't work while I was in school.

ROTENSTEIN: And you attended the Naval Academy, correct?

REARDON: Right.

ROTENSTEIN: Did you ever think you'd end up working at the ice plant after you got out of the navy?

REARDON: I had thoughts about it. I got out of the navy after eight years and I wanted to go to flying school and I didn't, I couldn't see good enough. I didn't pass the eye test. And when I got too old even to keep on trying, I had command of a ship. I'd had a pretty good time in the navy, but since I couldn't be an aviator, I wanted to get out and hopefully make more money. And I didn't for a long time because my father was not too easy to work for moneywise. He thought in terms of Depression wages and that was a long time ago. When I went to work there, the Depression was way behind us and World War II was way behind us. I didn't go there until 1959. After eight years in the navy.

ROTENSTEIN: Can you tell me a little bit about the work force at the company? What classes of workers were there?

REARDON: We had – we had shift engineers who ran the whole shift and they had oilers that went around checking the lubrication of the machines and the proper running of them that were trained. Some of them were black, some were white. There was – there was a mix in the engineering department. They had – and then we had in the labor department of actually pulling the ice and handling it in the rooms, we had – here again, some white employees but they were predominantly black. And we had black supervisors in there who would be running the shift.

The icing crews – our car icing crews – lived in the bunkhouse and were casual labor and they were minimum wage at that time. And some contractors in Alexandria if they were not in – what they call the interstate commerce, they didn't have to pay minimum wage and they didn't. They paid under a dollar and we were paying a dollar and a quarter.

So we had no trouble getting labor. And then sometimes when labor was difficult to get and we didn't have enough in our bunkhouse, we had a bunch of firemen that wanted to come and work there. And we didn't hire any high school kids because it was dangerous work. If they fell off that platform because they were horsing around and grab-assing, they'd either be permanently injured or kill themselves. It was about a twelve-foot fall to the ground, you know, on the rails or maybe on the coupling of cars and it was not – it was not without hazard.

We had to my knowledge no deaths from people falling from the platform and we had people who fell and hurt themselves and we had people who fell into the cars and hurt themselves, but by and large they were not bad permanent injuries.

ROTENSTEIN: How about accidents inside the plant?

REARDON: Very little, very little. Every now and then somebody's get hurt by when he's heading up blocks of ice to make them stand up on end in storage. If he didn't handle it right with his tongs, they'd fall on the foot. They could break a foot or bruise it badly. And then we insisted that they have steel-toed shoes before they even had that kind of a job and we sometimes

bought them, had them there for them and they'd buy them from us at cost. But we didn't let them work without steel-toed shoes in there.

ROTENSTEIN: Were there any efforts to bring the union in?

REARDON: We didn't provide them, they bought them, as I recall.

ROTENSTEIN: Okay. How about union organizing? Was there any of that?

REARDON: We had attempts at it and they were never successful.

ROTENSTEIN: Do you remember specifically any of the attempts?

REARDON: We truck drivers, we had four or five permanent truck drivers and we had off – in the peak seasons we'd have firemen come in and do some of our oil driving and in the summer time, we had mostly our black truck drivers and the helpers.

ROTENSTEIN: Okay. Do you remember any of the specific attempts to get a union going?

REARDON: No, I don't. We only – we didn't have anything in the ten years I worked there. None of it. It had happened before I was involved and I know my father did the negotiating and we – Virginia is a right to work state as is Maryland and the people could vote out the union or vote it in and there was never a lot of pressure put on us because we had a lot of low-wage and temporary help that didn't want anybody taking any part of their pay. And because they were on our payroll, they were a significant factor in the union not even making a big effort.

The effort to organize us, I think it only happened two times in the history of the company and it was unsuccessful each time.

ROTENSTEIN: Okay. Did you have any women working there?

REARDON: Any what?

ROTENSTEIN: Any women?

REARDON: Yeah, we had women in the office. We had women book keepers and I think we had – in the office building there was generally two or three corporate officers: a president, a vice-president, a secretary, were officer jobs. And they were, they had different management responsibilities and there was a secretary who was also a book keeper. There was a book keeper who handled all of the accounts receivable for the oil accounts, which was still on a book keeping machine. There was a payroll clerk who did the payroll manually and it was done manually the whole time I was there and I sometimes did it myself because if the payroll lady was sick, I knew how to do it.

And we paid in cash on Mondays because we didn't want them drunk on the weekends when our business – railroad business was at its peak. So they got their payday on Monday and they started

– and they stayed drunk for a couple of days, a good number of them, when we needed them the least.

ROTENSTEIN: And was everybody paid on Mondays?

REARDON: Everybody was paid on Wednesdays of the casual labor, but the people who had permanent jobs in the plant, the engineers and the oilers, they all got checks every two weeks but the others got paid every week. And the officers were, just had a drawing account and a salary.

ROTENSTEIN: How about the meal tickets you told me about when we talked the first time?

REARDON: What?

ROTENSTEIN: What about the meal tickets?

REARDON: Well, because these people lived in a transient labor facility, they provided their own – did their own cooking and they would get meal tickets between pay days if they ran out of money just so they could eat. The tickets were not supposed to be good for the purchase of wine and we had to battle with the little grocery store that handled them to keep them from selling these guys wine on their meal tickets because some of them would want it all the time. They wouldn't bother to eat and we didn't need them drunk during the week.

ROTENSTEIN: Do you remember the name of that grocery store?

REARDON: Yeah, it was Johnson's grocery store and it was about a block from the ice plant.

ROTENSTEIN: Okay. Can you –

REARDON: It's no longer there.

ROTENSTEIN: Can you tell me about the social life in these bunkhouses you had?

REARDON: It's pretty rough camp. There were fights and there was arguments and it was – a lot of tawdry stuff about that thing. I don't think needs to be in the history.

ROTENSTEIN: Okay.

REARDON: It really doesn't. I mean there were whores that came out there looking for business and there was trouble with them and we had to chase them away all the time, but we'd sometimes have them locked up for trespassing. We couldn't do anything else. But that's not something's that's really good history. I don't think. We discouraged all of that sort of thing and we kept the place clean. We paid one man for each building to be the janitor and he kept it clean and if he didn't, we got somebody else.

ROTENSTEIN: So it was one man in each building?

REARDON: Yeah, one man in each building was responsible for keeping it clean.

ROTENSTEIN: And one was a black bunkhouse and one was a white bunkhouse?

REARDON: Well, not during my time. During the Depression there was a white and a black bunkhouse but after that it was all black. We didn't have any whites living there.

ROTENSTEIN: Okay. And did – when did you go from two bunkhouses to just one?

REARDON: We never did; we kept two the whole time I was there, till we closed the plant. Yeah, we had the – we had the more reliable employees in the small bunkhouse. They had been there a long time, they were mostly permanent residents, and they were mostly people who would always work. And they were tough enough to where they would intimidate other people who wouldn't want to work when we needed them. They helped us get labor up there. Itself very unnoffical. And they were – they were more reliable people; they just were sort of – they had been there, it was their home, they had a lot of respect for it, and they – they helped put down a lot of bad behavior around there because they were older and they didn't want their place to be full of loud drinking and hell raising stuff like that. They wanted a nice quiet place to sleep when it was bedtime and they didn't want a lot of partying going on at night and they were strong enough and tough enough to make sure that – they had a good calming influence on the whole crowd.

ROTENSTEIN: How about the big bunkhouse? Where did those workers come from?

REARDON: A lot of them were hobos that kind of rode trains around the country looking for work and they had, there was some hobo jungles near the railroad yards and some of them came from there. Some of them came from the town and liked the idea of being out there with that crowd at the bunkhouse and worked there. It's – all sorts of places.

It got to be less and less people riding the rails because the railroads locked up their cars and it was very difficult to hop freights in later years, but during the Depression a lot of people came into town on freight cars like that.

ROTENSTEIN: How did someone get a job with Mutual Ice? Did they just walk up and say they wanted to work there?

REARDON: Yeah, they'd come to the office and say, "You got any openings?" And we'd tell them about what was available. A lot of them camped out in the open in the summer time; some of them slept in the salt houses because they wanted someplace to go to sleep and you wouldn't find them and make them go to work in the middle of the night.

There was some comedy in that. I mean they took skids and made places to sleep up in trees and you had to go out and shake them out of the bushes and the trees. They'd be wrapped up in blankets – a lot of them, there were some moving and storage companies in our area and a lot of them worked there part time and they would steal from their employer the big pads that were

used to protect furniture being transferred, being shipped somewhere, and they would just take them when they got through with their job and use them for their bedding rolls.

ROTENSTEIN: So they'd camp –

REARDON: There was a lot of them around there. A lot of them.

ROTENSTEIN: They'd make these camps around the property you leased from the railroad?

REARDON: Do what?

ROTENSTEIN: They made these camps on the property you leased from the railroad or on other –

REARDON: No, it was on railroad land that we built the buildings.

ROTENSTEIN: Right. And where –

REARDON: The whole premises there was on railroad land. Everything. We didn't own any of it.

ROTENSTEIN: Were any of these hobo camps located close to your plant or were they pretty far away?

REARDON: They were probably three or four miles away, I would say, maybe. I can remember as a kid going down to fish in a stream that ran through there and we'd see these hobo jungles. We were told not to go anywhere near them because they would rob us or beat us up or they – they were tough people. But a couple of times we found out they were pretty decent people. And we were teenagers down there fishing or just playing in the stream.

ROTENSTEIN: Some of the folks who lived in the bunkhouse who came from out of state, did they come mainly from the South? Did they come from the north?

REARDON: South.

ROTENSTEIN: From the South?

REARDON: Um-hm.

ROTENSTEIN: Were there any from, in great numbers from any specific state?

REARDON: No, I would say that the Carolinas and Georgia and maybe some even up from Florida. But the Carolinas probably with most of them.

ROTENSTEIN: How about –

REARDON: Some from Virginia. I don't know. I never had any feeling that there was an area that was the source of a lot of our labor. It was all our own state and neighboring states to the south.

ROTENSTEIN: Okay. How about some of the instances where folks got hurt or even killed in the bunkhouse or on the property? Can you tell me about some of those?

REARDON: Well, I mentioned one that was shot because he was making a lot of noise and he was killed by one shot. And the guy who shot him disappeared.

ROTENSTEIN: And what were their names, do you remember?

REARDON: Why is that germane to the story?

ROTENSTEIN: Well, it helps show who was working there and who was actually living there and how it contributed to the creation of an industrial culture. Because when historians look at industry, they also look at the people behind it and you have multiple layers and all of that story contributes to what made your business successful and what defined your business both the good parts and the not so good parts. They're all part of the overall story.

REARDON: Well, this was when there was some guns around there and one of the blacks had a pistol under his pillow and when this Little Tight Nut, whose name I think was Mack Jarrett, when he was shot, the guy who shot him just disappeared never to be seen again.

ROTENSTEIN: And were there any other instances that come to mind?

REARDON: That was the only killing. A long time ago, there was a guy who killed somebody in a fight with an ice pike but that was before I was there and I don't remember who –

[Phone was disconnected]

It was like a logger's pike. It's got a hook on the bottom of it that's fairly sharp on the bottom of the head and a spike on the end which you used to cut ice into chunks that you could put down in the car. You couldn't push the three hundred pound block in there; it wouldn't fit. You cut it up into three one hundred pound blocks and pushed them in there.

ROTENSTEIN: Was that the engineer who got killed?

REARDON: An engineer who got killed?

ROTENSTEIN: Yeah, I think I saw some newspaper articles from the 1940s where an engineer got killed and three folks got arrested and they all got acquitted.

REARDON: What, what was the time frame of this?

ROTENSTEIN: I think it was mid-1940s.

REARDON: Oh well, that was before I knew much about it. I was a kid then. Was it a murder with an ice pike?

ROTENSTEIN: Yeah.

REARDON: That's what I'm talking about and I don't know when that happened.

ROTENSTEIN: Okay. How about this 1965 stabbing death where a man named Willie Allen –

REARDON: What?

ROTENSTEIN: A man named Willie Allen got in a fight with James Miller at the bunkhouse? Do you remember that?

REARDON: No. Sixty-five? I was there then.

ROTENSTEIN: It's in the *Washington Post* in January of 1965.

REARDON: Willie Allen?

ROTENSTEIN: Yep. He said he was wounded with a knife in a fight with another man on December 22, 1964, and it said Allen was a laborer wounded in the stomach and he got in a fight with James Miller at the Mutual Ice Company Bunkhouse [I read from newspaper article].

REARDON: I don't remember that either.

ROTENSTEIN: Okay.

REARDON: And that happened when I was there. I don't remember either of those names and I used to know all the names down there.

It's very possible because a lot of these guys went by nicknames. There was one guy whose name was "Fertilize Slim" and I never knew – well I did know what his name was, but I've forgotten because when I ran the payroll, I knew all the real names of them. But we had names and Social Security – we didn't have anybody there that didn't have a Social Security card.

ROTENSTEIN: What were some of the other nicknames people went by?

REARDON: What?

ROTENSTEIN: What were some of the other nicknames people went by?

REARDON: Oh, "Pick Handle" was one of them. He was a tall lean, pretty strong young fellow. And – you know, I'm drawing a blank. I just can't bring up that many of them – "Young Boy" was another one; that was his nickname and I don't remember his real name. He was plump and

he was jolly and funny. He was the one who fell off the platform and got – he landed on his butt on the ground, got up and came back to work. Fell twelve feet, landed on gravel, and he came right back to work.

And there was another one that fell off and broke his leg. Now we took him to the hospital and we took care of him. And I guess they were just taking care of those indigents because any time there was any doctor's bill we had a company doctor and we'd send them to him. He was a pretty good general practitioner in Alexandria.

ROTENSTEIN: Do you remember his name?

REARDON: Yeah, Dr. Bud Mureau [??].

ROTENSTEIN: Okay.

REARDON: I think he's dead, long dead now.

Not Monroe, Murrow: M-u-r-e-a-u, I think.

ROTENSTEIN: M-u-r-e-a-u?

REARDON: Yeah.

ROTENSTEIN: Okay. You said a little while ago you had local whores coming into the bunkhouse and can you tell me what they were doing there?

REARDON: Soliciting.

ROTENSTEIN: And what type of things did they do with the employees other than what you'd expect to happen? Were there any episodes where people were hurt?

REARDON: There was one, one – several episodes where a cab driver would bring a whore out and they would get in the back seat, get the guy in the back seat thinking he's going to get – have intercourse – and the cab driver would hit him in the head with a blackjack and they'd steal his money, which he might have just gotten paid with on payday, and disappear with the money, the whore, and the guy was just out cold for a while or stunned for a while.

And before long when they came out there with these whores, nobody would get in the car with them because they figured that's what might happen.

ROTENSTEIN: They ever call the police when this happened?

REARDON: Oh yeah. Yes, and we called the police and we knew who one of the people were, but we couldn't do anything but get them put in jail for trespassing because you had to catch them in the act and get witnesses and everything else.

And there was one particular woman who kept coming back there. She was older, she was small, she was nothing to look at and her name was Ethel Stokes and she came around there for years. And I would take her to court with a trespassing charge and get her put away for thirty days or something like that and then she'd come back again and one day it was Christmas time and the judge, the judge – God, that thing's – can you hear that chipping [construction noise in background]?

ROTENSTEIN: Yeah.

REARDON: It's right outside my window here.

The judge, he said, do you have a home you can go to for Christmas, Miss Stokes? And she said she did. So he said, "Well you stay away from Mr. Reardon's property and you go home to your family and don't you go back there again."

I drove back to the plant from the courthouse, which is down in Old Town Alexandria, a distance of about maybe a mile and a half or two miles, and Ethel Stokes was walking in the place when I got there. She had been told to stay away and she was on the way back in there. How she got there before I did, I don't know, but when she left the courthouse she was on her way back.

ROTENSTEIN: Did you do anything about it?

REARDON: Yes, took her right back there. I had her arrested for trespassing and went right back there and then she was on probation so they just voided the probation and put her in jail. But she came back later on and it was a never ending thing.

ROTENSTEIN: And was that going on right up to the time you closed?

REARDON: Well, it died off when we got to the point where we didn't have that much business and there wasn't that many people with money on pay day. It died off probably a year or so before the plant closed because the last couple of years the volume of business around there was very, very slow and the number of people who were working there was reduced dramatically. And so there wasn't this big payroll or big bunch of drunks hanging around there like there used to be.

During the heyday it was pretty regular, pretty dependable that you could find them coming in on pay day. And I spent a lot of time chasing them away.

There would be fights over them and fighting for who got to do what with who. I mean when they came in there and they were soliciting, somebody would want to pay her some money and somebody else would want to pay her some more and there'd be fights between the competition for who's going to get the whore. And sometimes they actually did their services right in one of the bunks of the bunkhouse with other people there all the time. There was no privacy around there.

You know, this is part of history.

ROTENSTEIN: That it is. Let's move on to some of the other business issues, then. What did you do for advertising?

[Construction noises get louder in background.]

REARDON: God almighty. I'd rather talk another time when this is not going on and when it's going to be, I don't know. Maybe tonight. It's just too noisy for me to even think.

[We arranged to have another talk by phone later in the evening.]

--- End of Interview ---

Interviewee: O. Ashby Reardon
Interviewer: David S. Rotenstein
Interview Date: 22 April 2008 (Third Interview)
Interview Location: Telephone interview

ROTENSTEIN: I just had a few more questions for you. Can you tell how the firm did its advertising?

REARDON: Well, we took ads in the paper occasionally for fuel oil customers, in the local *Alexandria Gazette*; we didn't take any ads in the Washington papers.

ROTENSTEIN: Okay.

REARDON: And we – when I first went there, one of my jobs was going out and we subscribed to a list of new move ins and I would call on them and if they had oil burners try to get the business and if they hadn't already been contacted or signed up, I usually got it.

And the drivers sometimes spotted things and we would give them ten bucks if they brought us a lead that became a customer. It was just out of pocket, you know, very informal.

There was a time years ago when Arthur Godfrey started with a radio station program and Alexandria station WJSV, they'd play the banjo and he was a talk show in the morning and he came around and solicited his ads and we sometimes took ads with him because my father liked him.

It wasn't a big deal and it didn't last very long because he left the area, went to Washington, and then went on to bigger and better times.

ROTENSTEIN: Did you ever give away items like ice picks?

REARDON: You know, on occasion we would give ice picks to customers or take them around to the – the truck drivers had them for sale, but I'm sure they gave some of them away. I'm sure some of them got used as weapons, too.

ROTENSTEIN: Were they stamped with anything? The firm's name?

REARDON: Yeah. Mutual Ice Company and telephone number. At first it was 50, then it was Alexandria 0050, and then it was King 9-0050, and it kept that number during its entire lifetime, five-oh. Just – when it was five-oh, there was no dial system. That's when you picked up your phone and the operator said, "Number please?" And you'd say, "Five-oh," and that would be the ice company or five-one – they had both numbers. If five-oh was busy, you had to dial five-one; it didn't rotate over automatically in those days.

ROTENSTEIN: Alright. Can you tell me again about how you installed the air conditioning system in the Richmond Theatre?

REARDON: We built a chamber which was attached to a drain that drained out of the building into the storm drain in the alley behind the building. And we did all the work ourselves, with our own – we had carpenters that maintained our platform and our chutes that were constantly having to be repaired. Our platform was oak planks, which lasted a long time; much longer than pine would have. And they took care of it and they did a lot of other carpentry work around there and they built the frame and built the vending stations that were eight by ten inside. And we bought the conveyor belts and set them up ourselves and the coin-operated device that started a little motor; it was just a switch that started a motor that cycled, went around one revolution, dumped the bag to a hopper and you could reach in and pick it up from the outside the chute.

ROTENSTEIN: What year did the air cooling system get installed?

REARDON: I would say that was probably '40 or '41, before the war.

ROTENSTEIN: Was it part of any large-scale renovation project that the theater was doing? Or did they just hire you all to just come in and do it?

REARDON: Well it got done in Washington and they called us and asked us if we could do it and we said sure. We went down there and our own carpenters laid out what was needed to make this room available and it was in a part of the theater that wasn't being used, behind the screen and off to the right of the screen. And we built it and we put the blowers in there and it's ductwork took the cool air up to the top of the building and the vent was carried from the room that we designed for the ice room, on the outside, carry it into the wall and up along the wall and then it vented itself out and it probably – I'm not sure, but I think the ductwork went out about twenty feet into the depth of the building from front – from the screen back. It was [unintelligible] it might have been halfway back towards the end of the theater – it should have been.

ROTENSTEIN: How much ice did that –

REARDON: I don't really know about that, I just know that it worked.

ROTENSTEIN: Okay.

REARDON: I don't even remember seeing it 'cause I was a kid. There was talk about it and they were quite proud of it, that it lasted so long that it did. It lasted probably ten years with very little trouble. And we didn't do any but that one. And there were some of the downtown theaters as I mentioned before that were done earlier by I think the American Ice Company did it.

They were a big outfit, incidentally. American Ice Company was a big board-listed company called American Ice and then it became American Consumer Industries. And they made a lot of money 'cause they had bought up a lot of land in the Maine countryside with good lakes on them for harvesting ice. And they initially brought a lot of ice down from Maine that they cut out of lakes up there because people had been harvesting ice and storing it in storehouses up there for years 'cause it was available and it was frozen very deep and thick and it was nice clean ice. And

they sold a lot of that all over the country – I mean all over New England; they didn't go all over the country with it.

And then when they started making ice, they had all this lake property up there and they started developing it as a summer property for people with lots and cottages and they made a lot of money on that land.

ROTENSTEIN: I bet.

REARDON: But that had nothing to do with us. We just knew the people.

ROTENSTEIN: Okay. Talking again about the reefer cars, can you describe the produce that went through the yards and what was the major product that went through and the direction that it went?

REARDON: Yeah. The produce in the body of the car, which was completely inside and separated from the bunkers except that the bunkers were vented to the top of the car and air was circulated on drives from belts from the shaft of the wheels of the car. The cars motion through its travel ran that belt and it was pretty reliable, the linkage, that drove the fan when the train was moving. The fan would stop when stopped. But they didn't stop except to get iced or maybe have a traffic interference problem. And they just chugged away up to the market and they got up there – they came from the Florida picking grounds, growing grounds, up to here in about oh, I guess something like eighteen hours and some of them had been iced once en route and some of them hadn't. When we got them some of them were empty, some of them were half-full, and some of them were three-quarters-full.

But the produce was – corn was a big item. Cucumbers were a big item. Lettuce was a big item. Tomatoes, watermelons in season, sometimes cantaloupes. Those things were all in crates. They were slatted crates so that the moisture would get inside there also the cool would take care of the field heat that was left in the produce.

Field heat was a term we used which meant the heat that was in the produce when it first went in a car and the cars when they went in the fields to pick these loads up, they would go to sidings where these things would be brought in trucks in crates already, and they would be hand loaded into the cars and they had a lot of field heat in them. And the cars – when they were loaded in cars, the cars were completely bunker iced and if it was real hot, corn had a way of keeping more field heat than anything else.

Corn would melt all the ice between the cutting fields in Florida and up into Virginia, even if it was iced one en route. Some of them were iced in Florence, South Carolina, and some of them were iced in Hamlet, North Carolina. Those were on – one was on the Seaboard and one was on the Coastline and those two railroads later merged. But they both went through those two locations after a while.

ROTENSTEIN: Do you remember the model of car that Fruit Growers Express used?

REARDON: Yes – I don't know the technical description of it, but the cars were all numbered and they had – there were FGE and then probably five digits. There were a hell of a lot of cars. And there was PFE: Pacific Fruit Express. And there was a few other names. And they all were mixed up because they got leased off and picked up and used by other people and other people were paying rent to Fruit Growers on the car. And it in turn paid its profits to the railroads who were the shareholders.

ROTENSTEIN: Right.

REARDON: The cars were about the size of a regular boxcar and they were wooden. They had wooden sides and wooden ceilings. And they had a walking track on top that was a metal grate and the train men could walk the whole length of the car underway – the brakemen and the people that rode back in the caboose, when they had to go and come in and do their job at a local stop, they would walk up that trellis on top of the car – not trellis but walkway, which was a grate – and it was that so they wouldn't slip on it.

ROTENSTEIN: You don't remember the model of cars that generally were used?

[Phone disconnected due to a low battery -14:27; the call was resumed.]

ROTENSTEIN: Hi, is this okay for you?

REARDON: Yeah. We won't have any trouble with this.

ROTENSTEIN: We were talking about the reefer cars and I asked you if you remembered the specific models that were used.

REARDON: No – there was wooden ones and metal ones and I don't remember that they had model numbers. They were most of them built in Alexandria at the Fruit Growers Express Company's yard. They had a yard on the south side of town and they built lots of cars and they maintained cars in there. And they'd cycle them in if they needed new roofs or if they needed – if they'd been in a wreck, they got fixed up. They'd change the trucks on them if they had damage with them. They could do anything. They could do anything from building a new car to repairing an old one in that yard. And some of it was indoor facilities and some of it was all done outdoors but it was a sizable operation.

ROTENSTEIN: Okay.

REARDON: And they were a significant employer in Alexandria for a number of years. Maybe as big as we were. I don't really know. I just know that they – metal and wooden cars were built at that location. Now the wooden cars were stick-built from the ground up. The metal cars, they'd bring in sometimes steel boxcars and convert them to refrigerator cars by insulating the sides and the top and the bottom and then putting bunkers in the ends that were opened to the whole car and then they had fans that they would stick in there to circulate air.

And those cars – some of those cars were later converted to mechanical refrigeration, which didn't use ice, and we did refuel those things with diesel fuel. It wasn't fantastic business and it was a pain in the ass to do because you had to take a truck sometimes in the yard and find the damned thing and the train driving over railroad ties and crossing tracks and it was a touch place to drive a truck. But we did it, more as a courtesy than as a profitable business.

ROTENSTEIN: Okay. I saw a reference where you might have done some business with the Portner beer folks who –

REARDON: Yeah, they were a big customer.

ROTENSTEIN: Can you tell me about that?

REARDON: I just know they were a big customer. They bought a lot of ice from us. I guess they cooled beer when they were delivering it to people and they – their cold storage might have been ice chilled; I don't really know.

ROTENSTEIN: Do you know if they made ice on their premises?

REARDON: Probably not 'cause they were out of business before that became a way of doing business, before ice makers were on the market. We also had a big account with the Alexandria Dairy. They had – they'd send their own trucks out there and get big orders of ice and take it down there and it would be chopped up over the crates of milk in the cars and the milk trucks going around. And they had probably – they might have had twenty-five or thirty trucks delivering milk out of their plant in Old Town Alexandria. They later moved out to Springfield but that was when everything went refrigerated and we were out of that business.

ROTENSTEIN: Okay. I want to ask you some questions about your family's history. Do you know who Joseph S. Grimes was?

REARDON: Yes. He was I think a partner in the business and his sister, I think, was my grandfather's first wife who got ill after her son was a teenager and my grandmother was hired as a nurse to take care of her and also to do housework for Mr. Reardon. And when Mrs. Reardon died, it wasn't too long after that Mr. Reardon told Nora you might want to move in my bedroom now 'cause you're going to be my wife and she just went right along with it.

That's hearsay. I don't know that – I don't know that it was true and I don't know how the words were phrased. He was probably a very proper little gentleman. He was very loving of his children. He had one by his first wife and four by his second. And he was fifty and she was nineteen.

ROTENSTEIN: Do you know what year he was born in?

REARDON: Well Nora was born in 1870 and she was his second wife and she was not a beauty but she was a very, very strong woman and she was very religious. If she was born in '70 and he was – let's say he was thirty years older than she was, then he was probably born in 1840.

ROTENSTEIN: Do you know if anyone's ever done any genealogical history of the Readons?

REARDON: Yes, and its bits and pieces have survived and one of my daughters has it. But I've done some on the Ashby clan to try to get in the Sons of the American Revolution 'cause Ashby was my, my father's grandmother, Virginia Ashby. And I've traced a lot of that down. I didn't try the Reardons because when the aunts tried and didn't succeed, I figured I'd use the Ashby route. That's an ongoing thing with me right now.

ROTENSTEIN: It's a big project, I know.

REARDON: Yeah. Well, I'm just trying to think. William Underwood was my mother, my grandmother's father; he was my great grandfather. And William Underwood was a U.S. marshal and I have papers to that effect that are framed and at one of my daughters' houses. And he being a U.S. marshal was a Yankee in Confederate land when he made a comment in Occoquan, Virginia, that he thought the black man had a right to his freedom. And making such a statement was considered anti-slavery and the local Confederate people took him to task and put him in jail in Fredericksburg, in the Confederate prison, which had been taken over, the local prison.

And in those days, people who were taken prisoner were often traded by people that they traded say a U.S. marshal, who was a substantial federal officer in those days. The U.S. marshal had jurisdiction over the judges for some reason. This is fractional and I'd say hearsay, but I'm pretty sure he later was referred to as "Judge Underwood." But he lived in Occoquan for a while and he lived in Alexandria for a while because Alexandria was taken over by the Union army right at the beginning of the war and anybody who tried to leave and join the Southern army was executed or put in jail, put in the stockade.

ROTENSTEIN: Was your family originally from Occoquan?

REARDON: My grandmother was and where the Reardons came from, I don't really know.

ROTENSTEIN: Okay.

REARDON: My grandmother Underwood, who was the second wife and she was the mother of my father. And her mother's name was Virginia Ashby and she married John Underwood, who was the U.S. marshal. And I've got that piece of paper that when he was released from prison, he went to Abraham Lincoln – he was called into Abraham Lincoln to ask how he was treated and Abraham Lincoln wrote on the back of a little white card to the Secretary of War, "This is Marshal Underwood, recently released from Confederate jail in Fredericksburg. Find him something, find him a position." And that was from him to the Secretary of War, actually, because he was a senior military cabinet member. Always – in those days.

I don't know if that's of any use; there's no connection to the ice company except that she became president of it later.

ROTENSTEIN: It's all part of the big story.

ROTENSTEIN: One last question for you. You said that even though the ice company went out of business and shut the plant down, the Mico entity stayed alive. Can you describe how that changed through the years?

REARDON: Well, Mico bought a company called Robinson Export-Import. And it was an import – it was a company that came out of the Robinson Terminal Warehouse, I think I mentioned that to you, where they had a paper – they received paper from ships.

ROTENSTEIN: Right, you –

REARDON: And they sold it to the various newspapers.

ROTENSTEIN: Right, you told me about that.

REARDON: One of the things that came out of that was Robinson Export-Import bought – started – a business of buying plywood from the same sources that the paper came from, the forest products industry was run by the government over there. And they started importing cut-to-size beautiful plywood for the furniture industry and we sold a lot of it to kitchen cabinets. And that's the way that we got into the kitchen cabinet business when the Finland birch plywood got priced out of our market, we started -- we contact the Merillat Corporation that had bought a lot of cut-to-size plywood from us and said we have warehouse space, would you like for us to represent you as a wholesale distributor and they said yes and did and all of a sudden bang, we're in business and that's a big company today, which we sold – actually, I sold.

ROTENSTEIN: And if someone were to look for Mico today, where would they find it?

REARDON: It – we have an office at 7619 Little River Turnpike in Annandale, Virginia. But sometimes the mail is returned from that address so it's better to be addressed as care of Reico. We used to own Reico, we used to own actually 81 percent of that and we had one employee that wanted to buy stocks in it and he did and a long time ago, when it was fairly cheap and new. And he was a pretty good employee for a number of years and then when the thing got in trouble we had to get rid of him and get somebody else to get it straightened out – well he and I straightened out what the problems were and then I sold it to him. And that was in '97.

Mico got money out of that and invested it in the market and we had some securities already that we used as collateral for guaranteeing Reico's borrowing. Reico was undercapitalized and had to borrow a lot of money to finance its inventory. And it still made money with it. It was – there were times when things didn't go right there and I left the brokerage business and went out to it and found out one of the things that was wrong was that they were not collecting money from their customers. They weren't aging their receivables and they didn't know how old some accounts got. Had no record of it.

ROTENSTEIN: It's kind of tough to make money that way.

REARDON: It is very tough to make money that way but we had a book keeper that was sloppy and the president and the sales manager, they just didn't worry about that. That was somebody else's problem. And I made it my problem. When I came out there, I came out there as president of the company and also the credit manager and we had regular credit meetings every week. We had two department heads in, the salesmen, and the other guy who was – actually, I was the vice-chairman of the board because we kept a president for a while. Then when his employment contract expired, we let him go. Promoted the sales manager to president and I remained the vice-chairman of the board. But I ran the place for quite a while. And during that time we had some good luck and some bad luck but the bad luck was it almost broke us.

We had not dealt with the Hechinger chain, it was a local chain and a very good one at the time. They were a predecessor to Home Depot, same type of business.

ROTENSTEIN: Right.

REARDON: And the Hechinger family owned it and they just – they went public and it was a bad deal. I was in the underwriting; my firm was the prime underwriter and I knew it was priced too high. It came at fifteen and within two weeks it was three dollars a share, which was kind of a sad day for my brokerage firm. But we dealt with them at behest of our supplier, Merillat, they said, "Get Hechingers. We want to have our cabinets at Hechingers. We want them to sell them."

So we started selling Hechingers and we not only sold them, we made a deal with them that for the price we charged, we would deliver it to their customer. They had contractors that were going to do the installation. We would deliver the cabinets to the job site and it worked very well. And they were – they became an \$8 million a year customer of ours for several years. And then when they decided they wanted to deal direct with Merillat, Merillat said okay and just took them away from us and bang, that knocked us for a loop profit wise.

It was complicated and a bit more to it than just that, but that's got nothing to do with Mico; that was after Mico had long been out of the ice business.

ROTENSTEIN: Okay.

REARDON: But we stayed in the business of owning subsidiary operating companies. After we bought Robinson Export-Import, we also bought an old hardware store in Washington called Rudolph and West and they had a lot of nice contracts supplying hardware to big buildings in Washington, big government offices. And we also bid and won the supply of all the door and other incidental hardware – door and hinge, locks, handles, and hinges for all the doors in the brand new FBI building. It was quite an operation.

But that thing also was just killed by Home Depot, pricewise. They were selling stuff cheaper than we could buy it. You know, in the hardware fixtures and tools and this sort of thing, they just put us out of business. And it just shrunk the business down to nothing so we finally got a buyer for the real estate and we sold that and that money was probably more than we had paid for the – not probably, it was more than we paid for the business to begin with.

We financed the purchase of it and we paid it off in about ten years. And then the thing started generating nice dividends for a while.

It's a history of a holding company operating subsidiaries and living pretty close to the running of the subsidiaries.

ROTENSTEIN: That's a good way to put it. Well, I'm going to have to stop us here because number one I'm about to run out of tape and number two, I've got that other call I've got to –

REARDON: And I'm getting hungry.

ROTENSTEIN: And I've kept you far too long for the last couple of days.

REARDON: No, that's alright. I mean I'm happy to help you do this and I'll stick with it until you run out of time and put it to sleep. And I'd like to see the finished copy before it goes to public just to help you.

ROTENSTEIN: Sure and I appreciate the help you've given me and what I'll do is send you the typed-up transcript to look at. I've been given a deadline of May 5 for my report so it's going to turn around pretty fast. But I appreciate the help and once it's all finished, you'll be able to have something you can pass on to your children and your grandkids.

REARDON: Absolutely. I like that idea.

--- End of Interview ---

Index

A

African Americans..... 4, 5, 28, 33, 34, 36, 38, 48
 Alexandria, Virginia 1, 2, 10, 11, 17, 24, 26, 28, 30, 33, 40,
 41, 43, 46, 47, 48
 American Ice Company30, 44
 Ammonia 12, 14, 26, 27
 Anglo-Americans.....4, 28, 36

B

Baltimore, Maryland.....9
 Brine 13, 14, 15, 27

C

Clear ice.....27
 Coblenz, Charles.....20, 27
 Competition 23, 29, 41
 Compressors 12, 14, 16, 27, 31

D

Depression9, 33, 36

E

Esso (Exxon).....10

F

Florida.....7, 37, 45
 Fredericksburg, Virginia30, 48
 Frick Company27
 Fruit Growers Express Company5, 6, 7, 45, 46
 Fuel oil..... 10, 11, 15, 18, 29, 43

G

Georgia7, 37
 Griffith Consumers Company11
 Grimes, Joseph S.47

H

Hammond family2, 23
 Hammond, Harry22, 23
 Hammond, James W.2
 Hardware business9, 50
 Hechingers9, 50
 Home Depot.....9, 50

I

Ice air conditioner 30
 Ice cans..... 13, 14, 27
 Ice chutes..... 4, 14, 44
 Iceboxes 3, 4, 30, 31, 32

L

Labor5, 6, 9, 12, 20, 33, 35, 36, 38

M

Maine 1, 7, 44
 Meat 7, 8, 16
 Merillat Corporation..... 49, 50
 Mico, Inc. 17, 23
 Mules..... 3, 4, 6
 Mutual Ice Company
 Accidents and injuries..... 33
 Advertising..... 42, 43
 Artesian (Mico brand) drinking water..... 18
 Bunkhouses12, 33, 36, 37, 38, 39, 40, 41
 Car Icing Platforms4, 5, 8, 13, 14, 15, 33, 40, 44
 Cooling ponds 15, 16
 Employee nicknames 39
 Garages 12, 15
 Ice stations 28, 30
 Office 1, 6, 14, 15, 20, 32, 34, 36, 49
 Railroad car refrigeration test house 16
 The Mutual Ice Company, Inc.1, 2, 3, 4, 7, 9, 17, 18, 23,
 24, 26, 36, 39, 43
 Vending machines.....18, 27, 28, 29, 31, 44
 Women employees..... 34

N

North Henry Street 11

O

Occoquan, Virginia 48

P

Plate ice 26
 Potomac Freight Yard 6, 7
 Prostitutes..... 40, 41

Q

Quantico, Virginia 24, 30

R

Railroad car icing.....	4, 5, 6, 7, 8, 29, 31, 33
Railroads	
Baltimore and Ohio Railroad Company	5, 7
Chesapeake and Ohio Railroad Company	5, 7
Coastline Railroad Company	5, 7, 45
Pennsylvania Railroad Company	5
Richmond, Fredericksburg & Potomac Railroad Company	5, 6, 7
Seaboard Railroad Company	5, 7, 45
Raw water ice	26, 27
Reardon, Nora M.	22, 23, 47
Reardon, Oliver Ashby Sr.....	13, 20, 22, 32, 33, 34, 43, 48
Reardon, William M.	1, 2
Reed, F.A.	1, 2
Refrigerator cars	45, 46
Reico.....	10, 49
Richmond Theatre (Old Town Theatre).....	10, 43
Robinson Export-Import, Inc.	9, 10, 49, 50
Robinson Terminal Warehouse Corporation.....	9
Rudolph and West.....	9, 50

S

Snyder, H. Hammond	23
--------------------------	----

South Carolina.....	7, 29, 45
South Lee Street	3
Stark & Slagle	10

T

Tank farm.....	11
Transient workers	36, 37
Trucks	4, 8, 9, 10, 12, 18, 19, 20, 45, 46, 47

U

Uline Ice Company	30
Underwood, William.....	48
Unions and organized labor.....	34

W

Washington Post.....	9, 39
Washington, D.C.	9, 28, 30, 39, 43, 44, 50
White ice	20, 27
WJSV radio station	43
World War II.....	7, 17, 24, 33

APPENDIX IV
Archeological Treatment Plan

SCOPE OF WORK
Archeological Evaluation
and Resource Management Plan
for
Braddock Gateway
1200 N. Fayette Street
Alexandria, Virginia

May 28, 2008

Introduction

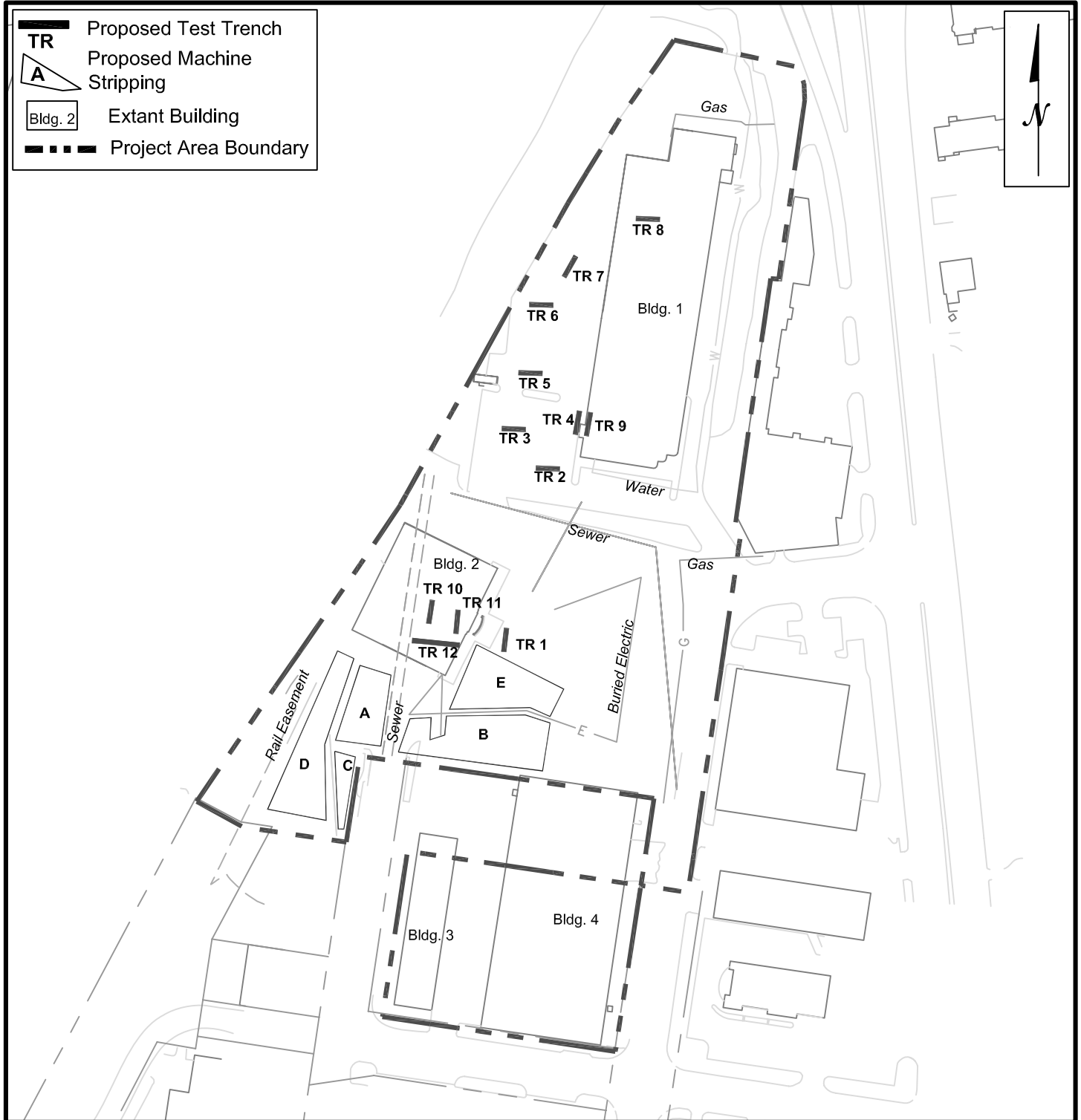
The goal of this scope of work is to determine if significant archeological resources, including human burials, are present within the project area. A Documentary Study has been completed for the property; this Scope of Work is for conducting the Archeological Evaluation.

The investigations will include the excavation of machine backhoe test trenches and machine stripping of surface soils from specific areas to determine if archeological deposits or features, and/or human burials are present. If significant features are encountered (excluding deep shaft features or human burials), this plan calls for their evaluation and, if deemed necessary, test excavations. If a significant site or sites (including the locations of human remains) are discovered as a result of the fieldwork, the sites must be registered with the Virginia Department of Historic Resources.

The completed Documentary Study of the ± 7 acre Braddock Gateway property at 1200 North Fayette Street in Alexandria, Virginia, was conducted by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc., of Gainesville, Virginia, for Jaguar Development, L.C. of Fairfax, Virginia (Exhibit A). The project area is bounded by First Street on the south, North Fayette Street on the east and Potomac Yards to the west. The property is the site of the former Mutual Ice Company Potomac Yards plant, which operated from 1913 until 1969. The study was initiated in anticipation of the planned development of the project area and the concern that significant archeological resources may be impacted by this construction.

Summary of Results from Documentary Study

Documentary research has indicated that the Braddock Gateway property was a part of an estate bequeathed by Robert Alexander' to his daughter Parthenia Alexander Massey Dade and her husband Townshend Dade in the mid 18th century. During this period, the lands may have been utilized for the cultivation of tobacco or other crops or as pasture; however, little detailed information is available to support such conclusions. Domestic use of the project area by enslaved laborers or tenants in the 18th century must be considered a possibility; but no solid documentary evidence of such use has been found. In the last quarter of the 18th century, the property history indicates that the project area was a part of a large tract of land that was conveyed to and from businessmen in Philadelphia and Alexandria; including William



**Proposed Locations of Test Trenches and Machine Stripping within the Project Area
Braddock Gateway - WSSI # 21677.01
Scale: 1" = 150'**

Hartshorne, Jacob Harman, Baldwin Dade, Elisha Cullen Dick, and Richard Conway. Use of the land by tenants or enslaved laborers remains a possibility during this period of absentee ownership; however, the documents strongly indicate that the various landowners' interest in the property was merely speculative. By the terminal 18th century and into the early 19th century, the property appears to have been owned and leased by several wealthy residents of Alexandria. The northern portion of the property became, in the late 18th century, a part of Phillip Richard Fendall's Fendall Farm. The southern portion of the project area was contained within a parcel owned by John Gadsby and Jacob Hoffman, amongst others. During this period, the properties that included the project area were likely used as farms, pasture and household or market gardens by the various landowners or lessees. As all of these individuals were documented slave owners; it is possible that enslaved laborers were residing on the property during this period but no documentary evidence of any residents on the property was found.

Following the bankruptcy and death of Phillip Richard Fendall, Fendall Farm was leased by John Gadsby and Edward Lloyd prior to circa 1820. Notations in a deed, Fendall's will and a diary from the period indicates that the Fendall Family cemetery was present on Fendall Farm. Although research conducted for this study has demonstrated that a portion of the project area was a part of Fendall Farm, the location of the cemetery remains unknown and it may or may not be located on the Braddock Gateway property.

By the mid 19th century, the property history is again characterized by what appears to be speculative interest with multiple conveyances between wealthy businessmen and investors in Alexandria and Baltimore. During this period, free African Americans may have leased property near or within the project area. Although no specific details concerning such use of the property subject to this research were found, documentary evidence does indicate that a community of free African Americans had formed just south of the project area after circa 1830.

In the early 20th century, the vicinity of the study area was the site of industrial development in Alexandria and, in 1913, the Mutual Ice Company Potomac Yard plant was built within the project area. There have been no maps or records located that show any structures on the property prior to 1913.

Review of the Potential for the Presence of Archeological Sites

A full assessment of the potential for significant intact prehistoric and historic archeological sites to be located within the project area is presented in the Documentary Study. Summarily, based on the lack of evidence in the property history for structures or specific use of the property prior to the 20th century (no evidence of any buildings having been extant on the property prior to 1913 was found) and evidence from geotechnical testing that construction and demolition in the 20th century has resulted in significant ground disturbance; the potential for intact archeological features and significant prehistoric sites and historic sites predating the 20th century is, with the following exception, low.

As previously stated, primary sources indicate that the late 18th or early 19th century Fendall Family cemetery was located on the 35 acre Fendall Farm and it is possible that the cemetery is located on the Braddock Gateway property as the property was part of the 35 acre Farm. Several local historians believe that the cemetery was located near the north end of Payne Street or otherwise south of the no longer extant Mutual Ice Company garage on the Braddock Gateway property.

No definitive information was obtained on the number of interments within the cemetery or the specific identifies of these interments. It is believed that Phillip Richard Fendall was likely interred there in 1805 and his wife Mary was likely buried there in 1827. It is also possible that Elizabeth Steptoe Fendall, Philip Richard Fendall's first wife, who died in 1789, may have also been buried at the cemetery.

Although there is certainly no conclusive evidence that the cemetery is present on the Braddock Gateway property, the opinions of local historians and various accounts from oral history must be given some credence.

It is likely that some significant and intact archeological resources associated with the 20th century use of the property by the Mutual Ice Company are present on the property. The Mutual Ice Company occupied the property leased from the RF&P Railroad between 1913 and 1969. According to our research, the 1913 Mutual Ice Company plant was a substantial brick building constructed on a deep concrete foundation: Although the plant had no basement or cellar and no underground conduits, various features such as wheel pits and raised concrete machinery platforms, machinery mounts, and the base of the brick smokestack may be e preserved in subsurface contexts. Concrete basins located to the north of the plant and associated electrical and plumbing features may be found.

Additionally, bunkhouses built for migrant laborers at the facility may be archeologically visible and may have associated subsurface features such as open-air hearths or privies.

Archeological Testing

All aspects of this investigation will adhere to OSHA regulations and will comply with the *City of Alexandria Archeological Standards* dated January 1996 and the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*. Additionally, Miss Utility will be consulted before excavations are made. All open excavation units will be fenced when no personnel are present.

The placement of the proposed test trenches and areas for machine stripping is based upon information gathered from oral histories and informant interviews. An overlay map showing the locations of proposed excavations, modern standing buildings and the locations of buildings associated with the Mutual Ice Company as depicted on the 1959 Sanborn Co. Insurance map is included as Exhibit B. The areas chosen for machine stripping are those areas where sources have indicated as a possible location for the Fendall family cemetery.

Test Trench Excavations

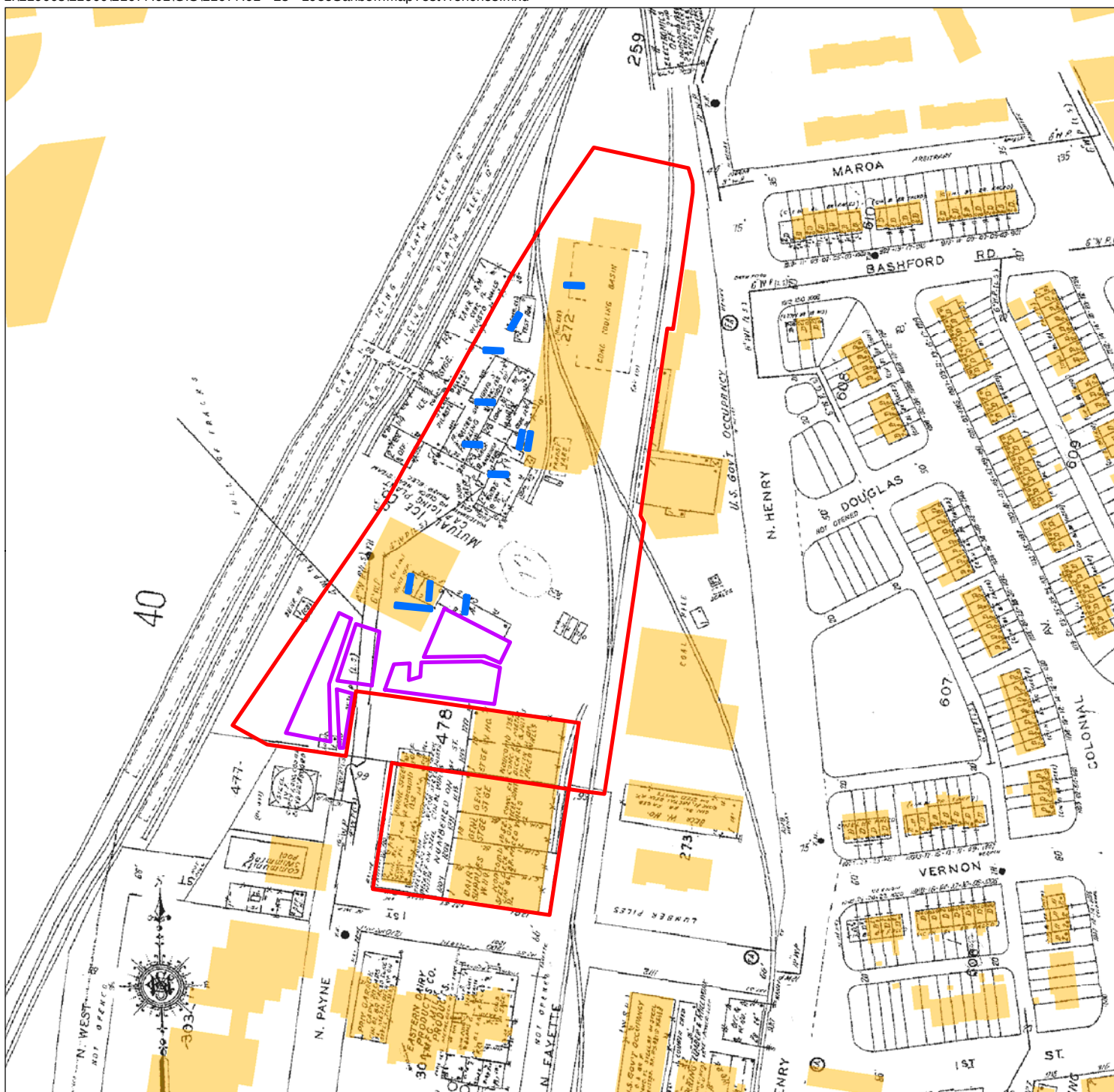
The primary component of the archeological excavation plan consists of excavating exploratory backhoe trenches of varying length across the property to determine if intact buried surfaces and/or features are present. The locations of the proposed test trenches and areas for machine stripping are shown on Exhibit A. The trench locations have been selected to examine various areas within the footprint of the Mutual Ice Company plant, where subsurface features such as wheel pits and raised concrete machinery platforms, machinery mounts, and the base of the brick smokestack may be located. The proposed trench locations also include areas within and adjacent to the footprint of the Mutual Ice Company bunkhouse, where architectural features and possibly pit features associated with the 20th century migrant workers that resided there may be found.

The total number of test trenches will not exceed twelve (12). Of these, five (5) are to be located within the footprint of buildings currently standing at the time of preparation of this plan. Seven (7) test trenches will be excavated in paved parking areas on the property.

Test trenches 1-11 will be 5 feet in width and approximately 25 feet in length. Test trench 12 will be 5 feet in width and approximately 50 feet in length. All trenches will be excavated with a machine backhoe outfitted with a smooth blade bucket. The purpose of these trenches will be to locate intact ground surfaces and subsurface features. At least one soil strata column profile will be drawn for every trench and photographs will be taken. Trenches will be back filled after recordation of the soil profiles if features/buried surfaces are not located. In trenches where features occur, the excavations will be expanded if necessary to allow for safe hand excavation and evaluation.

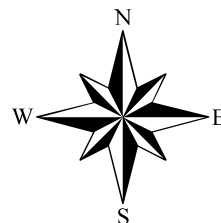
Machine Stripping

The secondary component of the archeological excavation plan consists of mechanical excavation of five (5) defined areas encompassing approximately 21,912 square feet to subsoil within the project area. Excavations will be constantly monitored by an archeologist and will be made using a backhoe or equivalent machine outfitted with a smooth blade bucket. The locations of the proposed areas for machine stripping are shown on Exhibit A. The placement of the areas for machine stripping considers information gathered from the documentary study; being those areas indicated as a possible location for the Fendall family cemetery by local historians and oral history sources. These areas are sequentially identified as Areas A-E on Exhibit B. Based on the results of the documentary study the probability for locating the



- Project Area
- Buildings (2006)
- Test Trenches
- Machine Stripped Areas

1959 Sanborn Map
Alexandria, Virginia
Braddock Gateway
WSSI #21677.01
Scale: 1" = 200'



Map Source: "Alexandria, 1959". Copyright
 © 2001 ProQuest Information and Learning
 Company. All Rights Reserved. All Sanborn
 maps copyrighted © 2001 by The Sanborn
 Map Company, Sanborn Library, LLC.
 Building Source: City of Alexandria GIS (2006)

Thunderbird Archeology
 A Division of Wetland Studies and Solutions, Inc.

Exhibit B

Fendall cemetery may be greatest in Area A and least in Area E. Excavation should begin in Area A and progress to Area E. If the cemetery is located and delineated within an area, excavation of additional areas will not be necessary. This decision will be made in consultation with Alexandria Archeology.

Although the primary purpose of these excavations is the location of the Fendall burials, other intact subsurface features or ground surfaces may be encountered. Should such features occur; the excavations will be expanded if necessary to allow for safe hand excavation and evaluation. Any features encountered will be photographed, mapped, and made available for inspection by Alexandria Archeology. If the locations of grave shafts associated with human burials are identified these will be photographed and a horizontal plan map of any grave shafts encountered will be drafted. Drawn profiles of any grave shafts which are revealed in vertical excavation walls will also be made. Further, if grave shafts are encountered, Alexandria Archeology and the client will be notified.

The total area cleared by machine, excepting previously discussed test trenches, shall not exceed 24,000 square feet. All machine stripped areas will be back filled if grave shafts, features, or buried surfaces are not located. If the stripped areas are left uncovered, all required safety fencing and caution lights, etc. will be placed around the trenches.

This treatment plan does not include excavation within the burial shafts, as any work within the shafts requires a burial permit be issued by the Virginia State Historic Preservation Office. Any additional work resulting from the discovery of human burials within the project area will require the preparation of a specific treatment plan in consultation with the Virginia State Historic Preservation Office. Alexandria Archeology and may be added as an additional service.

Test Unit Excavations

If warranted, manually excavated test units (3 x 3 feet) will be used as part of this plan to test potentially significant archeological features and buried ground surfaces found in test trenches or during machine stripping. The total number of test units will not exceed twelve (12). The test units will be excavated stratigraphically and soil will be screened through 1/4-inch mesh hardware cloth screens if full artifact recovery is deemed necessary for evaluative purposes; recovery of artifacts may not be essential in the evaluation of certain features associated with the 20th century industrial use of the property. Any decision to limit artifact collection within test units will be made in coordination with Alexandria Archeology. Soil profiles will be made of representative units, with soil colors described using the Munsell Soil Color Chart designations. Artifacts will be bagged and labeled by unit number and by soil horizon. The work will be documented with field notes, sketch plans, photographs, and slides. Any features encountered will be mapped and made available for inspection by Alexandria Archeology.

“Deep-shaft” Features and Human Burials

This treatment plan does not include the full excavation of “deep shaft” features (such as wells or privies). If “deep shaft” features are encountered; additional work will be needed to assess the significance of the findings. Decisions regarding the significance of “deep shaft” features and the need for additional testing will be made in consultation with Alexandria Archeology. Depending on the size and/or nature of these features, this may be added as an additional service.

In addition, as previously stated, this treatment plan does not include partial or total excavation of human burials.

Additional Archival Research:

Archival and historic research presented in the documentary study will provide context for the archeological work. Any additional archival research needs will be determined in consultation with Alexandria Archeology and should be limited to addressing specific questions relevant to archeological discoveries on the property.

Additional specific research may be needed to augment the property history presented in the documentary study if significant 18th or 19th century archeological sites or features be found.

Additional documentary research may also be conducted relevant to the Mutual Ice Company presence on the property. While the documentary study presented considerable primary information available locally to document the Mutual Ice Company’s history and the technology; more is likely to be found in the corporate papers of the Richmond, Fredericksburg, and Potomac Railroad, the Southern Railway Company, and the Fruit Growers Express. Credit reports on the firm’s 19th century antecedent entities would provide invaluable information on the path taken to vertical integration and consolidation among the firm’s founders and the failed Alexandria Ice Company and older Alexandria residents who did business with the Mutual Ice Company are a source of potential oral historical research.

Laboratory Work and Curation

Archeological artifacts recovered from the project area will be cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archeological Standards*. Organic materials that may require conservation may be recovered; however, this treatment plan does not include conservation services. Conservation may be added as an additional service.

At the conclusion of the project, all original photographs, negatives, slides, digital images, videotapes, copies of historical documents, field notes and forms (original copy and a duplicate copy), other field records, as well as the artifacts if they are to be donated to the City, will be delivered to Alexandria Archeology. Archeological collections recovered as a result of the Alexandria Archeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archeology Storage Facility meets these standards, and the property owner is encouraged to donate the artifact collection to the City for curation. The archeological consultant is responsible for arranging for the donation of the artifacts with the owner and will deliver the artifacts and signed forms to the appropriate storage facility.

Archeological Evaluation Report

The Archeological Evaluation Report will include the following: a public summary; a summary of the previous documentary study, the results of any subsequent archival and documentary research, a map of the project area; a map with the locations of all excavations including the limits of machine stripped areas and significant features; a summary of the procedures; results of the field investigation and artifact analysis, including a distribution map or other graphics which indicate potentially significant archeological areas; an integration of the field and analysis data with the historical record.

If the investigation results in the discovery of features that require additional archeological work, the Archeological Evaluation Report will include a Resource Management Plan. The Resource Management Plan will present a strategy, scope of work (including a map indicating locations of proposed work in relation to completed tests), and budget for further investigations. All archeological sites discovered will be registered with the Virginia Department of Historic Resources and copies of the registration forms will be submitted to Alexandria Archeology.

When the fieldwork is completed, one copy of the full Archeological Evaluation Report will be submitted to Alexandria Archeology as a draft for review. Once the report is approved by the City Archeologist, revisions will be made, and four copies of it, one unbound with original graphics, will be submitted to Alexandria Archeology. The report will also be submitted on a CD. All site maps and drawings must be inked or computer-generated so as to produce sharp and clear images that will result in clear photocopies or microfilms.

Public Interpretation

The *City of Alexandria Archeological Standards* require that a public summary be prepared as part of an Archeological Evaluation Report. The public summary will be approximately 4 to 8 pages long with a few color illustrations. This should be prepared in a style and format that is reproducible for public distribution and use on the City's website. A draft of the summary should be submitted to Alexandria Archeology for review along with the draft of the

Archeological Evaluation Report. Upon approval, a master copy (hard copy as well as on CD or computer disk) will be submitted to Alexandria Archeology. The summary and graphics will be e-mailed to Alexandria Archeology for publication on their website.

Also, consultations with the client's landscape archeologist and Alexandria Archeology will be continued during the project so that relevant historical and archeological information may be incorporated into the development landscape plan.

Finally, if determined to be warranted by the City Archeologist, the developer will be required to erect a historical marker on the property. The archeological consultant will supply the written text and graphics for the marker. The text should be up to 200 words in length with a paragraph on the historical significance of the site and a paragraph on findings from the archeological investigation. The graphics (minimally four, with captions) need to be high-quality copies (scanned at a minimum of 600 dpi and saved separately as jpeg or tiff files) of line drawings (*e.g.*, site maps, feature drawings), historic photographs and maps, or other illustrations (*e.g.*, site or artifact photos) in black and white or color. All copyright releases need to have been obtained and credit provided for each graphic. The text and graphics must be submitted to Alexandria Archeology on a CD. Coordinate with the City Archeologist before writing the text and selecting images.

APPENDIX V
Resumes of Key Project Personnel

Kimberly A. Snyder, M.A., R.P.A.
Vice President/Principal
Investigator
Archeology Division



Kimberly Snyder has over 25 years of experience in cultural resource management. She has participated in or supervised all phases of archeological work, including Phase I through Phase III investigations. The sites on which Ms. Snyder has worked include all time periods of prehistory from Paleoindian to Late Woodland as well as historic period dwellings, military sites and cemeteries covering a temporal range from the 18th through the 20th century.

Ms. Snyder has also served as contracts manager and has been responsible for the preparation of technical and cost proposals, the efficient allocation of personnel and other resources, project scheduling and technical reports. She has authored or co-authored over 300 technical reports for both private firms and government agencies within the Middle Atlantic region.

Ms. Snyder is also experienced in both prehistoric and historic period artifact identification, having served as laboratory manager for a number of years. She has assisted in the preparation of grant proposals and the development of museum exhibits. She directed excavations at an Early Woodland site as part of a public education and field school program.

Her responsibilities at Wetland Studies and Solutions, Inc. include preparation of technical and cost proposals, contract negotiation, scheduling, contract performance and quality and directing 19 field and laboratory supervisors and technicians.

Professional Affiliations and Memberships:

Society for Historical Archeology
Middle Atlantic Archeological Conference
Archeological Society of Virginia
Register of Professional Archeologists

Education:

Bachelor of Arts, 1976, Anthropology, The Catholic University of America, Washington, D.C.
Master of Arts, 1985, Anthropology, The Catholic University of America, Washington, D.C.

Continuing Education:

Section 106: An Introduction (National Preservation Institute), April 2005
NEPA Compliance and Cultural Resources (National Preservation Institute), November 2007
Section 106: A Review for Experienced Practitioners (National Preservation Institute), November 2007
AutoCad 2004: Level 1 Essentials, KEI Pearson, July 2004
Project Management Essentials, Zweig White, March 2007

Publications (selected):

- 2005 John Mullen, Kimberly Snyder and Johnna Flahive
Phase I Archeological Investigations at the 63 Acre Dulles Gateway Property and Phase II and III
Investigations at Site 44FX3007, Fairfax County, Virginia.
- 2005 Joan Walker, Kimberly Snyder and Gwen Hurst
Phase I Archeological Investigations of the Banshee Reeks Nature Preserve, Loudoun County,
Virginia.
- 2004 Kimberly Snyder, Joan Walker, Christine Jirikowic and Gwen Hurst
A Phase I Archeological Investigation of Lots 48, 49 and 50 of the Stone House Foundation
Property, Stephens City, Virginia.
- 2004 Joan Walker, Kimberly Snyder, Christine Jirikowic and Gwen Hurst
Phase II Archeological Investigations of 44PW1305, Prince William County, Virginia.

- 2003 William Gardner, Kimberly Snyder and Gwen Hurst
Phase III Data Recovery Excavations of 44LD601, Loudoun County, Virginia.
- 2003 Joan Walker, Kimberly Snyder, Christine Jirikowic and Gwen Hurst
Phase III Data Recovery Excavations at 44LD834, Loudoun County, Virginia.
- 2002 William Gardner, Kimberly Snyder, Gwen Hurst and Leslie Mitchell-Watson
A Phase I Archeological Investigation of the Circa 133 Acre Fu-Shep Property, Frederick County, Virginia.
- 2002 William Gardner, Kimberly Snyder and Gwen Hurst
Phase I Archeological Investigations of the Circa 255 Acre Riding Property, Loudoun County, Virginia.
- 2001 William Gardner, Kimberly Snyder and Gwen Hurst
Phase I Archeological Investigations of the Circa 450 Acre Loudoun County Reserve Property, Loudoun County, Virginia.
- 2001 William Gardner, Kimberly Snyder and Gwen Hurst
Phase I Archeological Investigations of Circa 1300 Acres Proposed for Development as the Brambleton Planned Community, Loudoun County, Virginia.
- 2000 William M. Gardner, Kimberly A. Snyder, Gwen Hurst and Ruth Ann Overbeck
Archeological Investigations of 44FX2470, The Alfred Odrick House, Fairfax County, Virginia.
- 2000 William Gardner, Kimberly Snyder, Gwen Hurst
Phase II Archeological Excavations of 44LD637, Loudoun County, Virginia.
- 1999 William M. Gardner, Kimberly A. Snyder, Gwen Hurst, Joan Walker and John Mullen
Excavations at the Old Town Village Site, Corner of Duke and Henry Streets, Alexandria, Virginia: An Historic and Archeological Trek through the 200 Year Old History of the Original Spring Garden Development.
- 1999 William Gardner, Kimberly Snyder, Gwen Hurst and Tammy Bryant
Phase I Archeological Investigations of a 1200 Acre Parcel, Loudoun County, Virginia.
- 1998 William Gardner and Kimberly Snyder
Phase I Investigations at the 22 Acre Walney Glen Tract, Fairfax County, Virginia.
- 1998 William Gardner, Kimberly Snyder, Gwen Hurst and John Mullen
Phase I Archeological Investigations at a 155 Acre Parcel Near Bristow, Prince William County, Virginia.
- 1997 William Gardner, Kimberly Snyder, Gwen Hurst and Tammy Bryant
Phase I Archeological Investigations at the 450 ± Cedar Crest Property, Loudoun County, Virginia.
- 1997 William Gardner, Kimberly Snyder, Gwen Hurst and Tammy Bryant
Phase II Archeological Investigations of 44FX2237, Fairfax County, Virginia.
- 1996 William M. Gardner, Kimberly A. Snyder, Gwen Hurst and Tammy Bryant
Phase II and Phase III Archeological Investigations of 44FX885, Fairfax County, Virginia.
- 1996 William M. Gardner, Kimberly A. Snyder, Tammy Bryant and Gwen Hurst
A Fairfax County Tenancy: A Phase III Archeological Investigation of an Historic Area within 44AX177, Alexandria, Virginia.
- 1995 William Gardner, Kimberly Snyder, Gwen Hurst and Tammy Bryant
Phase II Archeological Investigations of 44PW752, 44PW754, 44PW787, 44PW808, 44PW809 and 44PW843, Prince William County, Virginia.
- 1995 William Gardner, Kimberly Snyder, Gwen Hurst and Ruth Ann Overbeck
A Phase II Archeological Evaluation of 44KG118m 121-122, 124-126 and 132, A Phase II Architectural Evaluation of Friedland (0-48-0045) and a Phase I Archeological Resources Reconnaissance of a Three Acre Railroad Spur Tract, King George County, Virginia.
- 1994 William Gardner and Kimberly Snyder
Phase I Archeological Survey of an 893 Acre Portion of the Proposed Disney's America Project Near Haymarket, Prince William County, Virginia.
- 1994 William Gardner and Kimberly Snyder
Phase II Archeological Survey of Six Sites: 44PW677, 44PW683, 44PW686, 44PW687, 44PW689 and 44PW690 Near Haymarket, Prince William County, Virginia.
- 1993 Lisa De Leonardis, Kimberly Snyder and William Gardner
Phase I Archeological Survey of 180 Acres at the Proposed Townes of Newport Development, Prince William County, Virginia.
- 1993 Lisa De Leonardis, Kimberly Snyder and William Gardner
Phase II Archeological Investigations of Activity Areas I-IV, 44PW568, Prince William County, Virginia.
- 1986 William Gardner, Mary Folsom-Barse, Kimberly Snyder and William Barse
44PW441: An 18th Century House Site on Quantico Creek, Prince William County, Virginia.

Boyd Sipe **Archeology Field Supervisor**



Boyd Sipe has over eight years experience in archeological research and fieldwork with specializations in archival and documentary research and the management of cultural resources of the Northern Virginia region. He has earned distinction in his postgraduate study of Landscape Archaeology at the University of Leicester. At WSSI, Mr. Sipe's responsibilities include the supervision of archeological field crews conducting Phase I, II, and III investigations and authoring of reports associated with the archeological field work.

Prior to joining Thunderbird Archeology, a Division of Wetland Studies and Solutions, Inc., Mr. Sipe served as an archeological field technician for James Madison University Archeological Research Center of Harrisonburg, Virginia for two years, primarily working on archeological projects carried out for the Virginia Department of Transportation (VDOT).

Certifications:

American Red Cross Standard First Aid, 2005
American Red Cross Adult CPR/AED, 2005
ATV Safety Institute, 2006

Education:

Master of Arts, expected completion 2009, Archaeology and Heritage, University of Leicester
University of Virginia, 1985-1987, Liberal arts with archeology coursework

Continuing Education:

AutoCAD 2004 Level 1-Essentials, KEI Pearson, 2005
Section 106: An Introduction (National Preservation Institute), April 2005
Spring/Summer Woody Plant Identification, WSSI in-house class, May 2006
Faunal Identification, WSSI in-house class, May 2006
Physical Geology of Northern Virginia, WSSI in-house class, March 2006
Winter Plant Identification, WSSI in-house class, February 2006
Soils and Geomorphology of Northern Virginia, WSSI in-house class, October 2005

Publications (selected):

- 2007 Barse, William P. and Boyd Sipe. *Archeological and Historical Determination of Traditionally Navigable Waters in Northern Virginia and a Comprehensive Methodology for the Determination of the Traditional Navigability of Waterways in the United States*. Prepared for Wetland Studies and Solutions, Inc. of Gainesville, Virginia.
- 2006 Flahive, Johnna and Boyd Sipe. *Documentary Study of the 800 Block of North Henry Street, Alexandria, Virginia*. Prepared for Madison Venture, LLC of Washington, D.C.
- 2006 Sipe, Boyd. *Phase I Archeological Investigations of the Circa 253 Acre Arrington Knolls Property, Fauquier County, Virginia*. Prepared for Centex Homes of Chantilly, Virginia.
- 2006 Sipe, Boyd and Johnna Flahive. *A Phase II Archeological Evaluation of Site 44LD0825 on the Lizzio Property, Loudoun County, Virginia*. Prepared for Merritt Properties, LLC of Sterling, Virginia.
- 2005 Jirikowic, Christine, Boyd Sipe, and Gwen J. Hurst. *Phase IA Archeological Investigations of the Circa 982 Acre Creekside Property, Loudoun County, Virginia*. Prepared for Lansdowne Community development, LLC of Lansdowne, Virginia

- 2005 Sipe, Boyd. *Phase I Archeological Investigations of the 12.37 Acre Electric Avenue Property, Fairfax County, Virginia*. Prepared for Van Metre Companies of Ashburn, Virginia
- 2005 Sipe, Boyd, Johnna Flahive, and Jarod Hutson. *Phase II Archeological Investigations at 44LD1180 on the Braddock South Property, Loudoun County, Virginia*. Prepared for Pulte Homes Corporation of Fairfax, Virginia
- 2005 Sipe, Boyd, Johnna Flahive, and Jarod Hutson. *Phase I Archeological Investigation of the Circa 89 Acre Jefferson Farm Property and Phase II Investigation of 44PW1642, Prince William County, Virginia*. Prepared for Cedar Run/Jefferson, L.C. of Chantilly, Virginia
- 2004 Jirikowic, Christine, Boyd Sipe, and Gwen J. Hurst. *Phase I Archeological Investigations of the 10.07 Acre St. Louis Property, Loudoun County, Virginia*. Prepared for Brian Brooks of Aldie, Virginia.
- 2004 Jirikowic, Christine, Joseph Blondino, Boyd Sipe, and Gwen J. Hurst. *Phase I Archeological Investigations of Portions of the Wellingford Industrial Park Property, Prince William County, Virginia*. Prepared for Hawkins Road Associates of Manassas, Virginia

Presentations and Speaking Engagements:

- 2007 A Civil War Camp Site near Camp Pickens (44PW1095). Paper presented at the Seminar on Historic Archaeology in Prince William County, Woodbridge, Virginia.

DAVID S. ROTENSTEIN

10308 Edgewood Avenue
Silver Spring, Maryland 20901
(301) 592-0646 - Phone
(240) 461-7835 - Mobile
E-mail: david.rotenstein@earthlink.net

EDUCATION

UNIVERSITY OF PENNSYLVANIA

Philadelphia, Pennsylvania

Ph.D., Folklore and Folklife

December 1996

Dissertation: "From Farm To Factory: Craft Dynasties and Leather Tanning in Nineteenth Century Pennsylvania"

M.A., Folklore and Folklife

December 1992

M.A. paper: "The Rural Southern Blacksmith Shop: A Vernacular Form"

GEORGIA STATE UNIVERSITY

Atlanta, Georgia

B.A., Anthropology

December 1986

RESEARCH AND TEACHING EXPERIENCE

MONTGOMERY COLLEGE

Rockville and Takoma Park, Maryland

Department of Anthropology

January 2004 - present

Lecturer, Cultural Anthropology

Prepared course syllabus. Prepared and delivered lectures on course materials. Led discussions of course readings with students. Taught students the basics of cultural anthropological methods and theory. Critiqued student writing. Evaluated student progress.

Contact: Dr. Mary Gallagher, Dept. Chair. Montgomery College, Department of Sociology, Anthropology and Criminal Justice, 224 Humanities, 51 Mannakee Street, Rockville, MD 20850. Phone: (301) 251-7479.

NATIONAL PRESERVATION INSTITUTE

Alexandria, Virginia

Instructor, NEPA and NHPA Compliance for

May 2001 – October 2004

Telecommunications and Broadcast Facilities

Prepared and delivered day-long seminars to attorneys, engineers, and cultural resource management professionals on compliance with the National Environmental Policy Act and National Historic Preservation Act for undertakings by Federal Communications Commission licensees.

Contact: Ms. Jeri Gibber, Executive Director. National Preservation Institute, P.O. Box 1702 Alexandria, VA 22313. Phone: (703) 765-0100.

UNIVERSITY OF SOUTH CAROLINA

Columbia, South Carolina

McKissick Museum

1999-2000

Chief Curator of Folklife and Research

Responsible for management of the South Carolina Folklife Resource Center, exhibition research and development and professional staff research support. Also responsible for Museum Web site design and content management. Supervised student assistants and supported University faculty and staff as necessary.

Contact: Ms. Lynn Robertson, Executive Director. McKissick Museum, University of South Carolina, Columbia, SC 29208. Phone: (803) 777-7251.

CARNEGIE MELLON UNIVERSITY

Pittsburgh, Pennsylvania
Spring 1999

Department of History

Adjunct Visiting Professor, History of Jazz and Blues

Prepared course syllabus. Prepared and delivered twice-weekly lectures on course materials. Led discussions of course readings with class of 25 undergraduate students. Taught students the history of African American vernacular music. Critiqued student writing. Evaluated student progress.

Contact: Dr. Steven Schlossman, Chair. Department of History, Carnegie Mellon University, 240 Baker Hall, Pittsburgh, PA, 15213. Phone: (412) 268-2880.

UNIVERSITY OF PENNSYLVANIA

Philadelphia, Pennsylvania
Spring 1998

Department of Folklore & Folklife

Lecturer, History of Jazz and Blues

Prepared course syllabus. Prepared and delivered weekly lectures on course materials. Led discussions of course readings with class of 30 undergraduate and graduate students. Taught students the history of African American vernacular music. Critiqued student writing. Evaluated student progress. Supervised two graduate student assistants.

PRIVATE AND PUBLIC SECTOR EXPERIENCE

DSR Consulting

Silver Spring, Maryland
2001 - present

Principal

Historic preservation and general history consulting practice. I have worked in various areas including environmental compliance, corporate history, and litigation support research. In 2007 I began an oral history project for the Local Initiatives Support Corporation documenting its twenty-five years in Washington. The LISC project includes conducting more than fifty digital oral history interviews with current and former government officials, bankers, developers, and others plus research support to author Tony Proscio who is writing *25 Years of Community Development in Washington, D.C., 1982 to 2007*.

Past clients include the Historical Society of Western Pennsylvania, The New York Botanical Garden, Nextel Communications, the Harpers Ferry Conservancy, and Sprint Communications. Completed projects in Maryland, the District of Columbia, Delaware, Virginia, Florida, Georgia, South Carolina, North Carolina, New Jersey, Pennsylvania, New York, Ohio, Illinois, and California.

Client references are available upon request.

URS Corporation

Bethesda, Maryland
2000 - 2001

Acting Group Manager-Cultural Resources/Historic

Preservation Project Manager

Responsible for designing and conducting Section 106/NEPA compliance surveys, marketing, scheduling, budgets, and report writing, and personnel management. Principal client manager for cultural resource management projects; responsible for State Historic Preservation Office consultations; prepared memoranda of agreements (MOAs). Principal Investigator for history, architectural history, and archaeology projects. Specialization: Telecommunications facilities environmental studies.

Contact: Mr. Greg Deaver, Vice-President/Office Manager, URS Corporation, 200 Orchard Ridge Drive, Gaithersburg, MD, 20878. (301) 258-6554

Skelly and Loy, Inc.

Monroeville, Pennsylvania

Principal Investigator, Historical Archaeology & Architectural History

1994-1995

Responsibilities included research and project design, proposal preparation, project management, artifact analysis and report preparation. Also conducted historic resource surveys and completed HABS documentation projects. Projects completed included the Phase I historical archaeological survey of U.S. Route 9, Jefferson County, West Virginia, Data Recovery at the Fred Richards site (36Bk588), Berks County, Pa., and the historic resource survey and National Register of Historic Places determination of eligibility of the U.S. Route 250 project, Cameron, Marshall County, West Virginia.

CHRS, Inc.

North Wales, Pennsylvania

Senior Archaeologist / Principal Investigator

1988-1989, 1991-1994

Personnel manager for archaeology staff. Duties include field and archival research, project management, artifact analysis, and report writing. Developed database systems for historical artifact analysis. Designed standardized forms for recording field data. Began employment with CHRS while completing coursework at the University of Pennsylvania.

**Georgia Department of Transportation
Archaeologist**

Atlanta, Georgia

1984-1987

Part-time during undergraduate studies. Responsible for curating artifacts, laboratory analysis, report writing, and field research. Prior to completing B.A., I had completed National Register of Historic Places Determinations of Eligibility, written research reports accepted by state and federal agencies, and presented the results of research in several published papers and at professional conferences.

Short-term Cultural Resource Management Project Employment

- **National Park Service, Historic American Engineering Record (HAER).** Historian (GS-9), Pennsylvania Historic Bridge Recording Project I. Responsible for research and the preparation of HAER documentation of ten historic bridges in Pennsylvania. Using legal instruments, engineering and architectural data and primary historical materials, I prepared reports on bridges throughout Pennsylvania, from 1820s stone arch bridges to twentieth century steel arch and truss and concrete arch structures. 1997.
- **John Milner Associates, Inc.** Archaeological technician, Iroquois Gas Transmission Line, New York and Connecticut. 1991.
- **Historic Property Associates, Inc.** Archaeologist and historian for archaeological assessments for the City of St. Augustine, Florida, in compliance with municipal historic preservation ordinance. Conducted historic resource surveys of Green Cove Springs, Fla. and Lake Wales, Fla. and prepared urban planning documents for historical and archaeological resources. 1990.
- **SJS Archaeological Services, Inc.** Archaeological supervisor for projects in Philadelphia vicinity during graduate school. 1987-1988.
- **Robert Johnson Archaeological Consultant.** Project Archaeologist. Supervised and reported results of 18,000-acre archaeology survey in St. Johns County, Fla. under contract with ITT-Rayonier, Inc. 1987.
- **Garrow and Associates, Inc.** Archaeological technician. Georgia Power survey along 150-mile electricity transmission line project.

Journalism Experience

1990-2000

Freelance writer/stringer

The Philadelphia Inquirer, *The Daily News* (Atlanta, Georgia), *The Charlotte Observer* (Charlotte, N.C.), *The Pittsburgh Post-Gazette*, Knight –Ridder Newspapers (entertainment newswire).

ENCYCLOPEDIA ARTICLES

2005. Meatpacking Industry. In *The Encyclopedia of New York State*, edited by Peter Eisenstadt and Laura Eve Moss, 965-666. Syracuse, New York: Syracuse University Press.

2005. The Tanning Industry in New York State. In *The Encyclopedia of New York State*, edited by Peter Eisenstadt and Laura Eve Moss, 1527-28. Syracuse, New York: Syracuse University Press.

2005. Zadock Pratt. In *The Encyclopedia of New York State*, edited by Peter Eisenstadt and Laura Eve Moss, 1237-38. Syracuse, New York: Syracuse University Press.

2006. Tanning. In *Encyclopedia of Appalachia*, edited by Rudy Abramson and Jean Haskell Speer, 539-540. Johnson City: University of Tennessee Press.

2006. Jay Gould. In *Encyclopedia of Appalachia*, edited by Rudy Abramson and Jean Haskell Speer, 488. Johnson City: University of Tennessee Press.

2006. Drovers and Livestock Drives. In *The West Virginia Encyclopedia*, edited by Ken Sullivan, 203-204. Charleston: The West Virginia Humanities Council.

2006. Tanneries. In *The West Virginia Encyclopedia*, edited by Ken Sullivan, 699. Charleston: The West Virginia Humanities Council.

PEER-REVIEWED ARTICLES

2002. Hudson River Valley Cowboys: The Origins of Modern Livestock Shipping. *The Hudson Valley Regional Review* 19, no. 1: 1-15.

1998. Tanbark Tycoons: Palen Family Sullivan County, New York Tanneries, 1832-1871. *The Hudson Valley Regional Review* 15, no. 2: 1-42.

1998. Leather Making on the Banks of Honey Run: The Faust Family of Pennsylvania Tanners, 1850 to 1925. Historical Society of Montgomery County, Pennsylvania. *Bulletin of the Historical Society of Montgomery County* 31, no. 2: 132-72.

1997. Ethnography, Journalism and Literature: Ethnographic Text and Southern Author Harry Crews. *Southern Folklore* 54, no. 1: 40-50.

1997. Leather Bound: Nineteenth Century Leather Tanners in Allegheny City. *Pittsburgh History* (Pittsburgh, Pennsylvania), 1.

1992. The Helena Blues: African-American Folk Music and Cultural Tourism in Helena, Arkansas. *Southern Folklore* 49, no. 2: 133-46.

1987. The Historical Archaeology of Two Rural Blacksmith Shops. *Tennessee Anthropologist* 12, no. 2: 119-27.

1987. Traditional Culture in the Twentieth Century: The Historical Archaeology of a Rural Blacksmith's Shop. *The Florida Anthropologist* 40, no. 2: 124-36.

1986. Preliminary Investigations at an Early Woodland Site in Floyd County, Georgia. *Early Georgia* 14, no. 1: 85-95.

NEWSLETTER ARTICLES

2005. HAER Documents Western Union Relay Site. *Society for Industrial Archeology Newsletter* 34, no. 3: 16.

2005. New Federal Policies Endanger Historic Engineering Sites. *Society for Industrial Archeology Newsletter* 34, no. 3: 17.

2004. Towering Issues and the FCC. National Trust for Historic Preservation. *Forum News* (Washington, DC) 10, no. 6, July/August: 1-2, 6.

2004. Communications Towers: An Endangered Recent Past Resource. Newsletter of the Recent Past Preservation Network, *RPPN Bulletin* 2, no. 1. <<http://recentpast.org/bulletin/vol2no1/Newsletter2.pdf>>

2004. Looking Out For the FCC's Towers. Newsletter of the Forest Fire Lookout Association, Inc. *Lookout Network* 15, no. 1: 12-13.

2003. Radio Towers: New Federal Policies Threaten the Legacy of America's Communications Industry. *Society for Industrial Archeology Newsletter* 32, no. 3: 1-2.

1999. "Ketchup vs. Wool": The Nation's Last Wool Pullery. *Society for Industrial Archeology Newsletter* 28, no. 3: 8-9. <<http://www.sia-web.org/sian/images/SIANVol283.pdf>>

1997. A CRM Parable. *California History Action* 15, no. 2: 7.

1996. GIS and Folklore and Folklife: One Application. *American Folklore Society News* 25, no. 6: 19-20.

CONFERENCE PAPERS

2006. "2,000 Wires at Once": The Western Union Telegraph Company's First Generation Microwave Relay Network: Prelude to the Third Industrial Revolution, 1945-48. Society for Industrial Archeology annual meeting, St. Louis, Missouri, 3 June.

2001. Hudson River Valley Cowboys: The Origins of Modern Livestock Shipping. Researching New York conference, State University at Albany, 16 November.

2001. The Bellows that Fueled the Fire: A Survey of Pittsburgh's Leather Industry, 1800-2000. Society for Industrial Archeology annual meeting, Washington, D.C., 12 June.

2000. Pulled Out of Pittsburgh: The Pittsburgh Wool Company. Paper presented with Christopher Marston, Society for Industrial Archeology annual meeting, Duluth, Minnesota 3 June.

1996. The Children of Gysbert Peelen: A Craft Dynasty Bound By Leather. American Folklore Society annual meeting, Pittsburgh, 19 October 19.

1989. Folklore and Archaeology: What's the Connection? American Folklore Society Centennial Meeting, Philadelphia, 19 October.

1989. Archaeology and Folklore: What Became of Henry Glassie's Common Anxieties and Common Hopes? Society for Historical Archaeology annual meeting, Baltimore, Maryland, 9 January.

1988. Blacksmithing in the Twentieth Century: The Historical Archaeology of Two Rural Shops in Georgia. Society for Historical Archaeology annual meeting, Reno, Nevada, 16 January.

1987. Spatial and Temporal Considerations in Assessing Urban Site Significance. Society for Historical Archaeology annual meeting, Savannah, Georgia 10 January.

INVITED PRESENTATIONS

2003. Telecommunications Facilities on and off Tribal Lands: Historic and Heritage Preservation Issues. Presentation to the National Congress of American Indians, "Connecting for the Future Part II: Issues in Tribal Telecommunications & Information Technology." Washington, D.C., 27 February.

2000. The Pittsburgh Leather Industry: A History. Pittsburgh Wool Program, Sen. John Heinz History Center, Historical Society of Western Pennsylvania, Pittsburgh, 5 November.

1999. "*A Family of Tanners*": Kinship and Craft in American Leather Tanning, 1800-1900. Colloquium, Department of Anthropology, University of South Carolina, 11 November.

1997. Leather Bound: The Nineteenth-Century Tanners of Allegheny City. Sen. John Heinz History Center, Historical Society of Western Pennsylvania, Pittsburgh, 19 April.

1997. The Palens: Catskills Tanners. Presentation at the Zadock Pratt Museum, Prattsville, New York, 6 September.

1991. Blues Lyrics. Temple University, Philadelphia, Pennsylvania. 19 November.

CERTIFICATION

Register of Professional Archaeologists (active 1999-2006; RPA No. 10139)

PROFESSIONAL MEMBERSHIPS

National Council on Public History (Consultants Committee, 2003-2005)
Society for Industrial Archeology
National Trust for Historic Preservation Forum
Vernacular Architecture Forum

PROFESSIONAL APPOINTMENTS

Montgomery County, Maryland, Historic Preservation Commission (Commissioner, 2004-2007; vice-chair, 2007-present)

HONOR SOCIETIES

Lambda Alpha National Anthropology Honor Fraternity

CONTRACTED TECHNICAL REPORTS

Since 1987 I have authored 150+ reports, including National Register of Historic Places evaluations, effects assessments, historic contexts, historic structure reports, and Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) reports.

A complete list of reports is available on request.

PUBLICATIONS AND REPORTS AVAILABLE ONLINE

1995. Kanawha River Lock & Dam No. 11, Equipment House, West side, U.S. Route 35, Clendenin District, Mason County, WV. *U.S. Department of the Interior, Historic American Building Survey (HABS), No. WV-287-B*. Washington, D.C. Prints and Photographs Division, Library of Congress.
<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(WV0433\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(WV0433)))>

1995. Kanawha River Lock & Dam No. 11, Lockmaster's House, West side, U.S. Route 35, Clendenin District, Mason County, WV. *U.S. Department of the Interior, Historic American Building Survey (HABS), No. WV-287-B*. Washington, D.C. Prints and Photographs Division, Library of Congress.
<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(WV0434\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(WV0434)))>

1997. Washington Crossing Bridge, Spanning Allegheny River at Fortieth Street, Pittsburgh, Allegheny County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-447*. Washington, D.C. Prints and Photographs Division, Library of Congress.
<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3565\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3565)))>

1997. Maclay's Mill Twin Bridge (East & West), Spanning Conodoguinet Creek at Maclay's Mill Road , Mowersville vicinity, Franklin County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-457.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3575\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3575)))>

1997. Charleroi-Monessen Bridge, Spanning the Monongahela River at State Route 2018, North Charleroi, Washington County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-467.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3586\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3586)))>

1997. Pithole Stone Arch Bridge, Spanning Pithole Creek at Eagle Rock Road (State Route 1004), Pithole, Venango County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-466.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3585\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3585)))>

1997. Allegheny Portage Railroad, Lilly Culvert, Spanning Burgoon Run at State Route 53, Lilly, Cambria County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-452.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3626\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3626)))>

1997. Allegheny Portage Railroad, Bens Creek Culvert, Spanning Bens Creek at State Route 53, Cassandra, Cambria County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-453.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3571\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3571)))>

1997. South Eighth Street Viaduct, Spanning Little Lehigh Creek at Eighth Street, Allentown, Lehigh County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-459.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3578\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3578)))>

1997. McKee's Rocks Bridge, Spanning the Ohio River at Chartiers Avenue, McKee's Rocks, Allegheny County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-445.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3563\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3563)))>

1997. George Westinghouse Bridge, Spanning Turtle Creek at Lincoln Highway, East Pittsburgh, Allegheny County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-446.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3564\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3564)))>

2000. Pittsburgh Wool Company, 1230 River Avenue, Pittsburgh, Allegheny County, PA. *U.S. Department of the Interior, Historic American Engineering Record (HAER), No. PA-572.* Washington, D.C. Prints and Photographs Division, Library of Congress.

<[http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field\(DOCID+@lit\(PA3810\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/hh:@field(DOCID+@lit(PA3810)))>

2003. *Sprint PCS Personal Wireless Services Facility, Raleigh, Wake County, North Carolina: National Historic Preservation Act, Section 106 Determination of Effects Report*. Federal Communications Commission, Universal Licensing System.

<<https://wireless2.fcc.gov/UlsEntry/attachments/attachmentView.jsp?applType=search&fileKey=1225005357&attachmentKey=17921094&attachmentInd=applAttach>> (4 MB PDF file; report begins on p. 9 of the PDF file.)

2003. Environmental Assessment (EA), Memorandum of Agreement (MOA), and Historic survey report with determination of effects for a proposed personal wireless services facility in Rappahannock County, Virginia. Federal Communications Commission, Universal Licensing System.

<<https://wireless2.fcc.gov/UlsEntry/attachments/attachmentView.jsp?applType=search&fileKey=689141202&attachmentKey=17885303&attachmentInd=applAttach>> (7.5 MB PDF file.)

2003. Comments filed in the Federal Communications Commission rulemaking proceeding, Nationwide Programmatic Agreement Regarding The Section 106 National Historic Preservation Act Review Process WT Docket 03-128.

<http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514383137>

2003. Reply comments filed in the Federal Communications Commission rulemaking proceeding, Nationwide Programmatic Agreement Regarding The Section 106 National Historic Preservation Act Review Process WT Docket 03-128.

<http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514882060>

2004. *A Review of the State of Maryland's National Historic Preservation Act (Section 106) Compliance Efforts in Support of a Proposed Communications Facility at Lambs Knoll, Frederick County, Maryland*. Report prepared on behalf of the Harpers Ferry Conservancy, Harpers Ferry, West Virginia. Report on file, FCC Universal Licensing System, Microwave Public Safety Pool, File no. 0001601177

<<https://wireless2.fcc.gov/UlsEntry/attachments/attachmentView.jsp?applType=search&fileKey=243565861&attachmentKey=17918356&attachmentInd=applAttach>> (2.5 MB PDF file.)