HARTGEN
archeological associates inc

PHASE IA ARCHEOLOGICAL INVESTIGATION

Manchester RAISE Grant Project

City of Manchester
Hillsborough County, New Hampshire

HAA 5887-11

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6/12/23 - Confidential information related to the potential location of archaeological resources has been redacted from this document to protect the integrity of those resources. For further information, contact the project team at questions@raisemanchester.org

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February 2023

MANAGEMENT SUMMARY

Involved Agencies: *Federal Highway Administration*
Phase of survey: *Phase IA Archeological Investigation*

LOCATION INFORMATION

Municipality: *Manchester*
County: *Hillsborough*

ARCHEOLOGICAL SURVEY OVERVIEW

Survey Area: *Component A location 3.41 acres*
Component B location 3.36 acres
Component C location 1.87 acres
Component D location 1.22 acres

RECOMMENDATIONS

Component A APE: Archeological investigations are recommended for planned subsurface disturbances in the undeveloped areas of the APE between Gas Street and the extant railroad to the northwest. No further work is recommended for the southern region of Gas Street or the APE area west of the railroad.

Component B APE: No further work is recommended due to extensive paving and evidence of subsurface disturbance from buried utility lines.

Component C APE: Archeological investigations are recommended for the APE section immediately behind the historic Cohas Shoe Factory due to the possibility of archeological remains associated with the factory and activities related to loading/unloading cars on the adjacent railroad. Archeological testing is also recommended in the southern APE due to map-documented structures associated with the railroad in the immediate area. Archeological monitoring is recommended for the APE section that extends along the access road connecting the former railbed to the present parking lot due to map documentation of outbuildings and a railroad siding platform associated with the Cohas Shoe Factory.

Component D APE: Due to the potential for archeological deposits to yield information on the lives of the Amoskeag Mill workers, archeological testing is recommended for planned subsurface disturbances in areas Gateway Park not already disturbed by existing utility lines. Due to the Sanborn map documented presence of storehouses associated with the Amoskeag Mill complex in the southern APE area, site monitoring is recommended for subsurface disturbances greater than three feet in depth (1 meter). Site monitoring should focus on identifying intact foundation remains and other features associated with these map-documented storehouse buildings.

Report Authors: *Brant W. Venables, Ph.D.*
Date of Report: *February 2023*

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PHASE IA ARCHEOLOGICAL INVESTIGATION

Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted a Phase IA archeological investigation for the proposed Manchester RAISE Grant Project (Project) located in the City of Manchester, Hillsborough County, New Hampshire. The Project requires approvals by the Federal Highway Administration and the New Hampshire Division of Historical Resources (NHDHR).

This investigation was conducted to comply with Section 106 of the National Historical Preservation Act and will be reviewed by NHDHR. This investigation adheres to the *Standards and Guidelines for Archaeological Investigations in New Hampshire* (New Hampshire Division for Historical Resources 2018).

Project Information

Project Location

The Project is located in the South Millyard area of downtown City of Manchester, New Hampshire (Map 1). Four discrete APEs have been identified on the east side of the Merrimack River between about Granite Street and Queen City Avenue.

Description of the Project

The Project entails transportation improvements to the Millyard District of downtown Manchester, New Hampshire. The improvements are broken down into four different components, as detailed below.

- Component A will entail an extension of South Commercial Street (Map 2a).
- Component B involves reconfiguring the South Willow Street and Queen City Avenue intersection (Map 2b).
- Component C consists of extending Gas Street and creating an Active Transportation Corridor (Map 2c).
- Component D entails pedestrian connection improvements. These changes aim to improve vehicular, bicycle, and pedestrian safety, reduce traffic congestion, and increase pedestrian and bicycle connectivity as part of revitalization efforts of the Millyard District of downtown Manchester (Map 2d).

Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that the proposed undertaking will directly alter. The APE encompasses a total of 9.86 acres split between the four component areas (Component A location: 3.41 acres; Component B location: 3.36 acres; Component C location: 1.87 acres; Component D location: 1.22 acres) (Map 2).

Environmental Background

The environment of an area is significant for determining the sensitivity of the APE for archeological resources. Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the APE that are more likely to contain archeological resources. In addition, bedrock formations may contain chert or other resources that precontact groups may have quarried. Soil conditions can provide a clue to past climatic conditions and changes in local hydrography.

Soils

Soil surveys provide a general characterization of the types and depths of soil found in an area. This information is important in determining the appropriate methodology if and when a field study is recommended. The source of this data is the Soil Survey Geographic (SSURGO) Database, maintained by the Natural Resources Conservation Service, United States Department of Agriculture (2018). The soils found in each component APE were identical and are shown in Table 1 below.

Table 1. Soils in the APE

Symbol	Name	Depth	Textures	Slope	Drainage	Landform
S4995	Urban Land (35%)	0 – 100 cm (0 – 39 in)	N/A	N/A	N/A	N/A
	Windsor (25%)	0 – 165 cm (0 – 65 in)	Loamy Sand	3%	Overly drained	Glaciofluvial
	Canton (19%)	0 – 170 cm (0 – 67 in)	Coarse loamy sand	8%	Well drained	Moraines/hills/ridges

Bedrock Geology

The bedrock within the APE is Massabesic Gneiss Complex (Lyons, et al. 1997). This formation comprises Quartzose-feldspathic gneiss and biotite schists, granofels, and cal-silicate rocks closely intruded by, and grading into, a pink gneissic granite. There are no known bedrock outcrops within the APE. This formation is not known to have been used by Native American groups for stone tool manufacture.

Topography and Hydrography

All four components of the APE are located in relatively flat urban terrain. Components A and D are located 120 and 140 meters, respectively, from the Merrimack River which flows north to south through the City of Manchester. Component B lies approximately 420 meters north of Baker Brook. According to USGS maps, none of the four components are in or near extant wetland areas.

Documentary Research

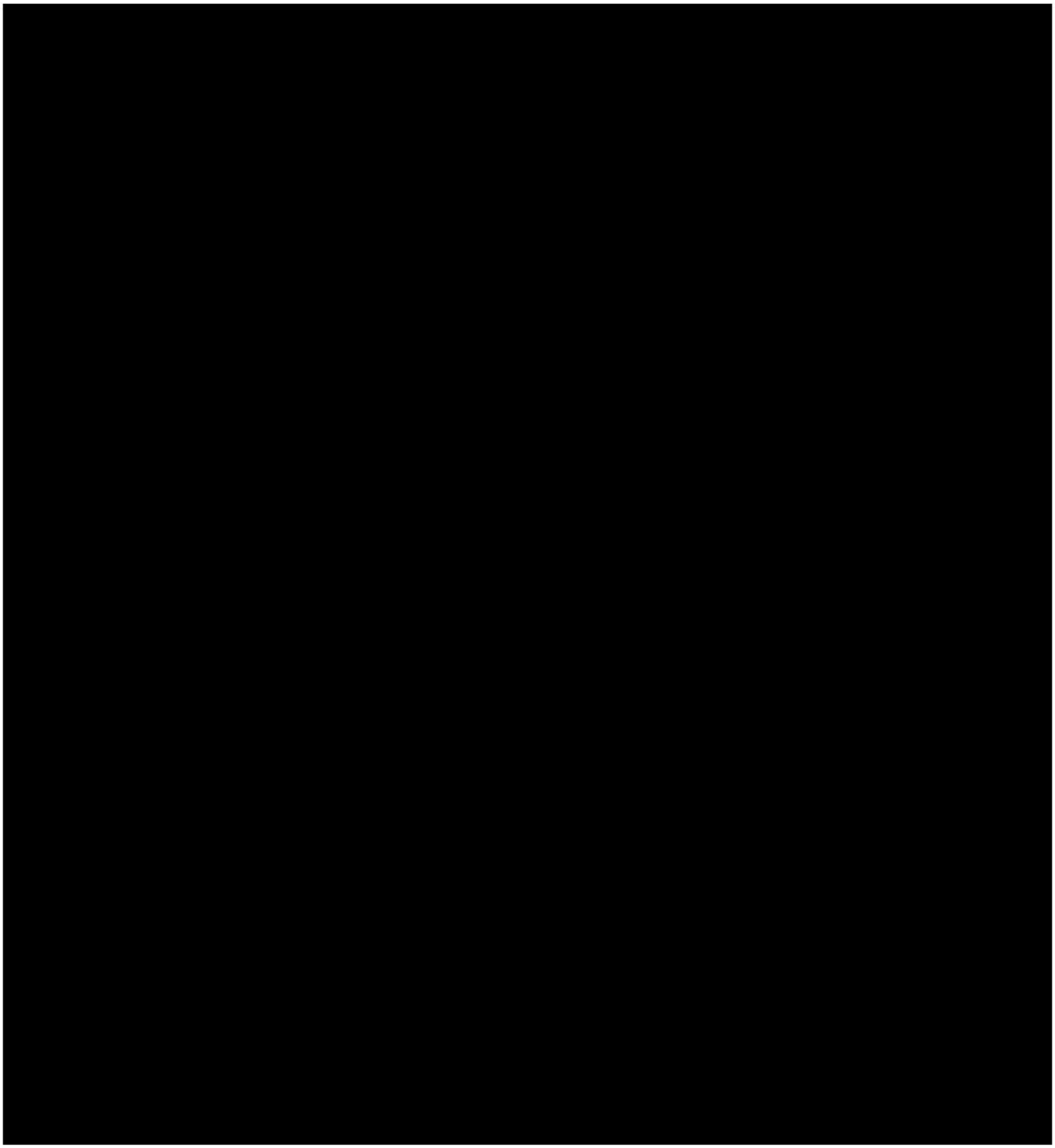
Hartgen conducted research using the New Hampshire online EMMIT system, which is maintained by the New Hampshire Division for Historical Resources (NHDHR). EMMIT contains a comprehensive inventory of archeological sites, State and National Register (NR) properties, properties determined eligible for the NR (NRE), and previous cultural resource surveys.

Archeological Sites

An examination of EMMIT identified 17 reported archeological sites within one half-mile (0.8 km) of the APE (Table 2). Previously reported archeological sites provide an overview of the types of sites that may be present in the APE and the relation of sites throughout the surrounding region.

Eight of the 17 reported archeological sites are precontact and 9 are historic. While most of the precontact sites did not recover artifacts that could provide temporal affiliation, two sites (27-HB-0058 Manchester Driving Park and 27-HB-0148 Athletic Field) recovered artifacts that allowed these two sites to be dated to the Middle/Late Archaic (8,000 – 3,700 Years Before Present [1950]/6,050 – 1,750 BCE) and Woodland periods (2,700 – 400 Years Before Present [1950]/750 BCE – 1550 CE) respectively. This indicates that Native Americans have inhabited the location since the Middle Archaic period. The presence of the Merrimack River likely made the area highly appealing as a natural transportation corridor and resource.

The historic sites are a mixture of industrial and tenement buildings that served as housing for the workers in Manchester's various industries. The historic industrial sites range from a foundry associated with the vast Amoskeag Mills complex to a site associated with the Crafts & Green Shoe company, which reflect the late 19th-century industrial activities of Manchester. Relatedly, the historic residential sites reflect how the late 19th-



Historic Properties

An examination of EMMIT identified fifteen inventoried properties within the APE, including one NRL property, one NRL historic district, and one NRE historic district (Table 3).

Table 3. Inventoried properties within the APE

Inventory Number	Property Name	Status	Description	Proximity to APE
MAN-00GS	Granite Street	Not Eligible	This area was part of an architectural survey to evaluate its historic resources in anticipation of the widening of Granite Street. Although the area has served as an important river crossing since the 18th century, and its location is partially in the NRE Amoskeag Millyard Historic District, much of Granite Street has changed over time, and only some historic structures are considered to retain their historic integrity. Though this area crosses through the APE, only one inventoried structure within it (Central Grain Co.) lies within the APE.	Within
MAN-00RR	Manchester Railyard Area	Not Eligible	This area, although associated with the NRE Amoskeag Millyard Historic District, is not NRE due to its loss of integrity. Some individual properties within the area have been recommended for further investigation to determine their eligibility.	Within
MAN-0AMK	Amoskeag Millyard Historic District	Eligible	This district is both National and State Register Eligible due to the significance of the Amoskeag Millyard Historic District to the City of Manchester. Between its establishment in the 1830s and its peak in 1910, Amoskeag Mill had constructed over 30 buildings in its industrial complex and 24 bridges across the Merrimack River. Only 18 of these buildings remain (none within the APE).	Within
MAN-0GAS	Gaslight Area	Undetermined	This area encompasses a variety of buildings near the historic railroad depot; during the late-19th to early 20th centuries, this area saw significant development due to its position adjacent to the depot. The City of Manchester began a series of urban renewal projects in the 1960s, many of which demolished the old buildings and replaced them with modern amenities. Future evaluation of individual properties would be necessary to evaluate their NR eligibility.	Within
MAN-0GSP	Granite State Packing	Not Eligible	This property was first utilized for industrial purposes in the 19th century; despite its historic significance to the City of Manchester, a fire in 1979 destroyed most of the historic buildings. Thus the site no longer retains its integrity and has been determined ineligible for the NR.	Within

Inventory Number	Property Name	Status	Description	Proximity to APE
MAN-CSSP	Chestnut Street Area	Undetermined	Most of the buildings in this area were built in conjunction with urban renewal projects in the 1960s and 1970s; only a few properties are old enough to be considered historic. The Valley Cemetery, the edge of which is in the current APE, is NRL and SRL (discussed below). Other properties within the area with the potential to be considered historic would need to be individually evaluated to determine their eligibility for the NR.	Within
MAN0021	Central Grain Company	Not Eligible	This building was constructed c. 1933 of concrete blocks, with a concrete foundation and a low gable roof covered in asphalt shingles. The original window openings of the building were filled in and new windows opened at an unknown date. The property has always been utilized for commercial purposes, though the property has changed hands a number of times.	Within
MAN0032	Valley Cemetery	Listed	This cemetery, dedicated in 1841, is considered an excellent example of a mid-19th century rural or garden cemetery; the cemetery's landscape, including its paths, carriage roads, and vistas, as well as the architecture found in its chapel, mausoleums, fences, and gates, are considered historically significant. In addition, numerous influential individuals of the City of Manchester were interred here, including New Hampshire Governors, Mayors, and State Supreme Court Justices.	Within
MAN0087	Railroad Deck Truss	Undetermined	Initially constructed in 1936 to carry the Boston & Maine Railroad over the Merrimack River, the western end of the bridge was replaced in 1983 to allow for the construction of the riverside highway. The bridge's foundation is stone and concrete, while the deck is riveted steel truss. An earlier wooden bridge was located at this site, but it burned down shortly after construction, and was replaced with a number of other versions. The current bridge inventory does not have enough information to determine its NR eligibility.	Within
MAN0157	60 Beech Street	Not Eligible	This property was recorded as vacant until the 1950s; the current building was constructed in 1955 as a commercial property. The foundation is concrete, while the walls are concrete blocks. The flat roof consists of tar and gravel.	Within

Inventory Number	Property Name	Status	Description	Proximity to APE
MAN0217	41 Sterling Avenue	Not Eligible	This single-family dwelling was constructed in 1916, with a granite foundation and gable-front roof. Despite its age and similarity to other homes in the area, 41 Sterling is not considered NRE due to alterations performed on the structure and a lack of historical significance.	Within
MAN0276	Auto Consignments Shop	Not Eligible	This structure was constructed in 1946 with a poured concrete foundation and brick walls. This commercial property, located among other modern commercial strips, was not considered NRE due to its loss of integrity. The building has since been demolished.	Within
MAN0280	William F. Cote House	Not Eligible	Constructed c. 1920, the William F. Cote house is considered an excellent example of a small suburban cape style dwelling. The property has changed hands several times, and has since been converted into a two-unit residence. The building's historic integrity has been compromised due to the application of vinyl siding, a modern addition, a modified floor plan, and the destruction of the adjacent home, drastically changing the William F. Cote House's appearance. The building has since been demolished.	Within
MAN0281	Melita and Henry J. Lamirande House	Not Eligible	Constructed in 1950 in the Colonial Revival style, this single-family home is not considered architecturally distinctive due to its typical Manchester style. The building retains original windows, plaster walls, and maple flooring, but it has no specific associations with suburban development in the city. The building has since been demolished.	Within
MAN0282	Lena & Charles J. Dillon House	Not Eligible	This dwelling was constructed c. 1920 in a craftsman-influenced style, which was common in Manchester. The exterior and interior of the house have been significantly altered since its construction and it is no longer considered a good example of this style. The building has been demolished.	Within
MAN1232	Amoskeag Manufacturing Company Housing District A	Listed	This district was constructed by the Amoskeag Manufacturing Company to provide housing for its many workers in the mid-19th century. Though the housing was in and out of use at various times during the company's existence, the district retains its integrity of location, design, materials, and workmanship. It is considered historically significant to the City of Manchester.	Within
ZMT-GBRR	Goffstown Branch Railroad	Not Eligible	Railroad leading from Manchester to Goffstown. No further information is available on EMMIT.	Within

Inventory Number	Property Name	Status	Description	Proximity to APE
ZMT-MLRR	Manchester & Lawrence Railroad	Eligible	This railroad is NRE due to its historic significance to this area of New Hampshire; it passed through Salem, Windham, Derry, and Londonderry, as well as Manchester, connecting these communities and allowing the transport of people and agricultural products between small towns and cities. The railroad was chartered in 1847, and construction was completed in 1849; the railroad operated in some capacity until 1986 when the final section was abandoned. This NRE district includes structures and properties associated with the railroad and the railroad corridor itself.	Within

Of the numerous historic districts and buildings outlined in the above table, several are noteworthy as reflecting the industrial history of Manchester. These are the Amoskeag Millyard Historic District (MAN-0AMK), Amoskeag Manufacturing Company Housing District A (MAN1232), and Manchester & Lawrence Railroad (ZMT-MLRR). The Amoskeag Millyard Historic District (MAN-0AMK) encompasses the once sprawling complex of the Amoskeag Manufacturing Company's (1838 – 1936) numerous multiple industries which included textile production, textile equipment, steam locomotives, fire engines, sewing machines and firearms. Of these many industries at Amoskeag, textiles were of particular importance in driving the urban development of Manchester during the 19th and early 20th centuries.

Associated with the Amoskeag Manufacturing Company is the Amoskeag Manufacturing Company Housing District A (MAN1232). It was not uncommon in the 19th century for companies to provide housing for their workers as part of a philosophy of corporate paternalism. These initiatives ranged from simple housing to establishing self-contained "company towns" such as Hershey, Pennsylvania. Interpretations of such corporate paternalism range from idyllic portrayals of benevolent companies looking after the well-being of the employees by providing decent housing or amenities such as parks and cheap public transportation, as is the case with Hershey, to rigid corporate control of employee behavior outside of working hours (Hershey Entertainment & Resorts Company 2023; National Park Service 2018). It is this historic context and dialogue that the homes of this district fit into. Thus, although the homes of the Amoskeag Manufacturing Company Housing District A are modest in appearance, they provide a glimpse into the lives of the ordinary workers who made the industrial booms in cities such as Manchester possible and the corporate cultural views of the time.

Lastly, the Manchester & Lawrence Railroad (ZMT-MLRR), built 1848 – 1849, reflects one of many railroads that once served Manchester. This railroad line and others like it were part of a feedback loop with the developing industries of the city. A robust railroad system was critical to transporting the products of the many factories of Manchester to the national or international markets. But likewise, without a robust industry, there would be no need for the elaborate rail network that once crisscrossed the city. This railroad was critical to the development and expansion of the Amoskeag Manufacturing Company and other industries, such as the Cohas Shoe Company, whose extant factory building is adjacent to a stretch of the former Manchester and Lawrence Railroad.

Previous Surveys

A review of EMMIT identified eight previous surveys within the immediate vicinity of the Project (Table 4). Most surveys within the APE were conducted along the riverside. The majority of these were Phase IA investigations; one survey included Phase IB shovel testing, and another involved an archeologist monitoring for construction work. Generally, most reports acknowledged moderate to high archeological sensitivity for historic finds near the APE, while precontact finds seemed less likely. Though much of the City of Manchester

has been greatly altered by modern and historic construction, intact cultural deposits are not improbable in the vicinity of the Project.

Table 4. Relevant previous surveys within or adjacent to the APE

Project/Phase	Summary	Citation
Riverwalk Development Project, Phase IA/IB	This survey entailed a Phase IA of much of the riverfront in the City of Manchester, a walkover of the project area, and three Phase IB shovel tests excavated in one selected location (northern end of Singer Field to the old railroad bridge) within the current APE. The purpose of the survey was to conduct preliminary research on the area's archeological potential and sensitivity before constructing a riverside pedestrian walkway. The report concludes that despite modern and historic disturbance and fill, the entire Riverwalk route and development area must be considered highly sensitive, and future subsurface testing and monitoring were recommended.	(The Sargent Museum 1999)
Granite Street Widening Project, Phase IA	The area surveyed in this report was primarily located within the current APE surrounding Granite Street. Background research and visual inspection of the project area were conducted to identify potential archeological resources that the widening of Granite Street may impact. A further survey was recommended in locations of historic sensitivity, and stabilization and restoration of lock remnants in the river were recommended, as well as dissemination of data through public education materials.	(Bunker 2001a)
Riverwalk Granite Street Gateway, Phase IA	The purpose of this study was to conduct a preliminary survey for the Granite Street Gateway portion of the Riverfront Development Plan within the Riverwalk corridor (extending approximately 1,300 feet along the river). Background research and visual inspection of the project area were conducted, through which two features were identified: a dam and lock and a cut granite arch. Further investigation and documentation was recommended if these features were to be impacted by the proposed construction.	(Bunker 2001b)
Hands Across the Merrimack Bridge, Phase IA	This survey was conducted partially within the current APE; the project involved incorporating the abandoned Boston & Maine Railroad bridge into a pedestrian walkway. Much of the project area was found to be heavily disturbed, likely from the bridge's original construction. Some soils in the southern bounds appeared to maintain some integrity; further archeological investigation was recommended for this area but not for the rest of the project.	(Independent Archaeological Consulting 2004)
Granite Street Widening Project: Merrill's Falls Canal, Phase IA	This report was intended to record in detail the remnants of the Merrill's Falls Canal, located partially within the current APE (discussed above). It was found that the Granite Street Widening Project would impact the southern extent of the canal; it was recommended that archeologists be present during bridge construction to determine possible effects on the surviving canal.	(Independent Archaeological Consulting 2005)

Project/Phase	Summary	Citation
Valley Cemetery, Phase IA	This survey included Valley Cemetery to evaluate the possible effects of a proposed sewer culvert replacement, potentially traversing cemetery sections containing human burials. Geophysical investigation revealed several possible graves, some of which were located in the path of the proposed culvert. It was determined that some of the high terraces within the project area could hold potential for precontact artifacts; avoidance of the high terraces and possible burial sites was recommended.	(Independent Archaeological Consulting 2007)
Elm Street Gaslight District Improvements, Phase IA	This survey, consisting of an archeological sensitivity assessment and walkover inspection, was conducted within the current APE near Valley Cemetery. Although the area was found to have been greatly altered by urban growth, it was determined that intact precontact deposits could still be present underneath the modern development; it was recommended that an archeologist be present to monitor activities involving deep excavation.	(Independent Archaeological Consulting 2013)
Elm Street Gaslight District Improvements, Monitoring	Although shallowly buried, intact alluvial deposits were encountered during the monitoring, no cultural features or material was recovered during this survey within the current APE. The consultants still recommended additional Phase IB archeological survey prior to any future construction in areas where intact alluvial deposits may be present.	(Independent Archaeological Consulting 2018)

Historical Map Review

Maps depicting the APE between 1858 and the present were examined. Selected maps are reproduced in Map 3a to 3d. Discussion of each APE as reflected in available historic maps is discussed below.

Historic maps of the Component A APE show a lack of development, outside of railroad tracks, in the area at least through 1985 (United States Geological Survey (USGS) 1985) (Map 3a).

The Component B APE is reflected on historic maps from 1892 onwards (Hurd 1892; Sanborn Map Company 1915, 1950; United States Geological Survey (USGS) 1905, 1968, 1985) (Map 3b). In Hurd 1892, the intersection has yet to take its current form with a structure shown in the northwest corner. This structure was extant into the 20th century but ceases to be present in the 1950 Sanborn although this map continues to show street orientations unchanged from the late 19th and early 20th centuries. If the building shown on the 1915 Sanborn was still extant it is unknown why they were omitted from the 1950 Sanborn (see Map 3b). By 1968 the intersection has taken its present shape and the buildings in the center of the intersection have been demolished.

The Component C APE is reflected on historic Sanborn maps from 1915 and 1950 (Map 3c). These historic maps depict railroad outbuildings in the southern area of the APE approaching the Component B intersection. In the north, Sanborn maps from 1915 and 1950 depict a railroad siding behind the Cohas Shoe Factory. This siding may have been located by the factory to permit the loading or unloading goods directly at the factory. Further supporting this possibility is the map notation of a concrete platform adjacent to the siding.

The Component D APE is reflected on historic maps starting in 1858 (Map 3d). By 1858, the area was already undergoing significant urban development reflecting the impact of the economic development of Manchester during the 19th century. By 1897, Sanborn maps show the extensive development of what are now the Amoskeag Millyard Historic District and Amoskeag Manufacturing Company Housing District A (Table 3). According to these Sanborn maps, two rows of worker tenement housing were located within the northern portion of this APE. The bulk of Storehouse No. 2 and a small portion of Storehouse No. 1 were within most of the southern half of the APE. The historic maps show the extensive size of the Amoskeag Millyard complex

during its heyday and reflect the prominence of the Amoskeag Manufacturing Company in the economic prosperity and development of Manchester during the late 19th and early 20th centuries.

Present Land Use and Current Conditions

Benjamin Heckman conducted a site visit on November 29, 2022 to observe and photograph existing conditions within the APE. The site visit results are discussed below and divided by project components (A, B, C, and D).

Component A is located along South Commercial Street (Photos 1 – 6). The northern branch of the APE is near the Riverwalk Apartment Complex and Delta Dental baseball stadium. The eastern border of this northern section is adjacent to a railroad separated from the road by a chest-high chain link fence (Photo 1). This north section follows Riverwalk Way curving behind the apartment complex. The area appears to have been landscaped with the intentional planting of deciduous trees, installation of a utility box, and power lines (Photo 2). The grading for the road, placement of various utilities, and aforementioned landscaping indicates that land in the immediate area has been altered and likely compromised the integrity of archeological deposits in the area.

From this northern section, the APE cuts across the railroad area (Photo 3) and crosses a flat area of land with only local disturbance of poles for power lines (Photo 4). The APE then branches north and south following Gas Street. A retaining wall along the southern side of Gas Street indicates that substantial grading was conducted to remove a small hillside when Gas Street was built (Photo 5). A chain link fence with barbed wire prevented soil coring of the section of the APE on the northern side of Gas Street to determine the extent of disturbance in this area. However, it appears likely that this area is partially disturbed due to visible remnants of a railroad bed cutting through the location and drainage swale (Photo 6).

Component B is located at the intersection of South Willow Street and Queen City Avenue (Photos 7 – 11). The four-lane Queen City Avenue comprises the northern section of this area with pedestrian sidewalks on either side (Photo 7). The immediate area adjacent to the sidewalks has either vehicular guardrails or chain link fences, indicating localized disturbances. A section of the APE in this area is flanked by a small hillside to the northeast and an industrial building on the southwest (Photo 8). The APE then continues to the primary intersection with multiple branching lanes divided by grass traffic islands in the northwest and concrete traffic islands in the southeast (Photo 9 – 11). The perimeter of this intersection has a paved sidewalk bordering on grass that separates the adjacent property lots from the road (Photo 10). While no soil cores were taken in the grassy traffic islands, multiple streetlights and traffic signals within the boundaries indicate likely extensive subsurface disturbance to install buried utility lines.

Component C is located near Gas Street (Photos 12 – 15). The northern area of the APE is situated in a parking lot adjacent to the Red Barn Diner off Elm Street. It then proceeds in a southeast direction along the former Manchester and Lawrence Railroad which extends behind the repurposed Cohas Shoe Factory building (Photos 12). The slope on either flank of this path indicates that the area was lowered to create a level surface for the railroad. The landscape alterations are all that remains of the railroad, indicating that this section was intentionally removed at some point in the past. Extensive refuse, tire ruts, and a sign in the southern area of the former railroad indicate that modern use may have also compromised the archeological integrity of the corridor (Photo 13). An access road behind the Cohas Shoe Factory building leads to a parking lot connecting with Willow Street (Photos 14 and 15).

The Component D APE is located on the northern and southern flanks of Granite Street, with a narrow section bridging the road to connect the two primary APE areas (Photos 16 – 22). The northern portion of this APE is in Gateway Park, with a sidewalk running along the western and southern perimeters (Photo 16). This section of the APE is part of the Amoskeag Manufacturing Company Housing Historic District (MAN1232, Table 3). Directly north of the APE are extant worker tenement buildings (see the background of Photos 17 – 18). The park's southwest corner consists of multiple maintenance holes, utility boxes, a fire hydrant, a traffic light, and historic streetlight (Photos 17 – 18). The historic streetlight was originally a fixture at the approach to Queen City Bridge and was subsequently moved to the park. When the park was originally built, this lamp was on a

pedestal with a brick path along its perimeter (see Figure 1). This pedestal was removed during the expansion of the adjacent streets and the lamp was moved to its present location. The eastern area of the park is occupied by a large, raised concrete circle that is identified as a playground on engineer plans (Photo 19). The northern circumference of the circle connects to the adjacent parking lot via a paved path. This parking lot serves several brick residential structures in the immediate area.

The southern APE of Component D is primarily located in a parking lot that services a large brick business structure (Photo 20 – 22). This parking lot slopes eastward, as does Granite Street, leaving a small triangle of unpaved grass (Photo 22). The stone retaining walls were identified during the LM Preservation's architectural history component of the Project as possible wall remnants of the Lower Canal that was filled and paved in 1971 to construct the present road (Mausolf 2023). This section of the APE is located within the broader Amoskeag Millyard Historic District (MAN-0AMK, Table 3). Some repurposed industrial buildings are in the immediate area outside of the APE (see background Photo 18).

Archeological Sensitivity Assessment

The precontact archeological sensitivity of an area is related to proximity to water, stream confluences, travel corridors, lithic resources, floral and faunal resources. Level, well-drained terrain adjacent to such resources were favored locations for occupation by precontact Native American groups.

Table 5. Factors influencing precontact and historic archeological sensitivity of the APE

Precontact		**Historic**	
Water sources: wetlands, ponds, streams, lakes, bays, and ocean	☒	Water sources: wetlands, ponds, streams, lakes, bays, and ocean	☒
Nearby chert sources	☐	Nearby natural resources (iron, limestone, building stone, etc.)	☐
Well-drained soils for habitation	☒	Well-drained soils for habitation	☒
Favorable landforms (level, good solar exposure, leeward facing)	☒	Proximity to transportation systems (roads, canals, rivers, railroads, etc.)	☒
Known archeological sites in the vicinity	☒	Known archeological sites in the vicinity	☒
Other documentary sources	☐	Map-documented structures	☒
Abundance of nearby stone tool ores	☐	Other documentary evidence	☐
Overall assessment: Moderate sensitivity		Overall assessment: High sensitivity	

Archeological Potential

Archeological potential is the likelihood of locating intact archeological remains within an area. The consideration of archeological potential takes into account subsequent uses of an area and the impact those uses would likely have on archeological remains.

The extensive development of the area since the 19th century leaves a low potential for finding intact precontact deposits. The preservation of multiple industrial buildings and associated structures indicates a moderate potential of finding intact historic deposits in areas where map-documented structures were once located and have not been subject to obvious extensive modern development.

Table 6. Factors influencing archeological potential within the APE

Precontact		**Historic**	
Undisturbed soils	☐	Lack of modern development	☐
No erosion or cutting of sediments	☐	Limited historical re-use of landscape	☐
Alluvial deposits (cap and preserve deposits)	☐	Alluvial deposits (cap and preserve deposits)	☐
Relatively deep soils (features)	☐	Historic fill (cap and preserve deposits)	☐
		Relatively deep soils (features)	☐
Overall assessment: Low potential		Overall assessment: Moderate potential	

Recommendations

Due to the expansive nature of the Project and specific conditions of individual project components, recommendations are broken down by location. Refer to Map 2a – 2d for depictions of archeologically sensitive areas.

Component A: historic maps indicate the majority of the APE was either railyard or undeveloped into the 1950s. Additionally, the Riverwalk Development Project, Phase IA/IB report of adjacent areas determined that the area has been subject to fill and disturbance that would have compromised any archeological resources in the area (see Table 4). No further work is recommended for the APE area west of the railroad along Riverwalk Way. Archeological investigations are recommended for any planned subsurface disturbance in the undeveloped areas of the APE between Gas Street and the extant railroad to the northwest (see Map 2a for archeologically sensitive areas). The field supervisor should adjust shovel test locations as needed to avoid areas of disturbance created by the drainage swale in the southeast archeologically sensitive area. Testing should avoid known locations of subsurface disturbance created by buried utilities. No further work is recommended for the southern region of Gas Street where retaining walls indicate significant grading and disturbance of the immediate area.

Component B: No further work is recommended due to extensive paving and evidence of subsurface disturbance from buried utility lines.

Component C: Archeological investigations are recommended for the APE section immediately behind the historic Cohas Shoe Factory due to the possibility of finding archeological remains associated with the industrial use of the building and activities related to loading/unloading cars on the adjacent railroad. Archeological testing is also recommended in the southern area of the APE due to the Sanborn map documented structures associated with the railroad in the immediate vicinity (see Map 3c). Archeological monitoring is recommended for the APE section that extends along the access road connecting the former railbed to the present parking lot due to the possible presence of map-documented outbuildings and railroad siding platform associated with the Cohas Shoe Factory (see Map 2c for sensitive archeological areas).

Component D: Most of the Amoskeag Mill worker tenement buildings appear intact. The 1897 Sanborn indicates that an additional row of tenement buildings was in the present location of Gateway Park (see Map 3d). Archeological investigations at similar company housing, such as at Boott Mills in Lowell, Massachusetts, have uncovered evidence of the individuality and daily lives of the factory workers who once lived there (Mrozowski, et al. 1996). Due to the potential for archeological deposits to yield information on the lives of the Amoskeag Mill workers, archeological testing is recommended for subsurface disturbances planned in areas of Gateway Park not already disturbed by existing utility lines. Due to the Sanborn map documented presence of storehouses associated with the Amoskeag Mill complex in the southern APE area, site monitoring is recommended for subsurface disturbances greater than three feet in depth (1 meter). Site monitoring should focus on identifying intact foundation remains and other features associated with these maps documented storehouse buildings.

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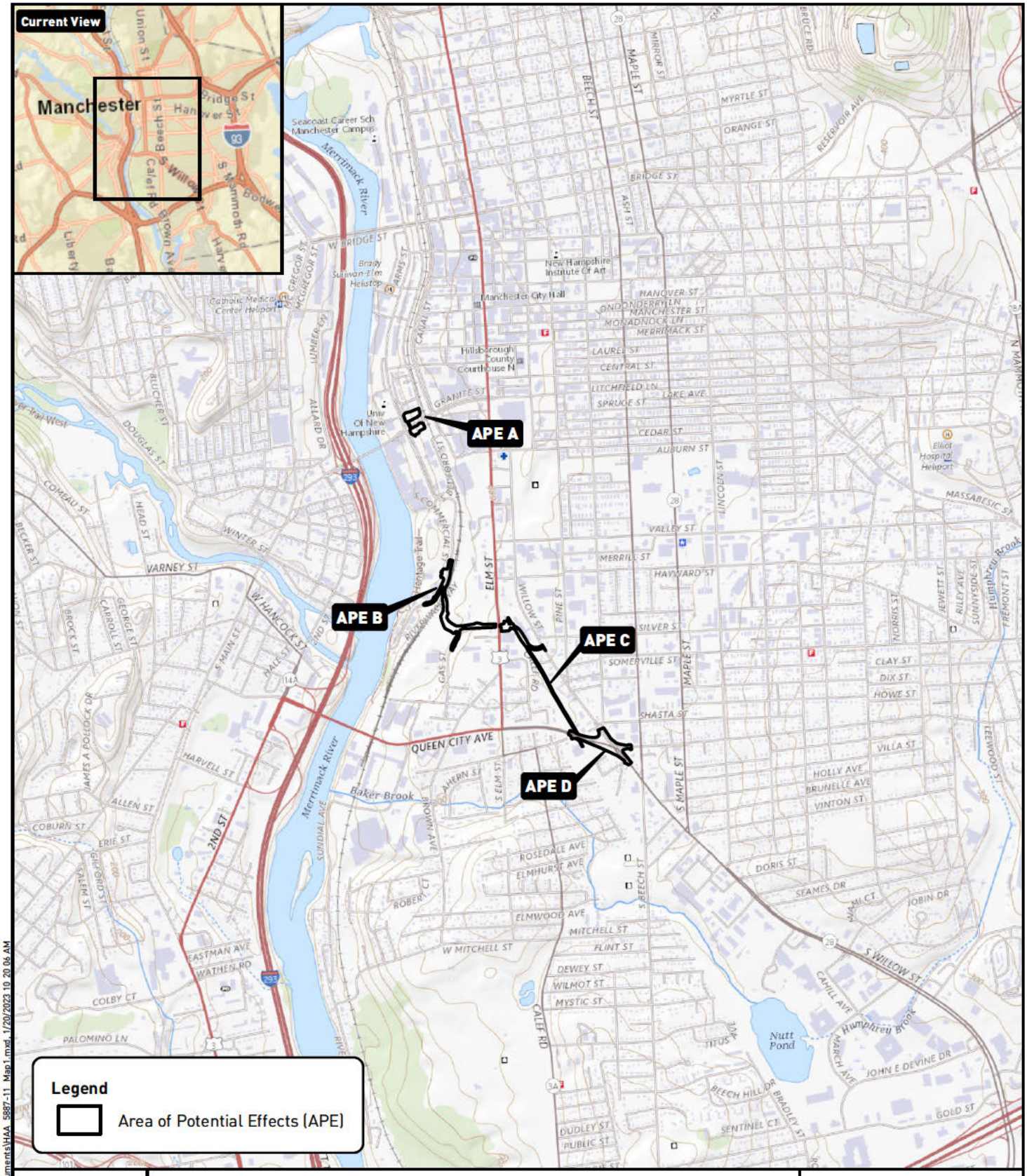
Maps


Current View
Manchester
APE A
APE B
APE C
APE D
Legend
Area of Potential Effects (APE)
1,000 0 1,000 2,000
Feet
300 0 300 600
Meters
Project Location
GIS Services Accessed 1/20/2023: Environmental Systems Research Institute, Inc., World Street Map; USGS The National Map
HARTGEN
archeological associates inc
Map 1
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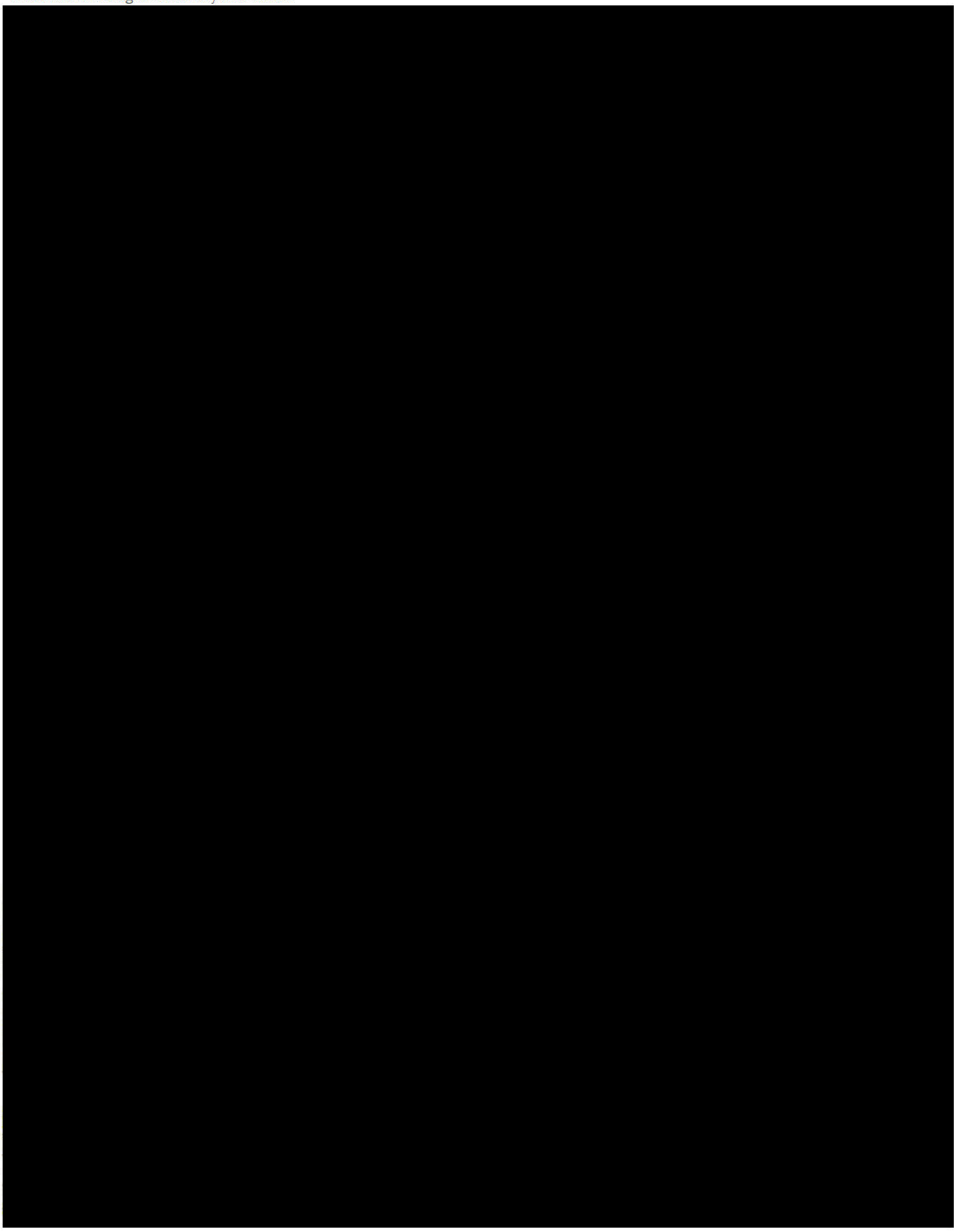

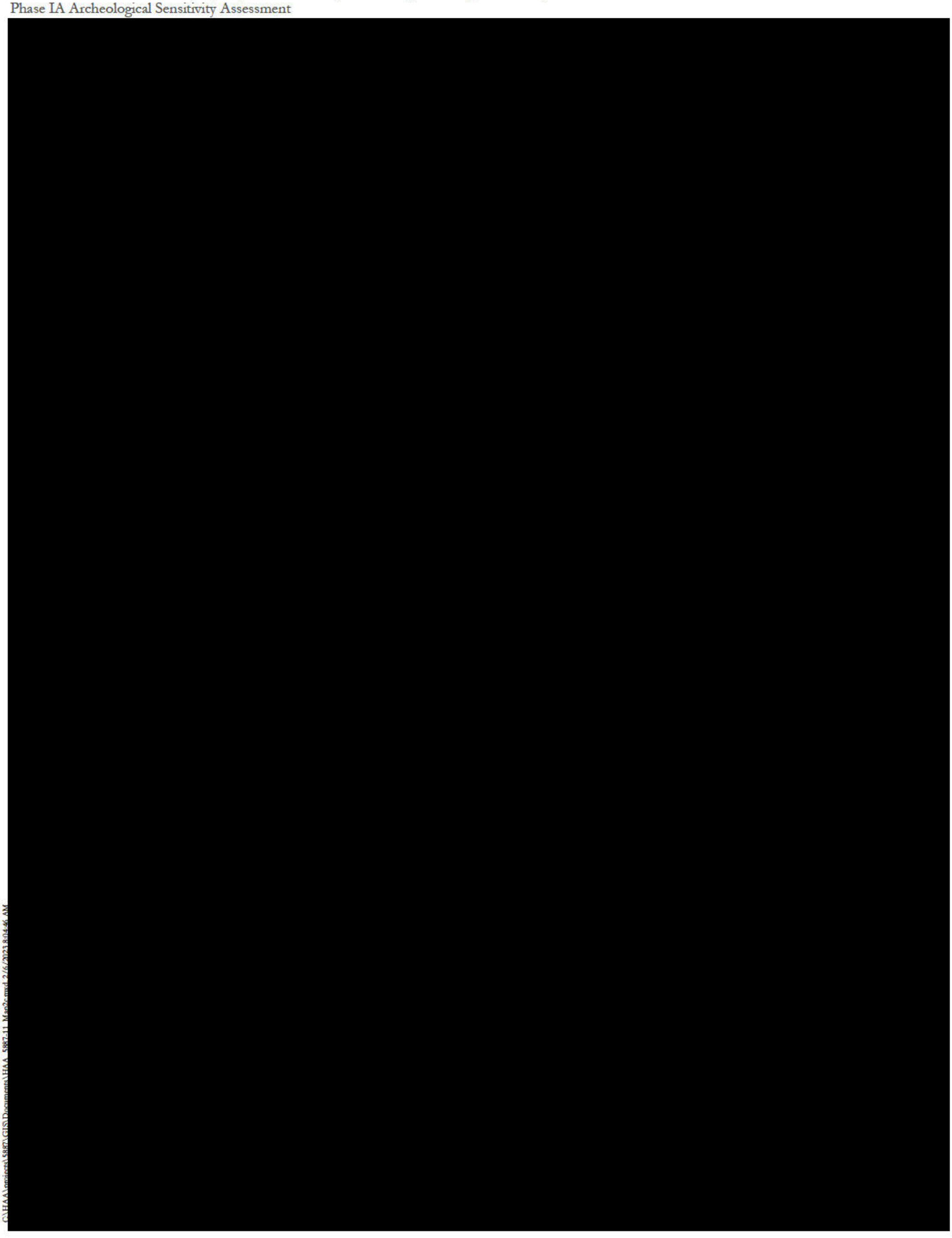

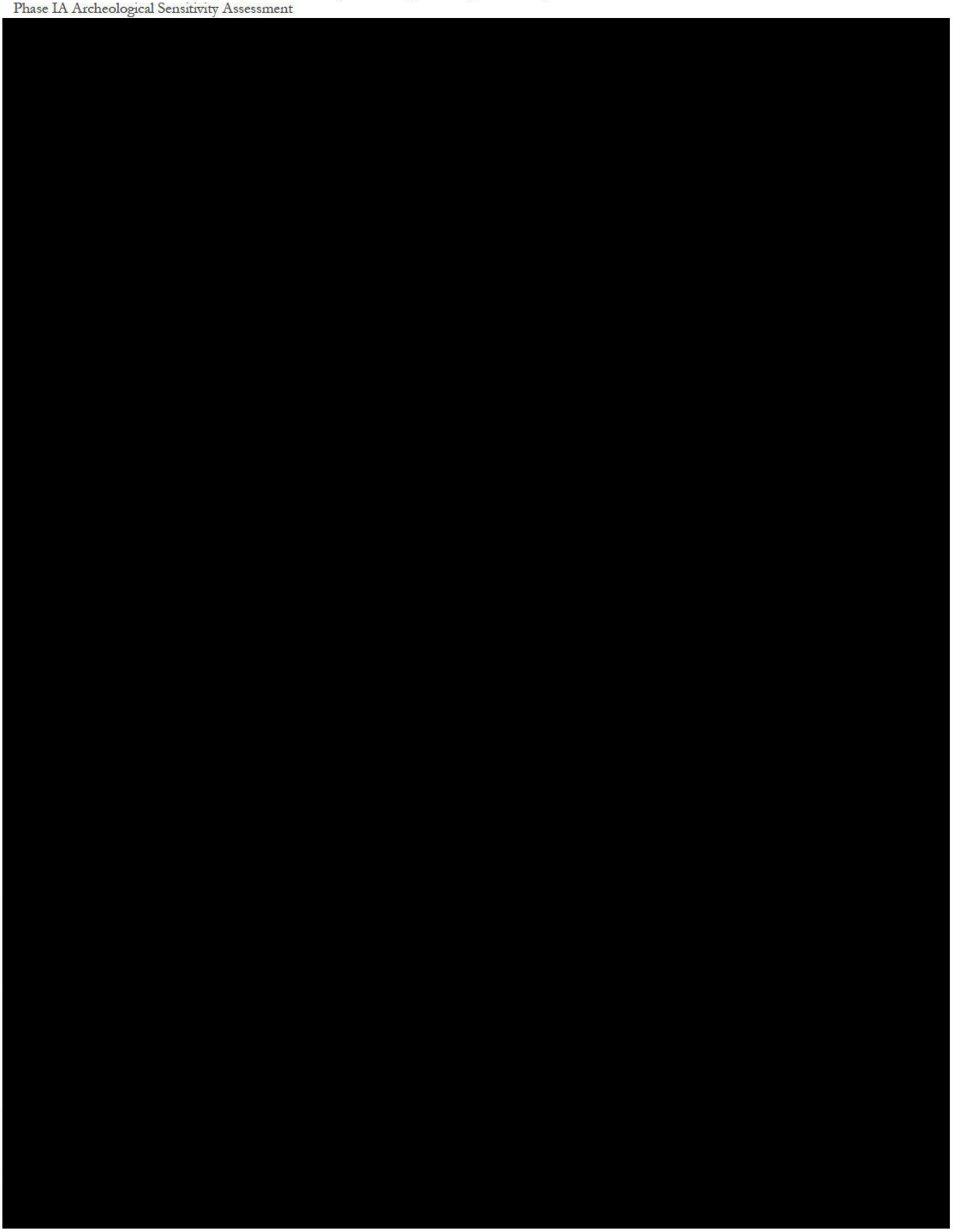

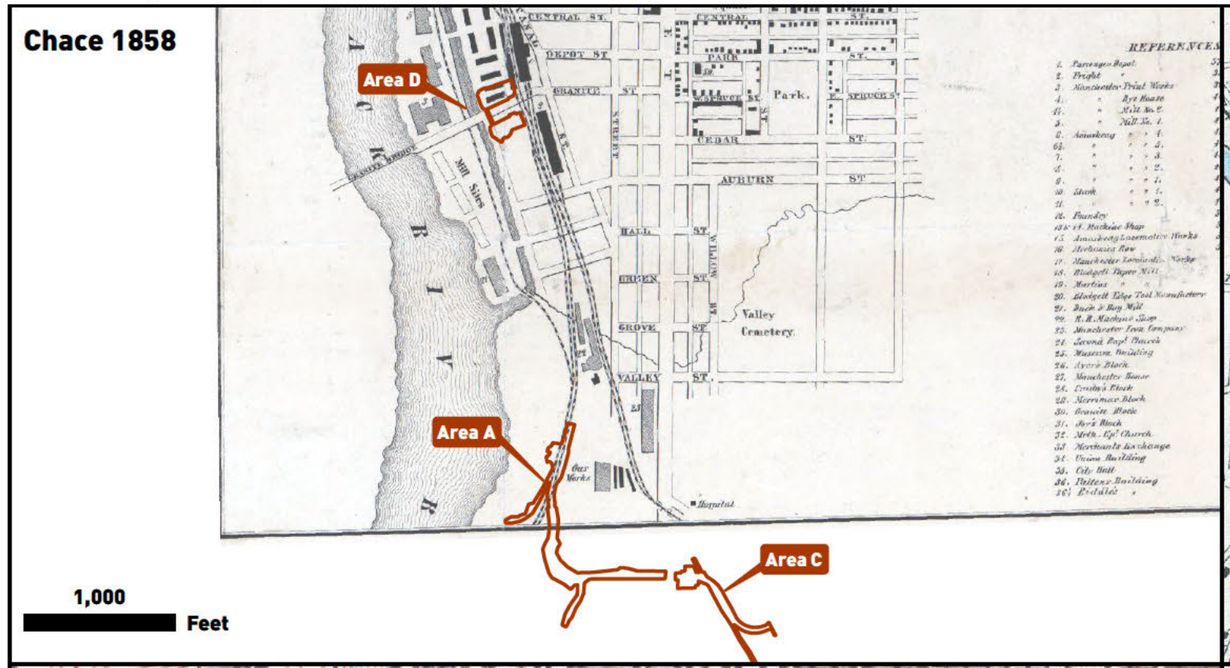

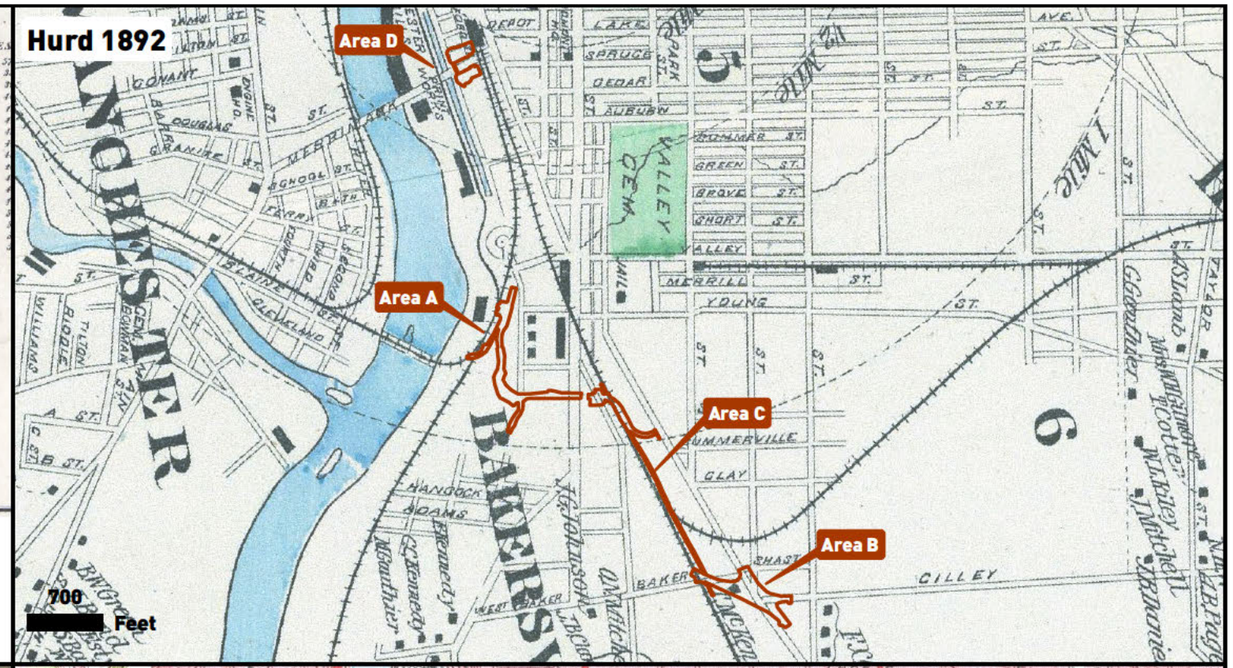

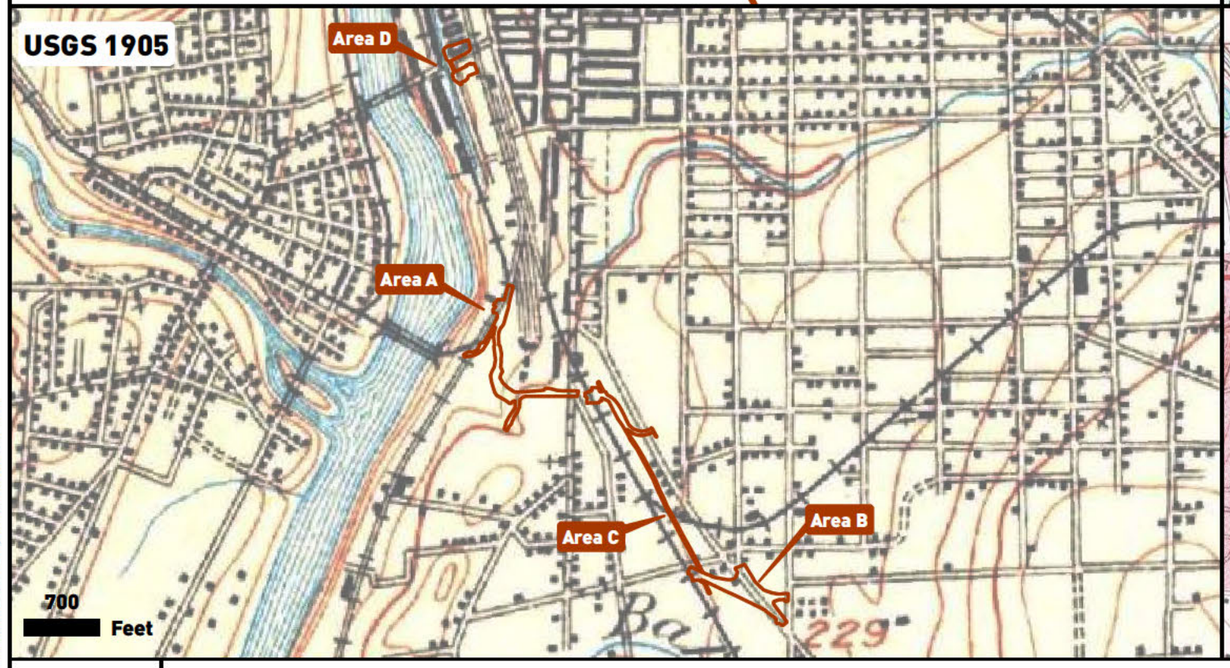

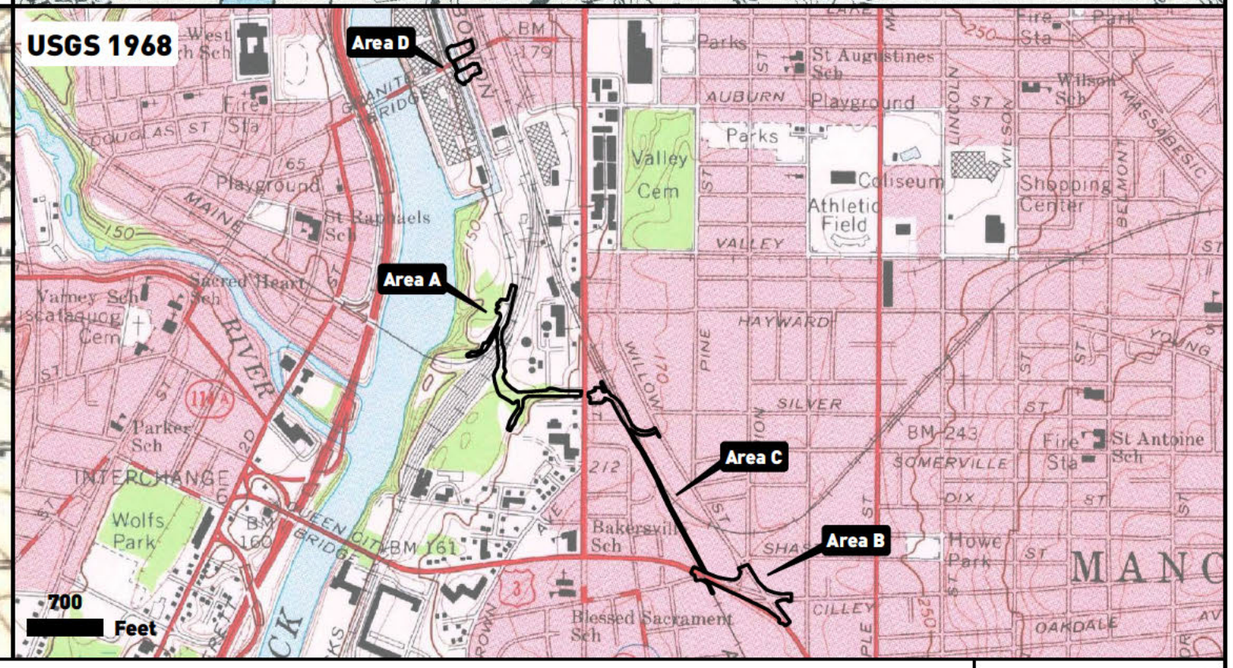

Legend

Area of Potential Effects (APE)

Historical Maps

1858 1968

HARTGEN archeological associates inc

Map 3a

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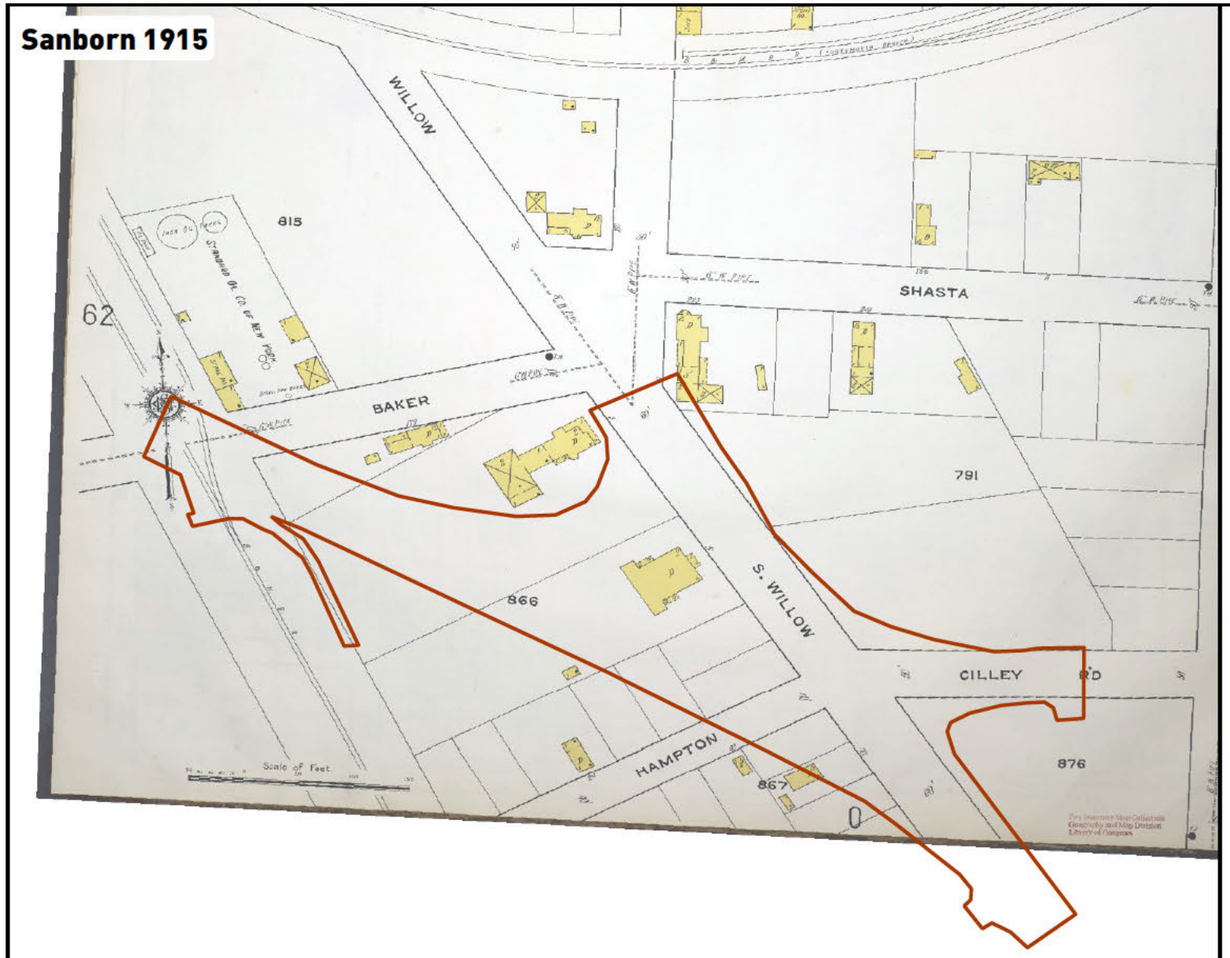

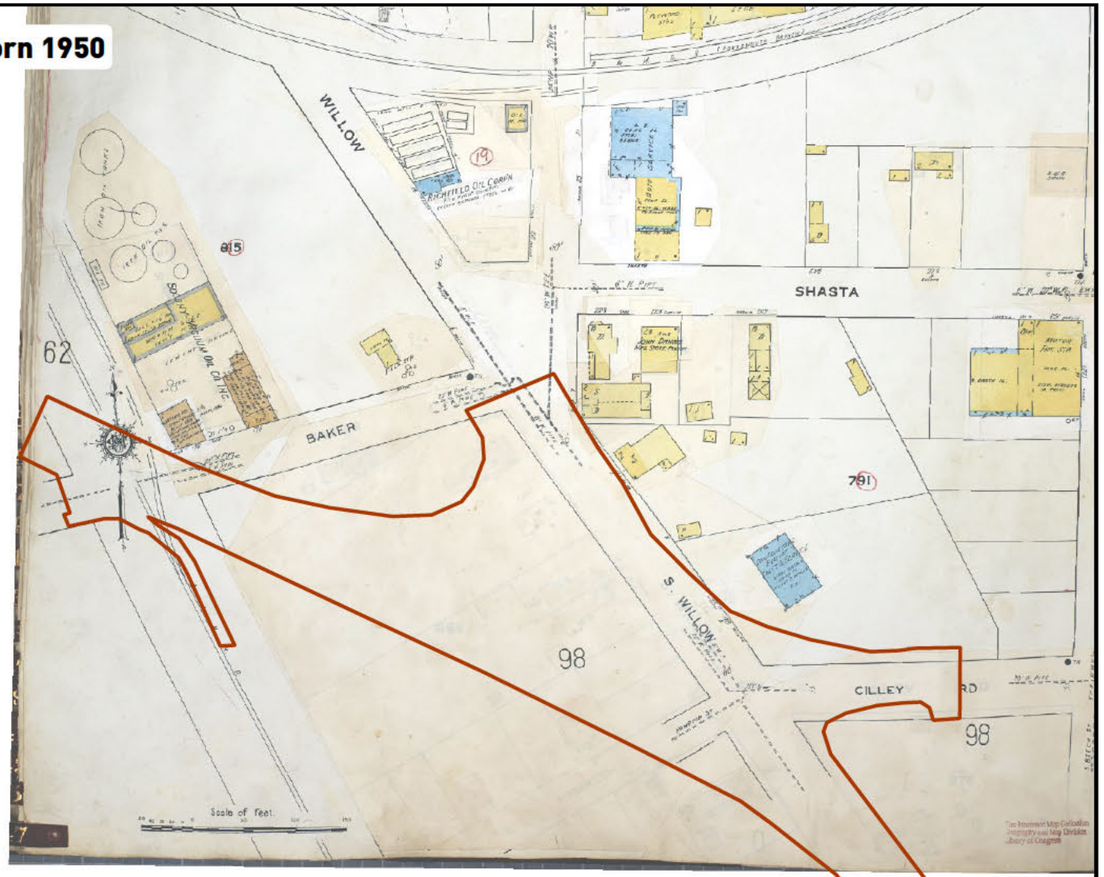

75 Feet

75 Feet

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Area of Potential Effects (APE)

Historical Maps - Area B

1915 1950

HARTGEN archeological associates inc

Map 3b

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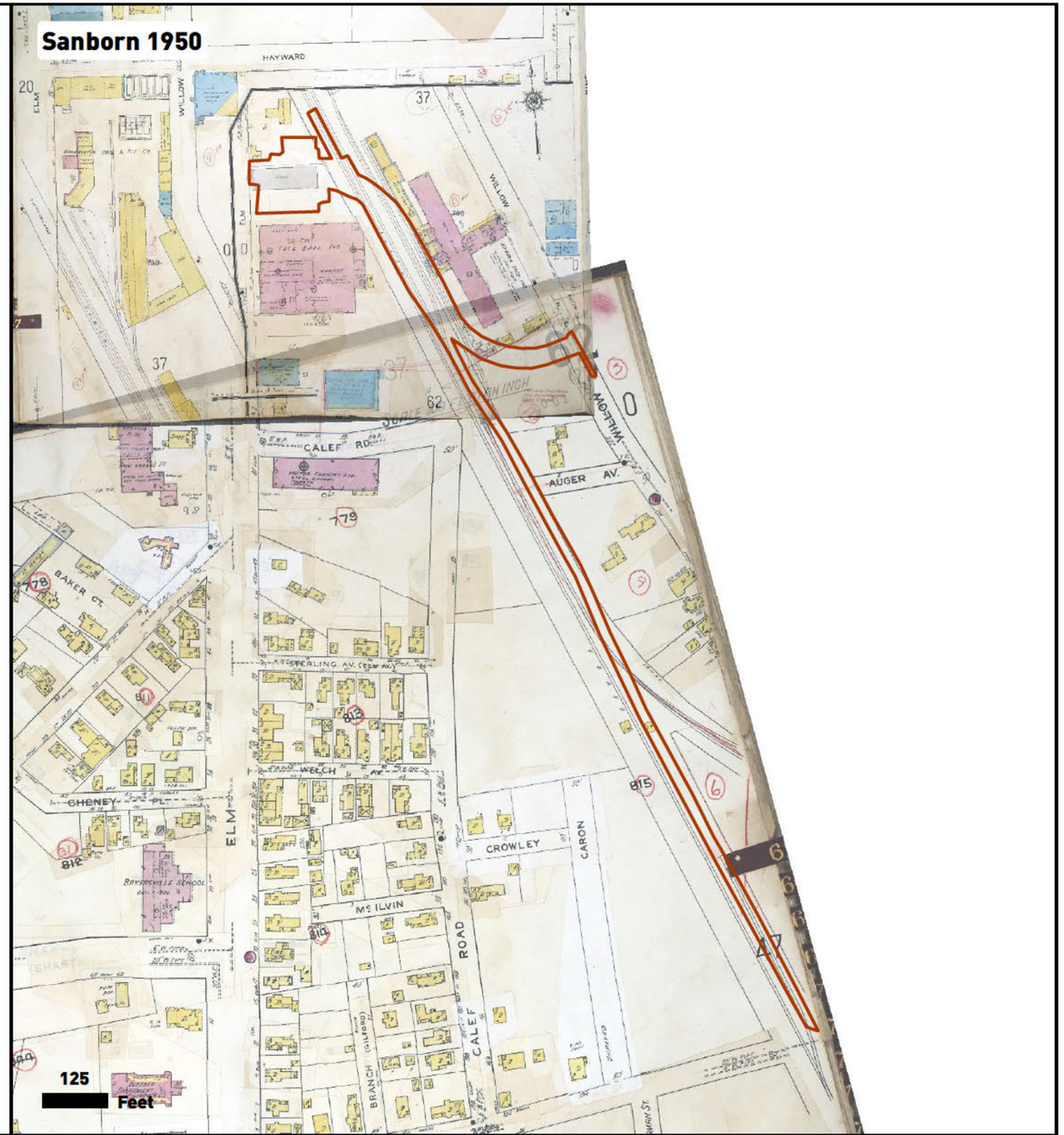

Legend

Area of Potential Effects (APE)

Historical Maps - Area C

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HARTGEN archeological associates inc

Map 3c

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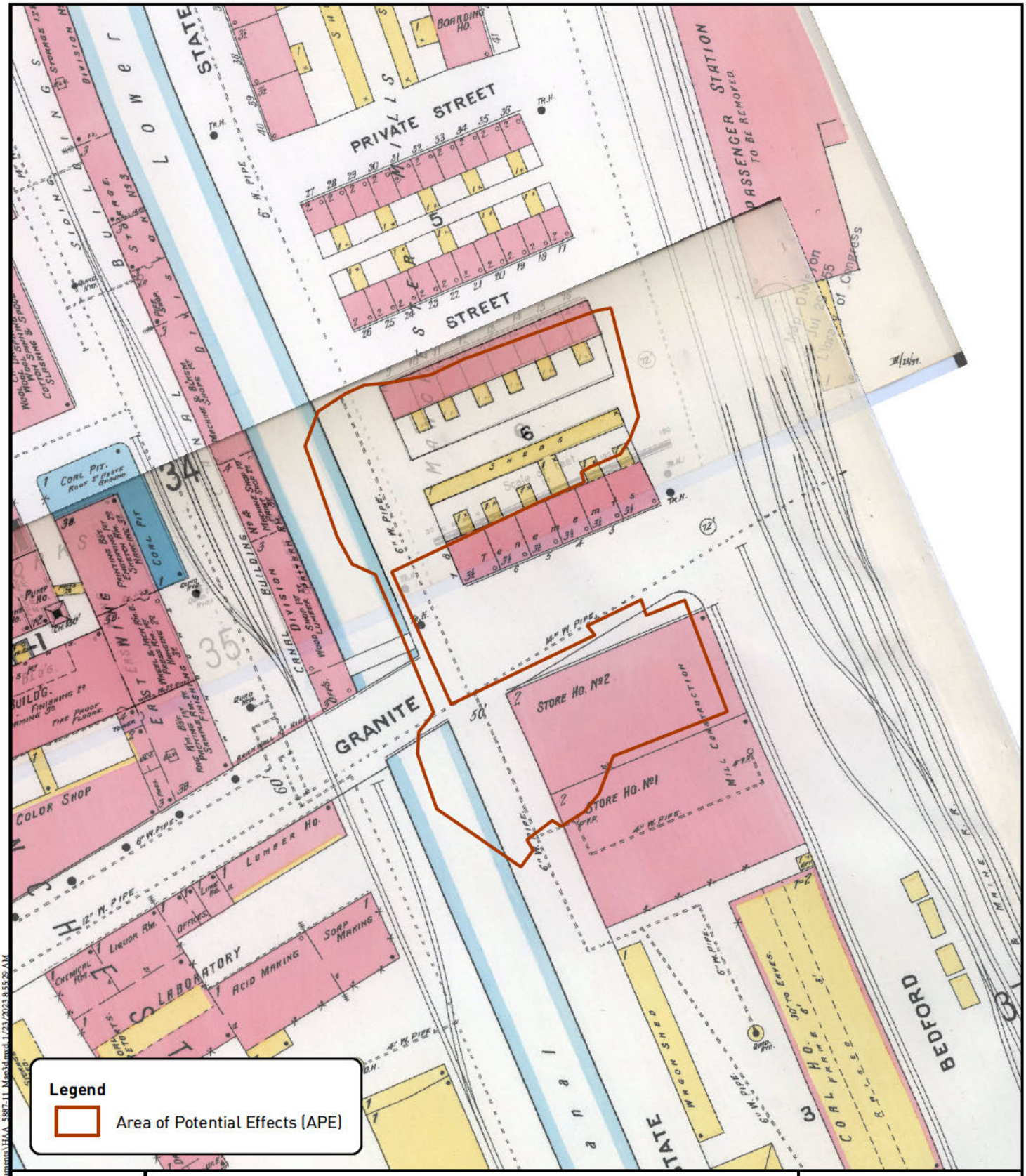

50 0 50 100 Feet

15 0 15 30 Meters

Historical Maps - Area D

Sanborn 1897

HARTGEN archeological associates inc

Map 3d

Figures

Figure 1. The Gateway Park historic lamp on its original pedestal. Photographer unknown. View facing northeast.

Photographs

Photo 1. Riverwalk Way in the Component A APE. Note the chain link fence (left) separating the railroad from the road and the multistory apartment building (right). View facing southwest.

Photo 2. The curved portion of Riverwalk Way. Note the landscaping with deciduous trees, utility box, and electric poles (upper left). Also note the slope of the ground on the shoulder compared to the road's level path, indicating that the landscape was graded to create the road. View facing southwest.

Photo 3. View of the Component A railroad section that separates Riverwalk Way and Gas Street. View facing southeast.

Photo 4. View the clearing connecting Gas Street to the railroad segment depicted in Photo 3. View facing northwest.

Photo 5. View of Gas Street. Note the large concrete retaining wall (left) which shows that a substantial area of the hillside was removed when Gas Street was built. View facing west-southwest.

Photo 6. View of the grass area adjacent to the area of Gas Street shown in Photo 5. Note the raised remnants of a railroad bed directly outside the chain link fence (middle right). A pipe and cobbles for drainage swale run underneath the road connecting to Gas Street. The westward extent could not be determined due to the inability to access the area. View facing west.

Photo 7. View of Queen City Avenue. Note the sidewalk and vehicle guardrail (center foreground), indicating likely disturbance beyond the road itself. Also, note the derelict railroad signal (left of electric pole, middle ground center right), a remnant of the Manchester and Lawrence Railroad that once bisected this area. Both ends of this railroad bed can be seen in Photos 8 and 13. View facing northeast.

Photo 8. View of part of the railroad bed remnants that bisected Queen City Avenue. Note the slope of the ground to the left of the white structure, indicating that the flat area immediately behind the building was likely altered to create a level grade for the Manchester and Lawrence Railroad. View facing southeast.

Photo 9. View of the center of the Queen City Avenue intersection. View facing northeast.

Photo 10. View of the southern area of the intersection. Note the streetlights on the grassy island (middle ground center), sidewalk, and chain link fence (right). View facing southeast.

Photo 11. View towards the northern area of the APE. Note the lack of a grass island in this area, indicating that the natural soil level may have been completely removed when the present intersection was constructed. View facing northwest.

Photo 12. View of the abandoned railroad bed running behind the Cohas Shoe Factory building (right). Note the slope of the ground on either side, indicating that the ground was lowered to create a level surface for the railbed. View facing northwest.

Photo 13. View of the southern area of the Component C APE. Note the billboard and cars along Queen City Avenue (Component B APE) in the background. This area of the Component B APE can be seen in Photos 7 and 8. Also note the wheel ruts and extensive refuse (foreground) reflecting more extensive use of this area compared to the APE section shown in Photo 12 which lacks as pronounced wheel ruts and extensive refuse. View facing southeast.

Photo 14. View of the railbed from the ground level of the Cohas Shoe Factory. Note the pronounced steep slopes down to the railbed. View facing northwest.

Photo 15. View of the access road connecting the rear of the Cohas Shoe Factory (Photo 14) to the adjacent parking lot. Historic maps indicate that smaller buildings associated with the factory may have been located in this general area. View facing southeast.

Photo 16. View of the Component D APE. Note the sidewalk which runs along the western and southern perimeter. Also note the park lamp (center-left middle ground in front of the school bus; lamp also shown in Photo 17). View facing south-southeast.

Photo 17. View of the southwest corner of the APE. Note the fire hydrant and utility box (foreground). Also note the lamp (center left) and brick tenement buildings to house workers at the Amoskeag Manufacturing Company. The lamp once lit the Queen City Bridge and was relocated to the park to commemorate the historic lighting styles of the city. View facing northwest.

Photo 18. Additional view of the southern APE area. Note the utility hole covers indicating some subsurface disturbance in the immediate area. Also note the repurposed Amoskeag Manufacturing Company building (top left) and tenement buildings (top right). View facing northwest.

Photo 19. The large concrete circle at the eastern end of the park. Note the walking path (covered by orange leaves/pine needles) that connects to the adjacent parking lot. Also, note the brick industrial building (background center left), which reflects how extensive the Amoskeag Manufacturing Company complex was. View facing west.

Photo 20. View of the southern portion of the Component D APE looking east along Granite Street. Note how the parking lot follows the slope of the adjacent road.

Photo 21. View of the southern area of Component D APE looking south along South Commercial Street. Note the low retaining wall (center) which indicates that the sidewalk and road are below the natural grade. View facing southeast.

Photo 22. View of the parking lot and central area of the southern section of the Component D APE. The large stone retaining wall indicates that the grassy area in the middle of the triangle was significantly lowered and graded from the terrain's natural slope. View facing northeast.