

**Phase IA Archeological Assessment
for the Susquehanna River Rail Bridge Project,
Harford and Cecil Counties, Maryland**



Prepared for:



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August 2014

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ABSTRACT

In March 2014, McCormick Taylor conducted a Phase IA archeological assessment on behalf of Amtrak in support of an Environmental Assessment for the proposed Susquehanna River Rail Bridge project. The existing Susquehanna River Bridge is located on Amtrak's Northeast Corridor at Milepost 60 between the City of Havre de Grace in Harford County, Maryland and the Town of Perryville in Cecil County, Maryland. The bridge itself is roughly 0.75 miles (1.2 kilometers) in length and is the longest bridge with a movable span on the Northeast Corridor.

The goal of this assessment was to evaluate the overall level of disturbance within the Area of Potential Effects (APE) as well as identify areas within the APE that have the potential to contain archeological resources. This goal was achieved through a two-fold process: 1) a thorough review of historical documentation to determine the types and locations of buildings, sites, and structures that were once present within the APE; and 2) a program of field observation and limited subsurface investigation to determine the integrity of soil deposits and evaluate whether conditions are sufficient for the potential preservation of cultural horizons. The APE for the project encompasses all of the various design alternatives for the project. The majority of the each design alternative lies within the existing disturbed Amtrak right-of-way (ROW). However, in proximity to the Susquehanna River shoreline, the width of the project APE expands outside of the current ROW to allow for the numerous design alternatives associated with the bridge rehabilitation or replacement. For the purposes of this study, the portions of the APE outside of the current ROW, were divided into five (5) discrete Study Areas. Within each of these Study Areas, a program of visual inspection and, where possible, a series of judgmentally placed soil probes were excavated in order to assess their potential to contain intact cultural deposits. These probes were conducted in order to provide a more detailed view of the condition and integrity of the stratigraphic deposits located within each Study Area.

Study Area 1, located along the athletic field complex for the Havre de Grace school system, demonstrated a heavily modified and disturbed soil profile. The encountered disturbance is associated with the reconfiguration of the natural landform for the construction of the school's ball fields. Because of this disturbance, there is little to no potential for this area to contain intact archeological deposits and no additional work is recommended.

Study Area 2 extends from North Juniata Street to North Union Avenue within the northern portion of downtown Havre de Grace. Although large portions of this area have been previously disturbed by construction activities associated with the Northeast Corridor, potentially undisturbed areas are present south of Warren Street and north of the existing rail line. Many of these areas are associated with the yard spaces of existing late nineteenth and early twentieth century houses. Phase IB survey is potentially recommended for these areas should they be impacted by the preferred alternative or any project-related activities.

Study Area 3, located on the Havre de Grace waterfront, is comprised of two city parks: Jean S. Roberts Memorial Park and David Craig Park. Based on a review of historic mapping, these areas appear to be human-constructed landforms, resulting from the placement of fill along the waterfront sometime during the mid- to late-nineteenth century. Though artificial, given the potential for these landforms to contain cultural deposits associated with waterfront-related

commercial or industrial enterprises as well as structural remnants from the nineteenth century rail line which preceded the existing Northeast Corridor, Phase IB archeological survey is recommended for Study Area 3 should it be impacted by the preferred alternative or any project-related activities.

Study Area 4 is located along the waterfront on the Perryville side of the Susquehanna River. While large portions of this area have either been disturbed through various past construction efforts or have been previously subjected to archeological survey, sections of the Study Area 4 have the potential to contain intact cultural deposits. South of the railway corridor Phase IB survey is recommended within the strip of land between the electrical substation and the Susquehanna River shoreline, in which a remnant of the earlier nineteenth century bridge abutment is present should it be impacted by the preferred alternative or any project-related activities. North of the railway corridor, Phase IB survey is recommended in the vicinity of the extant Rodgers Tavern and associated Site 18CE15, should they be impacted by the preferred alternative or any project-related activities.

Study Area 5 contains the northern extremity of the Perry Point VA Medical Center and areas surrounding the Perryville Maryland Area Regional Commuter station, located just to the north of the existing Amtrak rail corridor at its intersection with the Norfolk Southern Port Road spur line. As with the previous study area, large sections of Study Area 5 have been previously disturbed through various past construction efforts or subjected to archeological survey. Outside of these sections, Phase IB survey is recommended for the yard areas associated with a group of single and multi-family residences that line the southern edge of Broad Street in Perryville should they be impacted by the preferred alternative or any project-related activities.

Finally, previous underwater remote sensing efforts in the lower Susquehanna River have identified multiple anomalies within the current project APE. These include Maryland Historical Trust's Havre de Grace Quad Files #2, #3, #7, #10, #18 and #19. If any of these resources are impacted by the proposed project, additional underwater archeological investigations are recommended in order to determine their condition, historic integrity, and significance, as well as their eligibility for the National Register of Historic Places. Additionally, depending on the selected preferred alternative, Maryland Historical Trust's Havre de Grace Quad Files #9 and 11, historic coal wharfs, and archeological site 18HA266, identified as the wreckage of a twentieth century barge, should also be resurveyed. Due to the proximity of these resources to the APE, their locations should be confirmed.

All recommended Phase IB survey efforts should be conducted in accordance with the Maryland Historical Trust's established standards and guidelines for archeological investigations. These survey efforts should include, at minimum, a plan for the systematic shovel testing of all areas not shown to have been previously disturbed and in which proposed ground disturbance will occur. In addition, if determined necessary, due to either the specifications of the project or as a result of the data gathered during the shovel testing program, provisions should be made for the placement of a series of backhoe trenches in order to evaluate the potential for deeply buried cultural deposits.

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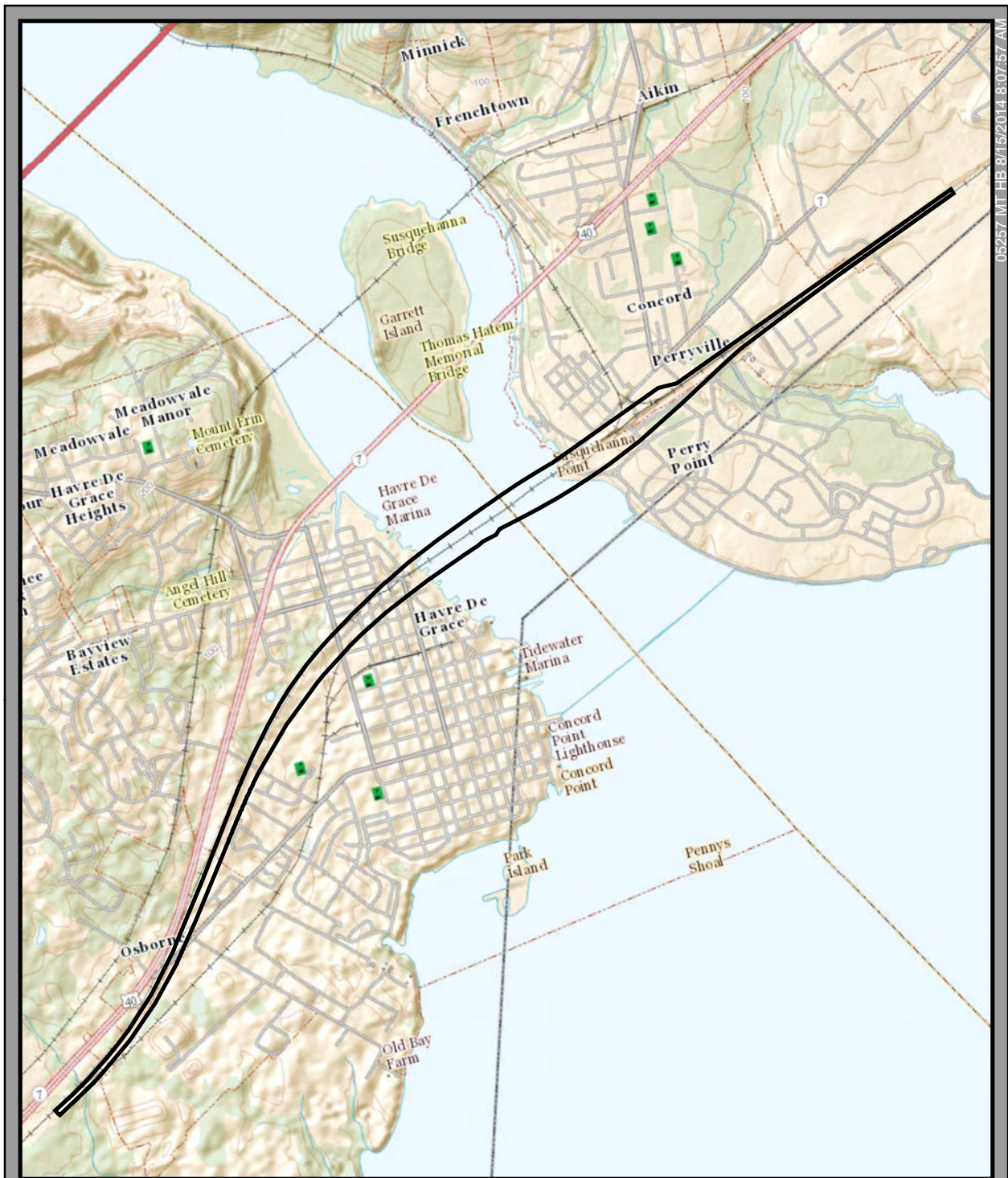
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1.0 INTRODUCTION

In March 2014, McCormick Taylor conducted a Phase IA archeological assessment on behalf of Amtrak in support of an Environmental Assessment (EA) for the proposed Susquehanna River Rail Bridge project. The existing Susquehanna River Bridge is located on Amtrak's Northeast Corridor (NEC) at Milepost 60 between the City of Havre de Grace in Harford County, Maryland and the Town of Perryville in Cecil County, Maryland (*Figure 1*). The bridge itself is roughly 0.75 miles (1.2 kilometers) in length and is the longest bridge with a movable span on the NEC.


Currently, the two-track bridge is speed-restricted and creates a bottleneck along this segment of the NEC, resulting in conflicts between Amtrak's passenger service, Maryland Area Regional Commuter (MARC) trains, and freight trains operated by Norfolk Southern Railway (NS). It also poses a capacity constraint on planned increases in service frequency. The existing bridge allows for a 54-foot under-clearance for marine traffic. For taller marine vessels, the swing span must be opened, which disrupts rail operations. The advanced age of the bridge and its structural condition limit speeds on the bridge and conflict with Amtrak's goal to provide high-speed passenger rail service on the NEC. The bridge's obsolete design and age require major rehabilitation and repairs and has, thus far, resulted in increasing maintenance costs. The need remains for continuous electrified rail operations and vertical clearance for marine traffic. For this project, the Maryland Department of Transportation (MDOT) and Amtrak are developing a series of alternatives, including modification and/or replacement of the existing bridge along with the construction of a new high-level two-track bridge parallel to the existing bridge.

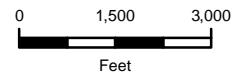
Given the Federal funding stream for this project, the Federal Railroad Administration (FRA) must comply with the Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations at 36 CFR Part 800. Section 106 states that all Federal agencies must take into account the effects of their undertakings on historic properties. In order to assist the FRA in its Section 106 responsibilities, McCormick Taylor proposed a two-fold scope of work. The first goal was to collect background data relevant to the environmental setting, historic development, and cultural history of the project area. Second, this data was then utilized to assess the potential of the project Area of Potential Effects (APE) to contain archeological sites or intact cultural horizons. In order to confirm these assumptions, the background research was supplemented by a comprehensive visual inspection of the APE. While this level of investigation does not satisfy the need to identify and evaluate archeological resources that lie within the project APE, this document may be used as a planning tool to guide subsequent archeological identification efforts.



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Figure 1
Archeological Area of Potential Effects
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

 Archeological Area of Potential Effects



Source: USGS, The National Map, 2013

1.1 Project Area of Potential Effects and Survey Limits

Pursuant to Federal regulations for the “Protection of Historic Properties, 36CFR Part 800.16(d), the project’s APE is defined as the “geographical area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” According to current plans, the project encompasses approximately a 6-mile (9.6-kilometer) long corridor extending from the “Oak” Interlocking at Milepost 63.5 in Havre de Grace to the “Prince” Interlocking at Milepost 57.3 in Perryville. By definition, the archeological, or direct, effects APE for a project is typically confined to a given area where ground disturbing activities will most likely occur. This area includes not only the construction footprint for the facility to be built but also any associated temporary use areas such as access roads or equipment storage lots. The APE for the Susquehanna Bridge project includes 178.9 acres (72.39 hectares). Although the entire project corridor measures approximately 6 miles (9.6 kilometers), an estimated 3.63 miles (5.84 kilometers) is located within existing, disturbed Amtrak right-of-way (ROW) (**Figure 1**). These areas are predominantly confined to the eastern and western extremities of the project corridor. As the corridor proceeds from Havre de Grace in an east-northeasterly direction towards the river, and ultimately crosses to the Perryville shore, the width of the project APE expands to allow for the numerous design alternatives associated with the bridge rehabilitation or replacement. As depicted in **Figure 1**, this widened corridor extends for a distance of approximately 2.37 miles (3.81 kilometers). On the Havre de Grace side of the project, the archeological APE begins to deviate from existing Amtrak ROW approximately 4,166 feet (1,270 meters) from the Susquehanna River shoreline. On the Perryville side of the project, the widened APE returns to existing Amtrak ROW approximately 4,661 feet (1,420 meters) from the eastern shore of the river. This widened APE footprint encompasses approximately 89.2 acres (36 hectares) of land on both sides of the river and includes all of the various design alternatives for the project. These 89.2 acres (36 hectares), located outside of the disturbed Amtrak ROW are where McCormick Taylor focused the majority of their fieldwork and background research efforts for this assessment.

1.2 Purpose of Report

This reconnaissance survey, with broad consideration of the entirety of the project’s APE, is designed to document existing conditions, including gathering information regarding the location of intact soils and potential locations of intact cultural deposits within or in close proximity to the various design alternatives proposed at this early stage of the project. This archeological report contains archival and field research appropriate to the general complexity of the APE and its resources. It is specifically designed to provide a general impression of the project APE’s potential to contain archeological properties as well as provide general information regarding the type and location of sites that may be found within the Amtrak project corridor.

During this project, the results of limited field reconnaissance, background research, and Geographical Information Systems (GIS) data analysis was utilized to provide the client with a current state of knowledge regarding the types and temporal affiliations of archeological resources that have been previously recorded within the project corridor, as well as identify those portions of the study area that have the potential to contain as yet undocumented resources.

The research design for this archeological assessment was informed by the following sets of data:

- Primary and secondary historical data: This data set included primary sources, such as historical maps and photographs, as well as written records, such as city directories. Secondary source data included city histories, previous cultural resources reports, and the database of previously identified archeological sites on file with the Maryland Historical Trust (MHT).
- GIS/Map Analysis: For the purposes of the project, historical maps and aerial photographs of Havre de Grace and Perryville were digitized and geo-referenced. Placement of the current project APE over the historic mapping provided a visual representation of how the APE has developed through time. These maps included the historical United States Geological Survey (USGS) quadrangle maps, current and historical aerial photographs, and Sanborn fire insurance maps spanning the years 1886 to 1930. In concert with the project design template, each of these map layers was carefully reviewed to determine areas where the current project had the potential to intersect with a formerly extant historical period residential neighborhood, commercial area, or industrial site. These maps were also utilized to verify disturbance within the current Amtrak ROW.
- Existing Conditions Assessment/Field Investigations: Following the mapping analysis, the APE was subjected to pedestrian reconnaissance by an archeologist in order to document the existing conditions. Where possible, walkover survey was conducted with the archeologist making observations regarding the existing ground surface conditions within the area, changes in topography, or evidence of prior disturbance. Photographs of the current environment were also taken to supplement the written observations.

1.3 Regulatory Background and Project Staffing

All investigations summarized within this report were conducted in compliance with applicable state and Federal guidelines by individuals meeting the Secretary of Interior's Professional Qualification Standards for archeology or history (36 CFR Part 61). State and Federal mandates that apply to the project include: the U.S. Department of Transportation Act of 1966; the National Historic Preservation Act of 1966 as amended, and its implementing regulations, 36 CFR § 800; the National Environmental Policy Act of 1969; the Archeological and Historic Preservation Act of 1974; Executive Order 11593; the Secretary of the Interior's *Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines* (48 FR 44716-44742); the Maryland Historical Trust Act of 1985 as amended; and the Maryland Historical Trust's *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994).

Since formal archeological investigations have not yet taken place within the APE, this report is intended to serve as an initial step in the survey process and a means to gather together the current state of knowledge regarding archeological resources both within and in the immediate

vicinity of the project corridor. This information will help to inform the level of effort and work plan for future archeological fieldwork as the project progresses.

The field investigations for this project were conducted during the week of February 17, 2014 by Macon Coleman. Brad McDonald, MA served as the Principal Investigator, primary report author, and oversaw the general direction of the project. Mr. McDonald and Laura Meadows, MA completed the historic background research phase of the project. Ms. Meadows authored the historic context section of this report. Technical review and revisions were provided by Allison Brewer, MA. Technical assistance was provided by Steven Barry, MA, RPA. Graphics were produced by Joe Knieriem and John Watson.

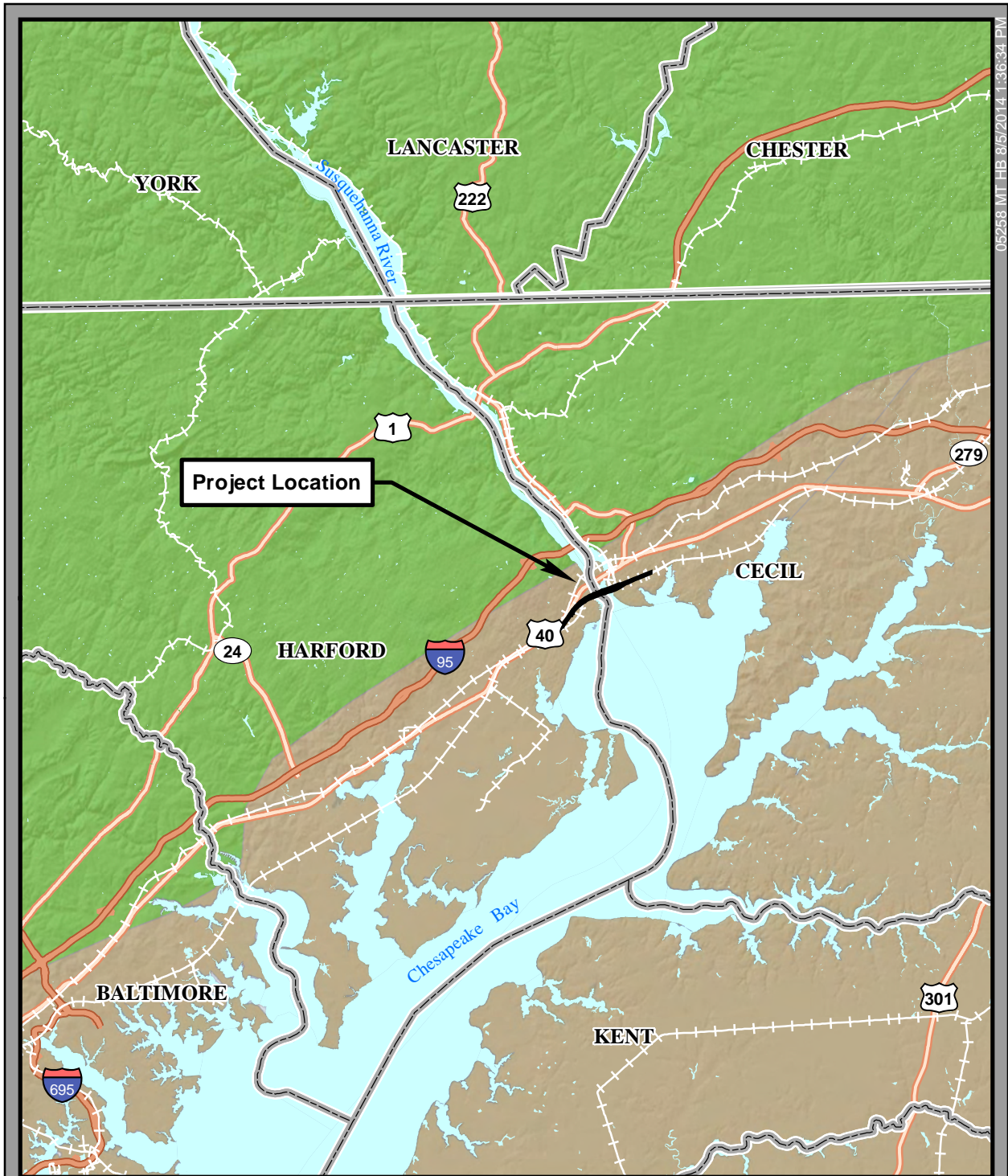
2.0 PHYSICAL DESCRIPTION AND ENVIRONMENTAL SETTING

All human societies are linked to the natural environment in an ecological relationship. This relationship entails the uses of organic and inorganic resources that are present in the natural environment, and the cultural strategies that people employ to procure and process those resources. Factors such as climate, vegetation, soils, geomorphological setting, and lithic resources limit the options for the types of settlement, subsistence, and technological patterns that may evolve. These factors may be viewed from a regional perspective as they affect broader patterns of cultural behavior; on a local level they affect considerations such as site selection and subsequent preservation.

The Susquehanna River Bridge APE is located on the northwestern boundary of the Western Shore of the Coastal Plain physiographic province in Maryland (*Figure 2*). Additionally, the APE falls within Maryland Archeological Research Unit 6: Sassafras-Elk-Northeast-Bush-Susquehanna Drainages (*Figure 3*).

2.1 Geological Setting

Bounded by the Atlantic Ocean to the east and foothills of the Appalachian Mountains that define the Piedmont physiographic province to the west, the Coastal Plain encompasses both the Eastern and Western Shores of Maryland's Chesapeake Bay. The landscape therein is characterized by a low topographic relief that ranges from gently rolling to nearly level sandy plains. Numerous interior tidal freshwater swamps that drain into saltwater marshes toward the shoreline are also present throughout the Coastal Plain. Waterways tend to be low energy and in general, drainage in the Coastal Plain is relatively poor. Soils of the Coastal Plain consist of fine sands and loams that are underlain by unconsolidated deposits of quaternary, tertiary, and cretaceous silts, sands, clays, and marls (<http://www.mgs.md.gov/>; Widmer 1964). Silty to sandy soils interspersed with large surface deposits of cobbles and gravels are common throughout the province. Although loam, clay, and marl deposits can also be found throughout the Coastal Plain, these deposits tend to be found toward more interior portions of the physiographic province. Consequently, the more inland portions of Maryland's Coastal Plain tend to more fertile. Maryland's Coastal Plain is part of a larger physiographic province, which is divided into various sections. In its entirety, the Coastal Plain spans much of the eastern seaboard of the United States.



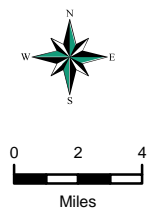
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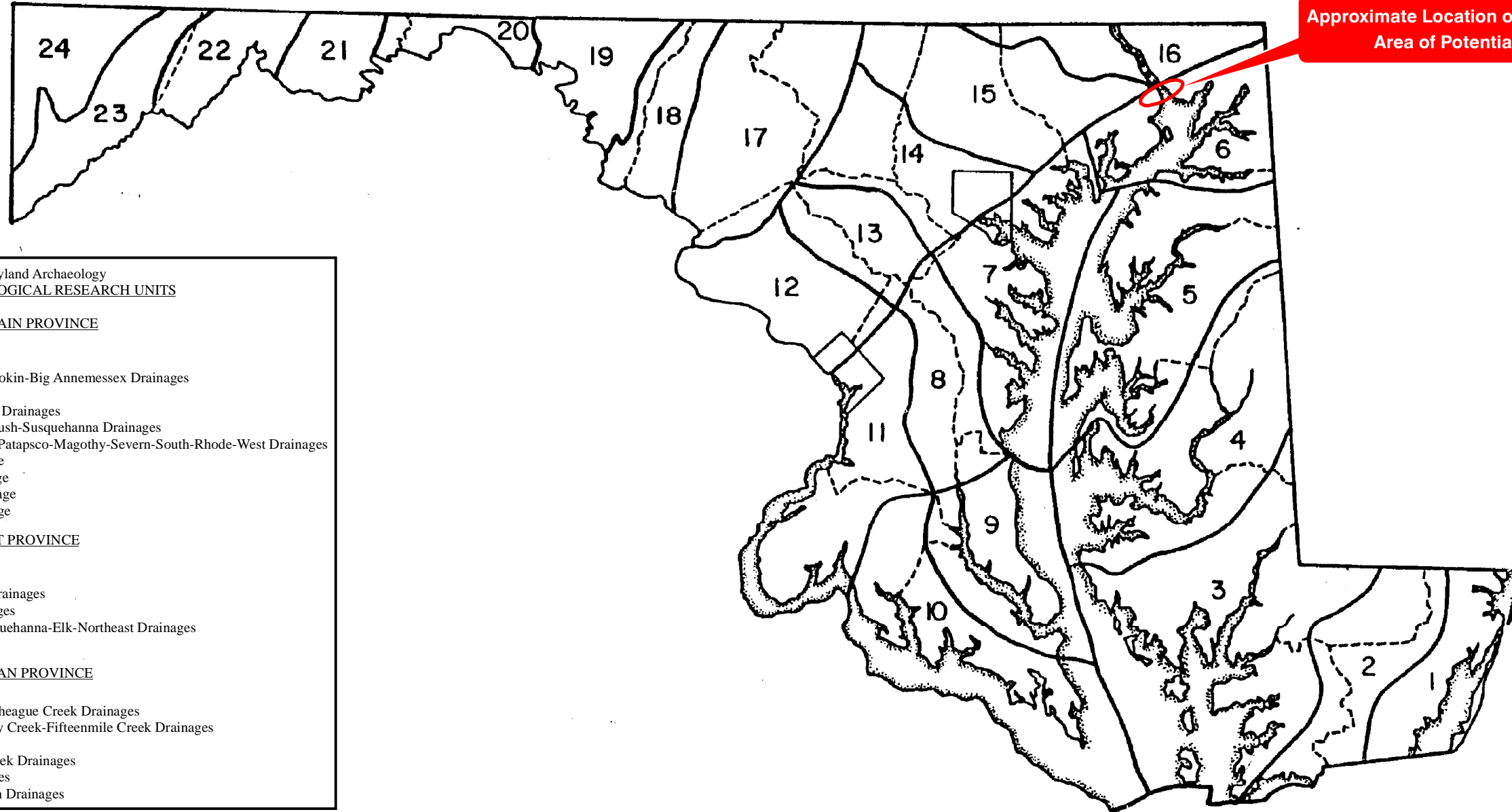
Figure 2
Physiographic Province Map

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

- Archaeological Area of Potential Effects
- Coastal Plain Province
- Piedmont Province

Source: USGS, 2005





- Council for Maryland Archaeology
 MARYLAND ARCHAEOLOGICAL RESEARCH UNITS
- COASTAL PLAIN PROVINCE
- Unit 1 - Atlantic Drainage
 - Unit 2 - Pocomoke Drainage
 - Unit 3 - Nanticoke-Wicomico-Manokin-Big Annemessex Drainages
 - Unit 4 - Choptank Drainage
 - Unit 5 - Chester River-Eastern Bay Drainages
 - Unit 6 - Sassafras-Elk-Northeast-Bush-Susquehanna Drainages
 - Unit 7 - Gunpowder-Middle-Back-Patapsco-Magothy-Severn-South-Rhode-West Drainages
 - Unit 8 - Riverine Patuxent Drainage
 - Unit 9 - Estuarine Patuxent Drainage
 - Unit 10 - Estuarine Potomac Drainage
 - Unit 11 - Riverine Potomac Drainage
- PIEDMONT PROVINCE
- Unit 12 - Potomac Drainage
 - Unit 13 - Patuxent Drainage
 - Unit 14 - Patapsco-Back-Middle Drainages
 - Unit 15 - Gunpowder-Bush Drainages
 - Unit 16 - Piedmont Province | Susquehanna-Elk-Northeast Drainages
 - Unit 17 - Monocacy Drainage
- APPALACHIAN PROVINCE
- Unit 18 - Catocin Creek Drainage
 - Unit 19 - Antietam Creek-Conococheague Creek Drainages
 - Unit 20 - Licking Creek-Tonoloway Creek-Fifteenmile Creek Drainages
 - Unit 21 - Town Creek Drainage
 - Unit 22 - Evitts Creek-Georges Creek Drainages
 - Unit 23 - Potomac-Savage Drainages
 - Unit 24 - Youghiogheny-Casselman Drainages

Unit 6 - Sassafras-Elk-Northeast-Bush-Susquehanna Drainages

Not to Scale

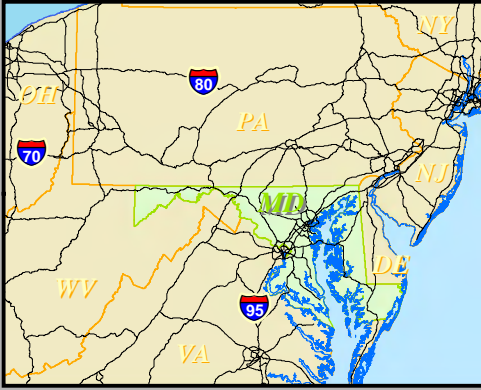


Figure 3
 Maryland Archeological Research Units
 Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland
 Source: Maryland Historic Trust

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2.2 General Soil Description

According to soil surveys conducted by the United States Department of Agriculture Natural Resources Conservation Service (<http://websoilsurvey.nrcs.usda.gov>) for Harford and Cecil County, Maryland, there are ten soil mapping units within the archeological APE. Descriptions and locations of the soil series/mapping units are provided in **Table 1** as well as **Figure 4**.

2.3 Project Setting

The archeological APE for the Susquehanna River Bridge project begins in Havre de Grace, a city situated on the western bank of the Susquehanna River at the mouth of the Chesapeake Bay. On the Havre de Grace side of the river, the APE is characterized by the various residential, commercial, and community development associated with this small city of approximately 13,000 people. The archeological APE begins approximately 4,000 feet west of the intersection of the existing rail corridor with Revolution Street (MD 7) in Havre de Grace. From the western terminus of the APE to Lewis Lane, the APE is confined within the existing Amtrak ROW. East of Lewis Lane, the APE extends outside of the Amtrak ROW to allow for the proposed design alternatives. The proposed design alternatives are located along the south side of the current alignment of the rail corridor.

From Lewis Lane to Juniata Street, a distance of approximately 2,900 feet (884 meters), the project APE is characterized by a series of athletic fields which are shared between the Havre de Grace middle school and high school complexes. Proceeding eastward from Juniata Street, the project APE is characterized by the mixed commercial and residential neighborhoods of downtown Havre de Grace. These areas are mostly comprised of wooded lots with manicured lawns along two-lane paved streets. Within this area of the project, the existing rail corridor is elevated above the surrounding neighborhoods. Specifically, north of Warren Street, which parallels the rail corridor, the elevated line is supported by a series of large earthen berms. The portion of the APE immediately adjacent to the Havre de Grace waterfront is characterized by open, grassy areas with several small marinas. Elevations within the Havre de Grace portion of the APE range between sea level and 40 feet (12 meters) above mean sea level (AMSL).

Along the Perryville shore, the archeological APE has been modified by human activity; however, the eastern shore of the Susquehanna is not as intensely developed as the western shore, within the area of Havre de Grace. The majority of the development along the eastern shore is confined to the village of Perryville, which is located to the north of the existing rail line. The area south of the railroad corridor is primarily characterized by property associated with the Perry Point Veteran's Administration (VA) Medical Center. While the main complex of hospital buildings is located well to the south of the rail corridor, a series of associated single family homes and recreational facilities is located closer to the rail line.

As on the Havre de Grace side of the project area, the archeological APE on the Perryville side is expanded to the south of the existing corridor in order to accommodate the numerous proposed design alternatives. Extending eastward from the Susquehanna River, the project APE is predominantly characterized by open grassy areas interspersed with wooded lots. Major

improvements within the Perryville side of the APE include an electrical substation which is located just to the north of Avenue A and First Street. Further east, near the eastern terminus of the expanded archeological APE is the Perryville wastewater treatment plant. Elevations within the Perryville portion of the APE range between sea level and 40 feet (12 meters) above mean sea level (AMSL).

Table 1. Soils within the Area of Potential Effects

Map Symbol	Mapping Unit	Soil Series Description
<i>Cecil County (Perryville)</i>		
AqB	Aquasco silt loam, 2 to 5 percent slopes	Soils of the Aquasco series are deep and somewhat poorly drained. They are typically found in inter-riverine settings and formed from silty eolian deposits over loamy fluviomarine deposits. These soils are considered farmland of statewide importance.
BuA	Butlertown silt loam, 0 to 2 percent slopes	Soils of the Butlertown series are deep and moderately well-drained. They are typically found on inter-stream divides and formed from silty eolian deposits over fluviomarine sediments. These soils are considered prime farmland.
BuB	Butlertown silt loam, 2 to 5 percent slopes	Soils of the Butlertown series are deep and moderately well-drained. They are typically found on inter-stream divides and formed from silty eolian deposits over fluviomarine sediments. These soils are considered prime farmland.
BuC	Butlertown silt loam, 5 to 10 percent slopes	Soils of the Butlertown series are deep and moderately well-drained. They are typically found on inter-stream divides and formed from silty eolian deposits over fluviomarine sediments. These soils are considered farmland of statewide importance.
MuB	Mattapex-Urban land complex, 0 to 5 percent slopes	Soils of the Mattapex-Urban land series are deep and well-drained. They are typically found on low hills and knolls and formed from silty eolian deposits over fluviomarine deposits. These soils are considered not suitable for agriculture.
Up	Urban land	These lands consist of areas that have been previously developed and modified for residential, commercial, or industrial purposes.

Map Symbol	Mapping Unit	Soil Series Description
<i>Harford County (Havre de Grace)</i>		
BeA	Beltsville silt loam, 0 to 2 percent slopes	Soils of the Beltsville series are deep and moderately well-drained. They are typically found on broad inter-stream divides and formed from silty eolian deposits over loamy fluviomarine deposits. These soils are considered farmland of statewide importance.
Cx	Cut and fill land	These lands consist of areas that have been previously developed and modified for residential, commercial, or industrial purposes.
MkB	Matapeake silt loam, 2 to 5 percent slopes	Soils of the Matapeake series are deep and well-drained. They are typically found on low hills and knolls and formed from silty eolian deposits over fluviomarine deposits. These soils are considered prime farmland.
MIA	Mattapex silt loam, 0 to 2 percent slopes	Soils of the Mattapex series are very deep and moderately well- drained. They are typically found in inter-riverine settings and formed from silty eolian deposits over loamy fluviomarine deposits. These soils are considered prime farmland.

3.0 HISTORIC CONTEXT

The following discussion serves as a synthesis of various sources regarding the known prehistory and history of the project area vicinity. This information provides a framework within which data gathered from the Phase IA investigations may be interpreted, placing it within a larger, regional context. Importantly, what follows conforms to the United States Department of the Interior's (USDI) Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines, as well as the Maryland Historical Trust's *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994).

The prehistory of the Middle Atlantic region is divided into three distinct time periods; the Paleo-Indian Period (ca. 12,000 B.C. - 8,000 B.C.), the Archaic Period (ca. 8,000 B.C. – 1000 B.C.), and the Woodland Period (ca. 1000 B.C. - A.D. 1600). Similarities and differences regarding subsistence strategies, settlement patterns, paleoenvironments, and technologies serve as criteria for defining these time periods.

In consideration of these criteria, Early, Middle, and Late sub-periods have frequently been identified within the Archaic and Woodland Periods. Often these sub-periods serve as a basis for better understanding the gradual transition from one time period into another. The following discussion of the regional prehistory of Maryland and its Eastern Shore represents a summary based on current pre-contact archeological research, as well as regional and statewide-established pre-contact research contexts, specifically Custer (1983, 1986, 1989, 1994); Dent (1995); Beckermann (1993); Steponaitis (1983); Wanser (1982); Davidson (1981), and Pogue and Smolek (1985).

While it is important to note that the transition from one time period to another is a gradual process and often varies from one environmental setting to another, the regional prehistory of Maryland is divided into four specific time spans; the Paleo-Indian/Early Archaic Period (ca. 12,000 B.C. - 6,500 B.C.), the Middle Archaic Period (ca. 6,500 B.C. - 3000 B.C.), the Late Archaic/Early-Middle Woodland Period (ca. 3000 B.C. - A.D. 1000), and the Late Woodland Period (ca. A.D. 1000 - A. D. 1650). A fifth time period, the Initial European Contact and Settlement Period (A.D. 1600 - A.D. 1645), which focuses on the interaction of Native American Indian populations with arriving European groups, will also be presented in this discussion because it marks the beginning of the decline of pre-contact lifeways in the Middle Atlantic Region. The Initial European Contact and Settlement Period coincides with the beginning of the historic context known as the Contact and Settlement Period (A.D. 1608 - A.D. 1770).

3.1 Paleo-Indian Period/Early Archaic Period (ca. 12,000 B.C. - 8,000 B.C.)/(ca. 8,500 B.C. -6,500 B.C.)

The Paleo-Indian Period begins at the end of the Pleistocene, and ends with the onset of the Holocene. This transition between the Pleistocene and Holocene is marked by a change from cold glacial conditions to alternating wet and dry climates. The adaptations made by human populations to these fluctuating conditions characterize the Paleo-Indian Period. These populations practiced a hunter-gatherer subsistence with animal resources comprising much of their diet. Several cold-weather faunal species such as the now-extinct mastodon, the since-

migrated moose, as well as smaller, still present species, such as white-tailed deer, were supported by the various deciduous, boreal, and grassland environments which were once found throughout the Middle Atlantic region (Custer 1983, 1989; Marshall 1982).

Overall, throughout the time span of the Paleo-Indian/Early Archaic Period, settlement patterns remained relatively constant. Nomadic groups comprised of multiple or single family bands that focused on attractive hunting locales, such as watering holes, have been hypothesized (Custer 1983, 1986, 1989, 1996). Throughout the Middle Atlantic region, identified Paleo-Indian and Early Archaic site types have included quarry sites, hunting sites, base camps, as well as various associated support sites (Custer 1983, 1986, 1989, 1996).

Paleo-Indian tool kits reflect an emphasis on the procurement and processing of animal resources. Preferences for high quality lithic materials, such as chert and jasper, are apparent in lithic artifact assemblages recovered from Paleo-Indian sites. In addition, stone tools in these artifact assemblages show evidence of great care in stone tool maintenance and resharpening. One of the most distinctive artifacts associated with the Paleo-Indian Period is the fluted point, characterized by a channel which is removed from the center of the base to the center, or distal end, of the point.

One of the best known Paleo-Indian sites in the Chesapeake region is the Williamson Site, which is located on the western edge of Virginia's inner Coastal Plain in Dinwiddie County. Since its discovery in 1949, the Williamson Site has been subjected to extensive research (McCary 1983; Callahan 1979; McAvoy 1992). In addition to debitage, the site has yielded 175 fluted bifaces as well as assorted scrapers, spokeshaves, preforms, drills, graters, perforators, wedges, denticulates, beaks, hammerstones, and anvils (Callahan 1979; McCary 1983; Dent 1995). The majority of the knapped artifacts are made from Cattail Creek Chalcedony (a chert), a locally available material. Based on the excavation results, it is believed that the site was subjected to recurrent use throughout the Paleo-Indian Period (Dent 1995).

Although fluted points have been recovered throughout Maryland, unfortunately, many of these artifacts tend to represent isolated surface finds (Steponaitis 1983; Dent 1995). Nonetheless, two archeological sites in Maryland's Coastal Plain, the Paw Paw Cove Site and the Higgins Site, provide insight on the Paleo-Indian Period of this portion of Maryland, as well the state as a whole.

The Paw Paw Cove Site Complex is located on the eastern shore of Maryland in Talbot County. The complex consists of three main find spots (18TA211, 18TA212, and 18TA213) along a 500-meter stretch of the Chesapeake Bay shoreline. Once situated in an upland-type setting at the headwaters of two small tributaries, the site complex currently lies at the edge of the Chesapeake Bay due to severe erosion (Lowery 1989, 1990). Although most of the artifacts recovered from the Paw Paw Cove Site Complex were recovered from eroded and surface contexts along the shoreline, recent excavations have revealed that more interior portions of the complex, away from the strand line, still contain intact buried deposits (Lowery 1989, 1990).

Located in the Inner Coastal Plain on the Western Shore in Anne Arundel County, the multicomponent Higgins Site (18AN489) encompasses an upland promontory that rises above

two small drainages. Excavations at the Higgins Site have resulted in the identification of intact Paleo-Indian archeological deposits. Artifacts recovered from these deposits include several fluted (Clovis) point fragments, various flake tools, and debitage. It has been concluded that during the Paleo-Indian Period, the Higgins Site served as a small, short-term campsite at which game was processed (Ebright 1994).

A third site, the Pierpoint Site also promises to contribute insightful information on Maryland's Paleo-Indian Period. Excavations and surface collection at this site, located at the confluence of the Potomac River and Seneca Creek, have yielded several fluted points. Currently, comprehensive analysis of the site is ongoing (Dent 1995). Despite the limited data regarding the extent of Paleo-Indian habitation in Maryland, fluted points found throughout the state do indeed indicate use of the region during this early time period (Steponaitis 1983; Custer 1983; Davidson 1981). Archeological research of the Paleo-Indian Period in the Middle Atlantic region has suggested various operational site types of the Paleo-Indian Period. Hypothesized site types range from small hunting camps to large sites associated with lithic material procurement activities (Custer 1983, 1989; Dent 1995; Marshall 1982; Bonfiglio and Cresson 1982).

For the most part, as is apparent by the coincidence of Paleo-Indian and Early Archaic occupations at various sites, Early Archaic sites seem to occur in similar environmental settings and exhibit many characteristics attributed to known Paleo-Indian Period sites (Watson and Custer 1990; Dent 1995). While similarities in the overall tool assemblages are apparent, Early Archaic point assemblages are marked by the introduction of side- and corner-notched projectile points. Regionally, the Early Archaic Period may represent minor adaptive shifts responsive to the rising emergence of Holocene environments toward the end of the Paleo-Indian/Early Archaic Period.

Aside from small occupations at some of the larger multi-component sites, such as the Higgins Site (18AN489), few Early Archaic Period occupations in Maryland have been subjected to thorough investigation.

One of the more studied Early Archaic sites of Maryland is the Crane Point Site (18TA221) in nearby Talbot County (Lowery and Custer 1990). Located on a small point that juts out into the Chesapeake Bay just east of the mouth of a small stream, the site contains several Late Paleo-Indian/Early Archaic occupations. Studies suggest that at the time of its use, the site fell within a more interior, upland knoll-type setting that was flanked with assorted freshwater wetlands. Systematic surface collection along the Crane Point beach line, and test excavations at the site have yielded over 500 lithic artifacts. In addition to debitage, these artifacts include various projectile points, bifaces, cores, as well as flake and ground stone tools. Flake tools from the site include a diversity of scrapers, slug-shaped unifaces, graters, denticulates, and wedges. Point types from the site include assorted Dalton/Hardaway, Amos, Charleston, and Kirk/Palmer notched variants. Flotation samples processed from an eroding hearth feature at the site yielded Amaranth and Chenopodium seeds and hickory nut and butternut fragments (Lowery and Custer 1990). Based on the excavation results, the Crane Point Site has been concluded to be the remains of a base camp (Lowery and Custer 1990).

One of the state's notable Early Archaic occupations has been documented at the multicomponent Indian Creek V Site (18PR94), which occupies a broad floodplain adjacent to the confluence of Indian and Beaver Dam Creeks in Prince George's County (Leedecker and Holt 1991). Studies of the Indian Creek V Site (18PR94) have been revealed that the site was repeatedly used as a short-term procurement station during the Early Archaic Period.

3.2 Middle Archaic Period (6,500 B.C.-3,000 B.C.)

Several adaptive strategies of pre-contact human populations to the emergence of stable Holocene environments define the Middle Archaic Period. By 6,500 B.C. mesic forests of hemlock and oak flourished in several sections of the Middle Atlantic region, including Maryland's Eastern Shore (Custer 1983). Reduction of open grasslands forced the extinction or migration of many of the cold weather browsing megafauna which were critical to the subsistence of Paleo-Indian/Early Archaic Period groups. In addition, rises in sea level created interior swamp, marsh, and estuarine environments. These new environments supported a wide variety of floral and faunal species such as deer, migratory waterfowl, anadromous fish, and both fresh- and salt-water shellfish (Custer 1983, 1986, 1989). Consequently, Middle Archaic populations began to take advantage of the availability of these various new resources. Overall, the Middle Archaic Period is characterized by a noticeable shift from a hunter-gather strategy to a foraging lifestyle.

Middle Archaic tool kits in the region also reflect a more generalized foraging subsistence. Unlike the specialized hunting Paleo-Indian and Early Archaic tool kits, Middle Archaic tool kits often include plant processing tools, such as mortars and pestles, as well as ground stone tools, including adzes and axes. The appearances of these types of tools are indicative of a greater dependence on plant resources (Custer 1983, 1989). Like their predecessors, Middle Archaic groups were also nomadic; however, these groups migrated throughout the area to take advantage of the broad range of environmental settings and resources on a seasonal basis. Growth and reduction of group size also occurred seasonally.

Common point types of the Middle Archaic Period are bifurcate-based point types such as St. Albans, Le Croy, and Kanawha (Dent 1995; Custer 1984, 1994). Other Middle Archaic projectile points include Stanly, Morrow Mountain, Guilford, and Neville types (Dent 1995; Custer 1983, 1984, 1994).

Over the past decade, various comparative studies have provided new insight into projectile point types of the Middle Archaic Period. Studies such as Custer (1996, 2001) have examined several stemmed point variants, such as Poplar Island, Bare Island, Piney Island, and Pequea points. Throughout the Middle Atlantic region, these stemmed variants often coincide with sites that contain Middle Archaic occupations. In the past, these stemmed variants have been recovered from good subsurface contexts and in clear association with occupations that ranged from the Middle Archaic Period to the Middle Woodland Period. In the past, these stemmed variants have been regarded as not particularly diagnostic because of their prolonged use. For similar reasons, traditionally, these points have also been attributed to later time periods. However, the results of comparative analyses of the spatial and temporal distribution of these points throughout the Middle Atlantic region indicate that the use of these stemmed variants was more common during

the Middle and Late Archaic Periods than originally thought (Custer 1994, 1996, 2001). In addition to reflecting the continuity of cultural traditions, these findings also demonstrate the gradual transition from Middle Archaic to Late Archaic.

Throughout the eastern United States, including Maryland, Middle Archaic sites tend to be found in a variety of riverine, lacustrine, and coastal settings. In Maryland, the Middle Archaic Period also marks notable increases in the use of interior wetland settings, such as upland swamps, interior ridgetops, ponds, marshes, and springheads, and settings near stream junctures and along tributary floodplains (Gardner 1987; Wall 1990; Stewart 1989; Steponaitis 1983; Rappleye and Gardner 1979). These environments often contain a diversity of Middle Archaic site types that range from small processing or procurement sites to base camps of various sizes (Custer 1983, 1989, 1996).

While many of the larger multi-component sites date predominately to later periods, these sites often contain Middle Archaic occupations. Middle Archaic components have been encountered at the aforementioned Higgins Site and at the Surratts Road Site (18PR404), which is located along Piscataway Creek in Prince George's County (Munford 1993).

Occupations dating to the Middle Archaic Period have also been identified at the Indian Creek V Site (18PR94) in Prince George's County. Interestingly, by comparison, these occupations date to the earlier part of the Middle Archaic Period and are notably less well-represented at the site than those dating to the Early or Late Archaic time periods. It is believed, for the most part, use of the site was practically abandoned for most of the Middle Archaic Period. It has also been suggested that the disuse of the site during the Middle Atlantic Period may be a reflection of changing environmental conditions of the site's setting (Leedecker and Holt 1991).

3.3 Late Archaic Period/Early-Middle Woodland Period (3,000 B.C. - A.D. 1,000)

The Late Archaic/Early-Middle Woodland Period is defined by pronounced environmental alterations occurring throughout the Middle Atlantic region (Custer 1983, 1986, 1989). While the Late Archaic, Early Woodland, and Middle Woodland Periods all possess their own distinguishing characteristics, because of their overall similarities, cumulatively, these three periods have often been regarded as a general time period. For example, in the neighboring state of Delaware this 4,000-year period of time has been called the Woodland I Period (Custer 1986, 1989, 1994; Watson and Custer 1990; Custer and Silber 1994), and in southeastern Pennsylvania, this time span has been referred to as the Intensive Gathering-Formative Culture Period (Custer 1996).

Locally, on the Eastern Shore of Maryland, this time frame is associated with severe climatic shifts that resulted in warm and dry conditions (Custer 1989). These changes enabled xeric and deciduous forests of oak and hickory to replace mesic forests, as well as the return of grassland areas. Although many of the existing interior wetland settings of the Middle Atlantic region disappeared, the slow but continued rise in sea level resulted in the emergence of new large brackish marshes, especially near the Chesapeake Bay. Stabilization of the climate, environment, and sea level were established by ca. 1,500 B.C. and these conditions were probably relatively

similar to present ones (Custer 1983, 1989). This alteration of the environment also caused notable changes in the adaptive strategies of pre-contact populations. Floodplains of major rivers and estuarine swamp/marsh settings supported a broad range of floral and faunal resources. Throughout the Coastal Plain of the Middle Atlantic, large archeological sites, which often contain several different occupations, have been documented in such environmental settings. Similar base camp sites, barring regional variations, have also been identified in these resource-rich environments throughout the Middle Atlantic region.

Smaller base camps are often located along lesser tributaries, near cobble beds, or in coastal areas near shell middens. Small procurement and processing sites are also scattered throughout these environments, as well as along intermittent streams and in interior areas (Custer 1994). Along the southern coastline of the state, marine resources were integral in the subsistence of Late Archaic/Early-Middle Woodland populations. Sites dating to this time period are often found near tidal marshes, in sheltered coves, or in estuarine settings. Especially favored locations would be these types of settings that would have supported a diversity of resources such as ocean fish, crabs, and shellfish.

Although small short-term forays, for purposes such as hunting or obtaining raw lithic materials were made, in general, Late Archaic/Early-Middle Woodland Period groups seemed to have practiced a relatively sedentary settlement pattern. Group sizes seem to have ranged anywhere from small individual family units to conglomerations of several of these units dependent on seasonality or environmental setting (Custer 1989, 1994; Custer and Silber 1994).

Significant additions to pre-contact tool kits also appear during the Late Archaic/Early-Middle Woodland Period. Increased use of plant processing tools, such as grinding stones, mortars, and pestles, suggest a trend in efficient and intensive procurement of floral resources. Tools associated with woodworking, such as adzes and celts, become prevalent. More broad-bladed, knife-like processing implements also appear in chipped stone tool assemblages. Overall, procurement of raw lithic material was based on primary and secondary sources; however, often non-local lithic materials are found within Late Archaic/Early-Middle Woodland Period assemblages. The presence of these imported materials suggests emergence of trade and exchange networks among these groups (Custer 1989, 1994).

The addition of stone, followed by ceramic, vessels also reflect a growing efficiency in the use of certain food types. Most of these vessels served as cooking implements. Some of the larger ceramic vessels may have served as storage vessels for surpluses. Storage pits and house features have been identified at numerous sites dating to this time throughout the Middle Atlantic region (Custer 1989, 1994; Custer and Silber 1994).

This new, relatively sedentary, settlement pattern also caused considerable changes in social organization of populations living in the Middle Atlantic region. A more sedentary lifestyle combined with horticultural plant harvesting would have often yielded occasional surpluses. Consequently, these factors often allowed incipient ranked societies to form. For example, during the Middle Woodland Period, intensified procurement of fish resources is thought to have played a significant role in subsistence strategies within the Abbott Farm National Landmark near Trenton, New Jersey (Stewart 1994). Across the Middle Atlantic region, objects such as

polished celts, gorgets, pipes, and tools of non-local materials appear to be manifestations of developing social organization.

The emergence of Adena culture, characterized by its unique material culture and mortuary practices, also occurs during the Early Woodland portion of this time frame. While Adena sites are more prevalent in the American Midlands, a few Adena sites have also been discovered in Maryland. Some of the better known Adena sites of Maryland are the Sandy Hill Site (18DO30) on the Choptank River near Cambridge (Ford 1976; Dent 1995; Custer 1989); the West River Site near Annapolis, and the Nassawango Adena Site (18WO23) (Wise 1973), which is along a small tributary of the Pocomoke River. In addition to large Adena-type bifaces made of non-local, high quality cryptocrystalline lithic material, some of these sites have yielded distinctly Adena-type artifacts that have included gorgets, pipes, or copper beads (Dent 1995).

Projectile points associated with the Late Archaic/Early-Middle Woodland Periods are quite diverse. For example, the Late Archaic Period marks the introduction of broadspear-type projectile points, which are believed to have functioned in knife-like capacities (Custer 1994). Common broadspear-types of the Mid-Atlantic region include Long/Savannah River, Perkiomen, Susquehanna, and Lehigh/Koens-Crispin types (Custer 1994; Dent 1995). Common non-broadspear points of the Late Archaic Period include Fishtail/Orient, Holmes, Halifax, Piscataway, and Bare Island/Lackawaxen types, as well as various side- and corner-notched Brewerton variants.

Numerous Early-Middle Woodland projectile point types have been noted for the Middle Atlantic region. Generally, most of these types consist of assorted stemmed and notched variants; however, several distinctive point types are also associated with the Early and Middle Woodland period. Rossville, teardrop/ovoid, and Calvert projectile points are typical distinctive Early Woodland point types of the Chesapeake region. Selby Bay/Fox Creek and Jack's Reef variants are regarded as common forms associated with the Middle Woodland Period (Dent 1995).

Early ceramic vessels were modeled in construction and closely resembled the lug-handled, flat-bottom steatite vessels of the early Late Archaic Period. Marcey Creek (ca. 1200-800 B.C.) ceramic, a steatite-tempered ware, is one of the earliest wares of the Mid-Atlantic region and is often found in association with Fishtail/Orient points (Custer 1989, 1994, 1996). Later, these flat-bottomed vessels were replaced with conoidal-shaped vessels of coiled construction. While early vessels of this construction were often tempered with steatite (e.g., Selden Island, Bare Island Coiled), eventually, assorted materials that include sand, crushed rock, grit, clay, shell, or various combinations thereof, were used as tempering agents in ceramic manufacturing. For example: sherds of Accokeek ceramic, a sand/crushed rock (quartz) tempered ware, is a recurrent ware type that has often been recovered in Early Woodland contexts throughout Maryland's Coastal Plain and into the Piedmont beyond the headwaters of the Patuxent River and into the Patapsco drainage. This ware has also been found throughout the Potomac watershed (Dent 1995).

3.4 Late Woodland Period (A.D. 1000-A.D. 1650)

Overall, the Late Woodland Period, often referred to as the Woodland II Period, is characterized by an emergence of pronounced agricultural food production systems (Custer 1984, 1989). The growth of efficient plant food harvesting is a reflection of a continued pattern of sedentism of pre-contact populations. Throughout the Delmarva Peninsula, Late Woodland sites are often found in similar environmental settings as Late Archaic, Early and Middle Woodland Period sites. In fact, these sites often contain several occupations that span multiple temporal contexts and these occurrences further illustrate a more sedentary lifestyle.

In the Middle Atlantic Region, significant variability in the subsistence systems, social organization, and community patterns existed among Late Woodland populations. These differences ranged from societies who lived in large villages organized by kinship groups to some of the less complex populations whose lifeways closely resembled those of their Middle Woodland predecessors (Custer 1983, 1989, 1996).

Aside from some modifications in projectile point and ceramic styles, deviations of Late Woodland artifact assemblages from Middle Woodland assemblages are minimal. Lithic assemblages suggest decreases in preference for exotic materials and increases in the use of quartz in tool manufacturing. By comparison, Late Woodland projectile point types are less varied and triangle points are regarded as the primary diagnostic point type of this period. Late Woodland ceramic assemblages exhibit notable increases in variation, especially the non-shell tempered wares (Wanser 1982). Common Late Woodland ceramic types that have been recovered on the Eastern Shore include Rappahannock and Townsend wares, both of which are shell-tempered. Other common Late Woodland ceramic types include Sullivan and Potomac Creek pottery, which are shell-tempered and quartz/sand tempered, respectively.

3.5 Initial European Contact (1600-1650)

This period marks the initial arrival of European groups, predominately Dutch and English, to the Middle Atlantic region. Overall, data from the archeological record of this time period is limited. Often, ethnographic accounts by these first explorers and settlers have been considered valuable supplementary sources of information.

Based on ethno-linguistic and ethnographic accounts, throughout the Late Woodland period, two Native American cultural groups, the Nanticokes and the Piscataway were quite active in the region. However, by 1634, the stronghold of southern Pennsylvania Susquehannocks, an Iroquoian-speaking group, had extended throughout the Chesapeake Bay area and southward over Maryland's Western Shore. According to historical accounts, during his travels along the Potomac and Anacostia Rivers in 1609, John Smith visited several palisaded Piscataway villages.

Several groups of indigenous people inhabited Maryland's Western and Eastern Shore at the time of arrival of the first Europeans. In addition to the Susquehannocks on the upper reaches of the shore, these groups included the Nanticoke, Choptank, Wicomiss (also referred to as the "Ozinies"), Matapeake, and Tockwogh, who lived in the central and southern portions of Maryland's eastern shore (Millis and Wall 2006; Kingsley 2006).

Although other attempts are reputed, the first documented exploration of present-day Maryland was conducted by Captain John Smith. In June 1608, Smith became the first Anglo-European to explore and map the Upper Chesapeake Bay, as well as to make contact with Native Americans (**Figure 5**). According to historical accounts, Smith managed to lead the expedition as far north as “Bolus flu” (present-day Patapsco River) before illness forced the party to return to Virginia. A month later, Smith led a second expedition of the Upper Chesapeake. During this journey, Smith explored various waterways of Kent, Harford, and Cecil Counties. Several weeks later, after passing what is now Spesutia Island, Smith reached the Susquehanna River. While exploring the Deer Creek area on foot, Smith and his crew first encountered Susquehannocks.

Smith was obviously impressed and wrote detailed narratives about the Susquehannocks’ physical appearance, attire, and lifeways (Weeks 1996). Though Smith provided the world with its first glimpse of the area, it would be some time before significant European settlement on the Eastern Shore occurred.

Around 1616, an Englishman named Edward Palmer established a trading post on Palmer’s Island (currently Garrett Island) at the mouth of the Susquehanna River. While the post managed to operate for a few years, its success was short-lived. By the time of his death in 1624, Palmer had relocated back to London.

Around 1629, after visiting his failing land interests in Newfoundland, George Calvert (named the first Lord of Baltimore by King James of England in 1625) traveled to the Chesapeake Bay area in search of lands in a more favorable climate. Shortly after his return to England, Calvert began petitioning for rights to lands north of the Potomac River. Despite Calvert’s persistent campaigning, King Charles remained reluctant to approve the petition for several years. Finally, on June 20, 1632, two months after George Calvert’s death, the charter was approved and Calvert’s son, Cecil, became the first proprietor of Maryland.

The year 1631 marked the first colonial settlement on the Eastern Shore. Virginian William Claibourne established a fort and trading post on Kent Island to trade with the indigenous peoples for furs. By 1636, a gristmill was in operation on the island. Tax records indicate that forty-nine taxable residents resided on the island in 1638 and ninety-eight in 1642 (Fiedel 1999). According to local historical accounts, the early settlement of St. Michaels, on the leeward side of Kent Island, also began around this time (<http://stmichaelsmd.org/pages/History>).

The 1630s also marks the onset of colonization of Maryland’s Western Shore and mainland. Similarly, efforts to colonize the Atlantic Ocean coastline (or the Delaware) side of the Eastern Shore were also occurring.

In 1634, Maryland’s first colonists from England arrived at the mouth of the Potomac River in two ships, the *Arc* and the *Dove*. After a brief stay on Saint Clement’s Island, Leonard Calvert, Cecil’s brother, lead the *Dove* to Piscataway Creek via the Potomac River to initiate negotiations with members of the Piscataway tribe. In March 1634, the colonists purchased a village on the mainland and renamed the settlement St. Mary’s City (Virta 1998). Three years later, in 1637, Saint Mary’s County, which included both shores of the Chesapeake Bay, was created. For the

next several decades, St. Mary's County continued to lose and gain land as new counties were formed (e.g. Anne Arundel - 1650). In 1642, the lands on the east side of the Chesapeake Bay were removed from the county and established as Kent County.

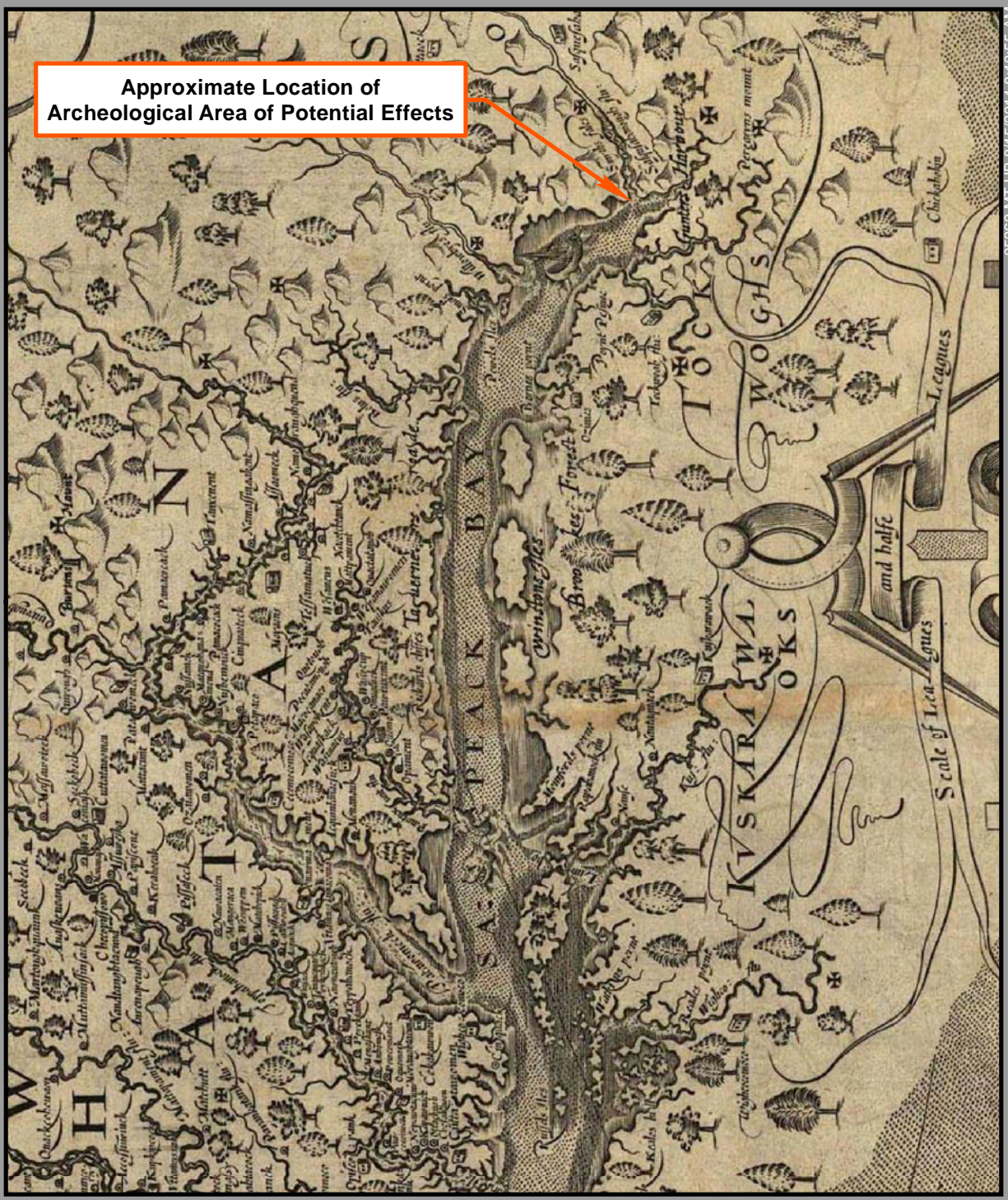
Shortly after his arrival, Calvert challenged Claiborne's rights to Kent Island. Calvert claimed ownership of the island through his land grant. Though Claiborne resisted, Calvert eventually brought Kent Island under Maryland control in 1657. By 1659, large land grants had been given along the Choptank River, and tobacco had become established as the major crop in the area (Preston 1983; Kingsley, Benedict, and Katz 2006).

As settlement of the Eastern Shore began to increase, so did tensions between the colonists and Native American tribes. The tribes' traditional seasonal hunting and farming practices continued to be disrupted by settlers and traders, and by the accompanying deforestation. Colonial authorities made some attempts to protect the tribes and facilitate coexistence; however, their suggestions were often ignored. In 1642 and 1647, Maryland Governor Thomas Greene ordered Capt. John Price "...to take thirty or forty able men, with sufficient arms, ammunition, and provisions, and embark for the Eastern Shore to attack the towns of Nanticokes and Wiccomiss (Weslager 1983, p74)." A treaty, the first of five, was signed in 1668 by Chief Unnacokasimmon to establish peace with Maryland colonists.

Around this time, the Dutch also became increasingly wary of English settlement around the Chesapeake Bay and Virginia. Dutch concern was justifiable since Lord Baltimore regarded the Chesapeake Bay's eastern shore (as well as much of western Delaware) to be under his proprietorship (all of which he called Somerset County). In 1659, the Dutch constructed a small fort named Whorekil (alternately Hoerenkil, Horekill, Hoorekill) at the mouth of the Delaware Bay near Lewes to maintain watch on English settlement in the area.

Domestic architecture during this period was characterized by one- or two-story, one-room plan dwellings made of wood; agricultural outbuildings included structures related directly to the tobacco and grain economy such as frame tobacco sheds, small barns, or structures to house hogs and cattle (Catts, Custer, and Hawley 1994).

Transportation was conducted primarily along navigable waterways; however, gradual increases in settlement slowly encouraged the expansion of ground transportation. In 1661, the General Assembly passed an act to improve the existing land transportation system through the construction of new public roads and bridges. Specifically, the act called for "marking and making highwayes and making the heads of Rivers, Creeks, Branches, and Swamps passable for horse and foot". To ensure that the mandates of road construction were met, the act allowed counties to appoint commissioners to oversee roadwork. The act also included provisions to preserve rights for creating private access roads. Penalties were payable in tobacco (www.sha.state.md.us/keepingcurrent/maintainRoadsBridges/bridges/OPPE/historicBridges/IIE_Rds.pdf).



Approximate Location of
Archeological Area of Potential Effects

Figure 5

Detail of John Smith's Map of Virginia (1608-1612) Depicting the
Approximate Location of the Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: John Smith's Map of Virginia, 1608-1612



Not to Scale

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3.6 Contact and Settlement Period (1600-1750)

Prior to European arrival in Maryland, the area was already home to a complex network of Indian settlements and chiefdoms. Early exploration of the modern-day Harford and Cecil county area essentially began with Captain John Smith's treks up the Susquehanna River in 1608. During these expeditions Smith and his crew first encountered the Susquehannocks. Smith wrote detailed narratives about the Susquehannocks' physical appearance, attire, and lifeways (Weeks 1996).

As European colonization gained a foothold in the New World, there was an emerging need for a consistent system to traverse the Susquehanna River (*Figure 6*). At the mouth of the river, Lower Susquehanna Ferry was first licensed in 1695, it consisted of several tracts of land that were first granted to Godfrey Harmer by the Lord Proprietor of Maryland in 1658, he called the area

"Harmer's Town," and gave the land to Thomas Stockett a year later. In 1666, a road called, "Post Road" ran from Philadelphia to New York in the North to Baltimore and other towns to the south (Bilicki 2003). This road encouraged several ferry systems to begin operation at the Susquehanna River between Post Road on the Havre de Grace side and Post Road on the Perryville side.

The tavern located at the western terminus of the ferry, Rodger's Tavern was owned by the ferry's first operator, John Rodgers. On the other side of the river was another tavern, Stevenson's tavern. This was later bought by John Rodgers as well and he operated the ferry and both taverns on either side of the ferry's path (Gerstell 1998, p. 6). Prior to this time there was a small fishing village in the vicinity of Havre de Grace and the ferry, but there were very few people in the area before the ferry was established.

In 1630, King Charles I of England granted a charter for the exclusive right of the colony of Maryland to George Calvert. By 1634 St. Mary's City, Maryland was established as the first settlement with 150 colonists living on the new land. The second Proprietary Governor of the Province of Maryland, Cecilius Calvert formed Cecil County, Maryland in 1674, a year before his death.

In 1751, Frederick Calvert (the great-great-great-grandson of George Calvert) inherited the Proprietary Governorship of the Province of Maryland. In 1773, Frederick Calvert formed Harford County from Baltimore County. He named the county Harford after his illegitimate son, Henry Harford.

Both Havre de Grace in Harford County and Perryville in Cecil County were important to early settlement because of their location at the mouth of the Susquehanna River and the trading post established by William Claiborne in 1637, located on Garrett Island between the two towns. At his Trading Post, Claibourne traded items with indigenous peoples for furs. Because of the proximity of Havre de Grace to the Susquehanna River and Chesapeake Bay, the city of Havre de Grace adopted oyster and crab harvesting as their main export.



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**Approximate Location of
Archeological Area
of Potential Effects**

Figure 6

**Detail of Augustine Hermann's Map of Virginia and Maryland (1673)
Depicting the Approximate Location of the Archeological Area of Potential Effects**



**Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland**

Source: Augustine Hermann's Map of Virginia and Maryland (1673)

Not to Scale

3.7 Rural Agrarian Intensification (1750-1815)

From a military standpoint, the American Revolution had a small effect on Havre de Grace and Perryville since no significant battles were fought in the area.

However, many people ended up assisting in the war effort, and many continental troops traveled across the Susquehanna by the Havre de Grace Ferry. Jean Baptiste and Count de Rochambeau led 6,000 French soldiers across the river and camped along Old Post Road in Perryville (Bates 2006, p. 44).

The most notable American soldier from the area was Colonel John Rodgers, Sr., who served in the militia during the Revolutionary War and served as host, on several occasions, to George Washington and Marquis de Lafayette when they stayed at Rodgers' home and tavern in Perryville. The name of the city of Havre de Grace is credited to Marquis de Lafayette during the Revolutionary War. It was stated that it reminded him of Le Havre, France, and Colonel John Rodgers, Sr. thought the name would add distinction to the town (*Figure 7*). After the Revolutionary War, Havre de Grace was considered for the capital of the United States, but it lost by one vote.

Havre de Grace, however, was not spared from the ravages of the War of 1812. The Perryville iron ore site, Principo's Furnace, would attract the British and bring them into the Susquehanna River in 1813. The British sailed up the Chesapeake Bay blockading ports and destroying towns along the way. The British arrived at the mouth of the Susquehanna River on May 3, 1813 with 400 troops and attacked, burned, and pillaged the town of Havre de Grace and Principo's Furnace. Within a few hours two-thirds of Havre de Grace was destroyed, in addition to a boat yard, vessels, and Principo's Furnace. Few structures survived the attack of Havre de Grace, including the Aveihle-Goldsborough House, the exterior walls of St. John's Episcopal Church, and the Elizabeth Rodgers House (Noll 2011). One Havre de Grace resident, John O'Neill, the lighthouse keeper, attempted to defend Havre de Grace by firing cannons at the British, but he was captured and was only spared his life because his daughter pleaded with the admiral of the British troop (Noll 2011). In 1814, a survey and a tax assessment were conducted to begin the two-decade process of rebuilding Havre de Grace after the War of 1812.

3.8 Agricultural-Industrial Transition Period (1815-1870)

As a result of the Susquehanna River's position between Maryland and Pennsylvania, the towns of Havre de Grace and Perryville developed as an important transportation crossroads for the transport of tobacco and wheat. Multiple ferry crossings were established in the area by the mid-nineteenth century (*Figure 8*). The area soon provided many accommodations for travelers of this north-south route. These towns also relied on fishing, most specifically the harvesting of oysters and crabs, and ice harvesting. These industries were not as reliant on slave labor, and Havre de Grace was a primary town on the Eastern Route of the Underground Railroad. Slaves crossed the Susquehanna in an attempt to reach Pennsylvania (Still 1872, p. 105). The customary method for the transporting of slaves via ferry was for the agent of the Underground Railroad to

light a fire on the Havre de Grace side of the river, which provided notice to an agent on the other side of the river in Perryville. This person would understand the signal and would cross in the boat to receive the escaped slave (Still 1872, p. 684).

To prevent Maryland's secession, Federal troops occupied the state starting in May 1861. By the Civil War there was a large free African American population located within Havre de Grace. It was one of seven sites designated for the recruiting of "U.S. Colored Troops."

In 1866, after the war, the Philadelphia Wilmington & Baltimore Railroad (PW&B) completed a wooden single track bridge which allowed passengers and goods to cross the river without the aid of a ferryboat. Prior to this time, the Susquehanna Ferry had a 238 ft. long ferry to transport entire trains from one side of the river to the other. The ability of trains to cross the Susquehanna at this location caused a decline in the use of the ferry, during this time frame maps begin to show the railroad bridge in place of where the ferry used to cross (*Figures 9 and 10*).

3.9 Industrial/Urban Dominance (1870-1930)

After the Civil War, the city's river tied it to northern industry and provided urban jobs for free blacks. The beginning of a new century meant that Havre de Grace would undergo many improvements. In 1906, the Pennsylvania Railroad replaced PW&B crossing with a new metal bridge that featured a center swing span which could be rotated to allow taller ships and other river traffic to pass safely (*Figures 11 and 12*). The alignment of this new bridge is located several feet to the north of the alignment for the previous 1866 wooden bridge. While the deck for the 1866 bridge is no longer extant, the stone piers for this structure may still be seen within the Susquehanna River channel. In addition, one of the 1866 bridge stone abutments may be observed along Avenue A near the waterfront, just south of Perryville.

A racetrack was opened in Havre de Grace that attracted a new group of travelers and tourists, making it a popular location for gamblers and gangsters to visit. It was one of four racetracks in the state and many famous Triple Crown winners and other famous racehorses raced there. In 1951, the racetrack was sold to the Maryland National Guard. The industrial facilities in Perryville helped during the war effort for both world wars. The federal government purchased facilities at Perry Point in Perryville for the training of recruits. In Port Deposit, the Wiley Company was a builder of steel assemblies and they provided materials for the Lease Lend Act before World War II (Bilicki 2003).

Duck hunting was also beginning to attract seasonal tourists to the area. As farming steadily declined in the area after World War II, transportation and tourism became the main occupations for the residents of the Havre de Grace and Perryville area.

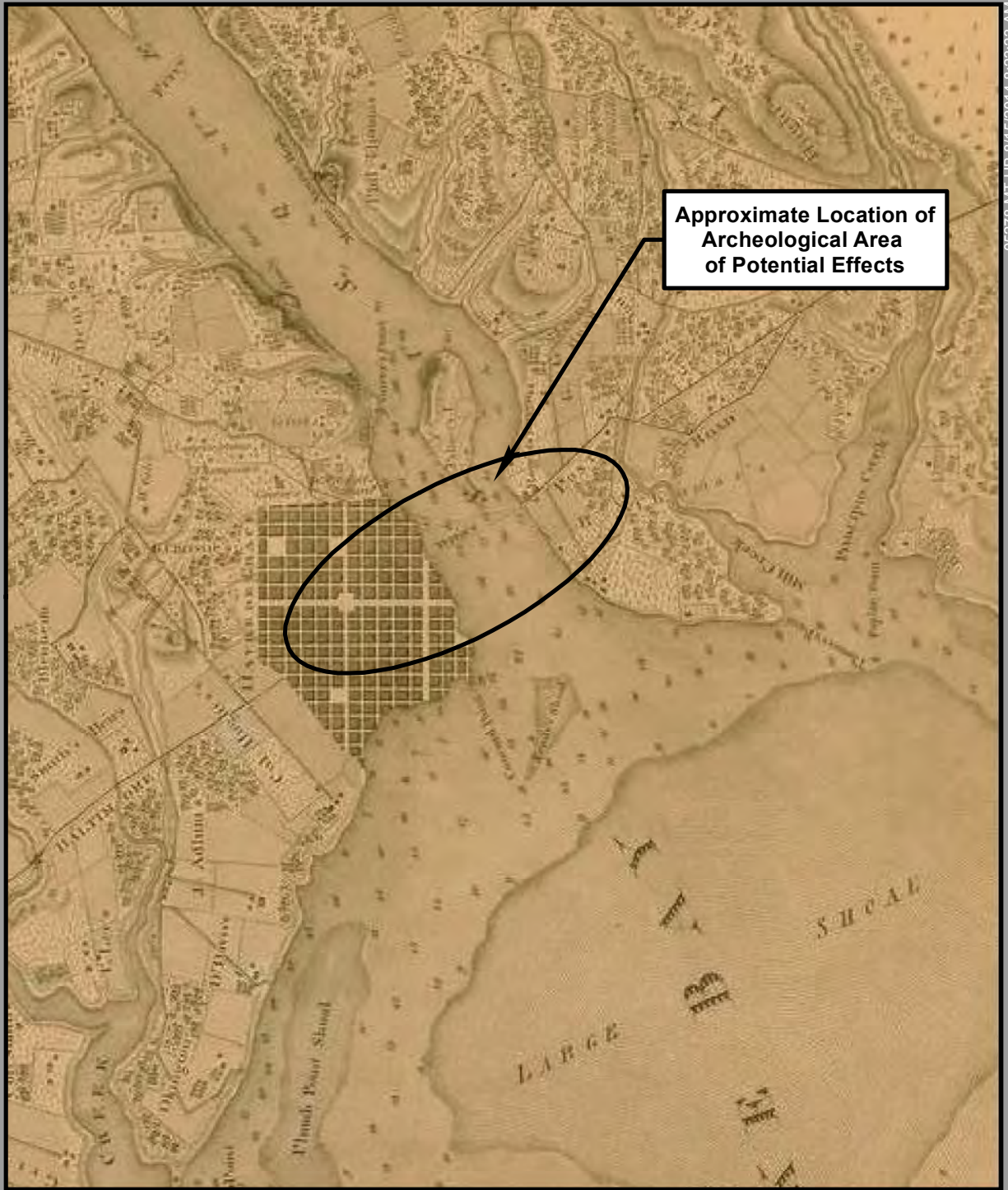


Figure 7

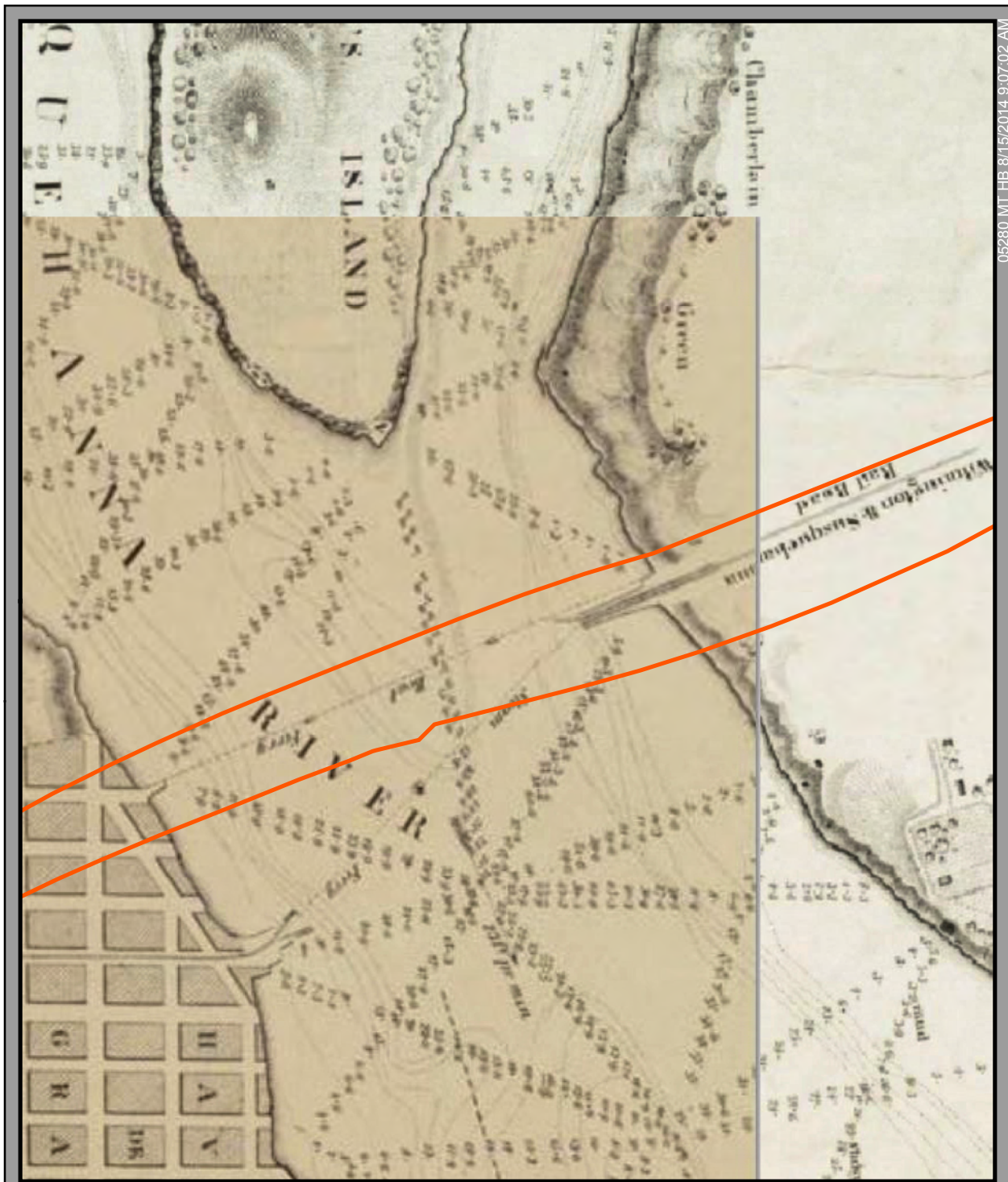
Detail of Hauducoeur's Map of the Head of Chesapeake Bay and Susquehanna River (1799)
Depicting the Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: Hauducoeur's Map of the Head of Chesapeake Bay and Susquehanna River, 1799




Not to Scale



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Figure 8
Detail of T.J. Lee and C.N. Hagner's Chart of the Mouth of Susquehanna River
and Head Waters of Chesapeake Bay, Maryland (1856)
Depicting the Archeological Area of Potential Effects

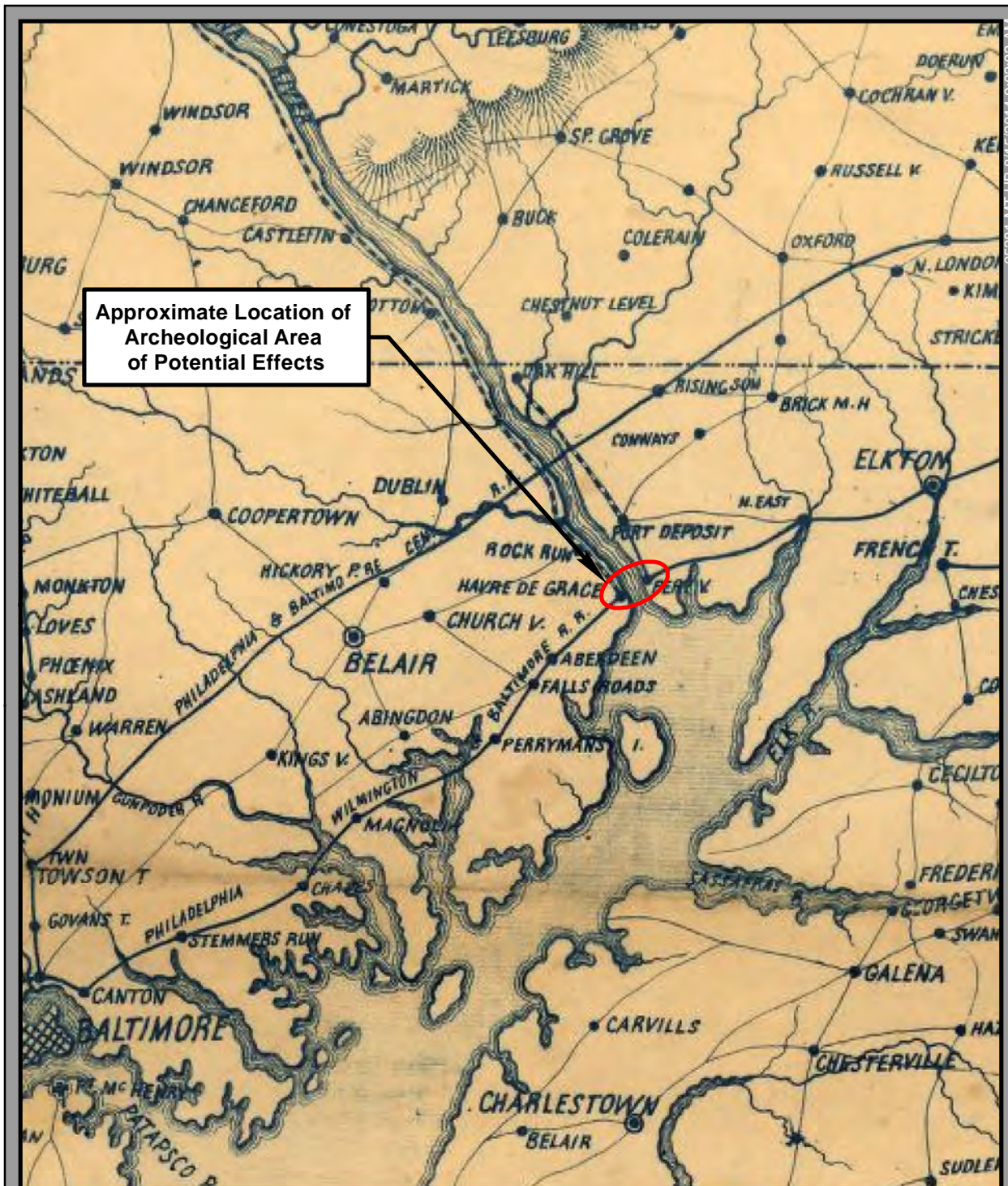
 Archeological Area of Potential Effects



Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Not to Scale

Source: T.J. Lee and C.N. Hagner's Chart of the Mouth of Susquehanna River and Head Waters of Chesapeake Bay, Maryland, 1856



Approximate Location of Archeological Area of Potential Effects

Figure 9

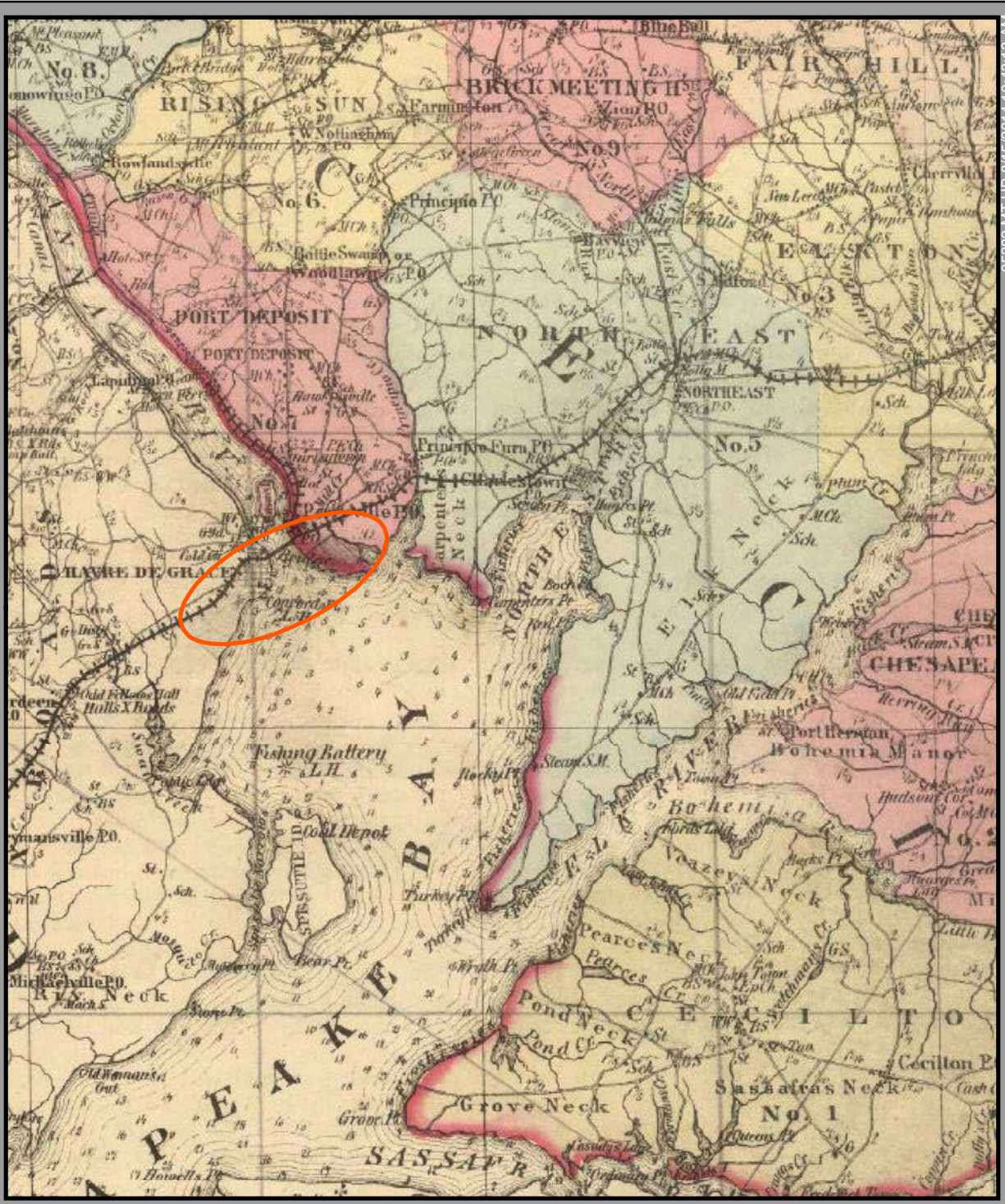
Detail of the New War Map of Maryland, Part of Virginia, and Pennsylvania (1863)
 Depicting the Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland

Source: New War Map of Maryland, Part of Virginia, and Pennsylvania, 1863



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Approximate Location of Archeological Area of Potential Effects

Figure 10

**Detail of the 1866 Map of Cecil County
 Depicting the Archeological Area of Potential Effects**



**Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland**

Not to Scale

Source: 1866 Map of Cecil County, Maryland

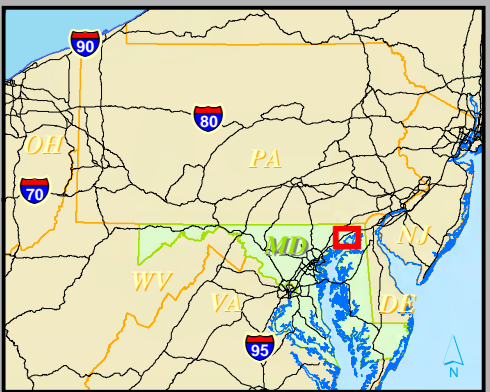
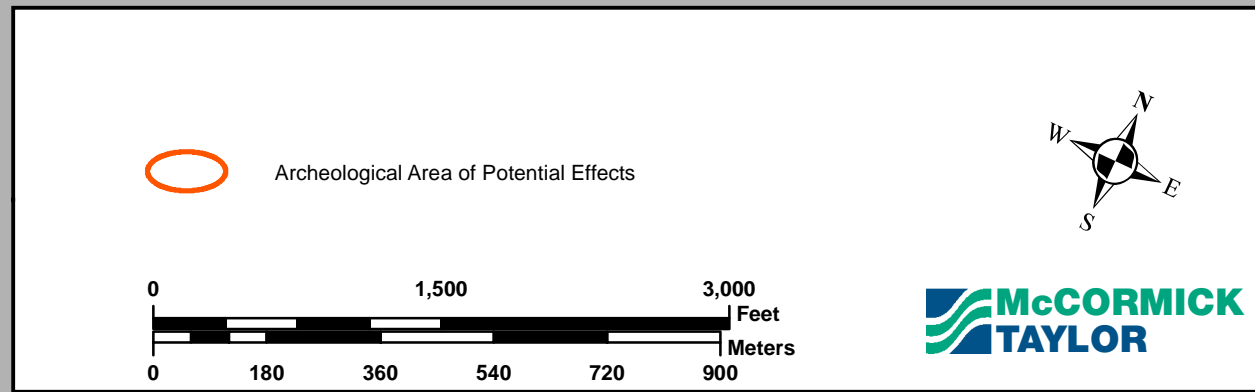
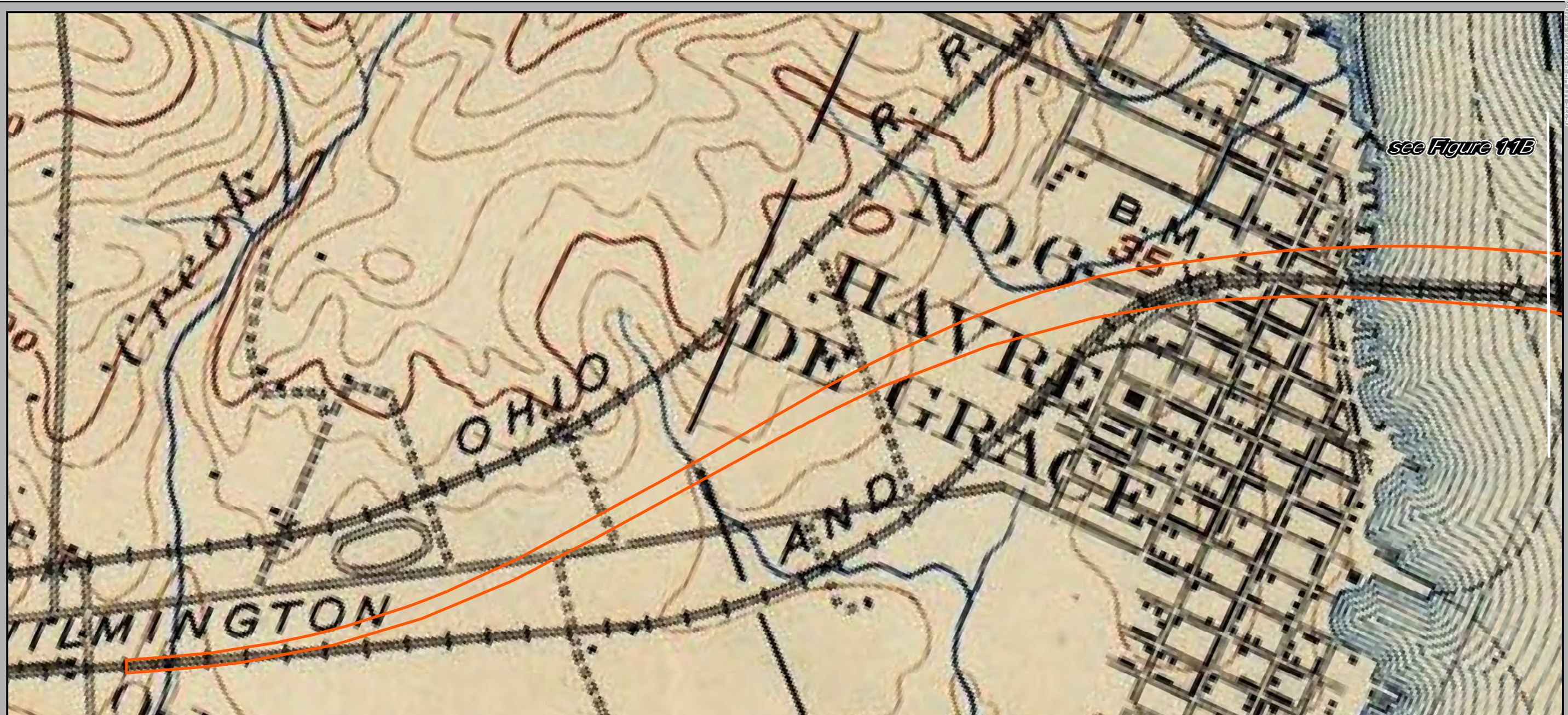


Figure 11A
1900 Havre de Grace, MD
Topographic Quadrangle Map Depicting the
Archeological Area of Potential Effects
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Havre de Grace, MD
 USGS Historic Quadrangle, 1900

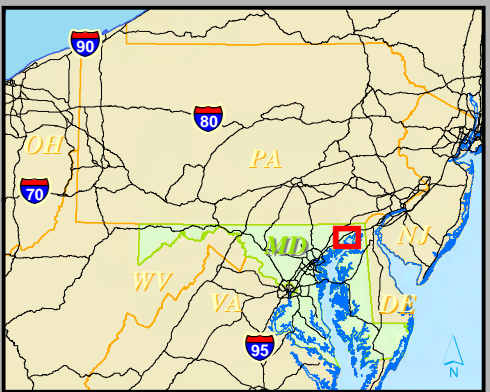
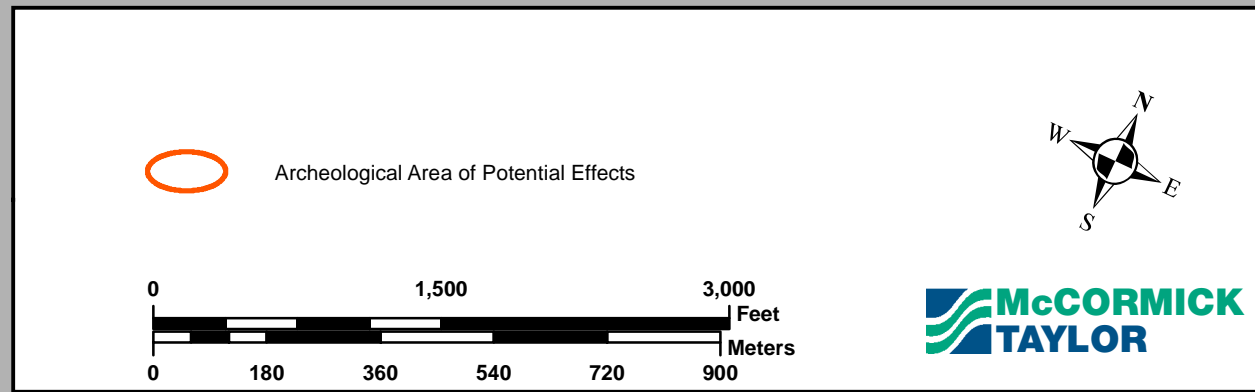
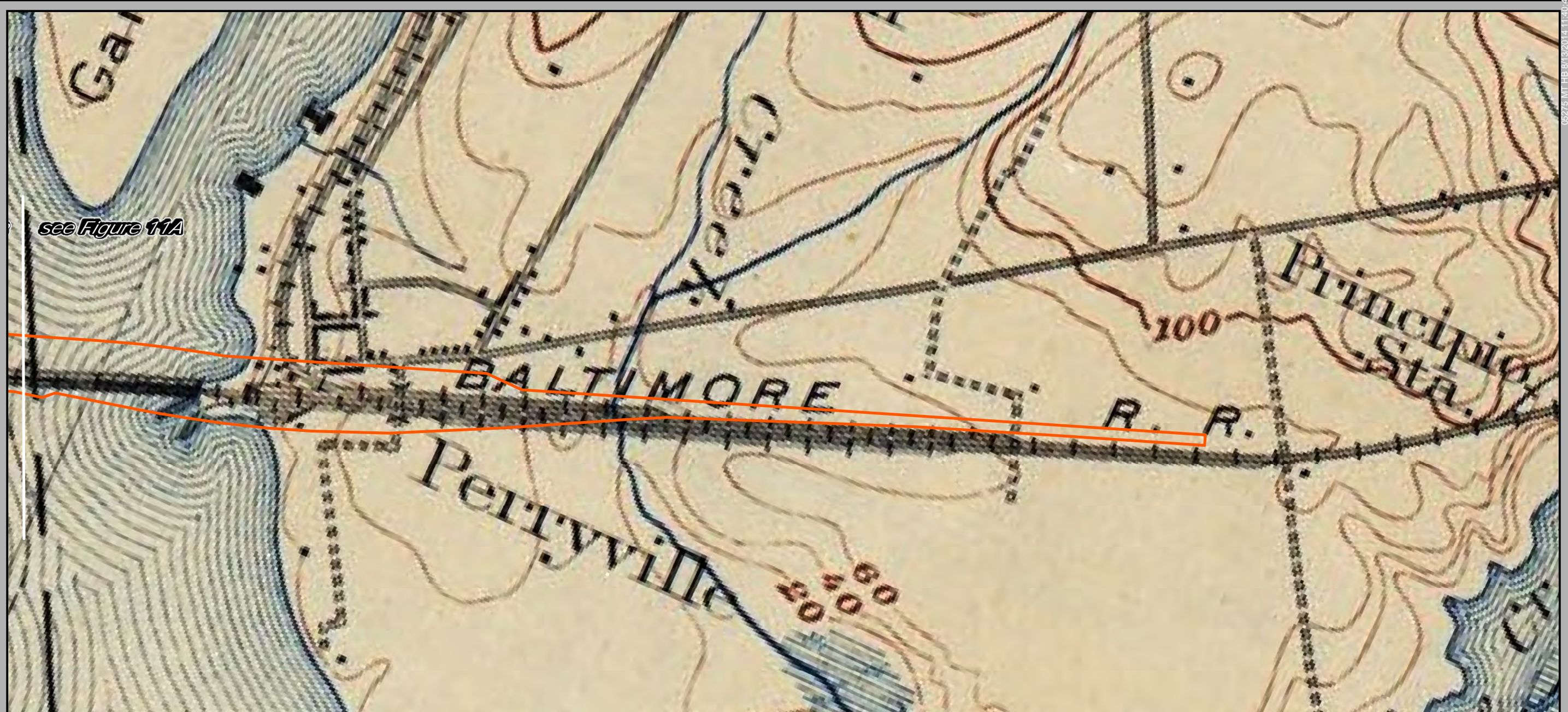
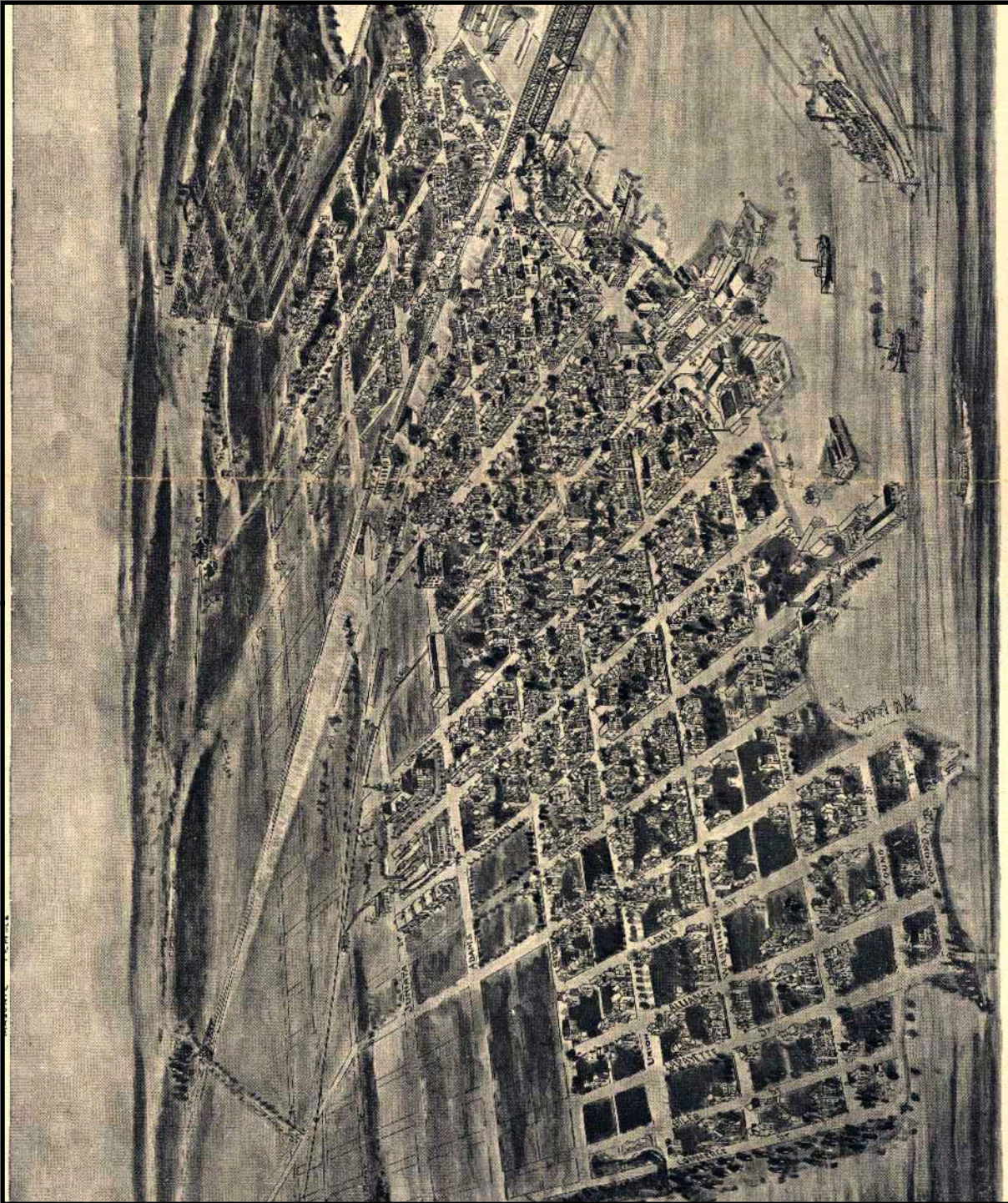


Figure 11B
 1900 Havre de Grace, MD
 Topographic Quadrangle Map Depicting the
 Archeological Area of Potential Effects
 Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland
 Source: Havre de Grace, MD
 USGS Historic Quadrangle, 1900



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Figure 12
Bird's Eye View of Havre de Grace, Maryland, 1907

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: Powler and Kelly, Morrisville, PA, 1907



Not to Scale

3.10 Modern Period (1930-Present)

In the twentieth century, historic properties in the Havre de Grace area experienced extensive redevelopment and renovation. Havre de Grace has grown due to the annexing of new land, and has become a popular destination for tourists. The Conowingo Dam, several roads, and railroad bridges now span the Susquehanna River. In 1976, the ownership of the passenger rail bridge passed to Amtrak. In September 2003, Hurricane Isabel flooded the city nearly 2 blocks into downtown Havre de Grace.

The city income has doubled in recent years, showing how popular this area has become for recreation and tourism. According to the 2010 census, Havre de Grace boasts approximately 13,000 residents, and city tourism records reflected that 220,000 tourists visited Havre de Grace. Visitors are welcomed to Havre de Grace with a variety of bed-and-breakfasts, restaurants, coffee shops, antique stores, boutiques, spas, art galleries, museums, and off-Broadway productions in the old opera house. Several marinas around the shoreline of Havre de Grace also attract boaters and fishers to the area, and hikers and birdwatchers enjoy the scenic walking trails.

4.0 RESEARCH DESIGN

The Phase IA archeological assessment, conducted in support of the Amtrak Susquehanna River Bridge project, was performed within a general research framework designed to achieve several goals. The research design was developed based on regional pre-contact and historic contexts and the results of background research.

4.1 Overall Project Goals

During a reconnaissance survey, the initial stage often consists of a detailed review of the project area's history, as well as an assessment of the existing conditions within the APE. Once completed, these two sets of data may be utilized to delineate specific portions of the APE that possess the potential to contain archeological resources. However, within the context of an undertaking that has a Section 106 component, these preliminary studies will not satisfy the requirements of an agency to identify all historic properties within any given project's APE. For complex projects that contain multiple alternatives, a phased approach allows the project sponsor and review agencies to specifically target certain areas for a systematic Phase IB identification survey.

As stated above, the overall goal of this report is to assess the archeological sensitivity of the project APE by determining which portions of the project corridor have been previously disturbed by recent construction activity and areas that hold potential to contain intact buried cultural deposits. In order to achieve these goals, the following tasks are proposed:

- Development of a clear picture of the evolution of the built environment for the APE through time via the analysis of primary source material such as historical topographic maps, soil maps, insurance maps, and local city directories or atlases;
- Obtain photo-documentation of the present-day existing conditions within the project APE;
- Conduct limited field investigations in order to document the condition and integrity of the soil deposits within the project APE.

4.2 Archival Research

In addition to in-house materials, references consulted as part of the archival research included files, paper and electronic, housed at the Maryland Historical Trust (MHT), as well as various historical and educational institutions. Materials examined included relevant project documentation, historic and environmental maps, cultural resource management surveys, technical journals, as well as deed and tax information. Other resources that were reviewed included pertinent publications regarding the Native American history and ethnohistory, Euro-American history, and geography of the area. Research efforts also included interviews with knowledgeable individuals as well as a review of electronic media (e.g., internet resources). Examples of online databases and reference materials consulted included those maintained by the

Jefferson Patterson Park and Museum (JPPM), MHT, the Maryland State Archives, the National Archives, and the Maryland Geological Survey.

Historical texts, such as regional, local, and community histories, as well as historical maps and photographs, insurance maps, property deeds, and military records all can provide important site location information. Oral histories also provide important site location information, particularly histories compiled by avocational archeologists and historians. Histories collected from land owners sometimes reveal archeological sites on the basis of surface finds and remnant structures such as cellars, foundations, and wells suggestive of abandoned historical sites. For this project, archeologists utilized local, county, and regional histories of the Havre de Grace area in order to better understand the chronological development of the APE. These histories were also reviewed in attempt to identify historical period site locations.

Historical topographical maps of the study area, historical atlases and maps, and a panoramic overview of Havre de Grace (Fowler and Kelly 1907) were also studied. While these resources were helpful in providing a broad overview of the historic development of Havre de Grace, they provide little specific detail as to exactly what types of structures and resources were present within the APE as the city evolved. In contrast, the Sanborn Insurance Company maps were extremely helpful for recreating property parcels dating from the late nineteenth century through early twentieth century (Sanborn Fire Insurance Company 1886–1930). The Sanborn maps facilitated in the identification of individual structures within the APE, as well as provided additional information about these structures including the materials with which they were constructed and, in some cases, function. Based on the additional information provided on the Sanborn maps the presence of some cartographically excluded outbuildings, such as small sheds and privies can also be anticipated. Specifically, because Sanborn Insurance maps depict real property bounds, they can be used to predict the location of artifact-bearing privies, which often were constructed at property margins. A thorough review of available cartographic resources provided no additional source material that provides the level of specific detail found within the Sanborn mapping.

In addition to these cartographic resources, the MHT files, including the MHT Archeological Site Inventory and MHT library of cultural resource reports, were examined in order to retrieve information on all archaeological sites located within a one-mile radius of the APE. This information was used to predict the site types that might be found within and adjacent to the APE. Cultural resource management reports (CRM reports) at MHT were examined in order to determine the extent and types of surveys that had taken place within and adjacent to the APE.

4.3 Field Methodology

In order to supplement the background research portion of the project, limited field investigations were conducted in order to record the nature of the existing conditions within the APE. The intent of these field investigations during this phase of the project was not to systematically test the entire ground disturbance footprint and identify archeological sites, but rather to simply “ground truth” or verify areas of presumed previous disturbance or subsurface integrity as indicated by the archival research. These field observations were recorded through a program of visual inspection and limited, judgmental subsurface testing utilizing soil probes.

Based on the results of the background research the majority of the APE, specifically within the Amtrak ROW, was found to be disturbed due to prior construction activities. Disturbance within the Amtrak ROW was verified by field observations and historic mapping. The remaining portion of the APE, for which no evidence of prior disturbance was identified, was divided into five (5) Study Areas. Each Study Area within the APE was subject to the following survey approach:

- Each Study Area was surface-inspected in its entirety for evidence of extant features or remnant features (e.g., visible ground depressions, partially exposed brick/stone);
- Following the surface inspection, a combination of limited soil probing or coring was conducted where possible in order to gain a better understanding of the stratigraphy within each Study Area. Parcels located on private property and Amtrak property were not accessed as part of this study. Soil samples were taken with the assistance of an Oakfield Model DB3 Tube Soil Sampler with a 1¼ inch diameter barrel.

4.4 Prediction of Archeologically Sensitive Areas

There are several types of features within a developed setting such as Havre de Grace that hold high potential for containing significant intact cultural deposits, including vertical shaft features, basement and foundation interiors, builder's trenches, and horizontal occupation zones. The shaft feature category includes structures such as wells, cisterns, and privies, which are valuable for providing a high degree of artifact and structural integrity in a stratigraphic context. Furthermore, privy deposition occurs throughout and past the functional "life" of the feature. Privies can contain data pertinent to studies of consumer choice, socioeconomic status, and subsistence. Wells and cisterns are important for the same reasons as privies, with the important distinction that artifact deposition does not typically occur during use.

Basements and foundation interiors typically contain great quantities of demolition debris representative of the building's superstructure. For the most part, demolition debris is not considered a significant data category because architectural information can be obtained from fire insurance maps and other historical sources. However, basements could hold important archeological deposits if specific activities with remnant physical correlates were conducted in the basement of the building. These types of conditions might be present in residential buildings with dirt floors, or in commercial/industrial buildings. The assessment of basements can also result in the identification of deeper features (shaft features) truncated beneath them. Because shaft features can extend as much as 20 feet (6 meters) below the original ground surface, and because basements usually are not excavated more than 10 feet (3 meters) below grade, early shaft features may be preserved beneath second- or third-generation buildings. Builder's trenches typically contain architectural and trade-related artifacts. Their research value is typically low because their artifacts exist outside of an identifiable historical context (e.g., ownership); however, artifacts recovered from these contexts can be used to help date the construction of a building. Horizontal occupation zones are similar to "living floors" in pre-contact archeology. That is, they reflect, through the differential distribution of artifacts, where different types of activities took place and how space was organized in relation to the landscape or property.

Horizontal occupation zones (including yard spaces, gardens, brick and concrete patios/pads, brick walkways, wall foundations, outdoor grills, etc.) are fragile because they are “thin” and because they are usually the first feature to be disrupted during building demolition and construction.

In terms of the archeological resource potential of domestic sites, Cinadr and Genheimer's research (1983) suggests that the deeper features (i.e. cisterns, privies) were considered to have the highest potential for retrieval of significant archeological information, and that the assessment of builder's trenches and basements were eliminated from the resource sampling strategy due to their low data potential (considered insufficient to warrant time/cost expenditures). In addition, a series of ancillary residential feature types (e.g. brick patios/pads, concrete patios/pads, brick walkways, wall foundations, outdoor grills, etc.) were recorded as elements of land use patterns.

Another historic period resource type which may be present within the APE are cemeteries. According to the background cartographic and archival research conducted in support of this project, there are no previously identified or marked cemeteries or interments within the APE. That said, there is one known structure in Havre de Grace that is depicted on historic maps as a church. Currently identified as the Room at the Cross Mission Church and located at the corner of Warren Street and North Stokes Street, both the historic record and current visual inspection show no obvious signs that a cemetery is associated with this structure. No markers or surface depressions were observed in the grassy lot adjacent to the church.

Finally, another category of archeological debris is fill. Fill represents processes affecting land use and site formation. As such, the ubiquitous phenomenon of urban fill has become the topic of some research interest. Rubertone (1982:129) has defined five categories of depositional types “on the basis of the general character of the fill, stratigraphic associations, and architectural context:

- Surface: These were strata that were observed from the turf layer to above the walls of the building or by the presence of a cultural feature. The strata consisted of a loam matrix mixed with rubble.
- Structural Debris: These deposits were found within the walls of a building, or immediately adjacent to the walls, and consisted of structural debris resulting from building demolition or decomposition (e.g., structural components) mixed with some rubble and soil.
- Fill-trash: This was material found within the walls of buildings consisting of some structural components and debris that was probably the result of post-demolition disposal activities.
- Fill-other: These materials accumulated in exterior spaces through cultural depositional activities.
- Middens: These were concentrations of rich dark soils mixed with organic refuse and artifacts.”

Each of these resource types may be expected throughout the APE. The relative integrity of the encountered deposits should be evaluated in order to determine the archeological significance of the site.

Given the highly developed nature of the Havre de Grace area, it is rather unlikely that significant cultural deposits from the pre-contact period survive within the portion of the study area located to the west of the Susquehanna River. According to the MHT files, archeological research on the less-developed Perryville side of the river has demonstrated the survival of numerous Archaic and Woodland period resources on the elevated terraces and other landforms adjacent to the Susquehanna River. The majority of the previously recorded pre-contact resources in Cecil County have been identified as non-diagnostic lithic scatters and short-term resource procurement encampments (see Section 5.2).

5.0 RESULTS OF BACKGROUND RESEARCH

Prior to field investigations, a review of existing literature was conducted with the intent to identify any known (i.e. previously documented) cultural resources within or in the immediate vicinity of the Susquehanna Bridge project APE. Research efforts were also undertaken to acquire a thorough understanding of the pre-contact and historic contexts of the project area vicinity.

5.1 Summary of Previous Investigations

Background research revealed that there have been several previous archeological investigations within the vicinity of the project APE. Past studies near the project corridor have included various environmental compliance studies as well as independent research projects; terrestrial as well as underwater surveys have been conducted. The most recent underwater archeological study involved a 2003 Phase I-level survey of the lower Susquehanna River from Port Deposit to Havre de Grace. Conducted by the Maryland Maritime Archeology Program (MMAP), this study covered approximately 2014 acres and involved a combination of remote sensing technology to identify submerged targets supplemented with diver inspections of suspect areas (Bilicki 2003). As a result of investigations, four previously unidentified submerged cultural resources and seven anomalies were identified. Of the confirmed four submerged resources, all were classified as shipwrecks.

In addition to the underwater study, there were four terrestrial compliance-driven studies within the vicinity of the APE. The first such study was conducted in 1977 by Dennis Curry of the Maryland Geological Survey, Division of Archeology. The investigations covered an approximately 7,000-foot (2,133-meter) section of existing Maryland Route 7A in Harford County that was to be improved. The investigations failed to yield any evidence of intact archeological sites within the construction footprint (Curry 1977).

On the Cecil County side of the Susquehanna River, R. Christopher Goodwin and Associates conducted a Phase I survey of the proposed Perryville Connector corridor in 2002. The fieldwork for this project involved the examination of an approximately 1,558-foot (475-meter) linear corridor extending between Mill Creek and Route 40. These investigations did not yield any evidence for archeological resources (Ross, et al. 2002).

The most extensive previous investigations, which overlaps with a portion of the project APE within Cecil County, were the 1989 Phase I and Phase II surveys conducted by John Milner Associates, Inc. (JMA) at the Perry Point Veteran's Administration Medical Center property. The goal of this survey was to identify the archeological resources located within the approximately 512-acre (207-hectare) property and make recommendations for their eligibility to the National Register of Historic Places. JMA identified a total of 17 new archeological sites within the property as well as 24 artifact locations or isolates. Of the 17 identified resources, 10 sites were evaluated at the Phase II-level in order to determine their eligibility. Within this group, six multi-component resources were recommended as eligible for the NRHP (Stevens et al. 1989). The JMA survey area encompasses almost the entire portion of the current project APE located south of the existing rail corridor within Cecil County. The 1989 study identified three

archeological sites, 18CE255, 18CE258, and 18CE265, located immediately adjacent to the current APE for the Susquehanna River Bridge project; a portion of one of the archaeological sites, 18CE258, is located within the current APE. Phase II investigations were conducted at 18CE258 by JMA. As a result of the Phase I/II survey, all three resources, 18CE255, 18CE258, and 18CE265, were recommended not eligible for the NRHP due to compromised condition and integrity by JMA. No additional work was recommended for these sites. MHT formally concurred that 18CE258 is not eligible for the NRHP in 2009.

Recently, the URS Corporation (URS) conducted archaeological and historic-architectural investigations for a proposed Maryland Area Regional Commuter (MARC) maintenance and storage facility sponsored by the Maryland Transit Administration (MTA) (Koziarski and Seibel 2014). This project is located immediately north of the current Amtrak ROW east of Firestone Road. Six archaeological sites, including the multi-component Coudon Farm Site (18CE383), the historic Coudon Locus A (18CE379), B (18CE380), and C (18CE381) sites, the historic Coudon Drainage site (18CE382) and the recent historic Coudon Road site (18CE384) were recorded during this study. In January 2014, a Phase II site assessment was completed at portions of the Coudon Farm Site (18CE383), the Coudon Locus B site (18CE380), and the Coudon Drainage (18CE382) site to determine potential eligibility for listing in the NRHP. Though the final report has not been formally accepted, a draft report (Koziarski and Seibel 2014) has been reviewed by MHT. According to a letter from MHT to MTA dated 6/18/2014, MHT concurs that five of the six identified sites (18CE379, 18CE380, 18CE381, 18CE382, and 18CE384) are not eligible for the NRHP given their lack of integrity and inability to provide important information. MHT also concurs that site 18CE383, the archeological component of the extant southern farmstead affiliated with the Woodlands Farm Historic District (MIHP No. CE-145), is eligible for inclusion in the NRHP under Criterion D. Though the MARC project area is located immediately adjacent to the current Susquehanna River Rail Bridge APE, these two project boundaries neither overlap nor intersect. Pending any revision to the current APE limits, NRHP eligible site 18CE383 will not be impacted by the current project.

Outside of compliance-driven projects, there are also a small number of independent research studies that have been performed within the Havre de Grace area. Many of these investigations have focused around the area of the Susquehanna Museum and the associated lock gates of the Susquehanna & Tidewater Canal. Following the cessation of canal operations in 1900, the Lock House property was leased to the City of Havre de Grace by the Philadelphia Electric Company for the purposes of being operated as a museum. In the late 1970s and 1980s, extensive archeological studies were conducted on the property in support of its proposed restoration and eventual re-opening to the public as the Susquehanna Museum of Havre de Grace at the Lock House (18HA240) (Mid-Atlantic Archeological Research 1977; Shank 1982; Singley 1987; Hahn 1988; Shank 1988).

Finally, background research revealed a brief field season report for the on-going archeological excavations at the Concord Point Lighthouse property located at the southern end of the Havre de Grace. Constructed in 1825, the lighthouse and associated keeper's property is located at the southern end of the Susquehanna River and has long served as an aid to navigation in the northern Chesapeake Bay. According to the field report, the 1993 excavations appeared to focus on the yard area of the John O'Neill House Site (18HA238). Test unit excavations revealed

possible intact cultural levels which were attributed to a former kitchen or food preparation area associated with the main house (Orr and McIntyre 1994).

5.2 Previously Identified Archeological Sites

The following tables summarize the archeological resources that have been previously recorded within a one-mile (1.6-kilometer) radius of the project APE (***Tables 2 and 3***). Many of these resources were recorded as part of the previous cultural resource investigations described above. ***Table 2*** summarizes the archeological sites that have been documented during numerous systematic surveys. ***Table 3*** represents a summary of the quadrangle files archived by MHT. Many of these resources have yet to be verified in the field by systematic fieldwork and research. The locations of both types of resources are also depicted on ***Figure 13***.

With respect to archeological resources located within or immediately adjacent to the current project APE, besides the sites located on the Perry Point VA property that were discussed in the previous section, the most significant resource located within the limits of the APE is the archeological component of Rodgers Tavern (18CE15). The tavern structure itself, listed on the NRHP in 1972, is a two-story stone structure located on the north side of Broad Street in Perryville, [REDACTED]. According to the NRHP nomination form, Rodgers Tavern (CE-129), which operated during the eighteenth and nineteenth centuries, is of national importance due to the frequent visits of George Washington between the years 1755 and 1798. In addition, Colonel John Rodgers (1728-1791), the proprietor of the tavern during most of Washington's visits, was also the patriarch of the Rodgers family which may be credited with the formation and growth of the United States Navy. [REDACTED]

[REDACTED]

Archeological investigations conducted in 2004 prior to the rehabilitation of the structure yielded a wide variety of eighteenth and early nineteenth century domestic refuse and architectural debris (Hopkins and Persson 2005). The eligibility of the subsurface deposits has not been formally evaluated.

MHT Quad File Resources located within the project APE include the approximate location of the first railroad bridge across the Susquehanna (ID #2), the approximate location of the original ferry across the Susquehanna (ID #3), portions of the historic Havre de Grace waterfront (ID #7), the purported location of an historic coal wharf (IDs #10), and two unconfirmed submerged anomalies (IDs # 18 and 19) that were identified during the 2003 underwater survey of the lower Susquehanna River (Bilicki 2003). Two additional historic coal wharves (IDs #9 and 11) are also present immediately adjacent to the project APE. At the present time, the exact boundaries, condition, and integrity of these MHT Quad File Resource locations have not been determined or verified.

Table 2. Previously Recorded Archeological Sites Within One-Mile of the Area of Potential Effects

MHT ID#	Site Type/Function	Temporal Association	NRHP Status
<i>Harford County</i>			
18HA117	Lithic scatter	Pre-contact/Unknown	Not Evaluated
18HA118	Lithic scatter	Pre-contact/Unknown	Not Evaluated
18HA238	Pre-contact: Encampment Historic: Domestic	Pre-contact: Late Archaic/Middle Woodland Historic: Early 19 th Century	Not Evaluated
18HA240	Canal lock gates	19 th -Early 20 th Century	Not Evaluated
18HA251	Barge (submerged)	Unknown	Not Evaluated
18HA266	Barge (submerged)	Late 20 th Century	Not Evaluated
18HA287	Burned house ruin	Late 18 th -20 th Century	Not Evaluated
18HA288	Historic artifact scatter	Unknown	Not Evaluated
18HA289	Pre-contact: Lithic scatter Historic: Historic artifact scatter	Pre-contact/Unknown Historic: 19 th -Early 20 th Century	Not Evaluated
<i>Cecil County</i>			
18CE11	Encampment	Archaic/Woodland Period	Not Evaluated
18CE15	Rodgers Tavern (Commercial)	Early 18 th -19 th Century	Not Evaluated
18CE18	Encampment	Late Archaic	Not Evaluated
18CE79	Unknown pre-contact/ Archaic base camp	Pre-contact/Unknown and Archaic	Not Evaluated
18CE135	Encampment	Pre-contact/Unknown	Not Evaluated
18CE140	Lithic scatter	Middle Archaic	Not Evaluated
18CE199	Lithic scatter	Late Archaic	Not Evaluated
18CE253	Lithic scatter	Archaic	Not Evaluated
18CE254	Lithic scatter	Pre-contact/Unknown	Not Evaluated
18CE255	Lithic scatter	Pre-contact/Unknown	Not Evaluated
18CE256	Pre-contact: Encampment Historic: Mill complex	Pre-contact: Late Archaic Historic: 18 th Century	Eligible; DOE 3/10/1989
18CE257	Short term resource procurement	Late Woodland	Not Evaluated
18CE258	House (Domestic)	19 th Century	Not Eligible; DOE 3/10/1989
18CE259	Short term resource procurement	Late Woodland	Eligible; DOE 3/10/1989
18CE260	Pre-contact: Short term resource procurement camp Historic: Historic artifact scatter	Pre-contact/Unknown Historic: 19 th Century	Not Eligible; DOE 9/15/2009
18CE261	Short term resource procurement	Archaic	Not Evaluated

MHT ID#	Site Type/Function	Temporal Association	NRHP Status
18CE262	Pre-contact: Short term resource procurement Historic: Plantation (Domestic)	Pre-contact: Late Archaic/Woodland Historic: 18 th Century	Eligible; DOE 3/10/1989
18CE263	Pre-contact: Encampment Historic artifact concentration, possible structure	Pre-contact: Late Archaic-Woodland Historic: 18 th -Early 19 th Century	Eligible; DOE 3/10/1989
18CE264	Pre-contact: Encampment Historic: Domestic	Pre-contact: Late Archaic/Woodland Historic: 18 th -19 th Century	Eligible; DOE 3/10/1989
18CE265	Unknown	20 th Century	Not Evaluated
18CE266	Pre-contact: Lithic scatter Historic: House (Domestic)	Pre-contact/Unknown Historic: 18 th Century	Not Evaluated
18CE269	Pre-contact: short-term camp Historic: (1) house site, possible slave or tenant house (2) early 20 th Century bunkhouse	Pre-contact/Unknown Historic: (1) 18 th Century (2) 20 th Century	Eligible; DOE 3/10/1989
18CE297	Shipwreck	19 th Century	Not Evaluated
18CE379	Debris scatter	Early to Mid-20th Century	Not Eligible; DOE 6/18/14
18CE380	Artifact scatter	19 th -20 th Century	Not Eligible; DOE 6/18/14
18CE381	Artifact scatter	Late 18 th -19 th Century	Not Eligible; DOE 6/18/14
18CE382	Brick outbuilding	19 th – Early 20 th Century	Not Eligible; DOE 6/18/14
18CE383	Farmstead/plantation	Late 18 th -20 th Century	Eligible; DOE 6/18/14
18CE384	Roadbed	Mid – Late 20 th Century	Not Eligible; DOE 6/18/14

Table 3. Previously Recorded Quadrangle Files Within One Mile of the Area of Potential Effects, Havre de Grace Quadrangle

Quad File ID#	CLASS	Description	Comments/ Reference
946	HAVRED-QF02	Approximate location of the first railroad bridge across Susquehanna; PW&B railroad bridge pilings HA-836	Phase I Underwater Archeological Project (Thompson 2000)
947	HAVRED-QF03	Approximate location of ferry across Susquehanna River	Phase I Underwater Archeological Project (Thompson 2000)
948	HAVRED-QF04	Approximate location of two piers at Perryville	Phase I Underwater Archeological Project (Thompson 2000)
951	HAVRED-QF07	Location of historic Havre de Grace waterfront	Phase I Underwater Archeological Project (Thompson 2000)
952	HAVRED-QF08	Approximate location of Morgan Wharf, J. Hooper Co.	Phase I Underwater Archeological Project (Thompson 2000)
953	HAVRED-QF09	Approximate location of coal wharf	Phase I Underwater Archeological Project (Thompson 2000)
954	HAVRED-QF10	Approximate location of coal wharf	Phase I Underwater Archeological Project (Thompson 2000)
955	HAVRED-QF11	Approximate location of Hall Bros. coal wharf	Phase I Underwater Archeological Project (Thompson 2000)
956	HAVRED-QF12	Approximate location of Boyd & Co. coal wharf	Phase I Underwater Archeological Project (Thompson 2000)
957	HAVRED-QF13	Approximate location of Ferry Wharf	Phase I Underwater Archeological Project (Thompson 2000)
958	HAVRED-QF14	Approximate location of John Dubois Saw Mill and Lumberyard Wharf	Phase I Underwater Archeological Project (Thompson 2000)
959	HAVRED-QF15	Approximate location of wharf	Phase I Underwater Archeological Project (Thompson 2000)
962	HAVRED-QF18	Approximate location of submerged anomaly	Susquehanna River Underwater Survey (Bilicki 2003)
963	HAVRED-QF19	Approximate location of submerged anomaly	Susquehanna River Underwater Survey (Bilicki 2003)
964	HAVRED-QF20	Approximate location of submerged anomaly	Susquehanna River Underwater Survey (Bilicki 2003)

Quad File ID#	CLASS	Description	Comments/ Reference
965	HAVRED- QF21	Approximate location of semi-submerged abandoned barges	Susquehanna River Underwater Survey (Bilicki 2003)
966	HAVRED- QF22	Approximate location of submerged anomaly	Susquehanna River Underwater Survey (Bilicki 2003)
967	HAVRED- QF23	Stone foundation	Correspondence, notes, maps, photos, and sketches
968	HAVRED- QF24	Location of Black Cemetery	Correspondence, notes, maps, photos, and sketches

**THIS PAGE CONTAINS CONFIDENTIAL
INFORMATION AND HAS BEEN
REDACTED**

5.3 Potential Archeological Site Types Within the Project APE

This discussion is intended to highlight the kinds of significant resources that may be preserved under fortuitous circumstances, such as paved areas with minimal below-grade disturbance. Archeological potential is considered high for each of these resource types, although individual examples of each site type cannot be assessed for integrity based on the currently available landform disturbance data.

Pre-contact Resources

Due to the location of the proposed project across a major river terrace overlooking the mouth of the Chesapeake Bay estuary, areas within the current APE would have been an extremely attractive place of settlement to pre-contact peoples. However, due to the intensity of the railroad activities within the APE the potential for intact pre-contact deposits is low. Particularly, within Havre de Grace, intact pre-contact contexts would most likely have to be buried deeply in order to have avoided disturbance to date. Given the lower density of settlement during the historic period on the eastern shore of the river (Perryville), it is very likely pre-contact period sites may survive intact within this portion of the APE. Indeed, several known sites with pre-contact components have already been identified within the vicinity Perryville (*Table 2; Figure 13*).

Commercial Establishments

Historic maps, especially the Sanborn Fire Insurance maps, provide a great deal of assistance in predicting exactly what archeological site types may be found within the APE. For Havre de Grace and Perryville, the late nineteenth-early twentieth century Sanborn maps depict a grid pattern of streets that, for the most part, remains intact to the present day. The town blocks formed by this grid pattern appear to contain a mixture of commercial establishments and residences. Interspersed within these structures are other features typical of community life such as churches and schools. Specifically, within Havre de Grace churches are located at the corner of Warren and Stokes streets as well as at the corner of Franklin Street and Freedom Alley. Within Perryville, a church is located at the corner of Broad Street and Susquehanna Avenue.

Residential Housing

As described above, single- and multiple-family residences seem to comprise the majority of the settlement features located within the Havre de Grace portion of the APE and within the Perryville portion of the APE north of the rail corridor. Some of the more densely settled blocks may contain as many as 8-15 structures. For these residential areas, archeological deposits may consist of not only structural remains, but also deposits associated with common or yard areas including the remains of privies, wells, or other outbuildings which served a specific function for property owners.

Industrial Sites/Wharves

Sanborn Maps which focus on the Havre de Grace waterfront seem to indicate a densely developed area that contained numerous commercial and light industrial establishments that helped Havre de Grace develop into an important point of trade in eastern Maryland. Within the current archeological APE, items of particular interest include the City Water Works as well as the numerous coal wharves and milling operations. The MHT Quad Files indicate the possible survival of numerous wharves and bulkheads that once lined the Havre de Grace waterfront during the nineteenth and early twentieth centuries (*Figure 13*).

5.4 Historic Land Use Patterns

The historic maps depicting the APE from the time of European settlement through the twentieth century are illustrative of the contrasts in settlement patterning between Havre de Grace and the Perryville sides of the Susquehanna River. Due to its commanding location at the mouth of the Susquehanna River and at the head of the Chesapeake Bay, Havre de Grace developed early in the historic period as an important point of trade assisting in the movement of goods and people between the urban centers of the north and port cities located to the south such as Baltimore and Norfolk. With its position at the mouth of a major river, Havre de Grace also served as a logical transfer point for resources and raw material such as timber and coal coming from the Pennsylvania interior. While Havre de Grace never achieved the size and stature of a larger port city such as Baltimore, this strategic location allowed the community to develop into a bustling commerce center beginning in the eighteenth century and lasting well into the twentieth century (*Photograph 1*).

Due to the duration and intensity of development within the towns, the analysis of historic land use is greatly aided by the survival of numerous fire insurance maps prepared by the Sanborn Map Company. These maps extend in time from 1886 to 1930 and show in detail the mixture of residential dwellings and small commercial establishments that comprised the growing towns in the late nineteenth and early twentieth centuries. Specifically, Sanborn Maps reviewed for Havre de Grace include maps from 1886, 1894, 1899, 1904, 1910, 1921, and 1930. Sanborn Maps reviewed for Perryville include maps from 1904, 1910, and 1923. Though multitude of maps was encountered, many of the maps provided redundant information and did not indicate that significant development had occurred within the preceding years. Therefore, the most representative and informative maps are presented herein (*Figures 14, 15, 16, 17, 18, and 19*). A more detailed explanation of the resources depicted on the Sanborn maps and what the implications are for archeological potential (e.g. survival of intact subsurface cultural deposits) will be included in the following section with the results of the field reconnaissance (Section 6.0).

On the Havre de Grace side of the river, of particular note are the depictions of the river's edge which appear to show a bustling commercial waterfront with numerous wharves complemented with storage, milling, and other light industrial facilities. Through the final decade of the nineteenth century, the main facility for the town's water supply also appears to be located along the waterfront to the immediate south of the existing railroad bridge.

In contrast, the eastern shore of the Susquehanna River retained a much more rural and agrarian character throughout most of the eighteenth and nineteenth centuries (*Photograph 2*). Despite having a transportation link, either through ferry service in the eighteenth century or by a railroad bridge later in the nineteenth century, for many decades the focal points for the eastern shore of the Susquehanna was Rodgers Tavern and the lands of the Perry Point plantation, the family seat of Captain Richard Perry. While Rodgers Tavern was a popular spot for travelers, the current village of Perryville does not appear to develop until the advent of railroad service through the area during the mid-nineteenth century.

With respect to Perry Point, the property passed through several owners and families during the eighteenth and nineteenth centuries. The property was transferred from the Perry family to Philip Thomas in 1729. It was during Thomas' tenure of ownership that the Manor House was constructed ca. 1750. Philip Thomas' descendants held on to the property for much of the eighteenth century until the farm witnessed a round of short-term owners during the last quarter of the eighteenth century. In 1800, John Stump purchased the Perry Point property, which at that time, included an estate containing approximately 1,800 acres. During this period, the property appears to have contained a successful farm and grist mill.

The property's association with Federal ownership began in 1917 when officials representing the U.S. government purchased 516 acres of land from the Stump family heirs in order to construct an ammonium nitrate plant to service the need for explosives during World War I. In turn, the government leased the property to the Atlas Powder Company which constructed a large manufacturing facility as well as an associated residential village which housed over 300 plant workers and employees. The plant, however, only saw a few short months of production before the treaty ending World War I was signed, halting all operations at the facility. Despite the end of the ammonium nitrate production, the government retained possession of the Perry Point property and the land was turned over to the U.S. Public Health Service in 1919. Over time, the size and range of available medical services at Perry Point grew to its current state which is comprised of over 85 buildings

(http://www.maryland.va.gov/about/History_of_the_Perry_Point_VA_Medical_Center.asp).



Photograph 1: Representative view of Havre de Grace waterfront near the existing Susquehanna River Bridge structure, looking east.



Photograph 2: Representative view of the Perryville waterfront south of the existing Susquehanna River Bridge structure, looking south.

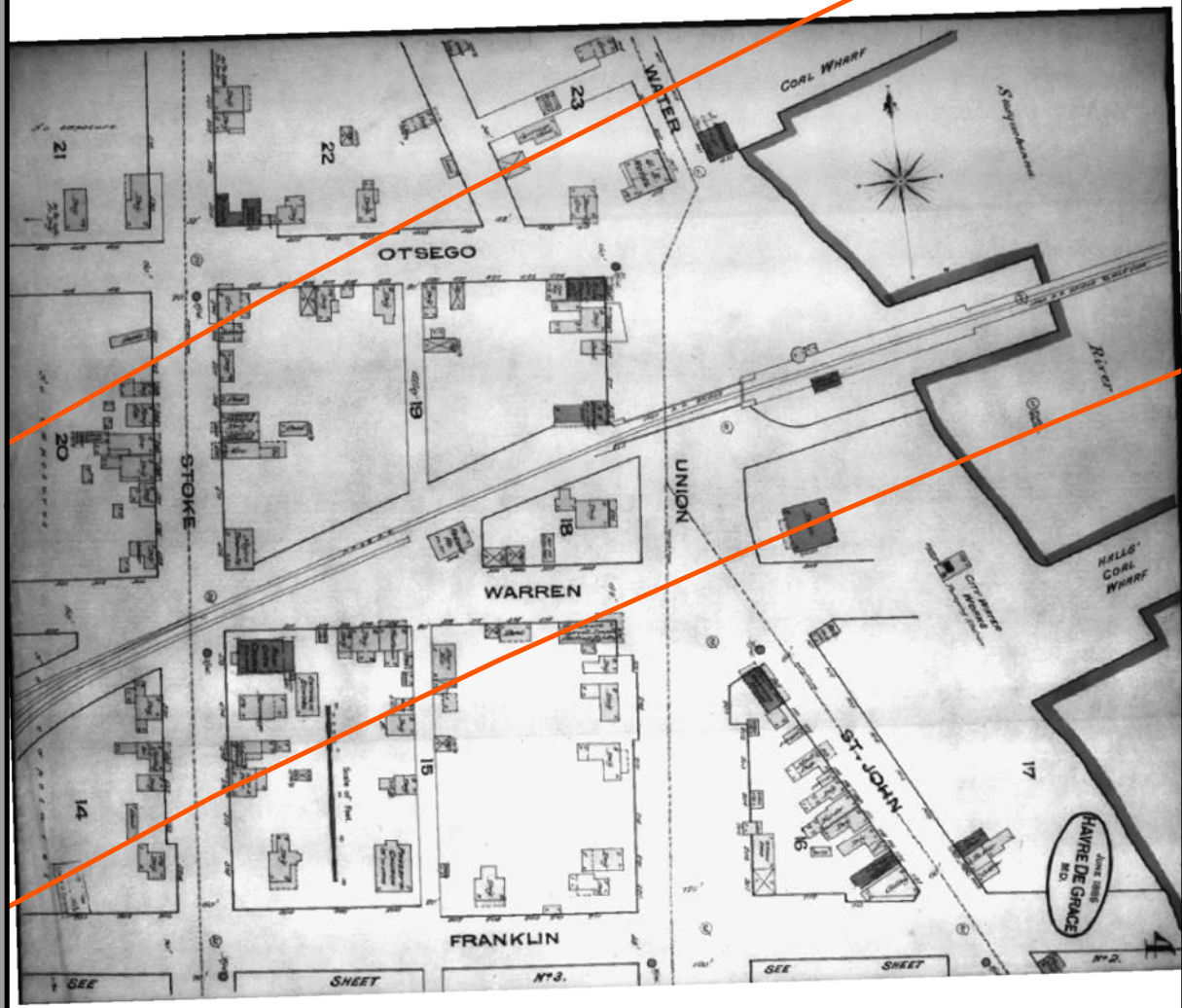

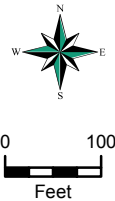


Figure 14

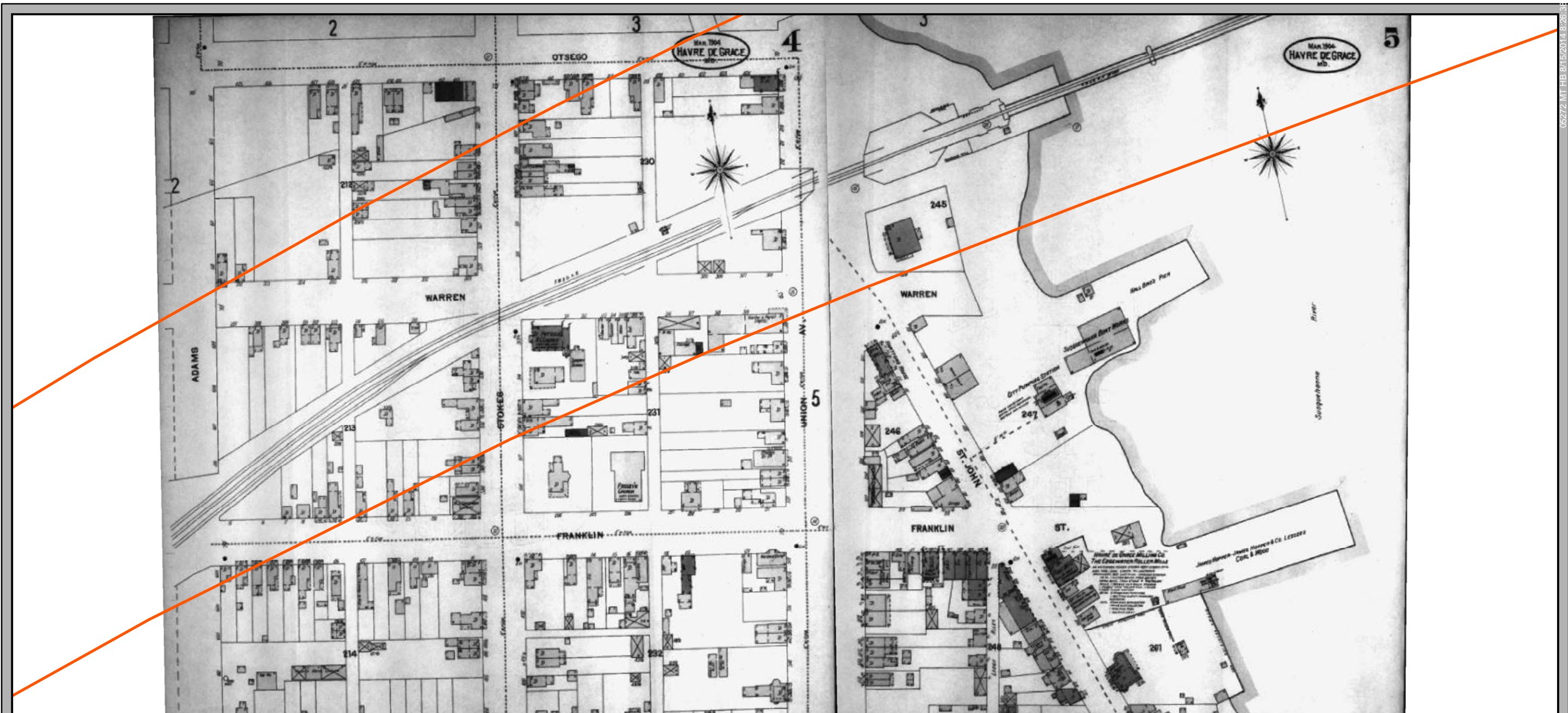
Detail of 1886 Sanborn Map Depicting the Vicinity of the Havre de Grace Waterfront and Previous Railroad Bridge Structure



 Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland



Source: Hauducoeur's Map of the Head of Chesapeake Bay and Susquehanna River, 1799



 Archeological Area of Potential Effects

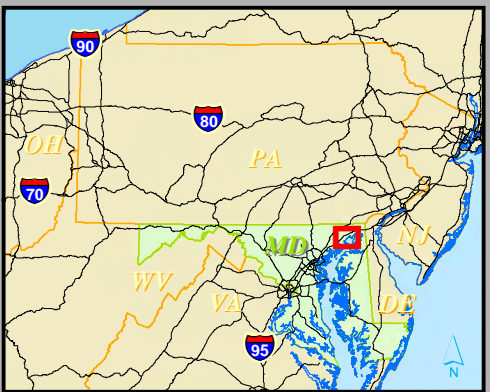
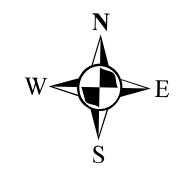
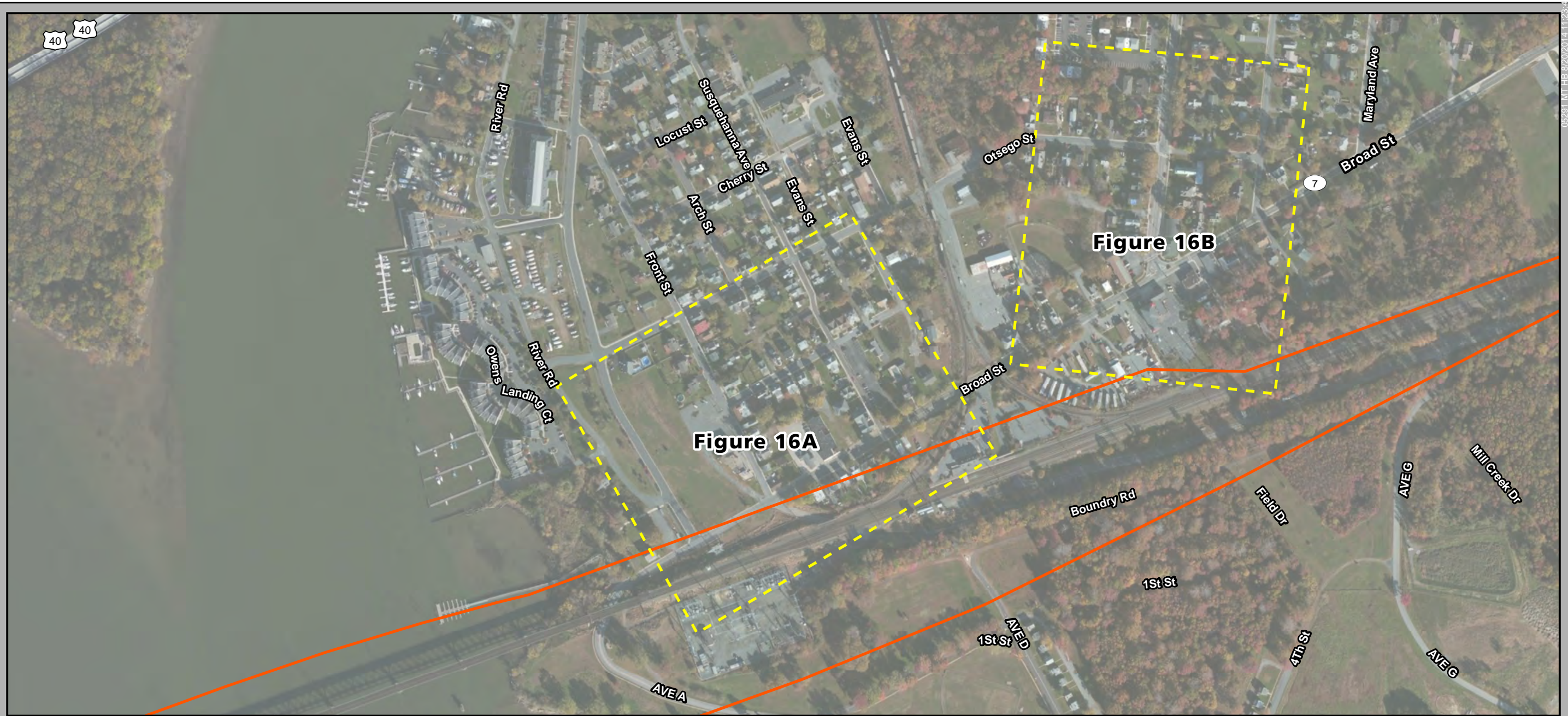






Figure 15
 Detail of 1904 Sanborn Map Depicting the
 Vicinity of the Havre de Grace Waterfront
 and Previous Railroad Bridge Structure

Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland

Source: Sanborn Map Company, 1904



 Detail of Historic Maps
 Archeological Area of Potential Effects

0 250 500 Feet
 0 30 60 90 120 150 Meters

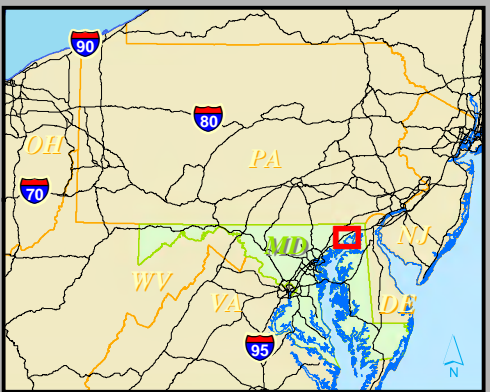
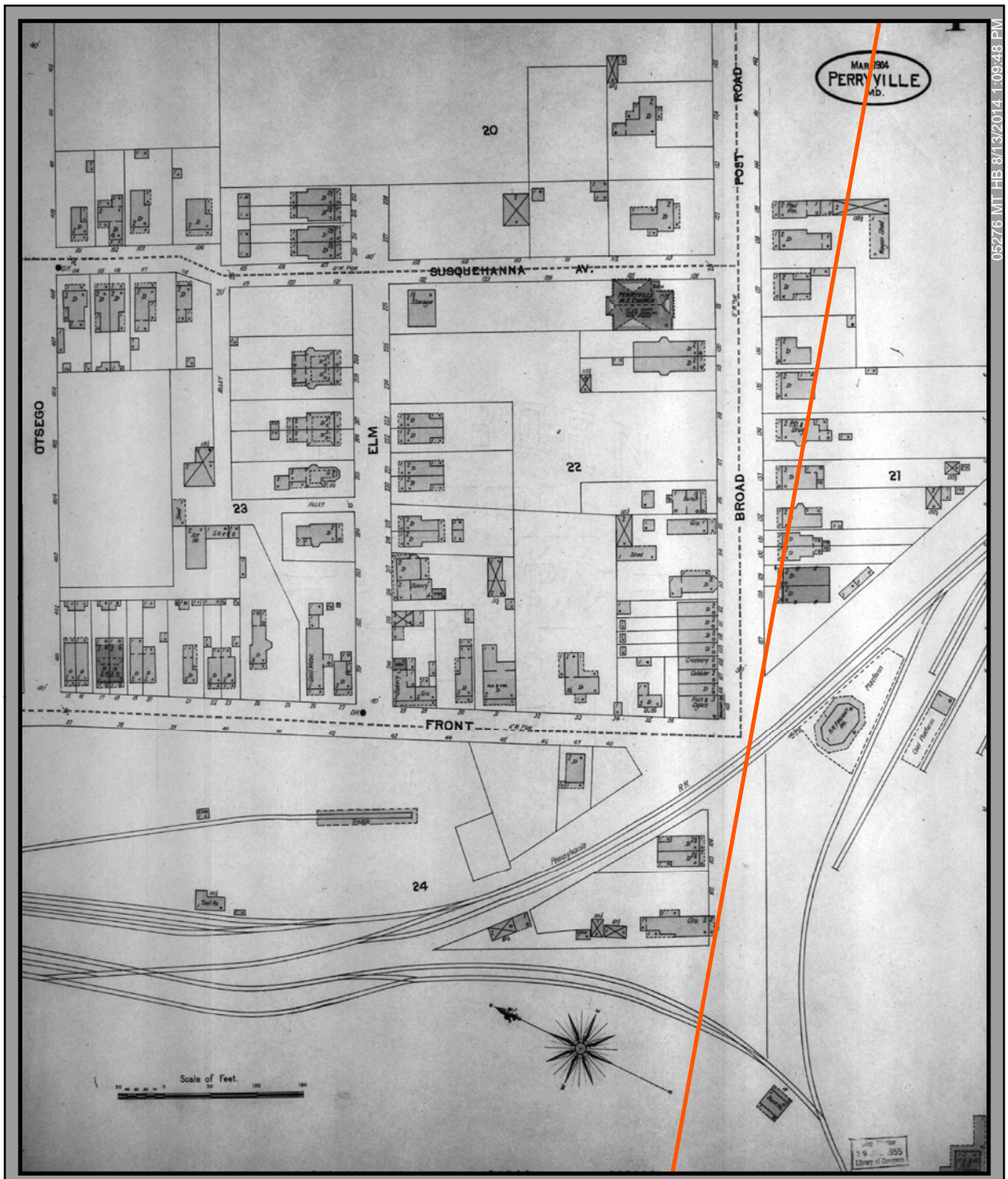


Figure 16 Index
Detail of 1904 Sanborn Map Depicting
the Vicinity of the Perryville Waterfront
and Previous Railroad Lines
 Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland
 Source: Sanborn Map Company, 1904




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Figure 16A

Detail of 1904 Sanborn Map Depicting the Vicinity of the Perryville Waterfront and Previous Railroad Lines

**Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland**

Source: Sanborn Map Company, 1904

 Archeological Area of Potential Effects



Not to Scale

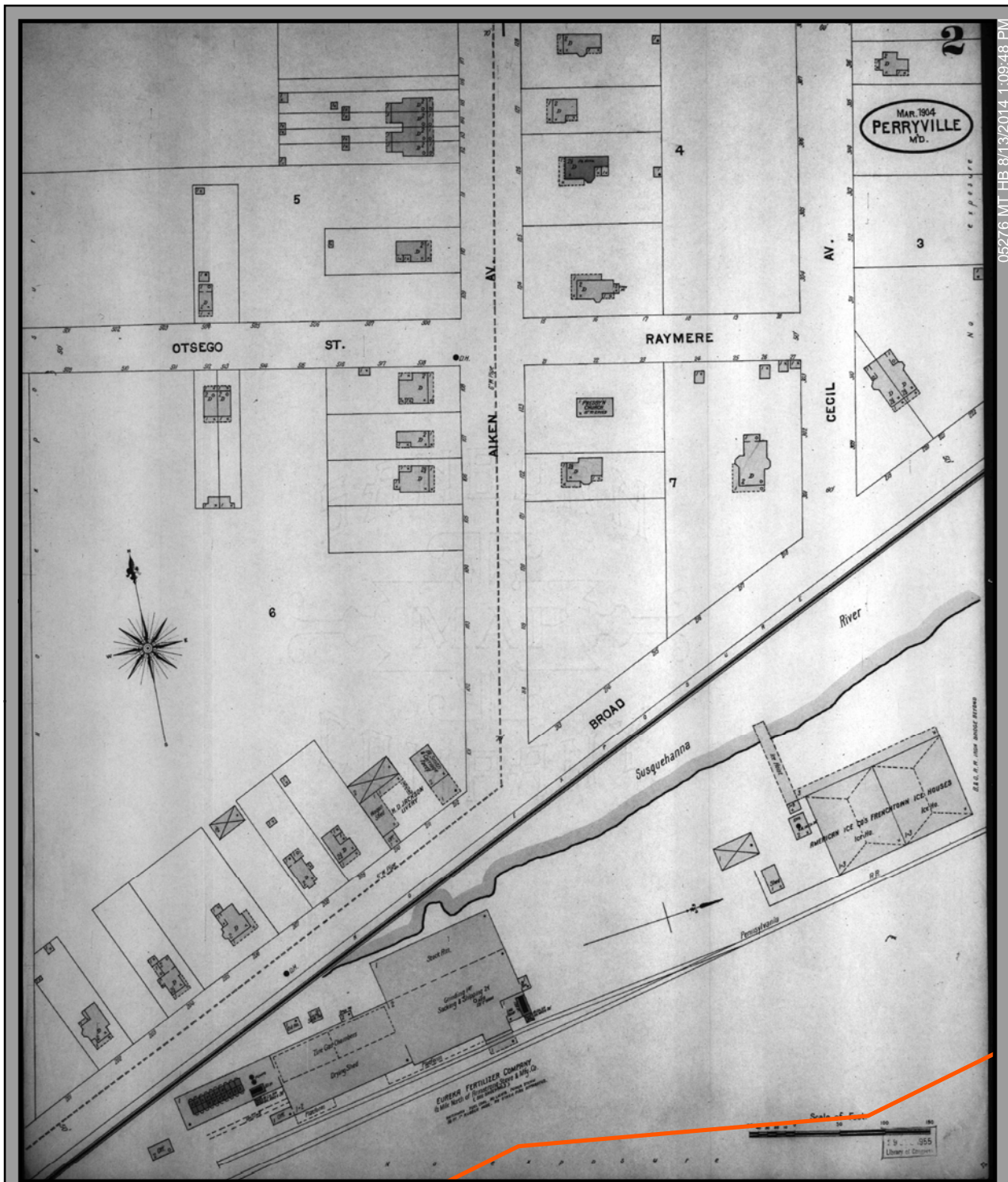



Figure 16B

Detail of 1904 Sanborn Map Depicting the Vicinity of the Perryville Waterfront and Previous Railroad Lines

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: Sanborn Map Company, 1904

 Archeological Area of Potential Effects



Not to Scale

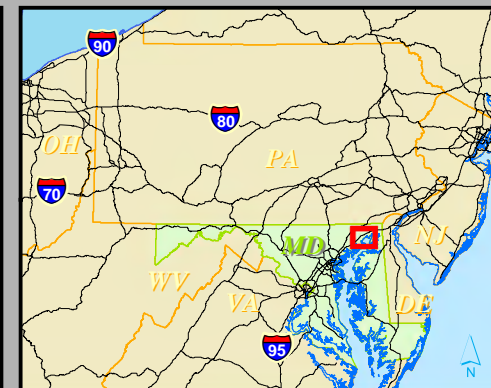
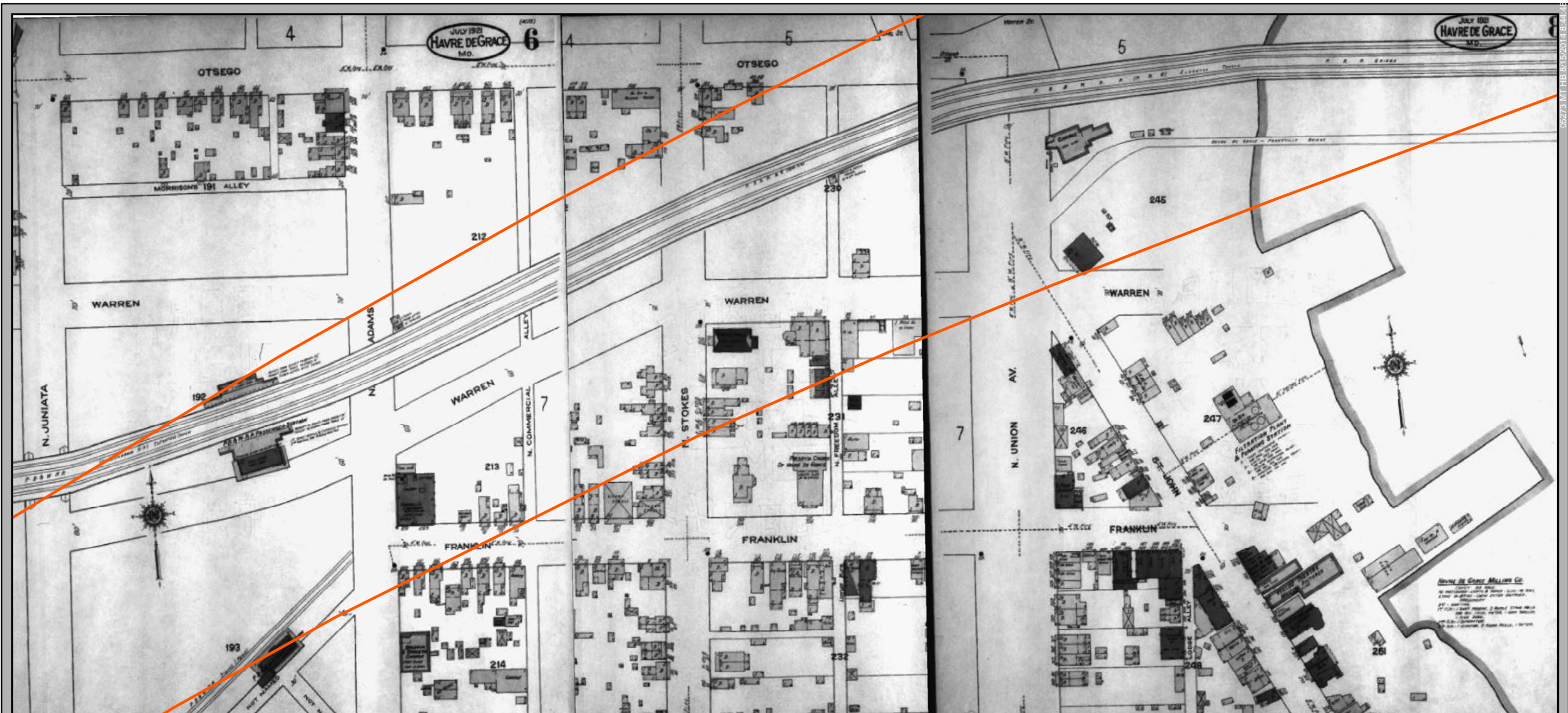
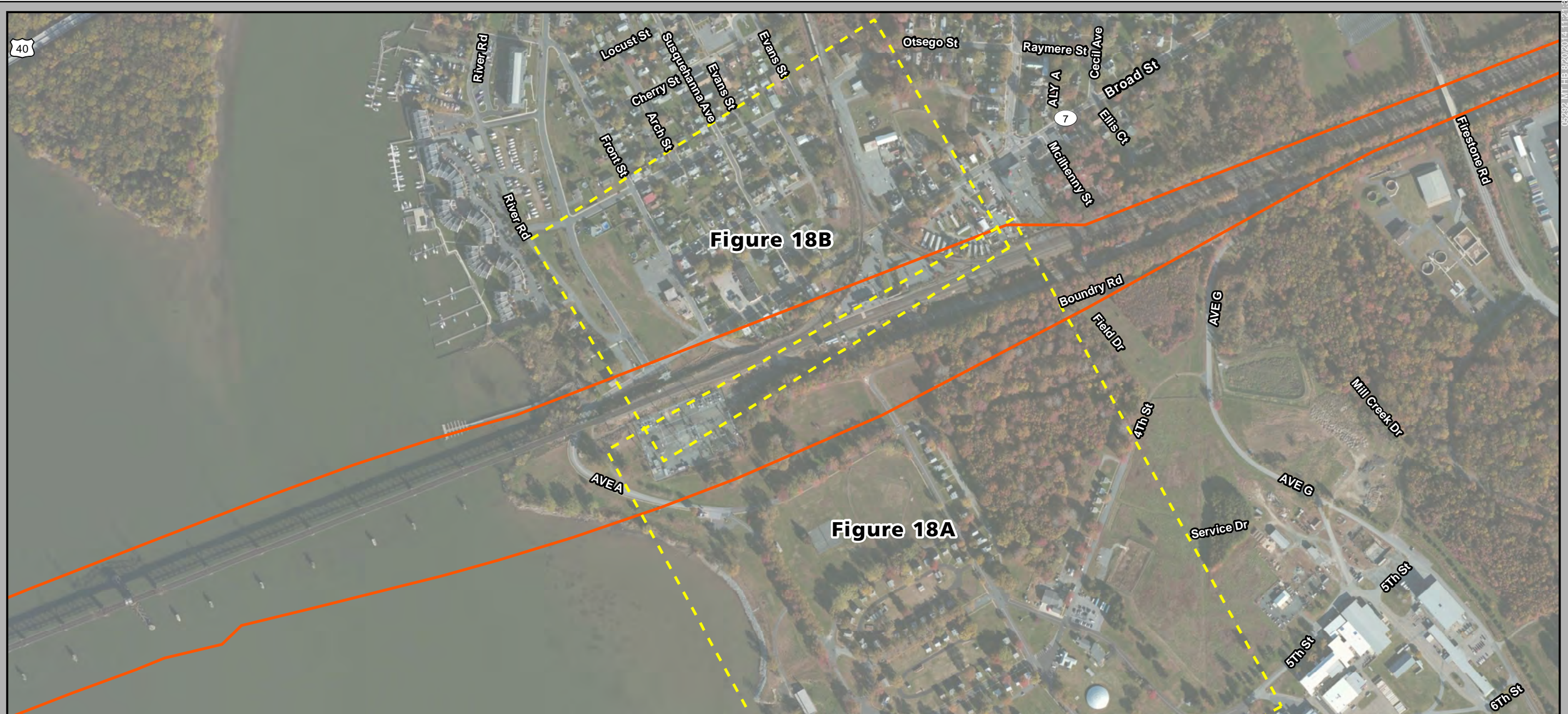




Figure 17
Detail of 1921 Sanborn Map Depicting the
Vicinity of the Havre de Grace Waterfront
and Existing Railroad Bridge Structure

Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland

Source: Sanborn Map Company, 1921



-  Detail of Historic Maps
-  Archeological Area of Potential Effects

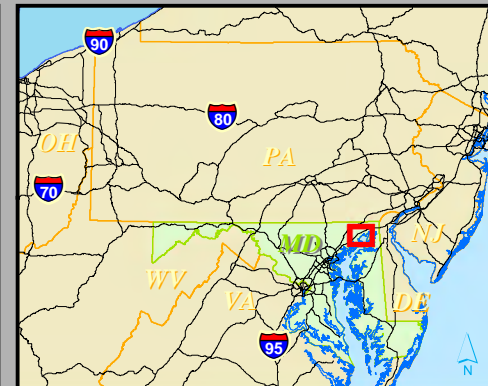
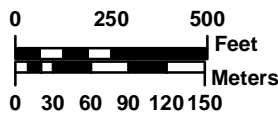
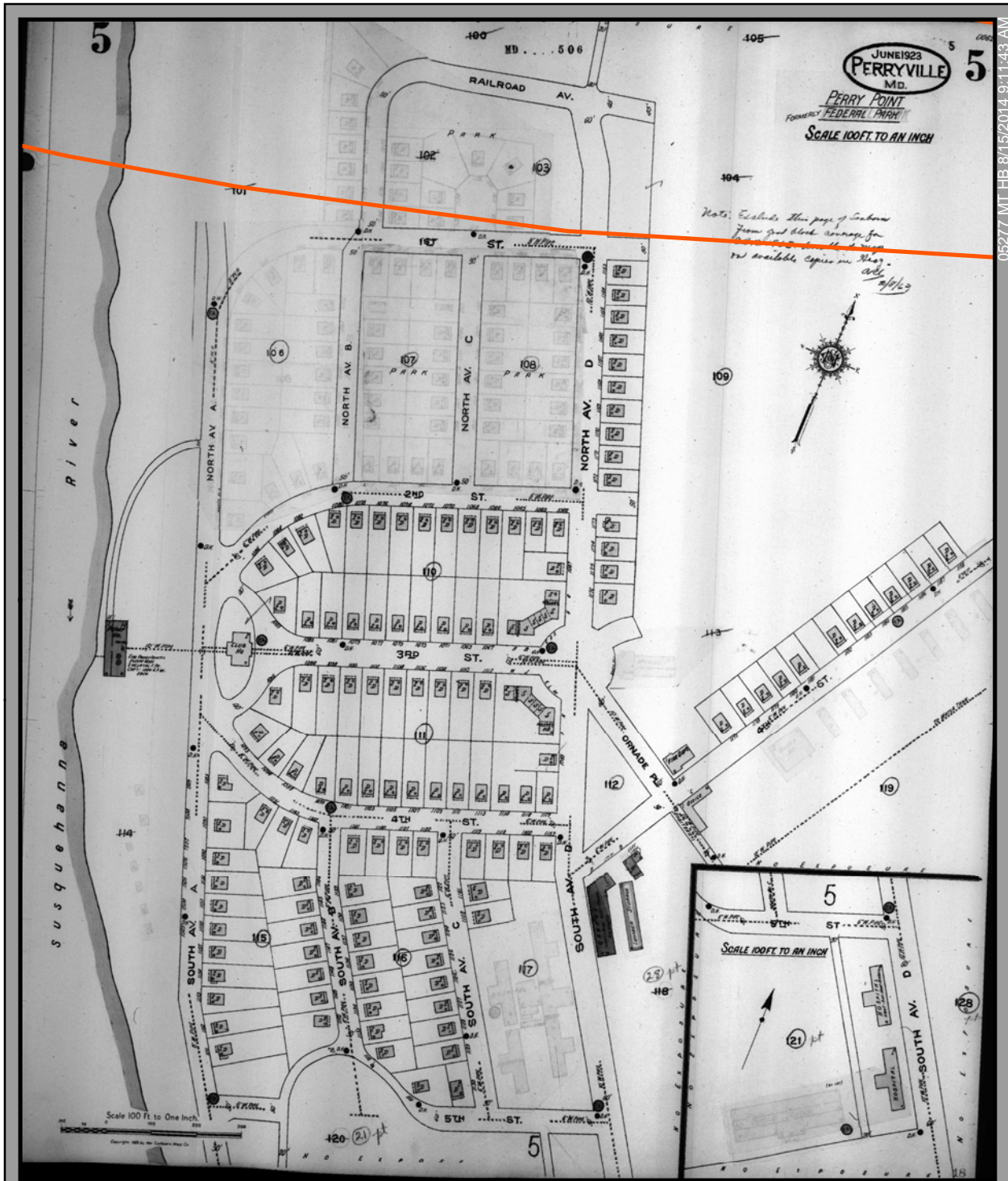


Figure 18 Index
Detail of 1923 Sanborn Map Depicting
the Vicinity of the Perryville Waterfront
and Existing Railroad Intersection

Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland

Source: Sanborn Map Company, 1923




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Figure 18A
Detail of 1923 Sanborn Map Depicting the Vicinity of the Perryville Waterfront
and Existing Railroad Intersection



Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

 Archeological Area
of Potential Effects

Source: Sanborn Map Company, 1923

Not to Scale

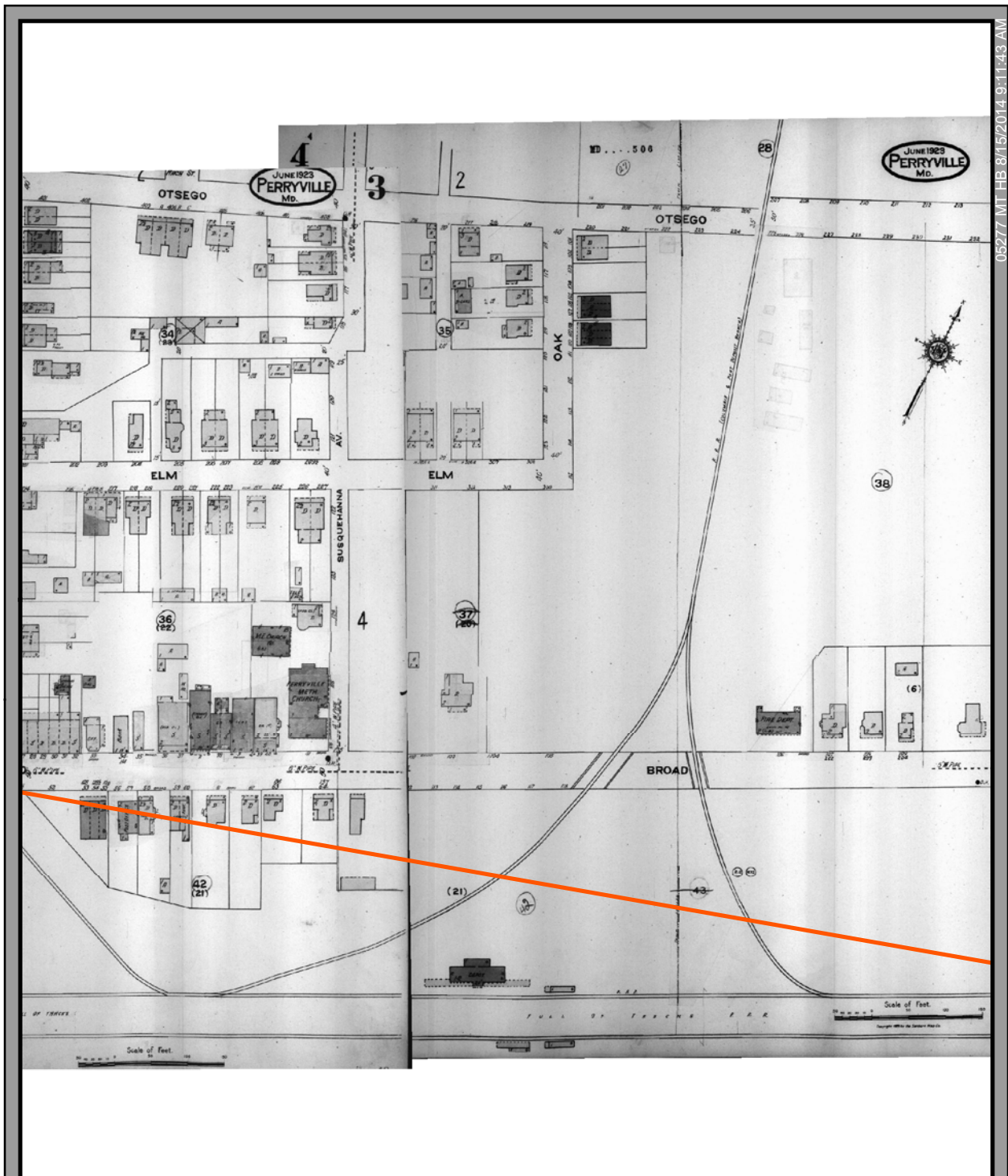


Figure 18B
Detail of 1923 Sanborn Map Depicting the Vicinity of the Perryville Waterfront
and Existing Railroad Intersection



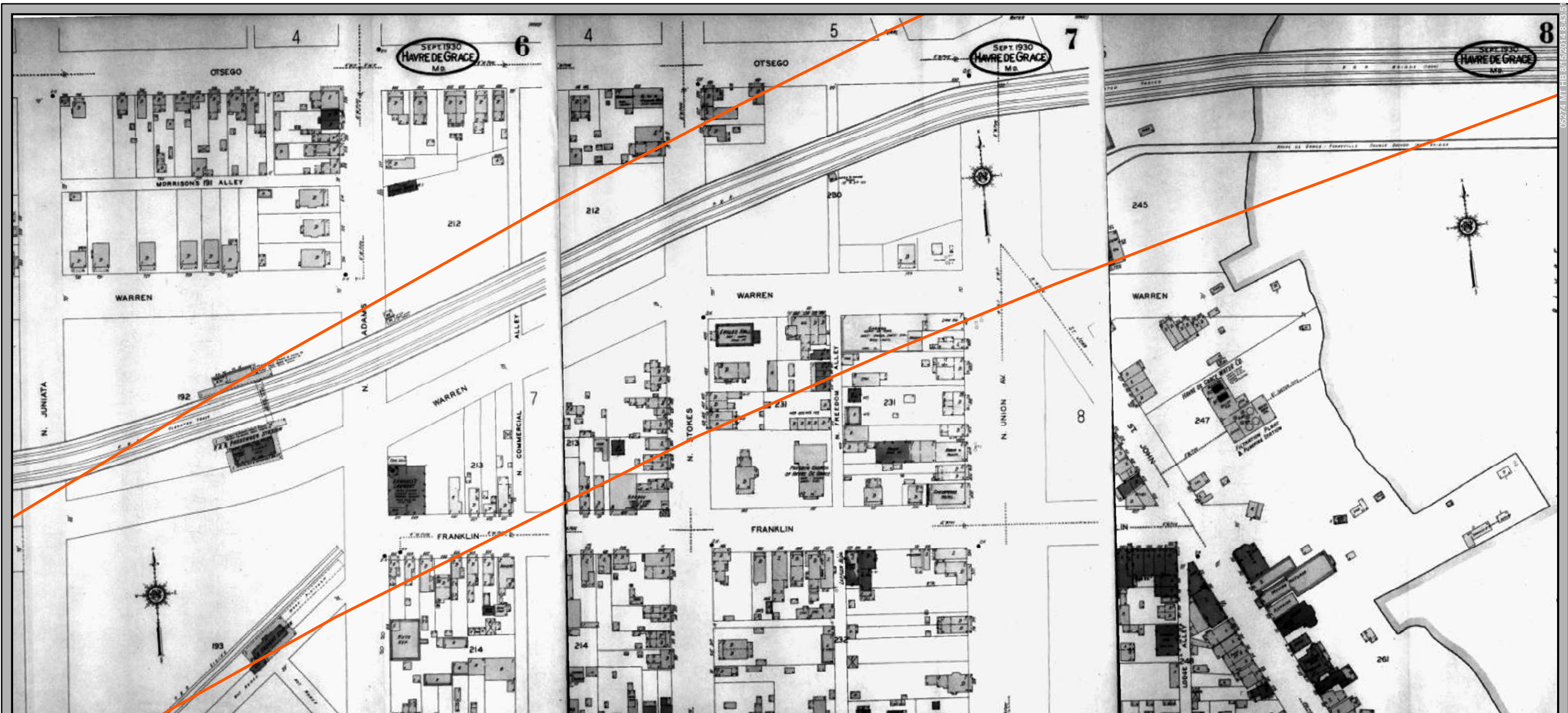
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland


 Archeological Area
of Potential Effects

Source: Sanborn Map Company, 1923

Not to Scale

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 Archeological Area of Potential Effects

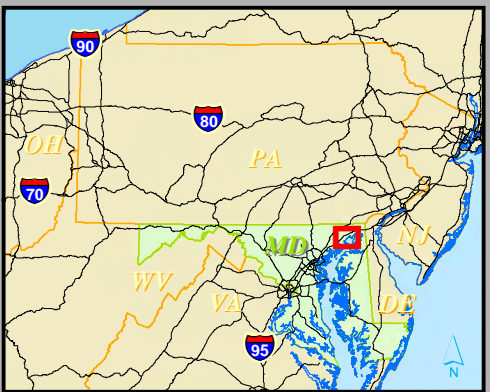
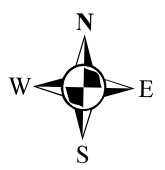
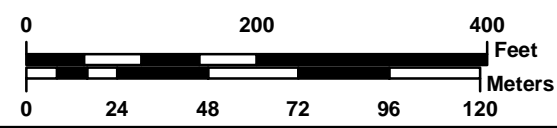


Figure 19
Detail of 1930 Sanborn Map Depicting the
Vicinity of the Havre de Grace Waterfront
and Existing Railroad Bridge Structure

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

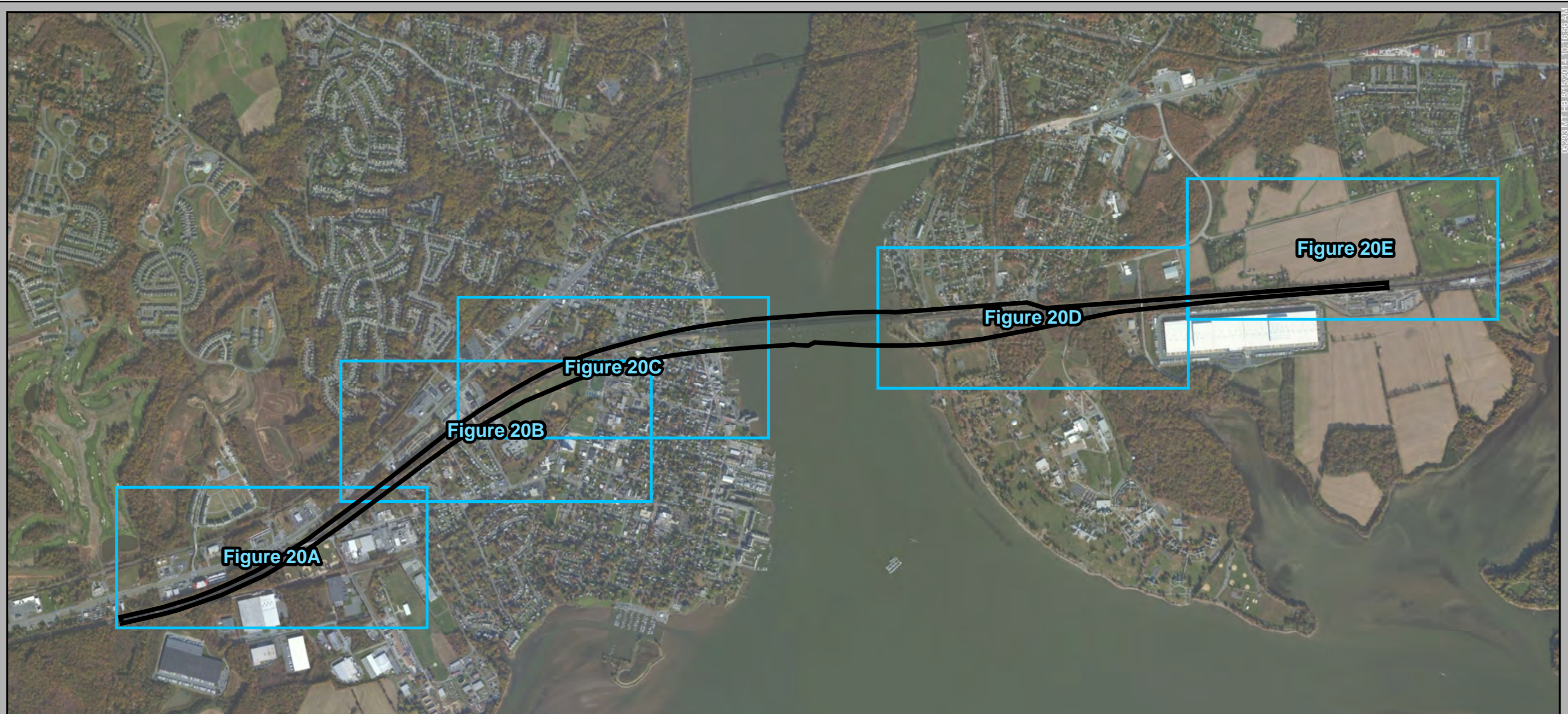
Source: Sanborn Map Company, 1930

6.0 RESULTS OF FIELD RECONNAISSANCE



The APE encompasses all of the various design alternatives for the project. The majority of the each design alternative lies within the existing Amtrak right-of-way (ROW), which has been severely disturbed by prior railway construction activities. However, in proximity to the Susquehanna River shoreline, the width of the project APE expands outside of the current ROW to allow for the numerous design alternatives associated with the bridge rehabilitation or replacement. For the purposes of the archeological assessment, project investigators subdivided the portions of the APE outside of the current ROW into five (5) distinct study areas (**Figure 20**). On the western shore of the river (Havre de Grace side), there are three study areas extending approximately from the intersection of the Amtrak rail line and Lewis Lane and proceeding in a northeasterly direction through the town of Havre de Grace to the Susquehanna River shoreline. Similarly, on the eastern shore of the river (Perryville side) there are two study areas extending from the eastern shoreline and proceeding in a northeasterly direction to the intersection of the rail corridor and Firestone Drive, near the Perryville wastewater treatment plant.

6.1 Amtrak ROW



In order to thoroughly record the existing conditions within the Amtrak ROW, the ROW was photo documented as a supplement to the written observations of the archaeologists. Within the vicinity of downtown Havre de Grace and Perryville, the existing rail corridor is elevated above the surrounding neighborhoods. The elevated line is supported by a series of large earthen berms. In many locations underground utilities and supports for overhead utilities were observed within and immediately adjacent to the rail corridor. Outside of the setting of the towns, the ROW is comprised of graded areas. These graded areas are the result of cutting and filling activities associated with the construction of the rail corridor. In many areas, drainage ditches were also observed adjacent to the rail lines. Scrub grass vegetation, gravels, and small to medium sized stones serve as the ground cover for the majority of the rail corridor. Severe disturbance was observed within the ROW throughout the entire APE. The encountered disturbance was determined to be the result of severe cutting and filling activities associated with the construction of the current rail corridor. These observations were supported by historical topographic mapping (USGS 1900, 1906, 1912, 1920, 1923, 1931, 1941, 1942, 1945, 1955, 1965, 1971, 1977, 1984, 1985, 1991, 1993, 2000, and 2013; www.historicaerials.com) and USGS historic aerial photography (USGS 1952, 1970, 2007, and 2009; www.historicaerials.com) which exist for the area. Based on the severity of the activities associated with the rail corridor construction, there is low potential that intact historic or pre-contact cultural deposits are present within the current Amtrak ROW, with the possible exception of the former Havre de Grace Train Station east of Juniata Street (see Section 6.2) (**Figure 20; Photographs 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12**).



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 Archeological Area of Potential Effects
 Map Sheets

0 1,000 2,000 4,000 Feet
 0 240 480 720 960 1,200 Meters

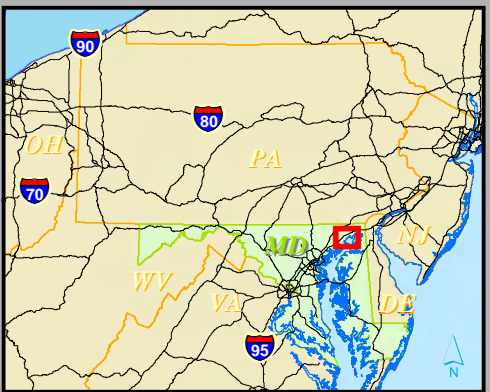
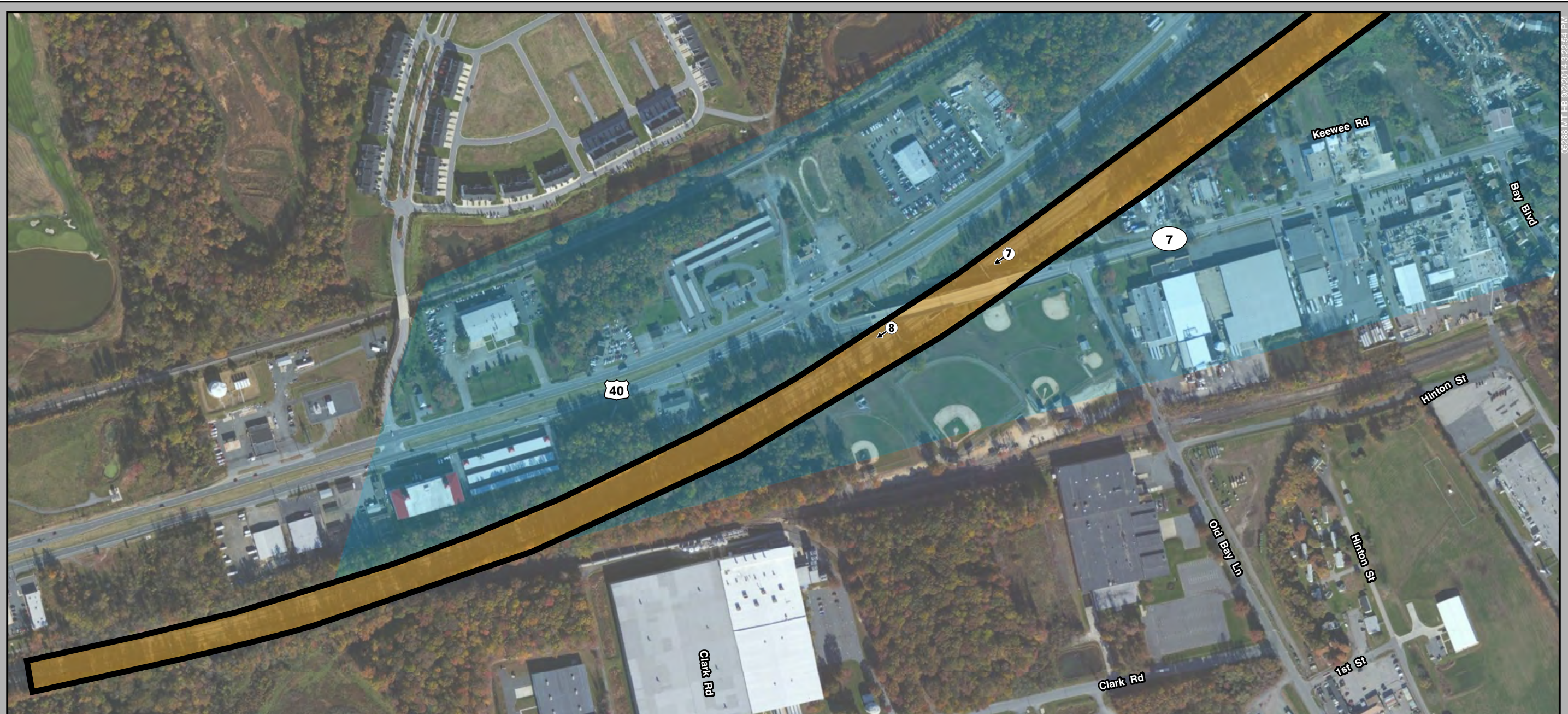


Figure 20 Index Map
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013



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	Archeological Area of Potential Effects		Recommended Phase IB Survey Areas
	Area Previously Subjected to Archeological Survey		Study Area 1
	Prior Disturbance - No Archeological Potential		Study Area 2
	Photograph Locations		Study Area 3
			Study Area 4
			Study Area 5
			Soil Probes

0 200 400 800 Feet

0 48 96 144 192 240 Meters

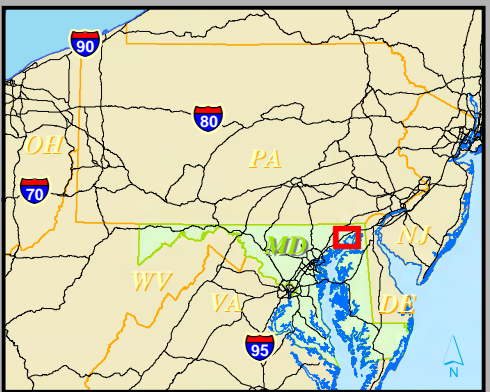


Figure 20A
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013

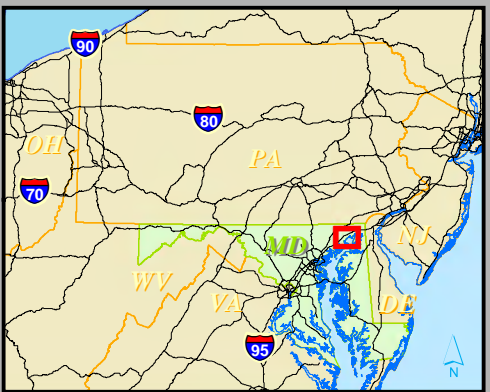
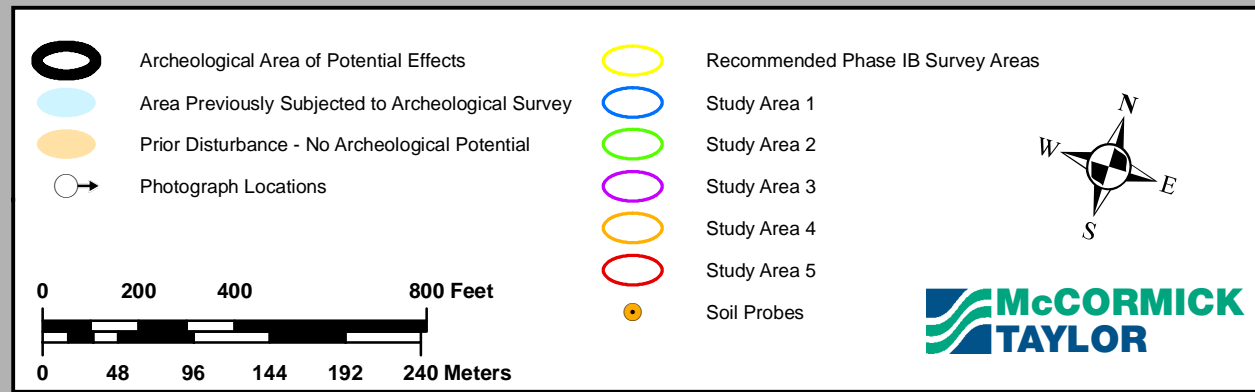
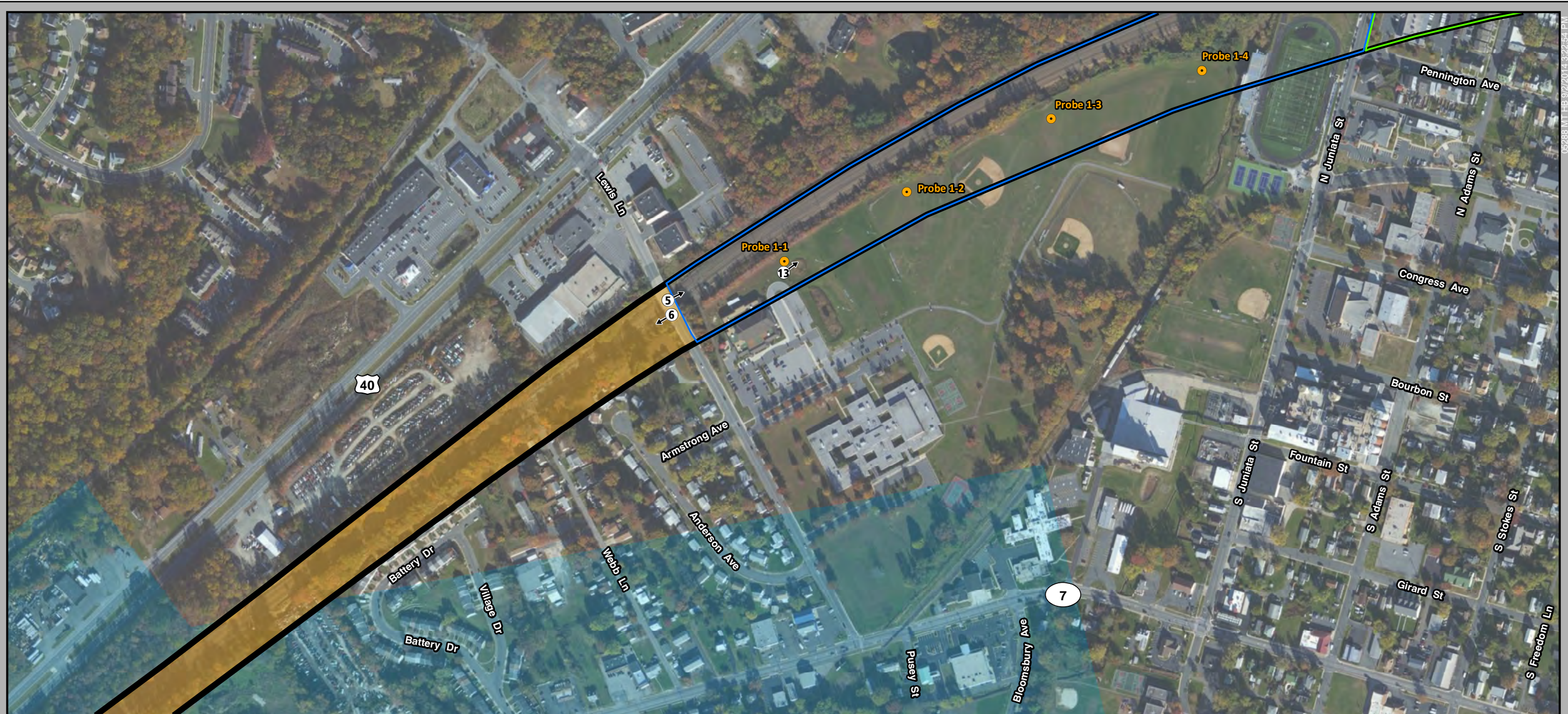
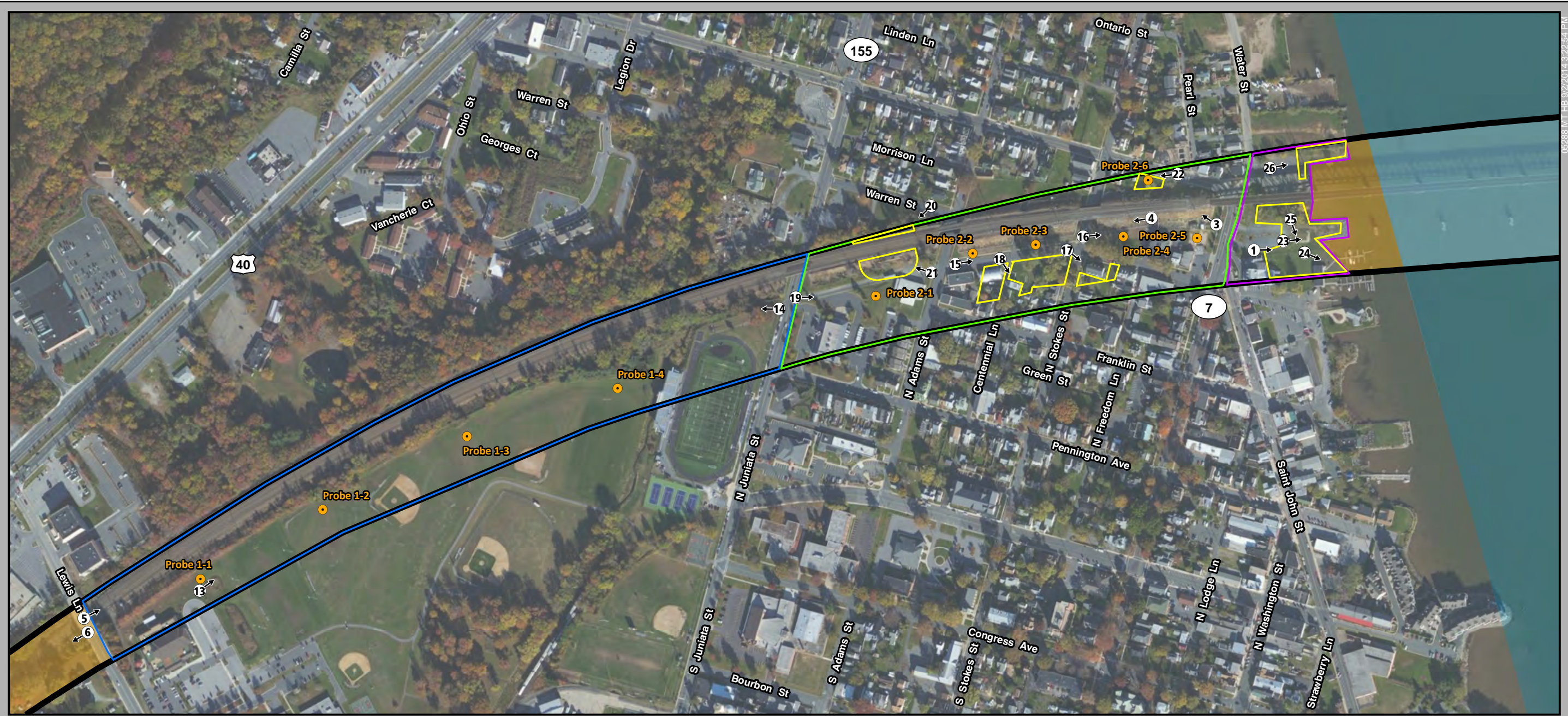


Figure 20B
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013

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	Archeological Area of Potential Effects		Recommended Phase IB Survey Areas
	Area Previously Subjected to Archeological Survey		Study Area 1
	Prior Disturbance - No Archeological Potential		Study Area 2
	Photograph Locations		Study Area 3
			Study Area 4
			Study Area 5
			Soil Probes

**McCORMICK
TAYLOR**

0 200 400 800 Feet

0 48 96 144 192 240 Meters

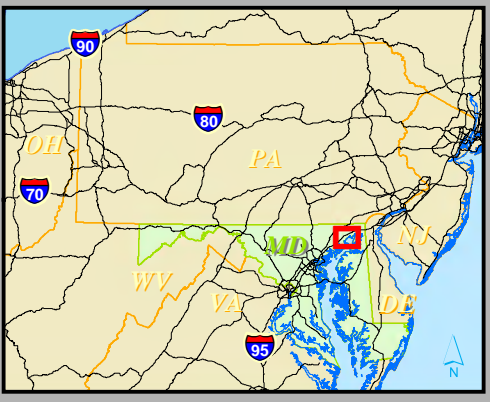
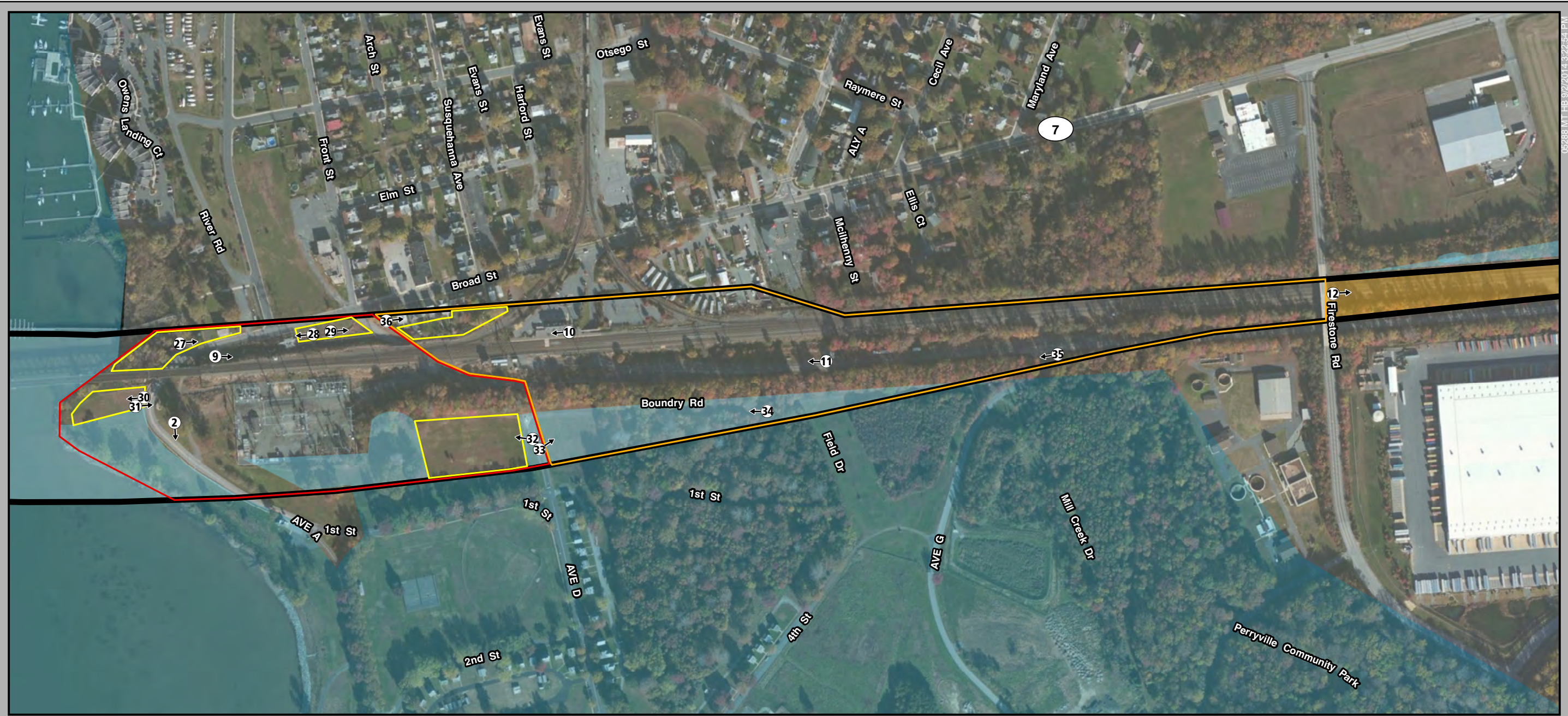


Figure 20C
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013

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	Archeological Area of Potential Effects		Recommended Phase IB Survey Areas
	Area Previously Subjected to Archeological Survey		Study Area 1
	Prior Disturbance - No Archeological Potential		Study Area 2
	Photograph Locations		Study Area 3
			Study Area 4
			Study Area 5
			Soil Probes

0 200 400 800 Feet

0 48 96 144 192 240 Meters

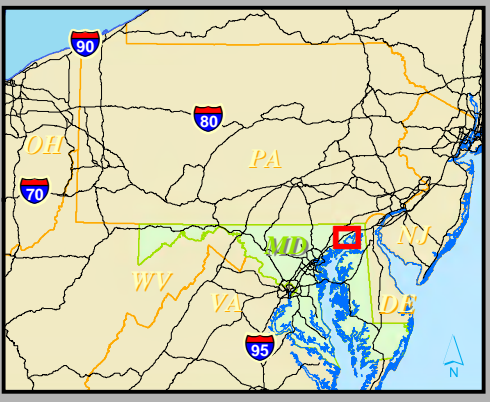
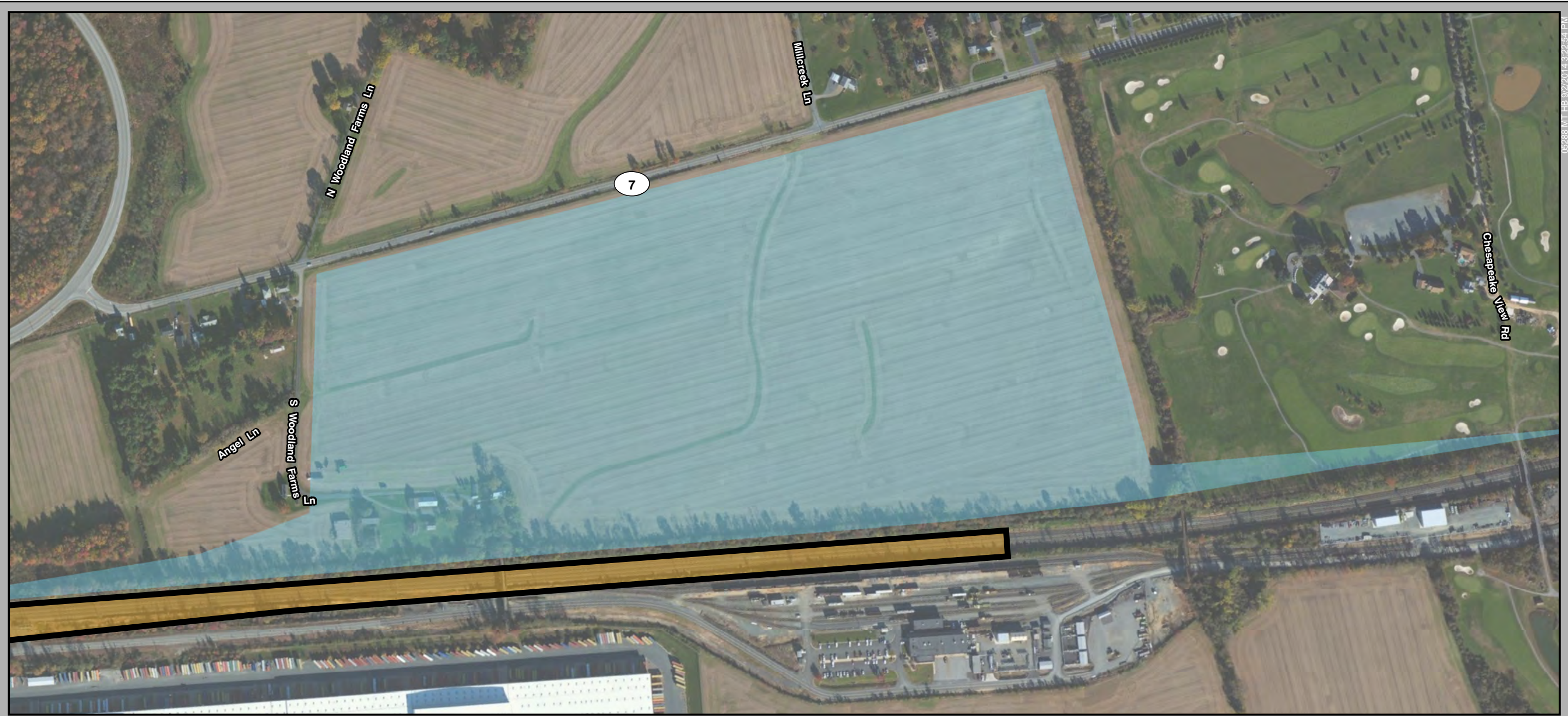


Figure 20D
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013

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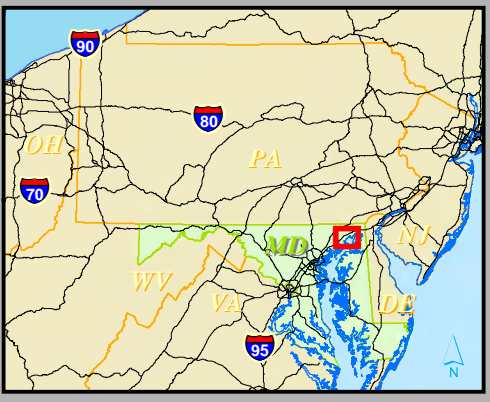
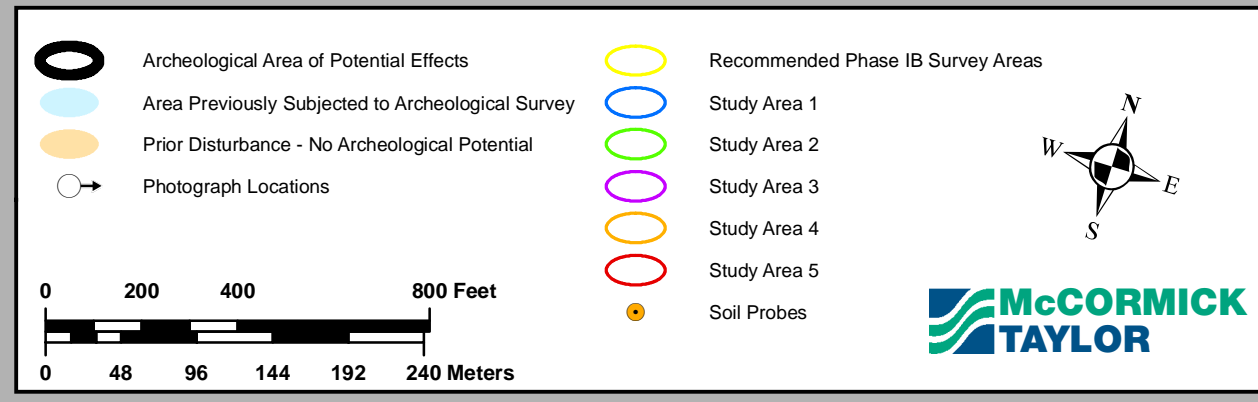


Figure 20E
Archeological Assessment and
Additional Survey Recommendations
Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland
 Source: Esri & DigitalGlobe, 2013



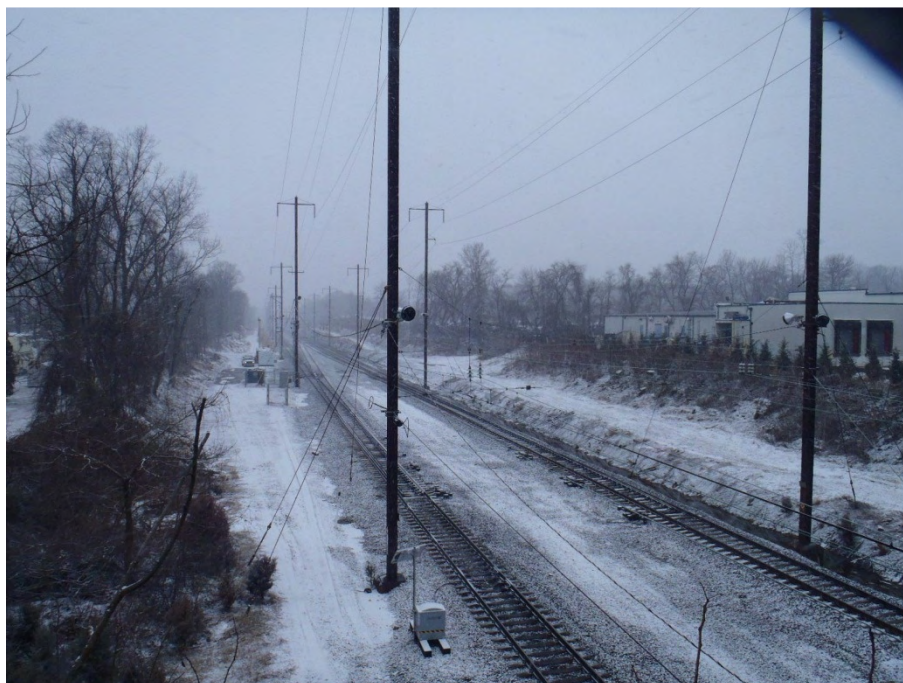
Photograph 3: General view of embankment supporting railroad and railroad bridge over St. John Street, facing southwest; Note the presence of multiple underground utilities within the vicinity of the berm.



Photograph 4: General view of embankment supporting the elevated railroad corridor, facing southwest.



Photograph 5: General view of disturbed Amtrak ROW east of Lewis Lane, facing northeast.



Photograph 6: General view of disturbed Amtrak ROW west of Lewis Lane, facing southwest.



Photograph 7: General view of disturbed Amtrak ROW east of Revolution Street, facing west.



Photograph 8: General view of disturbed Amtrak ROW west of Revolution Street, facing west.



Photograph 9: General view of embankment south of Broad Street within Perryville, facing east.



Photograph 10: General view of Perryville Station, facing west.



Photograph 11: General view of disturbed Amtrak ROW along access road west of Avenue G, facing west.



Photograph 12: General view of disturbed Amtrak ROW east of Firestone Road, facing east.

6.1 Study Area 1: Havre de Grace Schools' Athletic Fields

Study Area 1 is bounded on the west by the Lewis Lane overpass, on the east by North Juniata Street, and on the north and south by the current limits of the archeological APE (**Figure 20**). East of Lewis Lane the project's APE begins to expand beyond the limits of the existing rail corridor. Within Study Area 1, the archeological APE only extends to the south of the existing rail corridor. At present, there are no proposed disturbances north of the existing rail line.

Currently, the entirety of Study Area 1 is comprised of graded, leveled, grass fields. Study Area 1 contains several athletic fields associated with the Havre de Grace middle school and high school campuses, including several soccer fields, two baseball diamonds, and the Havre de Grace high school football stadium (**Photographs 13 and 14**). In terms of natural features, there is a small unnamed stream or drainage located between one of the soccer fields and the football stadium that is oriented in a north-south direction. This water course runs under the current Amtrak corridor through a culvert, resuming its course north of the rail line. A review of historic mapping and aerial photographs indicated that prior to the usage of this area as an athletic complex, this parcel appeared to be undeveloped or in use as agricultural fields. Sanborn maps for nineteenth and twentieth century Havre de Grace do not extend within Study Area 1. Neither historic aerial photographs (dating to as early as 1952) nor historical topographic maps from the nineteenth and twentieth centuries indicate the presence of any structures within Study Area 1 other than the original PW&B railroad corridor and the current rail corridor (USGS 1971, 1945, 1906; www.historicaerials.com). Previously, the railway alignment was located along a more southwesterly orientation, west of Juniata Street and extending through the intersection of Lewis Lane and Revolution Street. The topographic maps and historic aerial photographs document the conditions of the area prior to the construction of the current railway alignment as well as the conditions following its construction (**Figures 21, 22, 23, and 24**). Historic mapping and historic aerials indicate that changes in topography have occurred within Study Area 1 as a result of the construction of the new railway alignment as well as subsequent construction activities associated with the creation of several athletic fields. The 1942 topographic map depicts the topography of the area following the construction of the new railway alignment (**Figure 21**). Prior to the construction, and recently thereafter, multiple additional tributaries are present. The 1952 historic aerial indicates that the areas immediately adjacent to these tributaries were wooded with agricultural fields to the east and west (**Figure 22**). The 1955 topographic map, as well as 1970 historic aerial (**Figures 23 and 24**), indicate that these tributaries were impacted by additional construction activities following the railway construction. Specifically, the 1970 historic aerial indicates that the area in the vicinity of the tributaries has been graded and all of the associated foliage and ground cover removed. It is likely that all of the upper soils were disturbed as a result of this defoliation. In addition, in order to create the current athletic fields, large amounts of fill would have been spread across this entire area in order to fill in the channels of these tributaries and create a level surface.

A series of four (4) soil probes were conducted at judgmentally placed locations throughout Study Area 1 in an effort to determine the level of subsurface stratigraphic integrity and the amount of disturbance that occurred as a result of the construction of the athletic fields. In each case, the probes exhibited a disturbed soil profile to a maximum depth of 24 inches (60

centimeters). While it is possible that pre-contact resources were once located within this area, the large amount of landform modification and sculpting that occurred in order to accommodate the construction of the athletic fields makes it highly unlikely that much of the original soil strata, and consequently any intact artifact-bearing cultural deposits, would have survived in this area. Though historic resources would have been similarly affected by this ground disturbance, a review of mapping resources also indicated the apparent lack of historic settlement within this area. Given the combined results of the historic map review and the soil probes, there is little potential for Study Area 1 to contain archeological resources.

6.2 Study Area 2: Town of Havre de Grace and Warren Street Vicinity

Study Area 2 is bounded on the west by North Juniata Street, on the east by North Union Avenue, and on the north and south by the current limits of the archeological APE (**Figure 20**). Within Study Area 2, the archeological APE begins to expand to include an area both north and south of the existing rail corridor. The western portion of Study Area 2 remains entirely to the south of the rail corridor, extending approximately 170 feet (52 meters) southward from the rail corridor beyond the current alignment of Warren Street. Beginning near the intersection of the current rail corridor and North Stokes Street, however, the archeological APE begins to expand north of the current rail corridor, extending as far north as Otsego Street.

Outside of the rail corridor, Study Area 2 is characterized by paved two-lane streets lined with single-family homes, multi-family residences, and commercial establishments that are typical of the Havre de Grace streetscape. Interspersed between the existing structures are patches of grass-covered manicured lawn areas. Within this portion of the APE, the rail corridor runs along the crest of a berm which elevates the line several feet above the surrounding street level. Stone abutments and retaining walls serve to form the boundaries of the earthen berm as well as act as support structures for carrying the rail line over the existing Havre de Grace street grid. The slopes for the earthen berm extend outward approximately 50 feet (15 meters) along either side of the existing line (**Photographs 15, 16, 17, 18, 19, 20, 21, and 22**).

While a series of soil probes were completed within the bounds of Study Area 2, the research team's understanding of the nature of the subsurface soil deposits within this area may not be considered as complete as that of Study Area 1. As with the previous study area, no testing was conducted within any portion of Amtrak property, but in addition, field researchers also did not attempt to access yard areas that were obviously associated with a private residence or commercial establishment. Due to the area being partitioned into numerous smaller lots, many of which are privately owned, the placement of the soil probes was limited. In total, five (5) soil probes were placed in the grassy areas immediately south of the existing rail line and one (1) additional soil probe was placed north of the line. The probes south of the rail corridor were placed in the grassy areas located between the edge of the railroad berm and Warren Street. No probes were placed in the private lots located to the south of Warren Street. North of the rail line, the single probe was placed in a grassy lot located near the corner of Otsego Street and North Freedom Lane.

As in Study Area 1, each of the five probes located south of the rail line in Study Area 2 exhibited a disturbed soil profile to a depth ranging from 1.5-2.0 feet (0.45-0.6 meters) below

current surface grade. It is important to note that at least a portion of this encountered disturbance may be related to not only the construction of the existing early twentieth century rail corridor, but also the earlier nineteenth century PW&B rail alignment. The nineteenth century PW&B rail line was located more or less along the current path of Warren Street. The previous alignment is depicted on aerial and topographic maps as early as 1900 (*Figures 11, 21, 22, 23, and 24*) Historic mapping also indicates that the area east of S. Juniata St. and south of Warren St. was likely disturbed by the construction of the previous alignment (*Figures 15, 17, 21 and 22*).

Approximately 100 feet (30 meters) west of Adams Street, a building was observed to extend under the railroad tracks. This appears to be the location of the former Havre de Grace Train Station. The remains of the building were observed on both the north and south sides of the tracks (*Figures 17, 19, 21, 22, 23, and 24; Photographs 19, 20, and 21*). It is possible that intact cultural deposits associated with this structure are present within the APE.

Although the areas of the APE located south of Warren Street were not investigated in terms of subsurface integrity, a review of historic mapping indicates that the Havre de Grace street grid pattern within this portion of the project remains mostly intact from a period dating back to the nineteenth century (*Figures 11A, 14, 15, 17, 19, 21, 22, 23, and 24*). While the building arrangement on each of these city blocks has changed and evolved over time, there is a high probability that portions of these house lots may contain intact cultural deposits relating to building/structural remains or yard features such as outbuildings, trash pits, or privies (*Photographs 17 and 18*).

Similarly, the soil probe located to the north of the rail line near the intersection of Otsego Street and North Freedom Lane also indicates that potentially intact soils are present within this portion of the APE (*Figure 20; Photograph 22*). Beneath the root mat, the soil probe indicated approximately 8 inches (20 centimeters) of a yellowish-brown (10YR5/4) silty loam. Beneath this stratum was a mottled pale brown (10YR6/3) and reddish yellow (7.5YR6/6) silty clay loam that appears to be a transition layer to subsoil.

Given these findings, systematic Phase I archeological survey and detailed background research are recommended for all areas where project-related ground disturbance are proposed in the lot areas located south of Warren Street and along Otsego Street, as well as in the vicinity of the former Havre de Grace Train Station.



Photograph 13: Representative View of Study Area 1, facing east-northeast



Photograph 14: View of Study Area 1 near football stadium complex, facing west

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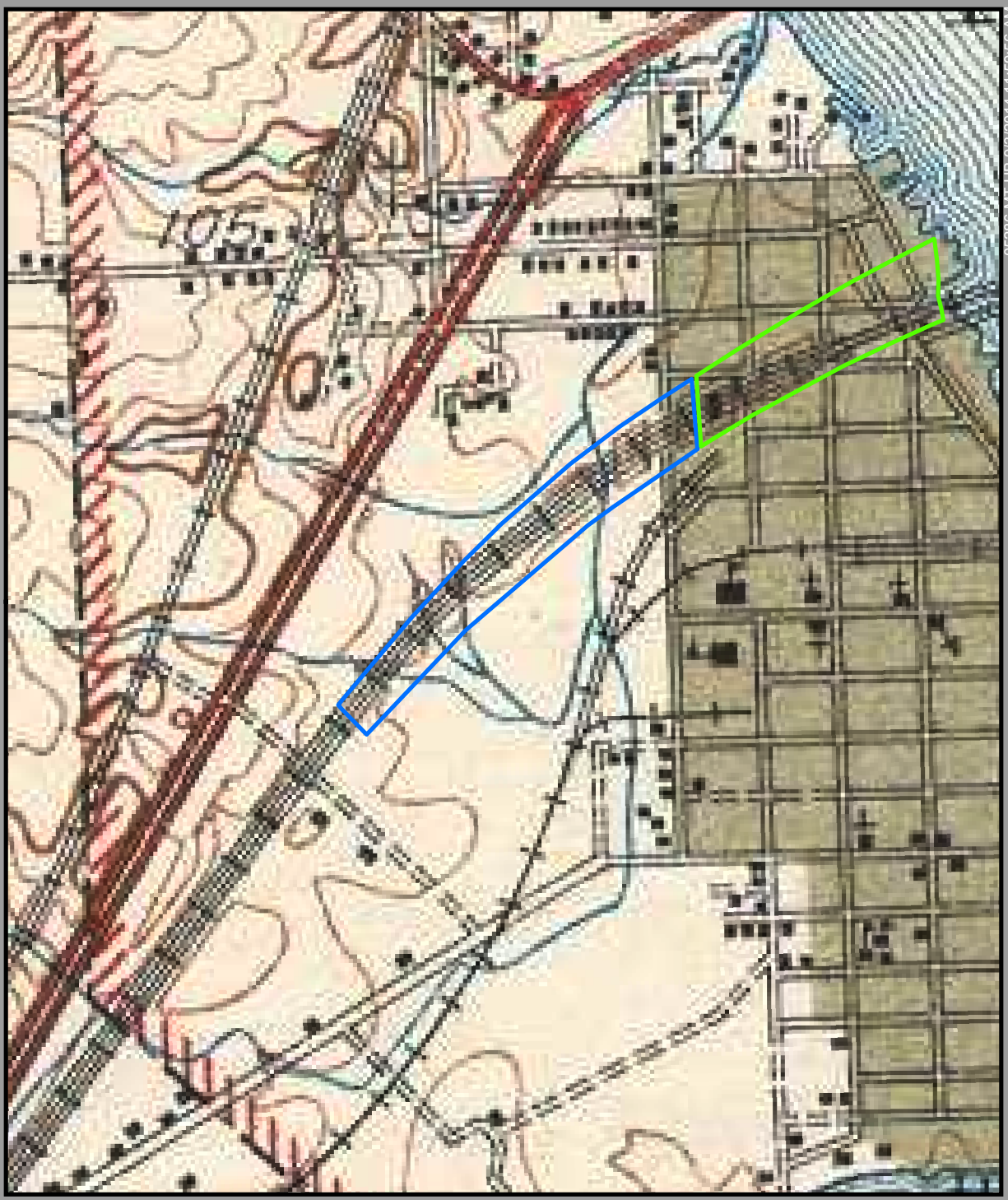
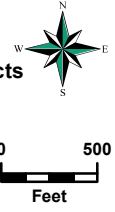


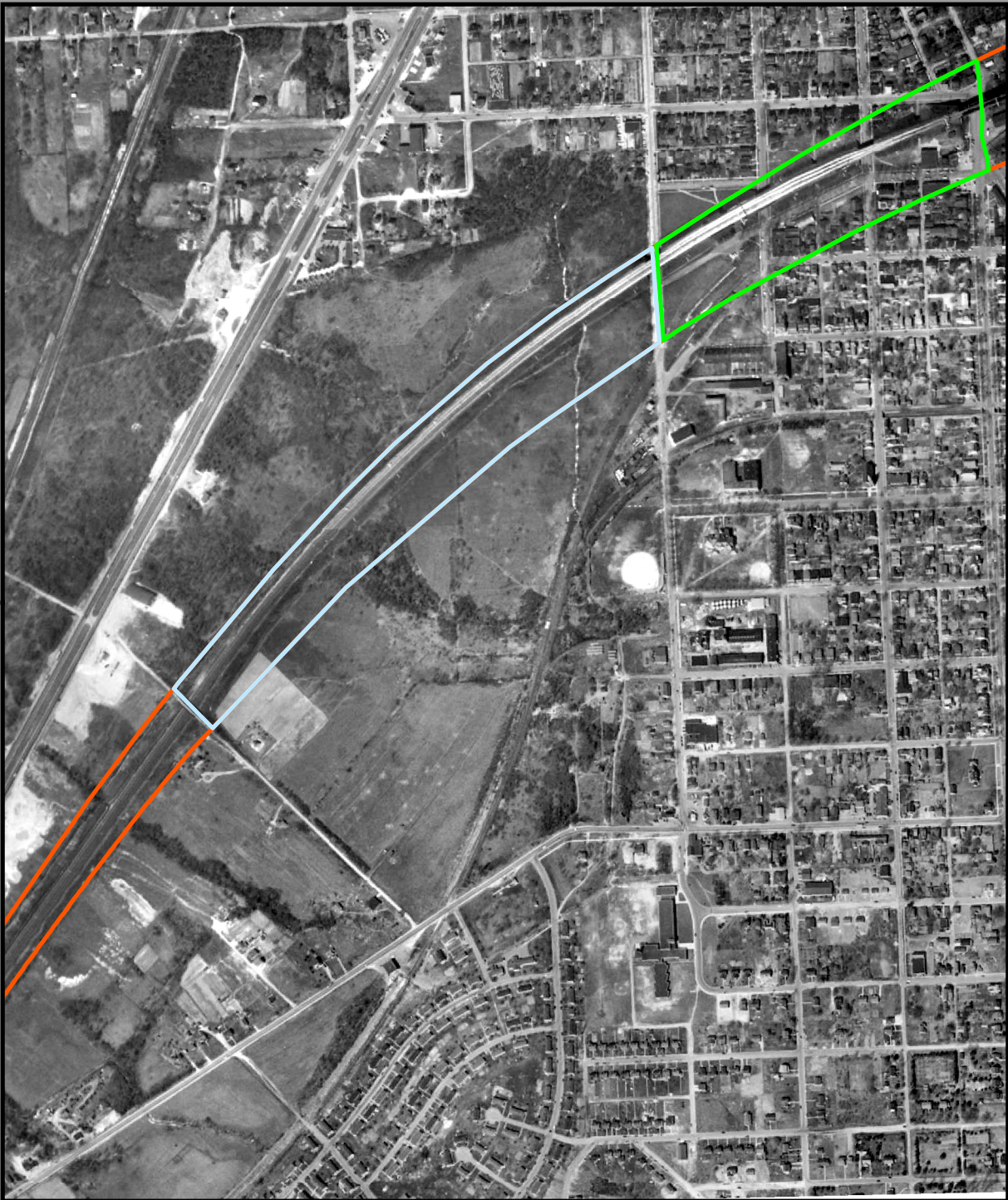
Figure 21
1942 Havre de Grace, MD Topographic Quadrangle Map
 Depicting the Location of Study Areas 1 and 2 within the Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: Havre de Grace, MD USGS Historic Topographic Map, 1942




- Study Area 1
- Study Area 2
- Archeological Area of Potential Effects





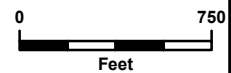
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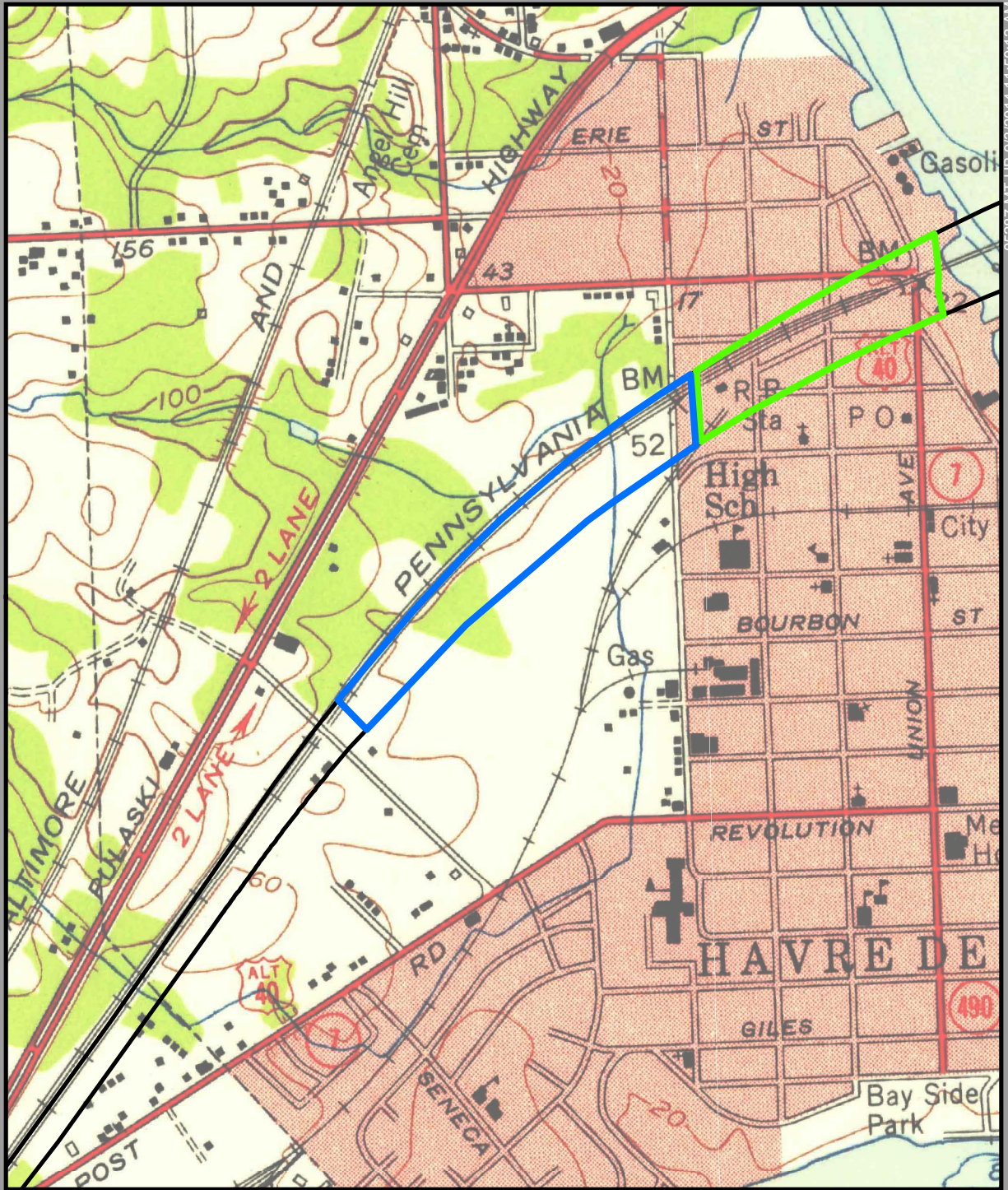
Figure 22
1952 Historic Aerial Photograph Depicting
the Location of Study Area 1 within the Archeological Area of Potential Effects

-  Study Area 1
-  Study Area 2
-  Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: Havre de Grace, MD Historic Aerial, 1952





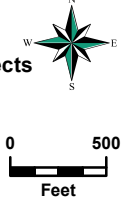
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Figure 23
1955 Havre de Grace, MD Topographic Quadrangle Map
 Depicting the Location of Study Areas 1 and 2 within the Archeological Area of Potential Effects

- Study Area 1
- Study Area 2
- Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
 Harford and Cecil Counties, Maryland

Source: Havre de Grace, MD USGS Historic Topographic Map, 1955



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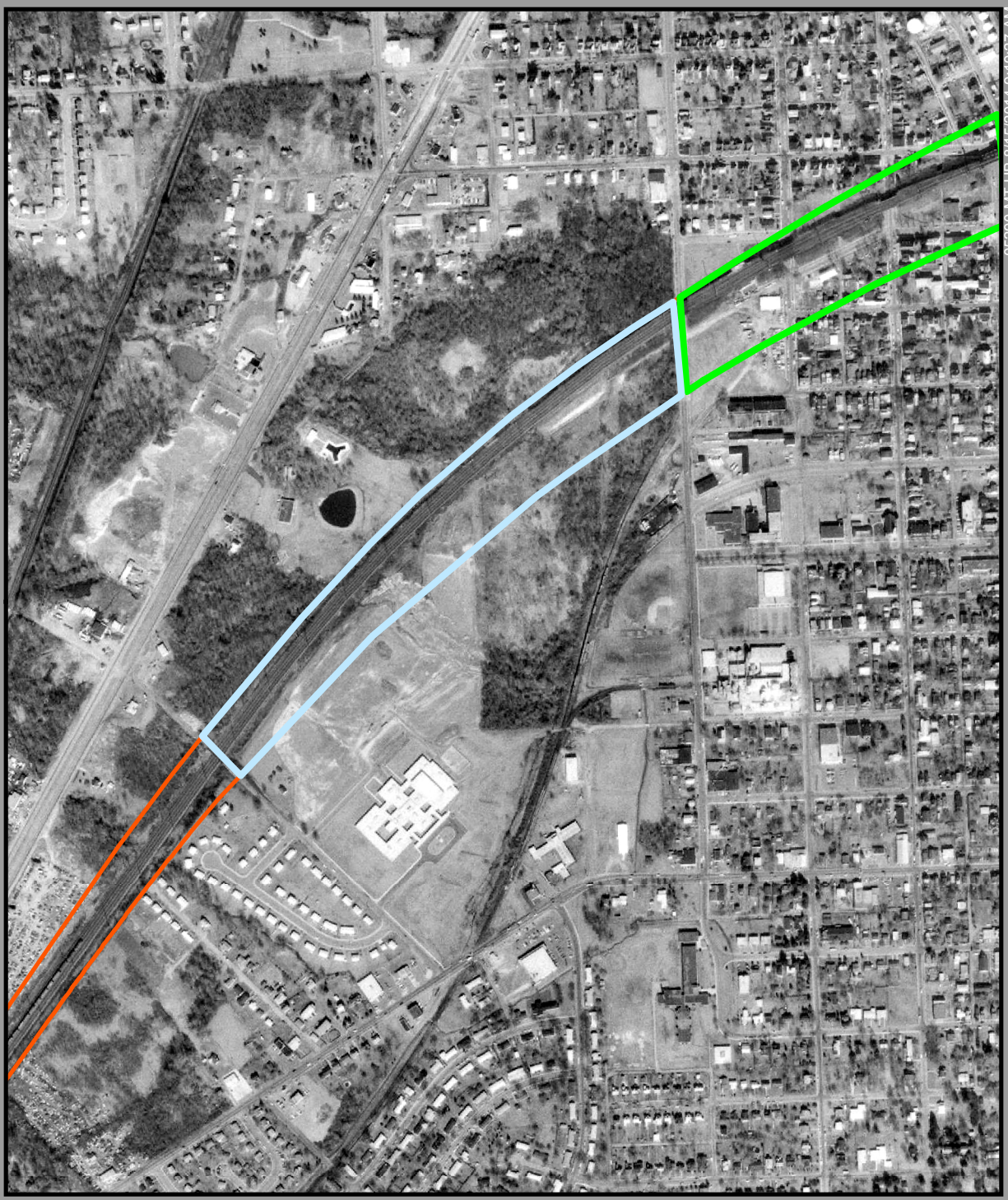





Figure 24
1970 Historic Aerial Photograph Depicting
the Location of Study Area 1 within the Archeological Area of Potential Effects

-  Study Area 1
-  Study Area 2
-  Archeological Area of Potential Effects

Susquehanna River Rail Bridge Project
Harford and Cecil Counties, Maryland

Source: USGS, Havre de Grace, MD Historic Aerial, 1970





Photograph 15: Representative view of rail corridor within Study Area 2, facing east-northeast.



Photograph 16: Representative view of rail corridor east of N. Stokes Street within Study Area 2, facing east; Note soil probe 2-4 placed within grass lot yielded a disturbed profile.



Photograph 17: View of neighborhood areas south of Warren Street and west of N. Stokes Street, within Study Area 2, facing southeast.



Photograph 18: View of neighborhood areas south of Warren Street along Centennial Lane within Study Area 2, facing southeast.



Photograph 19: Representative view of rail corridor along Warren Street within Study Area 2, facing northeast.



Photograph 20: View of potential remains of Havre de Grace train station within existing embankment, facing southwest.



Photograph 21: View of potential remains of Havre de Grace train station within existing embankment, facing west.



Photograph 22: General view of the location of soil probe 2-6 at the corner of Otsego Street and North Freedom Lane, facing southwest.

6.3 Study Area 3: Havre de Grace Waterfront

Study Area 3 consists of those portions of the archeological APE that are located to the north and south of the existing rail corridor along the Havre de Grace waterfront. These areas are bounded on the west by North Union Avenue and Water Street and on the east by the Susquehanna River. The entirety of this study area is located within the bounds of two city park facilities, the Jean S. Roberts Memorial Park and the David Craig Park. Both of these facilities are located along the water's edge and offer walking and picnic areas as well as boat and kayak launches (**Figure 20; Photographs 23, 24, 25, and 26**).

At present, the majority of the study area is covered with paved parking lots which serve both park facilities. David Craig Park, located south of the bridge is predominantly comprised of a paved parking area. Adjacent to the parking lot, towards the water's edge, are picnic facilities and an observation area. Based on a review of the Sanborn maps from the late nineteenth and early twentieth centuries, these landforms appear to be constructed of fill soils which were most likely placed during the construction of the nineteenth century PW&B railroad bridge. A portion of one of the abutments is still visible within the park. Although the landform on which the David Craig Park is situated is man-made, there may be the potential for these fill deposits to contain intact cultural deposits, specifically related to the earlier PW&B bridge structure or other attendant historic railroad facilities (**Figures 14, 15, 17, and 19; Photographs 23, 24, and 25**).

Jean S. Roberts Memorial Park, located to the north of the current Susquehanna River Bridge, contains a small grassy strip of land located between the parking facilities and the river's edge (**Photograph 26**). Based on a review of the Sanborn maps from the late nineteenth and early twentieth centuries, these landforms appear to be constructed of fill soils designed to either stabilize or add land area to the Havre de Grace waterfront. Similarly, despite the presence of these fill soils, given their age, there may be potential for these artificial landforms to contain cultural deposits associated with the numerous warehouses, coal storage wharves, or other industrial operations which characterized the waterfront area during the latter half of the nineteenth or early twentieth centuries (**Figures 14, 15, 17, and 19**).

Taken as a whole, this area may contain structural remains or trash deposits associated with the industrial waterfront or the foundation remnants of the former PW&B rail alignment. Both the Jean S. Roberts Memorial Park and the David Craig Park should be subjected to systematic subsurface survey.



Photograph 23: View of David Craig Park (Study Area 3), facing east-northeast. Note PW&B abutment in foreground.



Photograph 24: General view of Havre de Grace waterfront at the rear of the current American Legion building, facing southeast.



Photograph 25: General view of built landscape along the Havre de Grace waterfront, facing south.



Photograph 26. General view of Jean S. Roberts Memorial Park (Study Area 3), facing east-northeast.

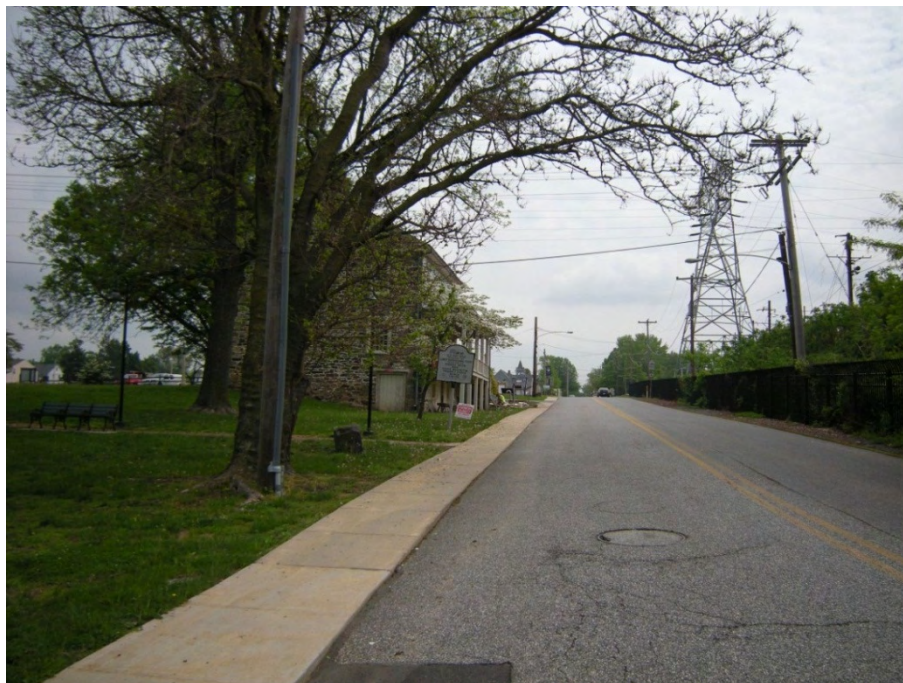
6.4 Study Area 4: Perryville Waterfront

Study Area 4 is bounded on the west by the Susquehanna River, on the east by Front Street and Avenue D, and on the north and south by the current limits of the archeological APE (**Figure 20; Photographs 27, 28, 29, 30, 31, and 32**).

On the north side of the rail line, the primary feature of the study area is an extant building known as Rodgers Tavern or Stevenson's Tavern. Constructed during the mid-eighteenth century, [REDACTED] (**Figures 11B and 16A**). Limited Phase I and II excavations have been conducted at the site (MHT files; Hopkins and Persson 2005). The archeological component of Rodgers Tavern, 18CE15, is depicted on MHT mapping as being located on the south side of Broad Street [REDACTED]. Phase IB archeological survey is recommended for this area if it is to be impacted by the proposed project in order to verify the current location of 18CE15 as well as to identify if there are additional unrecorded cultural deposits associated with Rodgers Tavern in the general vicinity (**Figure 20; Photographs 27, 28, and 29**).

South of the Northeast Corridor rail line, Study Area 4 is primarily an open, grassy area. The majority of this area is owned by the Perry Point VA Medical Center. A large electrical substation, located just south of the rail corridor and approximately 700 feet (213 meters) from the edge of the river also dominates the Study Area 4 landscape (**Photographs 30, 31, and 32**).

With respect to archeological potential, a large portion of Study Area 4 located to the south of the rail corridor has been previously surveyed at the Phase I and II level as a part of the John Milner Associates' (JMA) 1989 investigation of the VA Medical Center facility at Perry Point (**Figure 20**). These survey efforts were successful in identifying and evaluating one archeological resource, 18CE258, which lies within the bounds of Study Area 4 (**Figure 13**). Identified as the remains of a nineteenth century domestic site, 18CE258 was subjected to Phase I and II testing. Site 18CE258 was determined not eligible for the NRHP following the MHT review of JMA's technical report (Stevens et al. 1989; DOE 9/18/2009). While the 1989 survey was rather comprehensive in its coverage, portions of Study Area 4 within the current APE were not subjected to archaeological survey. JMA investigators appear to have not tested a strip of land extending from the western edge of the electrical substation lot to the river's edge as well as an area east of the substation. Though the strip of land adjacent to the river was most likely located within the corridor of the nineteenth century PW&B rail line, as one of the stone abutments for the bridge is still visible on the surface a short distance to the west of the substation, both locations have the potential to contain intact historic or pre-contact deposits. Phase IB survey is recommended for these portions of the study area which were not subjected to previous archeological identification efforts (**Figure 20**).



Photograph 27: Representative view of northern portion of Study Area 4 with Rodgers Tavern at left, facing east.



Photograph 28: Representative view of northern portion of Study Area 4 south of Broad Street, facing southwest. Note Rodgers Tavern in the background.



Photograph 29: Representative view of northern portion of Study Area 4 south of Broad Street, facing northeast.



Photograph 30: General view of southern portion of Study Area 4 west of Avenue A, facing west; note area not tested as part of previous archaeological survey.



Photograph 31: View of southern portion of Study Area 4 with PW&B abutment, facing east.



Photograph 32: Representative view of Study Area 4 south of Amtrak corridor, facing west-southwest. Note substation in background.

6.5 Study Area 5: Perry Point VA Medical Center and Perryville MARC Station

Study Area 5 is bounded on the west by the eastern edge of Study Area 4, on the east by Firestone Road where the archeological APE returns to being located entirely within the existing Amtrak corridor, and on the north and south by the current limits of the archeological APE as shown on project plans (**Figure 20**). Similar to Study Area 4, south of the Northeast Corridor rail line, Study Area 5 is primarily an open, grassy area interspersed with wooded lots that is owned by the Perry Point VA Medical Center (**Photographs 33, 34, and 35**).

As with Study Area 4, the overwhelming majority of Study Area 5 located to the south of the rail corridor has been previously surveyed at the Phase I and II level during JMA's 1989 investigation of the VA Medical Center facility at Perry Point (**Figure 20**). These survey efforts were successful in identifying one archeological resource, 18CE255, to the south of the limits of Study Area 5 (**Figure 13**). Identified as the remains of a pre-contact lithic scatter of undetermined age, 18CE255 was recommended not eligible for the NRHP. Given the previous comprehensive archeological investigation and extensive areas of disturbance associated with the rail line facilities and the Perryville wastewater treatment plant, no additional archaeological investigations are recommended for that portion of Study Area 5 located south of the existing Northeast Corridor rail line.

On the north side of the rail line, the archeological APE is dominated by the intersection of the Northeast Corridor with the Norfolk Southern Port Road spur line. Much of this area has been previously disturbed due to the construction of the railroad transfer point and its associated parking lots, supply yards, and other support facilities. Located just to the west of this railroad intersection, a group of single and multi-family residences present along the southern edge of the Broad Street corridor. Each of these structures exhibits a small yard area which is located directly adjacent to the rail corridor. These residences and their associated yard areas are depicted on historic Sanborn mapping (**Figures 16 and 18; Photograph 36**). Though no soil probes were placed within these private lots, it is likely that intact yard features or other cultural deposits may still exist within these areas.

In addition, areas immediately north of and adjacent to Study Area 5, north of the rail line and east of the rail line intersection, have been previously surveyed at the Phase I and II level as a part of the recent URS archaeological survey for the proposed Maryland Area Regional Commuter (MARC) maintenance and storage facility (Koziarski and Seibel 2014). Six archaeological sites were identified within the MARC project limits. One site, 18CE383, the archeological component of the extant southern farmstead affiliated with the Woodlands Farm Historic District (MIHP No. CE-145), is eligible for inclusion in the NRHP under Criterion D. Though the MARC project area is located immediately adjacent to the current Susquehanna River Rail Bridge APE, these two project boundaries neither overlap nor intersect. Pending any revision to the current APE limits, NRHP eligible site 18CE383 will not be impacted by the current project (**Figures 13 and 20**).

Within Study Area 5, systematic archeological survey is recommended within the vicinity of the single and multi-family residences identified adjacent to Broad Street.



Photograph 33: Representative view of Study Area 5 south of Amtrak corridor, facing northeast. Note area tested as part of previous archaeological survey.



Photograph 34: Representative view of eastern portion of Study Area 5, Amtrak property boundary at right. View facing west-southwest.



Photograph 35: General view of disturbed Amtrak ROW within Study Area 5, facing southwest. Note photo taken at the intersection of access road and Avenue G.



Photograph 36: General view of houses located on the south side of Broad St. within Study Area 5, facing northeast.

7.0 PROJECT SUMMARY AND RECOMMENDATIONS

7.1 Research Summary

In March 2014, McCormick Taylor conducted a Phase IA archeological assessment on behalf of Amtrak in support of an Environmental Assessment (EA) for the proposed Susquehanna River Rail Bridge project. The existing Susquehanna River Bridge is located on Amtrak's Northeast Corridor (NEC) at Milepost 60 between the City of Havre de Grace in Harford County, Maryland and the Town of Perryville in Cecil County, Maryland (*Figure 1*). The bridge itself is roughly 0.75 miles (1.2 kilometers) in length and is the longest bridge with a movable span on the NEC.

This archeological assessment was comprised of documentary and environmental research, including an archeological site file review and review of comparable sites, visual observations of the existing conditions, and limited soil assessments within select portions of the APE. At the conclusion of this research, it was possible to generate a broad understanding of the developmental history and archeological sensitivity of the APE.

Review of historical atlases and maps revealed two distinct tracks of settlement and development for the Havre de Grace and Perryville sides of Susquehanna River. By the eighteenth century, Havre de Grace had taken its place as an established point of trade and commerce within the upper Chesapeake Bay. Despite this early settlement, however, historic maps revealed that the established street grid pattern has remained rather unchanged since the nineteenth century. This continuity of settlement has the potential to preserve portions of the archeological record in contrast to other more densely settled and urbanized areas where large scale projects have the potential to completely erase all vestiges of subsurface cultural horizons and previous historic occupations. In contrast, the Perryville side of the river, at least for the first several decades of the historic period, was focused on more agrarian pursuits as opposed to the busy commercial and industrial waterfront that developed across the river in Havre de Grace. Following the purchase of the Perry Point property by the United States government, the landform was used as a munition manufacturing facility which evolved into a hospital and medical research facility which still exists to the present day. Even with this history of changing uses and functions, the JMA survey proved that a diverse range of archeological resources still survive.

Placed against this background of industry, commerce, and domestic settlement, potential historical resources inside the project APE may include private residences, yard-related features, or even surviving features from the earlier PW&B rail line. Insurance maps depict the evolving nineteenth and twentieth century neighborhoods that were contained within the Havre de Grace portion of the archeological APE. If intact archeological deposits associated with these occupations were found, in addition to the houses themselves, potential feature types could include outbuildings, privies, cisterns, and sheet refuse (middens).

7.2 Project Recommendations

With this broad understanding in place, the following specific recommendations have been made for the project. In addition to the narrative descriptions provided below, these recommendations are also summarized in *Table 4*. Detailed maps depicting the specific limits of the study areas are included within *Figure 20*. These recommendations are offered in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Study Area 1

Based upon the results of the background research and the field inspection, there is very little potential for archeological features or deposits to survive within this portion of the project APE. Soil testing indicated an overall lack of intact natural soil stratigraphy resulting from the construction of Havre de Grace school system's athletic field complex. Given the large amount of grading and landscape modification that has occurred in this area, there is little potential for intact cultural deposits within this area and no additional archeological survey is recommended for Study Area 1.

Study Area 2

Study Area 2 is dominated by the raised earthen berm that carries the Northeast Corridor rail line through the town of Havre de Grace. A series of stone abutments and retaining walls serve as the support system for this berm, extending several feet to either side of the rail line. A series of soil probes located between the edge of these berms and Warren Street on the south side of the existing rail line confirmed heavy soil disturbance and a lack of intact natural soils. These disturbances may be attributed to not only construction activities associated with the current Northeast Corridor rail line, but also the earlier nineteenth/early twentieth century PW&B rail line which ran immediately to the south of the current railroad alignment, approximately following the modern day course of Warren Street.

Despite these disturbances, however, there are isolated areas within Study Area 2 that could potentially contain intact archeological deposits.

A review of historic mapping indicates that the Havre de Grace street grid pattern within this portion of the project remains mostly intact from a period dating back to the nineteenth century. While the building arrangement on each of these city blocks has changed and evolved over time, there is a high probability that portions of these house lots may contain intact cultural deposits relating to building/structural remains or yard features such as outbuildings, trash pits, or privies. In addition, areas immediately adjacent to the location of the former Havre de Grace Train Station, found on both the north and south sides of the tracks.

Given these findings, once a design alternative is selected, systematic Phase IB archeological survey would be recommended for all areas of proposed ground disturbance in the lot areas located south of Warren Street and along Otsego Street, as well as in the vicinity of the former Havre de Grace Train Station.

Study Area 3

Study Area 3 consists of those portions of the archeological APE that are located to the north and south of the existing rail corridor along the Havre de Grace waterfront. The entirety of this study area is located within the bounds of two city park facilities, the Jean S. Roberts Memorial Park and the David Craig Park.

At present, the majority of the Study Area 3 is comprised of paved parking lots which serve both park facilities. Jean S. Roberts Memorial Park, located to the north of the current Susquehanna River Bridge, contains a small grassy strip of land located between the parking facilities and the river's edge. Sanborn maps from the late nineteenth and early twentieth centuries, indicate that landforms north of the existing railroad corridor appear to have been constructed of fill soils designed to either stabilize or add land area to the Havre de Grace waterfront. Despite the presence of these fill soils, given their age, there may be potential for these artificial landforms to contain cultural deposits from the latter half of the nineteenth or early twentieth centuries.

Similarly, the David Craig Park, located south of the bridge is predominantly comprised of a paved parking area. Adjacent to the parking lot, towards the water's edge, are picnic facilities and an observation area. Like the Jean S. Roberts Memorial Park area, much of the landforms south of the existing railroad corridor are comprised of fill soils which were most likely placed during the construction of the nineteenth century PW&B railroad bridge. A portion of one of the abutments is still visible within the park. Although the landforms upon which the Jean S. Roberts Memorial Park and David Craig Park are situated are man-made, there may be the potential for these fill deposits to contain intact cultural deposits, especially ones related to the earlier PW&B bridge structure and other attendant historic railroad facilities. Once a design alternative is selected, systematic Phase IB archeological survey would be recommended for all areas of project-related ground disturbance within the Jean Roberts and David Craig Parks.

Study Area 4

Study Area 4 is located along the eastern shore of the Susquehanna River, just south of Perryville. Several factors contribute to the limited archeological potential within Study Area 4. These factors include prior disturbances from the construction of the Northeast Corridor rail line and electrical substation as well as previous archeological survey efforts, specifically the 1989 JMA survey of the Perry Point VA Medical Center property (Stevens et al. 1989).

On the south side of the Northeast Corridor, though the majority of Study Area 4 was subjected to archeological survey by JMA, a strip of land extending from the western edge of the electrical substation lot to the river's edge does not appear to have been included within their survey limits. This strip of land was mostly likely located within the corridor of the nineteenth century PW&B rail line as one of the stone abutments for the bridge is still visible on the surface a short distance to the west of the substation. In addition, it should be noted that within the current limits of Study Area 4, the JMA survey did identify Site 18CE258, the archeological remnant of a nineteenth century domestic site. Following the completion of the Phase II survey conducted by JMA, the site was recommended not eligible for the NRHP; MHT concurred with this recommendation

(DOE 3/10/1989). Given this determination, no additional work is recommended for this resource.

On the north side of the rail line, multiple areas which have the potential to contain archeological deposits are focused around the eighteenth century Rodger's Tavern/Stevenson's Tavern [REDACTED]. The archeological component of Rodgers Tavern, 18CE15, is depicted on MHT mapping as being located on the south side of Broad Street [REDACTED]. Given the significance of this resource and the lack of systematic archeological survey in this area, Phase IB investigations are recommended for all areas of ground disturbance associated with the project within this portion of Study Area 4. These investigations may be helpful in verifying the current extent of 18CE15 as well as to identify if there are additional unrecorded cultural deposits associated with Rodgers Tavern in the general vicinity.

Study Area 5

Archeological potential within Study Area 5 is limited to areas for which there is no evidence of prior disturbance from railroad construction and have not yet been subjected to archaeological survey. As with Study Area 4, the overwhelming majority of Study Area 5 located to the south of the Northeast Corridor rail line has been previously surveyed as part of JMA's 1989 investigation of the VA Medical Center facility at Perry Point. No archaeological sites were identified within the current APE. Given the previous comprehensive archeological investigation and extensive areas of disturbance associated with the rail line facilities and the Perryville wastewater treatment plant, no additional archaeological investigations are recommended for that portion of Study Area 5 located south of the existing Northeast Corridor rail line.

On the north side of the rail line, much of this area has been previously disturbed by to the construction of the intersection of the Northeast Corridor with the Norfolk Southern Port Road spur line and its associated parking lots, supply yards, and other support facilities. However, west of this railroad intersection, a group of nineteenth and early twentieth century single and multi-family residences are present along the southern edge of Broad Street. Each of these structures exhibits a small yard area which is located directly adjacent to the rail corridor. These areas have the potential to contain intact yard features such as wells, privies, trash middens or other cultural deposits. If this area is to be impacted by the proposed project, systematic Phase IB archeological survey is recommended.

Underwater Resources

In addition to the terrestrial portions of the APE, additional consideration should be given to that portion of the APE contained within the Susquehanna River waterway. Past archival research efforts and remote sensing surveys have indicated the potential for submerged historic shipwrecks or other vessels as well as potential structural remains associated with the evolution of the Havre de Grace waterfront (Thompson 2000; Bilicki 2003). These surveys have resulted in the identification of several targets that are located within the archeological APE for the project.

According to MHT's Quadrangle Files for Havre de Grace, six resources have been identified within the archaeological APE, ID#s 2, 3, 7, 10, 18, and 19 (**Figures 13 and 20; Table 3**). ID#2 is the approximate location of the first railroad bridge across Susquehanna, identified by the existing PW&B railroad bridge pilings. ID# 3 is the approximate location of a nineteenth century ferry across the Susquehanna River as identified on historic mapping (**Figure 8**). ID#7 is the location of the historic Havre de Grace waterfront. ID#10 is the approximate location of a coal wharf. ID#s 18 and 19 represent the approximate locations of submerged anomalies which were recorded during the 2002 Lower Susquehanna River survey by MMAP. Quad File #18 is located just south of the existing Susquehanna River Bridge, [REDACTED]. Quad File #19 is marked on MHT mapping as running the entire length of the existing Amtrak railroad bridge structure. No additional information is given for these resources.

In addition to the MHT Quad Files, one previously identified archeological site, 18HE266, is located within the Susquehanna River within the vicinity APE. Located to the north of the existing bridge structure [REDACTED], 18HE266 has been identified as the wreckage from a twentieth century barge. This resource has never been formally evaluated for eligibility to the NRHP (**Figures 13 and 20; Table 2**).

Given the previous remote sensing surveys in the lower Susquehanna River vicinity, no additional identification (Phase I) level survey is recommended for the APE. However, as the project planning process moves forward, if any of the resources discussed above are to be impacted by the construction of the new bridge structure, additional underwater archeological studies focusing specifically on these identified targets are recommended in order to determine their condition, integrity, and eligibility for the NRHP. The location of resources identified within the vicinity of the APE, including MHT Quad Files #9 and #11, two historic coal wharfs, and site 18HA266, a submerged barge, should be relocated in order to reconfirm their boundaries and verify their locations outside of the APE (**Figures 13 and 20; Table 2 and 3**). Submerged cultural resources are subject to the natural effects of the environment. In particular, natural river phenomenon are known to have pushed sites out of the main channels and closer to shore (Bilicki 2003:44).

7.3 Conclusions

The goal of this project was to assess the Area of Potential Effect (APE) for the Amtrak Susquehanna River Bridge Replacement/Rehabilitation Project in Harford and Cecil Counties, Maryland in regard to its overall level of disturbance and potential to contain intact archeological resources. This goal was achieved through a two-fold process: 1) a thorough review of historical documentation to determine the types and locations of buildings, sites, and structures that were once present within the APE and 2) a program of field observation and limited subsurface investigation to determine the integrity of the soil deposits within the APE and if conditions are sufficient for the preservation of cultural horizons.

Table 4. Project Summary and Recommendations	
Study Area	Survey Recommendations/Key Issues
1: Havre de Grace Schools Athletic Fields	No potential for pre-contact resources No additional survey recommended due to extensive disturbance from athletic field construction
2: Town of Havre de Grace and Warren Street Vicinity	Additional survey recommended for the following areas: <ul style="list-style-type: none"> • Vicinity of old Havre de Grace train station between Adams and Juniata Street • Residential yard areas south of Warren Street • Residential yard areas in the vicinity of Otsego Street and North Freedom Lane intersection
3: Havre de Grace Waterfront	Additional survey recommended for the following areas: <ul style="list-style-type: none"> • Jean S. Roberts Memorial Park • David Craig Park
4: Perryville Waterfront	Additional survey recommended for the following areas: <ul style="list-style-type: none"> • Strip of land located between electrical substation and eastern shore of river (see map) • Vicinity of Rodgers Tavern (18CE15) <p>No additional work recommended for 18CE258</p>
5: Perry Point VA Medical Center and Perryville MARC Station	Additional survey recommended for the following areas: <ul style="list-style-type: none"> • Residential yard areas south of Broad Street (see map)
Underwater Resources	If impacted by project, additional underwater survey recommended for: Quad Files #2, 3, 7, 10, 18, and 19 If potentially impacted by project, verify the location of resources outside of the APE: <ul style="list-style-type: none"> • Quad File #11 and site 18HE266

The results of these two efforts have been used in this document to explain what types of archeological resources may be found within the APE, and to identify which sections of the APE possess the best potential to contain intact resources. The ability to identify these resources, however, is only part of the cultural resource regulatory framework that guides this portion of the Amtrak Susquehanna River Bridge Replacement/Rehabilitation Project. Once identified, researchers should also provide a preliminary assessment of any given site's condition and integrity in order to evaluate the resource's overall significance and potential to be nominated to the National Register of Historic Places (NRHP).

Historic resources, whether they are buildings, sites, structures, districts, or objects, are evaluated with reference to the four criteria established by the National Park Service. Historical resources that possess integrity of location, setting, design, material, workmanship, feeling, or association must be associated with at least one of the following four criteria in order to be considered for inclusion on the NRHP:

- Criterion A - Resources that are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B – Are associated with the lives of persons significant in our past; or
- Criterion C - That embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D - That have yielded, or may be likely to yield, information important in prehistory or history (NPS 1990).

Most often, archeological resources are best associated with Criterion D, the potential to yield significant information in regard to the region's prehistory or history. In these cases, an archeological site must possess a configuration of artifacts, soil strata, structural remains, or other cultural features that make it possible to test a hypothesis or answer a specific set of research questions.

In order to provide a framework for evaluating any resources that may be identified during the archeological investigations for the Susquehanna River Bridge Replacement/Rehabilitation Project, the following set of research topics and questions is provided.

Market Participation

Analysis of the ceramic assemblages generated from the excavations of nineteenth century working-class neighborhoods, in Washington, D.C. and New York City for example, have overturned some long-held opinions about the people that inhabited these neighborhoods and their participation in the local economy and society. Due to the close proximity of large market centers, ceramic assemblages reveal that a wide variety of vessel forms and types was available to all classes alike. Although the index values of the ceramics from working-class neighborhoods is on the low end as compared with other New York and Washington, D.C., neighborhoods, the overall value is equal to that of the middle class that lived in rural areas, away from the marketplace (Brighton 2001: 27-28).

Contemporary writers often have depicted the residents of these working-class urban neighborhoods as uneducated at best and, at worst, corrupt and devoid of sensible values. The ceramic assemblages collected from these urban sites seem to paint another picture. It demonstrates that these families placed enough value on projecting an image of domestic beauty and Victorian values that at least a portion of their limited income was spent on these items (Brighton 2001:28).

With respect to the range of possible site types located within the APE, similar topics may be addressed:

- In terms of simple market availability, is the range of ceramic types from the assemblages of Havre de Grace-area sites similar to those found on contemporaneous sites in some of the larger East Coast market centers?
- Does the arrival of the canal or railroad to Havre de Grace change this availability of materials to the families that inhabited these sites?
- Does the ceramic assemblage reflect the makeup of the family household, their food preferences, and/or their socio-economic status?
- How do these assemblages compare with those excavated from other domestic sites, urban and rural, in the Havre de Grace vicinity? How do the families that once lived within the APE compare socio-economically with those who lived in other areas of the region?

Diet and Foodways

As with ceramic vessel fragments, the analysis of faunal remains from urban excavations have shed meaningful light on the lives of individuals and families in working-class neighborhoods. The results of the analysis of faunal remains recovered from kitchen middens and other refuse deposits show a very different reality than the picture of urban, working-class life painted by contemporary writers and columnists. The myth of living a valueless beggar's existence gives way to the reality of families choosing between various cuts of meat or fish, in a sometimes very limited marketplace, while at the same time trying to maintain the specific dietary aspects of their particular ethnic or religious background (Milne and Crabtree 2001:31).

Kitchen deposits dating to the early- and mid-nineteenth century in New York City seem to reflect a somewhat limited market where the predominant items were poor cuts of meat from locally raised pigs and small, locally available fish. As time progressed and food preservation, technology, and transportation networks improved, markets were able to offer a wider range of items in terms of quality and selection. This was reflected in later kitchen and refuse deposits from the New York City excavations. In addition, the majority of Jewish residents within these neighborhoods appeared to have tried their best to maintain kosher households, despite the limitations of the local food markets (Milne and Crabtree 2001:43-44).

With respect to the APE, these questions may be asked of the data:

- Do the faunal assemblages reveal different personal taste preferences amongst the families that lived contemporaneously and do they reflect differing socio-economic status?
- How do the remains reflect availability of foodstuffs in the marketplace of late nineteenth/early twentieth century Havre de Grace? How does the diet of the families that once inhabited these sites compare with similar working-class neighborhoods in other urban centers?
- Is there any evidence for a particular ethnicity or religious belief system amongst the families as it is reflected in the faunal assemblage?

Health and Medicine

During the nineteenth century, city dwellers had to cope with increasingly crowded and unsanitary living conditions, as well as the effects of often difficult and debilitating jobs. For wealthier residents, these conditions could be lessened by their ability to afford a larger, less-crowded home, a healthy diet, the care of a doctor, or even a change of residence during periods of cold or harsh weather. For the poor and middle class, often medicine was the only way to combat sickness, physical pain, or the effects of a limited diet. Medicinal bottles, as well as plant remains that may have been used as part of an herbal remedy, have been especially helpful in shedding light on the overall health and attitudes towards health and sickness that were held by the nineteenth century residents of urban neighborhoods (Bonasera and Raymer 2001:49).

- Where did the former residents of the project area purchase the majority of their medicines—a doctor, local apothecary, street vendors, or did they rely primarily on home or herbal remedies?
- What common physical ailments afflicted the families that once lived in the project area?
- Are there any differences in the treatment of sickness due to the family's ethnicity or religious background?

Settlement Patterns and Subsistence

Within the Havre de Grace portion of the project, intact pre-contact contexts would have to be buried deeply to have avoided disturbance to date. In the case of the current project area, a major river terrace located near several confluences would have been extremely attractive to pre-contact peoples, as demonstrated by the numerous previously recorded pre-contact sites within the MHT database. The potential survival of these original ground surface sites is dubious given the amount and type of modern disturbances in the APE. As discussed earlier, given the overall lack of intense development within the Perryville portion of the project area, there does exist a higher potential for the survival of intact pre-contact deposits.

Additional survey efforts, conducted as a result of this archeological assessment, may result in the better characterization of the pre-contact landscape, its formation processes, and micro environments. Although many previous survey efforts have only been successful in identifying non-diagnostic lithic scatters and short-term occupation procurement camps, additional field

investigation may yield information pertaining to how specific landforms within the APE were utilized throughout the pre-contact period as well as within the lower Susquehanna River region in general.

Site Structure

Finally, additional site investigations should strive to explain the structure and evolution of the entirety of any identified house lot. Through additional machine and hand excavation, the field investigations should seek to identify additional cultural features, such as cisterns, privies, kitchen middens or gardens, outbuildings, former additions to the primary structure, or even an earlier primary dwelling.

- Based upon the types of features recorded, what sorts of occupational activities or functions were being conducted by family members in the yard areas?
- Archival research has shown that some of these families were skilled laborers and tradesmen. Is there any evidence that these individuals were working out of their homes as opposed to a separate workplace?

Unanticipated Discoveries Plan

No archeological planning document, no matter how well conceived, can always unfailingly predict the location of all archeological resources within a given project area. This is especially true within the environments contained within the current project area where a series of localized events may have coalesced in the preservation of a resource within an unlikely or unexpected setting.

It is with this thought in mind that the final recommendation for this technical report is for project designers, engineers, and researchers, in consultation with the Maryland Historical Trust, to establish a plan for dealing with unanticipated archeological discoveries for the Susquehanna River Bridge Replacement/Rehabilitation Project. At minimum, the plan should include:

- A review of the range of site or resource types likely to be found within the project area;
- A work plan and/or framework for evaluating any resources that are identified during the construction process;
- Protocols for the notification of appropriate project personnel and timelines for fieldwork and reporting, and finally;
- Identification of an expedited agency and MHT review process in order to keep construction delays at a minimum.

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