CHESAPEAKE
BAY CROSSING STUDY
TIER 1 NEPA

Cultural Resources Technical Report

Maryland Transportation Authority

Prepared in support of the Tier 1 Environmental Impact Statement

JANUARY 2021

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1.0 INTRODUCTION

1.1 Study Description

The Maryland Transportation Authority (MDTA), in coordination with the Federal Highway Administration (FHWA) is preparing a Tier 1 Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) for the Chesapeake Bay Crossing Study: Tier 1 NEPA (Bay Crossing Study). The purpose of the Bay Crossing Study is to consider corridors for providing additional traffic capacity and access across the Chesapeake Bay in order to improve mobility, travel reliability and safety at the existing Governor William Preston Lane Jr. Memorial (Bay) Bridge. Evaluation of any potential new crossing corridor will include an assessment of existing and potentially expanded transportation infrastructure needed to support additional capacity, improve travel times, and accommodate maintenance activities, while considering financial viability and environmental responsibility. This Tier 1 study initiates the NEPA process with the goal of narrowing the scale and scope of this complex project prior to more detailed analysis in a future Tier 2 NEPA study. The Tier 1 study area consists of the entire length of the Chesapeake Bay in Maryland, extending nearly 100 miles from the northern part of the Chesapeake Bay near Havre de Grace, Cecil County, south to near Point Lookout, St. Mary's County (**Figure 1-1**).

Comprehensive screening of 14 corridors throughout the Chesapeake Bay resulted in the identification of three Corridor Alternatives Retained for Analysis (CARA) comprising Corridor 6, Corridor 7, and Corridor 8. This Cultural Resources Technical Report is prepared in support of the Bay Crossing Study and is one of numerous studies completed as part of the overall EIS.

1.2 Purpose and Need

Evaluation of the CARA included an assessment of existing and potentially expanded transportation infrastructure needed to support additional capacity, improve travel times, and accommodate maintenance activities, while considering financial viability and environmental responsibility. The Tier 1 NEPA analysis considers a "No-Build" alternative and addresses the following needs listed in **Sections 1.2.1** through **1.2.4**.

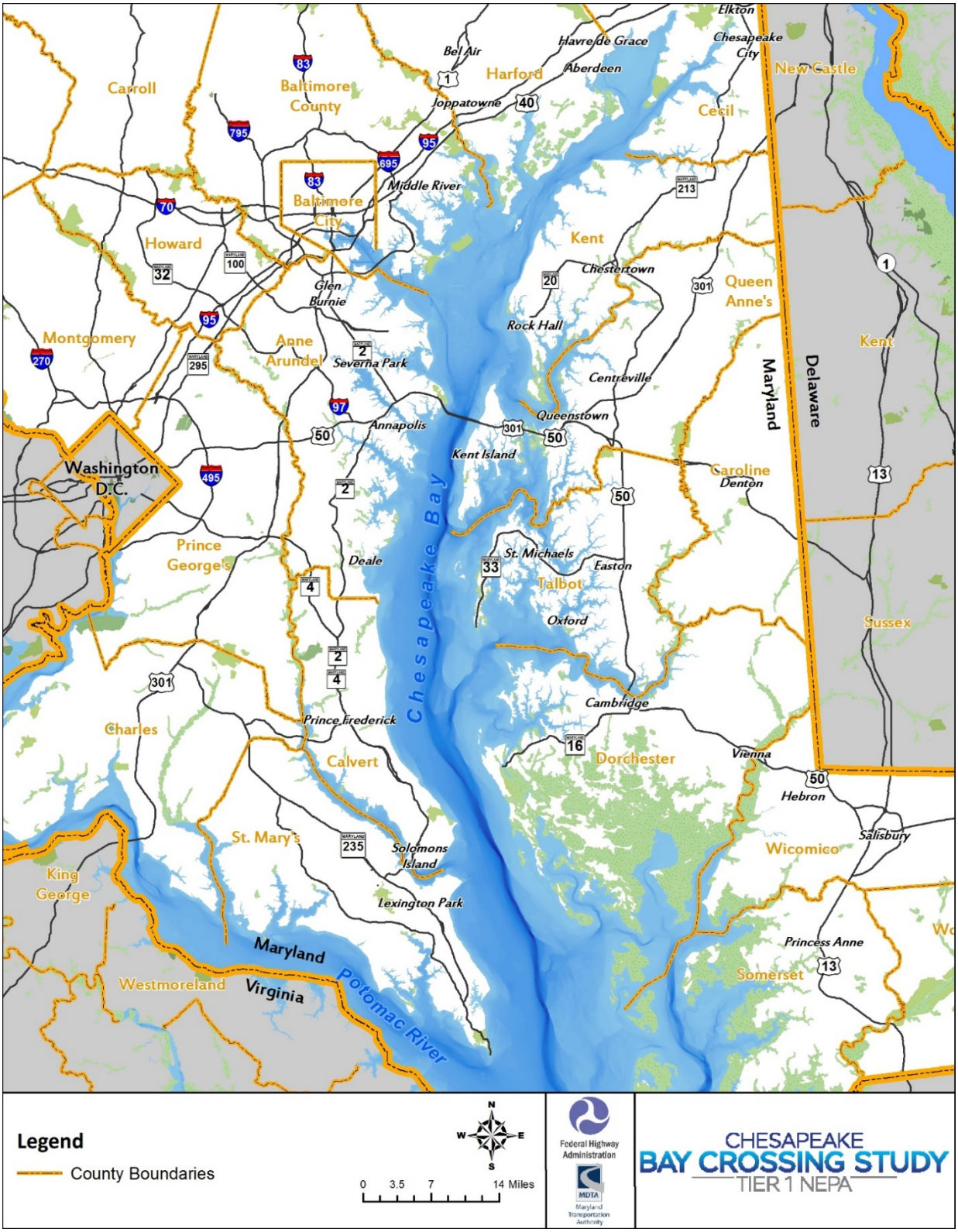
1.2.1 Adequate Capacity

The existing two spans of the Bay Bridge, which are part of US 50/US 301 between Anne Arundel and Queen Anne's Counties, Maryland, carry increasing volumes of travelers. Congestion resulting from high regional travel demand by weekday commuter and summer weekend recreational trips is expected to worsen by the planning horizon year of 2040 due to planned growth in population and employment. Additional capacity is needed to address existing congestion, future congestion, and related safety concerns, all resulting from increasing travel volume on the Bay Bridge and approach transportation network.

1.2.2 Dependable and Reliable Travel Times

The anticipated population increase in communities on both sides of the Chesapeake Bay and associated increase in commuter travel, as well as expected increased tourism and recreational travel, will continue to stress mobility across and around the Bay.

Figure 1-1: Chesapeake Bay Study Area



Marylanders and visitors need dependable Chesapeake Bay crossing options with reliable operating speeds and travel times that provide access to employment and recreation areas, as well as facilitate emergency services and evacuation events.

1.2.3 Flexibility to Support Maintenance and Incident Management in a Safe Manner

Maintenance and rehabilitation activities will increase and exacerbate congestion as the Bay Bridge ages. Additional capacity is needed to maintain flexible options for safe travel during maintenance and for management of other incidents on the Bay Bridge. Safety of travelers, maintenance workers and incident responders will also be considered during corridor alternative development.

1.2.4 Additional Considerations

Additional capacity across the Chesapeake Bay and/or improvements to existing facilities must be financially viable. In order to assess potential additional Bay crossings, it is necessary to consider the means to pay for the development, operation and maintenance of such facilities.

The Chesapeake Bay is a critical environmental resource in Maryland; therefore, any Bay Crossing improvements must take into account the sensitivity of the Bay, including existing environmental conditions and the potential for any new capacity to adversely impact the Bay and the important natural, recreational, socio-economic and cultural resources it supports.

2.0 ALTERNATIVES CONSIDERED

The alternatives assessed in this technical study include three Corridor Alternatives Retained for Analysis (CARA) and the No-Build Alternative. MDTA conducted a comprehensive screening of 14 corridors throughout the extent of the Chesapeake Bay in Maryland, along with four Modal and Operational Alternatives (MOA) and the No-Build Alternative. The screening resulted in the identification of the three CARA; none of the MOA were carried forward for further Tier 1 Analysis as standalone alternatives.

2.1 No-Build Alternative

The No-Build Alternative is included as a baseline for comparison to the corridor alternatives described below. The No-Build Alternative includes all currently planned and programmed infrastructure projects. The No-Build Alternative would include regular maintenance at the existing Bay Bridge between Anne Arundel County and Queen Anne's County. The No-Build Alternative includes existing transportation systems management/travel demand management (TSM/TDM) measures including contraflow lanes on the existing bridge, as well as any planned and funded TSM/TDM measures as of Project Scoping in 2017 such as automated contraflow lanes.

2.2 Corridor Alternatives Retained for Analysis

MDTA conducted a comprehensive screening of 14 corridors throughout the extent of the Chesapeake Bay in Maryland. Recorded cultural resources were identified in each of the 14 corridors and were among the environmental screening criteria used to identify the CARA. This desktop review consisted of presenting known architectural resources and historic properties within each of the 14 corridor alternatives. Background research of recorded architectural resources and historic properties was conducted by examining data from the publicly available MHT Medusa Cultural Resource Information System (Medusa). This data was included as part of an environmental inventory of readily available, desktop-level information on a range of environmental resources. The environmental inventory was used, along with traffic and engineering information, to identify the three CARA to be evaluated in the Tier 1 EIS.

The screening process resulted in the identification of the CARA comprising Corridor 6, Corridor 7, and Corridor 8 (**Figure 2-1)**. Each CARA is a two-mile wide corridor extending far enough on each shore to connect to existing major roadway infrastructure of four lanes or greater. Neither specific roadway alignments nor a possible crossing location are identified in this Tier 1 Study; identification of alternative alignments would occur in Tier 2 if Tier 1 concludes with the selection of a Preferred Corridor.

2.2.1 Corridor 6

From west to east, Corridor 6 begins with a tie-in at MD 100 and follows MD 177, with the crossing located north of Gibson Island. After crossing the Chesapeake Bay, Corridor 6 returns to land on the Eastern Shore north of the Eastern Neck National Wildlife Refuge, roughly perpendicular to MD 445. From there, the corridor turns southeast to cross the Chester River and does not follow the existing roadway network until the tie-in with US 301 south of Centreville.

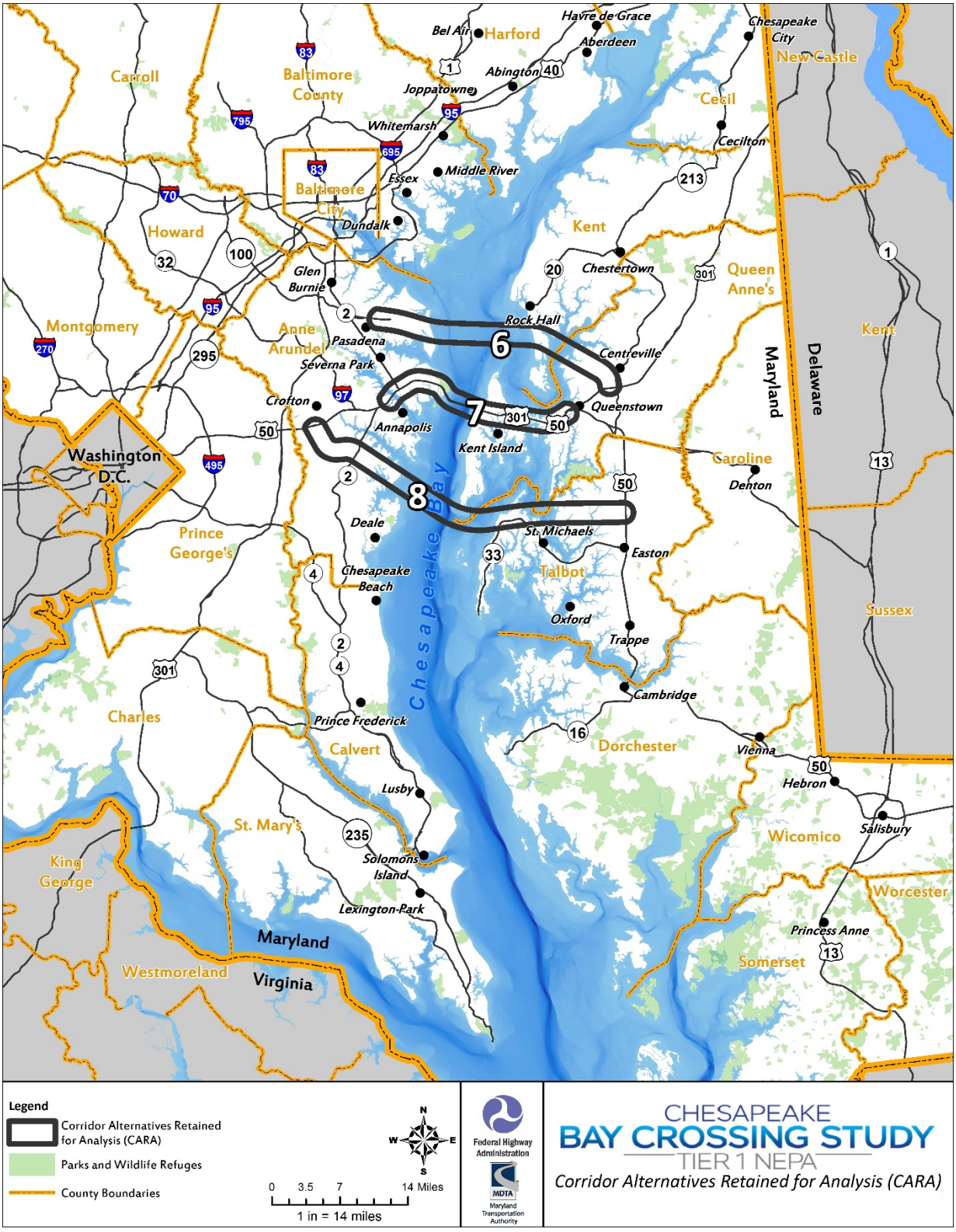
2.2.2 Corridor 7

Corridor 7 follows the existing infrastructure along the location of the current Bay Bridge. From west to east, the corridor begins just west of the US 50/301 crossing of the Severn River. The corridor continues to follow US 50/301 over the Severn River, crossing the Chesapeake Bay and returning to land on Kent Island near Stevensville. The corridor continues to follow US 50/301 over Kent Narrows, ending at the US 50/301 split near Queenstown. While this corridor is aligned with the existing crossing along its centerline, a new crossing and the associated infrastructure could potentially be located anywhere within the two-mile wide corridor.

2.2.3 Corridor 8

From west to east, Corridor 8 begins with a tie-in at US 50/301 at the interchange with MD 424. From there, the corridor roughly follows MD 424 and MD 214. The crossing of the Bay begins near Mayo on the western shore, passing just south of the southern tip of Kent Island, then curving northeast. The corridor returns to land on the Eastern Shore near MD 33, west of St. Michaels. From there, Corridor 8 crosses the Miles River, and does not follow the existing roadway network until it ties-in with MD 50 north of Easton.

Figure 2-1: Corridor Alternatives Retained for Analysis



3.0 REPORT METHODOLOGY

This section documents the methodology followed for the preparation of the Cultural Resources Technical Report. The Cultural Resources Methodology for Tier 1 NEPA is enclosed as **Appendix A**.

3.1 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) and its implementing regulations set forth in 36 *Code of Federal Regulations* (CFR) Part 800, Protection of Historic Properties (Section 106), requires Federal agencies to take into account the effects of their undertakings on historic properties. The Section 106 process seeks to accommodate historic preservation concern with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of the project. According to 36 CFR Part 800.16 (l), the term "historic property" refers to any prehistoric or historic district, site, building, structure, or object listed in or eligible for inclusion in, the National Register of Historic Places (NRHP).

The NRHP criteria for eligibility are defined in 36 CFR 60.4 – Criteria for evaluation. Under these regulations, in order to be considered significant, a property must meet one of the four criteria listed below *and* retain integrity, which is defined in seven characteristics: location, design, setting, materials, workmanship, feeling, and association. Summarized below, the criteria are:

- Criterion A – association with important historic events or broad patterns of history;
- Criterion B – association with the life of a historically significant person;
- Criterion C – architectural, engineering, or artistic significance or a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D – has yielded, or is likely to yield, information important in history or prehistory.

Guidelines for applying these criteria are included in National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation (DOI 1990). From time to time the Keeper of the National Register of Historic Places issues guidance documents that address eligibility issues for specific property types or other relevant preservation concerns.

3.1.1 Section 106 Consultation to Date

Section 106 consultation on the Bay Crossing Study was initiated May 10, 2018. Consulting Parties were invited to participate in consultation on November 29, 2018. In an effort to expand the number of consulting parties participating in Section 106 consultation, on April 9, 2019 FHWA and MDTA sent a second invitation to participate to those organizations and agencies that had not responded to the first invitation. As stated in the invitation letter, If no response was received, FHWA and MDTA assumed the organization or agency was not interested in participating in the Section 106 consultation process. A list of the Federally Recognized Tribes, government agencies, and organizations invited to participate as Consulting Parties in Section 106 consultation and information about whether they chose to participate is enclosed as **Appendix B**.

Section 106 defines the APE as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 CFR 800.16(d)). FHWA and MDTA considered potential visual, audible, atmospheric, and physical effects to historic properties. The Tier 1 study initiates analysis with the goal of narrowing the scale and scope of the project. As a Tier 1

NEPA study, the two-mile wide CARA encompass the area where potential effects from the undertaking may occur. For the purposes of Section 106 FHWA and MDTA have delineated the APE as coterminous with the CARA. During Tier 2, the APE will be re-delineated based on the location of the alignment alternatives (within the Tier 1 Preferred Corridor) as additional information becomes available about the undertaking's potential to directly and indirectly affect historic properties.

Tier 1 activities include the phased identification of historic properties within the APE. This Cultural Resources Technical Report includes a gap analysis to support the phased identification of historic properties as part of Section 106 consultation and the Tier 1 EIS. An explanation of the "phased-identification" process is provided in the following Section 3.1.2. This report also includes an analysis of the potential for archaeological and architectural resources that may be affected by the Bay Crossing Study by presenting project information, identifying recorded cultural resources, analyzing the potential for locating archaeological resources and unrecorded historic architectural resources, and making recommendations for resources that may require NRHP eligibility evaluations during Tier 2.

3.1.2 Phased Identification of Historic Properties

Section 106 regulations at 36 CFR §800.4(b)(2) allow for agencies to complete phased identification of historic properties for projects such as the Bay Crossing Study, in which large corridors or land areas are being considered as alternatives. The Section 106 regulations state that final identification and evaluation of historic properties may be deferred "if it is specifically provided for in… documents used by an agency official to comply with the National Environmental Policy Act pursuant to [36 CFR] §800.8." Phased identification in projects with large corridors should establish "the likely presence of historic properties" within the Area of Potential Effects (APE) for each alternative through "background research, consultation and an appropriate level of field investigation, taking into account the alternatives under consideration, the magnitude of the undertaking and its likely effects, and the views of the SHPO [State Historic Preservation Office]/THPO [Tribal Historic Preservation Office] and any other consulting parties." Once the alternatives are refined, the agency would proceed with the identification and evaluation process as set forth in 36 CFR §800.4(b)(1) and (c).

In consultation with the Maryland SHPO (Maryland Historical Trust [MHT]) and the Advisory Council on Historic Preservation (ACHP), FHWA and MDTA have developed a phased approach for complying with Section 106 identification and evaluation requirements during Tier 1 NEPA. Tier 1 Section 106 historic property identification efforts focus on establishing the likely presence of historic properties within the APE. Since previous historic properties survey and documentation has not been uniform in scale or scope throughout the CARA, this report identifies unrecorded resources (unsurveyed and unevaluated resources that meet the NRHP age threshold established in 36 CFR 60.4) within the CARA in addition to evaluated (National Historic Landmark [NHL], NRHP listed or eligible historic properties) and unevaluated resources (such as Maryland Inventory of Historic Properties [MIHP] resources or easement properties without an NRHP evaluation). Unrecorded architectural resources were identified using a 1980 date of construction (inclusive) as a cut off year to identify resources 40 years or older to account for properties that may ultimately meet the age threshold. The results of Tier 1 identification efforts allowed for direct comparison of the CARA when analyzing each corridor alternative; identified significant resources - such as NHLs - that merit avoidance; and provided data that supports and contributes to the Bay Crossing Study.

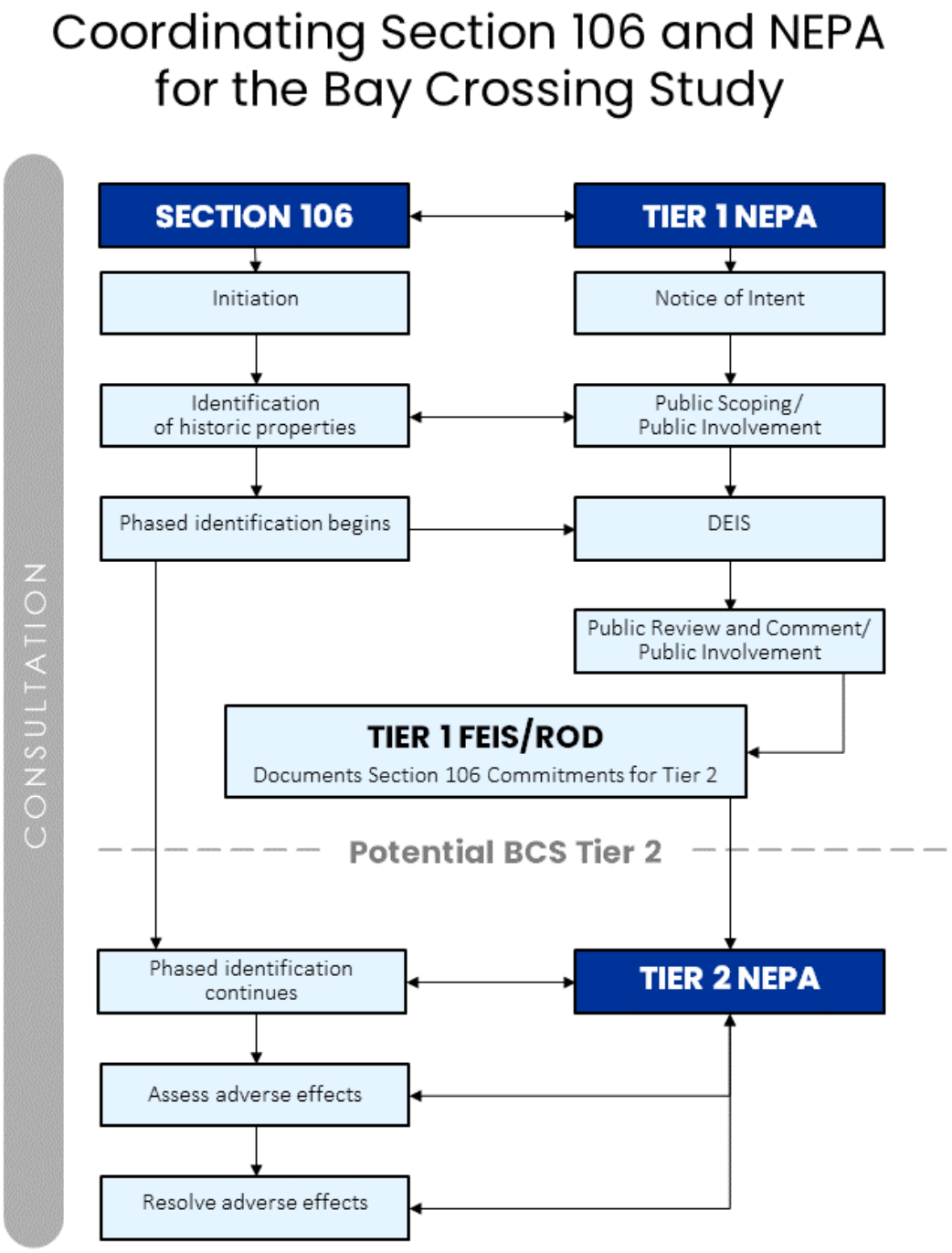
The Section 106 process would continue with a future Tier 2 NEPA study, only within the Preferred Corridor. If a Preferred Corridor is approved at the conclusion of Tier 1, the APE would be refined during Tier 2 in consultation with MHT and the consulting parties. Changes to the APE would be determined by the scale and nature of the undertaking as defined by the project alternatives, including considerations such as visual, audible, atmospheric, or other physical impacts. Once identification and evaluation of historic properties is complete as set forth in 36 CFR §800.4(b)(1) and (c), if there are adverse effects to historic properties or effects cannot be determined, then Section 106 consultation will conclude with an agreement document, following 36 CFR §800.6 or §800.14(b).

3.1.3 Coordination of NEPA with Section 106

NEPA regulations set forth in 40 CFR §1502.25(a) require that "to the fullest extent possible" draft environmental impact statements be developed concurrently and integrated with related surveys and studies including those required by Section 106 of the NHPA and other environmental review laws and executive orders. In considering whether a NEPA action may significantly affect the quality of the human environment, agencies must consider the degree to which the action may adversely affect historic properties (40 CFR §1508.27(b)(8)).

In accordance with 36 CFR §800.8, Section 106 consultation for the Bay Crossing Study will run concurrently with the NEPA process, as demonstrated in **Figure 3-1**. Section 106 decisions made during Tier 1 will be recorded in the Tier 1 Final Environmental Impact Statement/Record of Decision (FEIS/ROD). The Bay Crossing Study will coordinate Section 106 and NEPA rather than invoke 36 CFR §800.8(c) "*Use of the NEPA process for section 106 purposes*." Recorded commitments will include the deferral of historic properties identification and the continuation of the Section 106 process during Tier 2. The FEIS/ROD will also document Section 106 activities completed in Tier 1 and specify that Section 106 consultation will continue only within the Preferred Corridor.

Figure 3-1: Guide for coordination of Section 106 and NEPA during Tier 1



3.2 Cultural Resources Gap Analysis

The three CARA encompass an environmentally diverse and historically rich section of Maryland's Chesapeake Bay region. Similar to the environmental screening process, background research of recorded cultural resources within the CARA was conducted by examining data from the archaeological and architectural layers available on Medusa. The gap analysis synthesizes these cultural resource surveys; locates and assesses the surveys and evaluation status of recorded resources; and begins the process of locating unrecorded architectural resources and assessing the archaeological potential of unsurveyed areas within the CARA.

Additional desktop sources consulted during Tier 1 include the National Park Service's inventory of NHL, State Department of Assessments and Taxation (SDAT) records, and state and local histories. Environmental, geological, and soil data were also consulted. Cultural resources management archaeological and architectural survey reports were not directly consulted during this phase of the identification process. The precontact and historical cultural context relied on published state and local histories and included no in-depth property or corridor-specific research. SDAT data and aerial imagery were consulted to determine the property build date and to confirm the presence of unrecorded architectural resources.

3.2.1 Archaeological Resources

Archaeological work in Maryland is classified into three major phases: identification survey (Phase I), site evaluation for NRHP eligibility (Phase II), and data recovery/treatment (Phase III). The goal of identification is to locate archaeological properties that may be eligible for the NRHP in an undertaking's APE. The goal of evaluation is to determine if an archaeological property in an undertaking's APE is eligible for inclusion in the NRHP. The goal of treatment is to avoid, minimize, or mitigate an undertaking's adverse effects on an archaeological property (or properties) listed in or determined eligible for inclusion in the NRHP.

The gap analysis identifies areas within the CARA that have not been subject to archaeological survey or have not been surveyed to meet the current *Standards and Guidelines for Archaeological Investigations in Maryland* (Schaffer and Cole 1994). For the purposes of this study, surveys conducted prior to 1990 are assumed to not meet current MHT standards and those conducted later are assumed to meet current MHT standards. However, if Tier 1 concludes with the selection of a Preferred Corridor, the methodology of each previous survey should be verified during a future Tier 2 study. Both unsurveyed areas and areas surveyed prior to 1990 are referred to as "unsurveyed areas" throughout the remainder of this document. Areas that were subjected to Phase I archaeological survey in or after 1990 were eliminated from further analysis during this Tier 1 study. If Tier 1 concludes with the selection of a Preferred Corridor, all of the archaeological surveys within that corridor would need to be examined in greater detail to determine if they are compliant with current MHT standards.

3.2.1.1 Assessments of Archaeological Potential

Each CARA was assessed to determine the number of acres in which archaeological survey may be required during a future Tier 2 cultural resources study. A desktop analysis using Natural Resources Conservation Service (NRCS) soil data, topographic relief, and soil drainage was conducted to eliminate areas from consideration based on obvious disturbance or urban/suburban development; no further archaeological survey is recommended for those areas. The remaining areas were assessed for their archaeological potential and recommendations for additional survey were made based on that potential.

3.2.1.2 Criteria for Terrestrial Archaeological Potential

Unsurveyed areas were classified as "may require archaeological survey" if they contained:

- No documented disturbance in the NRCS soil data layers;
- Slopes less than or equal to 10 percent on the Eastern Shore;
- Slopes less than or equal to 15 percent on the Western Shore; and
- Moderately well-drained to very well drained soils.

Unsurveyed areas were classified as having "low archaeological potential" if the contained:

- Urban Land or Udorthents;
- Slopes in excess of 10 percent on the Eastern Shore;
- Slopes in excess of 15 percent on the Western Shore; and
- Moderately poorly-drained to very poorly-drained soils.

3.2.1.3 Assessment of Underwater Archaeological Potential

National Oceanic and Atmospheric Administration (NOAA) dataset [NOAA Automated Wreck and Obstruction Information System (AWOIS) and electronic navigational chart (ENC)] of shipwrecks was reviewed in an effort to identify additional potential maritime underwater archaeological sites not yet recorded by MHT.

3.2.2 Architectural Resources

Tier 1 architectural resources identification is limited to the APE, which is defined as the limits of each of the CARA. The intent is to identify known historic properties, those included in or eligible for inclusion in in the NRHP, and to identify the potential for additional historic properties in the form of recorded or unrecorded resources within each of the CARA. Given the constraints involved in a Tier 1 level of architectural resources identification, much of the analysis regarding recorded architectural resources requiring additional evaluation and unrecorded architectural resources is, by necessity, preliminary in nature. This is in part due to the large geographic areas included, as well as the large number of resources. However, the intent is to provide a comparable analysis between the CARA to assist in planning during subsequent phases of work associated with the project.

3.2.2.1 Recorded Architectural Resources

Identification of recorded architectural resources began with studying the architecture layers on Medusa, namely NRHP, Determination of Eligibility (DOE) Short Forms, MIHP (including DOE forms), Pending Submittal MIHP, and MHT Easements within the APE. The NPS inventory of NHLs and easement records obtained from the MHT Easement Administrator were also evaluated. Properties with MHT Easements are considered by MHT to be eligible for the NRHP regardless of whether a formal DOE has been prepared.

The collected data was organized into four categories to better reflect gap analysis needs: 1) architectural historic properties (including NHLs); 2) not eligible resources; 3) unevaluated resources; and 4) demolished resources (comprising any resource within the prior three categories that has been demolished). Verification of demolished resources was accomplished via desktop analysis.

In December 2019, a preliminary field review was conducted within each of the CARA. Select recorded historic properties visible from the public right-of-way were photographed. The intent of the field review was to provide visual reference of select properties, and to provide a preliminary assessment of each property's status regarding possible demolition or alterations. Detailed documentation and reevaluation

was not completed. The photos provide a visual reference for these properties and augment the historical information in this study (**Figure 7-1** through **Figure 7-8**, starting on page 38**)**.

3.2.2.2 Unrecorded Architectural Resources

Unrecorded architectural resources within the CARA were identified using a 1980 date of construction (inclusive) as a cut off year to identify resources 50 years or older providing a ten-year buffer for project construction. Parcels were identified through GIS desktop analysis conducted of Maryland State Department of Assessments and Taxation (SDAT) build years. Clusters of parcels with build dates of 1980 and earlier that had potential to be a historic district underwent an additional layer of analysis using aerial imagery to verify that they should be grouped as a district. Only areas within the CARA were reviewed; these unrecorded districts may extend beyond the CARA. Other than three post-1945 concrete and steel bridges determined eligible by MDOT SHA (QA-542, AA-44, and AA-45), all post-1945 concrete bridges within the APE are exempt from consideration as historic properties due to the ACHP Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges (77 FR 68790).

For architectural resources with no recorded build date in SDAT, the analysis extended to the metadata within the SDAT database. Parcels unlikely to have architectural resources, such as those identified as "open space" or "flood plain," were removed, as were properties that appeared to be vacant lots. Parcels likely to contain parks or other recreational facilities were retained. Those properties determined likely to contain a resource underwent a second level of review using aerial imagery and Google Street View to verify the existence of a building or structure on the parcel. Parcels with structures with and without build dates were then assigned one of five property types based on the land use description metadata within SDAT—agricultural, commercial, industrial, miscellaneous, and residential. Miscellaneous property types aggregate land uses such as: government, education, parks and recreation, religious, and institutional.

4.0 ENVIRONMENTAL SETTING

4.1 Topography

The CARA lie within the Embayed Section of the Atlantic Coastal Plain Physiographic Province (Reger and Cleaves 2008). The Atlantic Coastal Plain formed during the Pleistocene Epoch as a result of sea level changes associated with repeated cycles of glacial melting and formation and the associated uplift of the underlying landscape. This process resulted in a series of stepped landforms of low relief that formed as a succession of ancient shorelines. The higher, older plains are located to the west of the Chesapeake Bay, while the lower younger plains are located to the east. The Atlantic Coastal Plain is generally underlain by unconsolidated gravel, sand, silt, and clay that overlay the rocks composing the eastern Piedmont Physiographic Province. These two provinces meet along an irregular line of contact known as the Fall Line. Beginning at the Fall Line, the sediments of the Coastal Plain dip eastward and thicken to more than 8,000 feet at the Atlantic Coast. The age of the sediments range from the Triassic to Quaternary periods. The Embayed Section of the Coastal Plain is characterized by estuaries associated with the inundation of river mouths and the formation of barrier islands associated with post-glacial sea level rise. The terrain within the Embayed Section is nearly flat to gently rolling with uplands bounded by flat lowlands (Reger and Cleaves 2008).

Within the Embayed Section of the Atlantic Coastal Plan, the CARA fall within four regions: the Delmarva Peninsula Region on the Eastern Shore of the Chesapeake Bay, the Western Shores Upland and Lowland

Regions on the Western Shore of the Bay, and the Chesapeake Estuary Region, which is the drowned valley of the ancestral Susquehanna River system and consists of the Chesapeake Bay and the sediments and features on the bottom of the Bay (Reger and Cleaves 2008).

The Delmarva Peninsula Region consists of a large peninsula extending south of the Elk River separating the Chesapeake Bay and Delaware Bay-Atlantic drainages. It consists of an upland bordered by a series of lowlands. Within the CARA, the region is represented by the St. Michaels Lowland District and the Denton Plain District (**Figure 4-1**). The St. Michaels Lowland District, which is situated along the west central shore of the Delmarva Peninsula north of the Choptank River, consists of a coastal lowland of very low relief that includes landforms such as salt marshes and low estuarine terraces. The Denton Plain District is an upland landscape of low relief that forms the poorly defined drainage divide between the Chesapeake Bay and Delaware Bay (Reger and Cleaves 2008).

The Western Shores Upland Region consists of flat to rolling upland landforms underlain by sediments of Cretaceous to Pliocene age, with higher elevations and greater relief than the Eastern Shore. Fluvial and Estuarine terraces border the major drainages, such as the Patuxent River. Within the CARA, the region is represented by the Middle Patuxent Valley Area, the Lower Patuxent Valley Area, the Prince Frederick Knobby Upland District, the Crownsville Upland District, and the Glen Burnie Rolling Upland District (**Figure 4-1).** The Middle Patuxent Valley Area is characterized by a broad, well defined floodplain associated with the Patuxent River. The Lower Patuxent Valley Area is located downstream of the confluence with the Western Branch and is marked by the widening channel and valley associated with the Patuxent River. The meandering Patuxent River channel is associated with areas of broad, shallow bays and marshes. The Prince Frederick Knobby Upland District is characterized by moderately to well dissected uplands with numerous small hills. The Crownsville Upland District and the Glen Burnie Rolling Upland District exhibit similar characteristics and are generally comprised of undulating uplands, of which the Crownsville is more dissected (Reger and Cleaves 2008).

The Western Shore Lowland Region consists of a series of low fluvial and estuarine terraces, beaches, and drowned river mouths that fringe the Western Shore Uplands. Within the CARA, the region is represented by the Annapolis Estuaries and Lowlands District which lies adjacent to the west-central shore of the Chesapeake Bay and represents a relatively featureless lowland of low relief (**Figure 4-1**; Reger and Cleaves 2008).

On the Eastern Shore, the CARA are located in the Choptank (4) and Chester River-Eastern Bay (5) Maryland Archaeological Research Units (MARU), as defined by MHT. And on the Western Shore, the CARA are located in the Gunpowder-Middle-Back-Patapsco (7) and Riverine Patuxent (8) MARU (**Figure 4-2**).

4.2 Geology

The CARA are underlain by nine different geologic formations (Cleaves et al. 1968). On the Eastern Shore, the CARA are underlain by three geologic formations (**Figure 4-3**). The most prevalent of these is Lowland Deposits (Qdu). Lowland Deposits are located near the Chesapeake Bay and date to the Quaternary Period and are composed of medium to coarse-grained sand and gravel with silts and clays of various colors and brown to dark grey lignitic silty clay. In some areas, Lowland Deposits contain estuarine to marine fauna. The thickness of Lowland Deposits range from 0 to 150 feet. Upland Deposits (Qu) occur to the east of the Lowland Deposits, and are the second most prevalent formation mapped on the Eastern Shore. Upland Deposits date to the Quaternary Period and consist of poorly sorted deposits of white to red sand

and gravel and minor pink and yellow silts and clays with boulders at its base. The thickness of Upland Deposits range from 0-90 feet. The Calvert Formation (Tc) is the third geologic formation found on the Eastern Shore and occurs within CARA in negligible amounts. The Calvert Formation dates to the Miocene Age and is composed of interbedded dark green to dark bluish gray, fine grained argillaceous sand and sandy clay that contains prominent shell beds and silica cemented sandstone in the Plum Point Marls Member, and greenish-blue diatomaceous clay, pale brown to white fine grained argillaceous sand and greenish-blue sandy clay in its Fairhaven Member. The total thickness of the Calvert Formation ranges from 0-150 feet.

On the Western Shore the CARA are underlain by eight geologic units (**Figure 4-3**). The most prevalent geologic formation on the Western Shore is the Aquia Formation, which only occurs in Corridors 7 and 8, is the most prevalent. The Aquia Formation dates to the Paleocene Epoch and is composed of green to gray-green, argillaceous, highly glauconitic well-sorted fine to medium-grained sand with locally indurated shell beds. Its thickness ranges from 0-100 feet. The Nanjemoy Formation (Tn), which only occurs in Corridor 8, dates to the Eocene Epoch and consists of dark green to gray, argillaceous, glauconitic, fine to medium-grained sand with minor inclusions of gray to pale brown clay. The Marlboro Clay Member, which is found at its base, consists of pink to gray homogenous plastic clay with local lenses of very fine-grained white sand with a thickness of 0 to 30 feet. The total thickness of Nanjemoy Formation is 0 to 125 feet. The Monmouth Formation (Kmo), which only occurs in Corridor 7, dates to the Cretaceous Period and consists of dark gray to reddish-brown micaceous, glauconitic, argillaceous, fine to course-grained sand with basal gravel. The thickness of the Monmouth Formation is 0 to 100 feet.

Figure 4-1: Physiographic Districts within the CARA

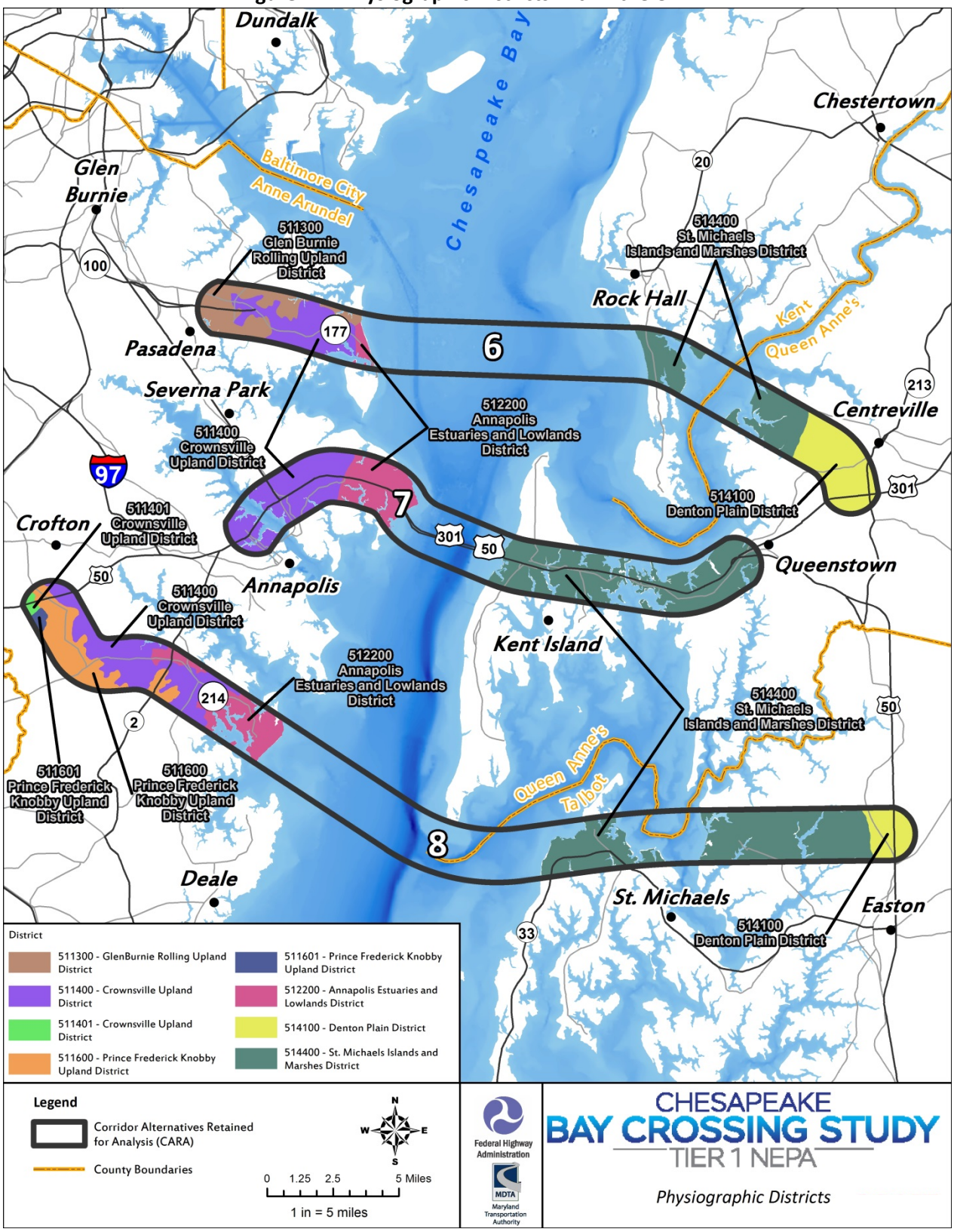


Figure 4-2: Maryland Archaeological Research Units

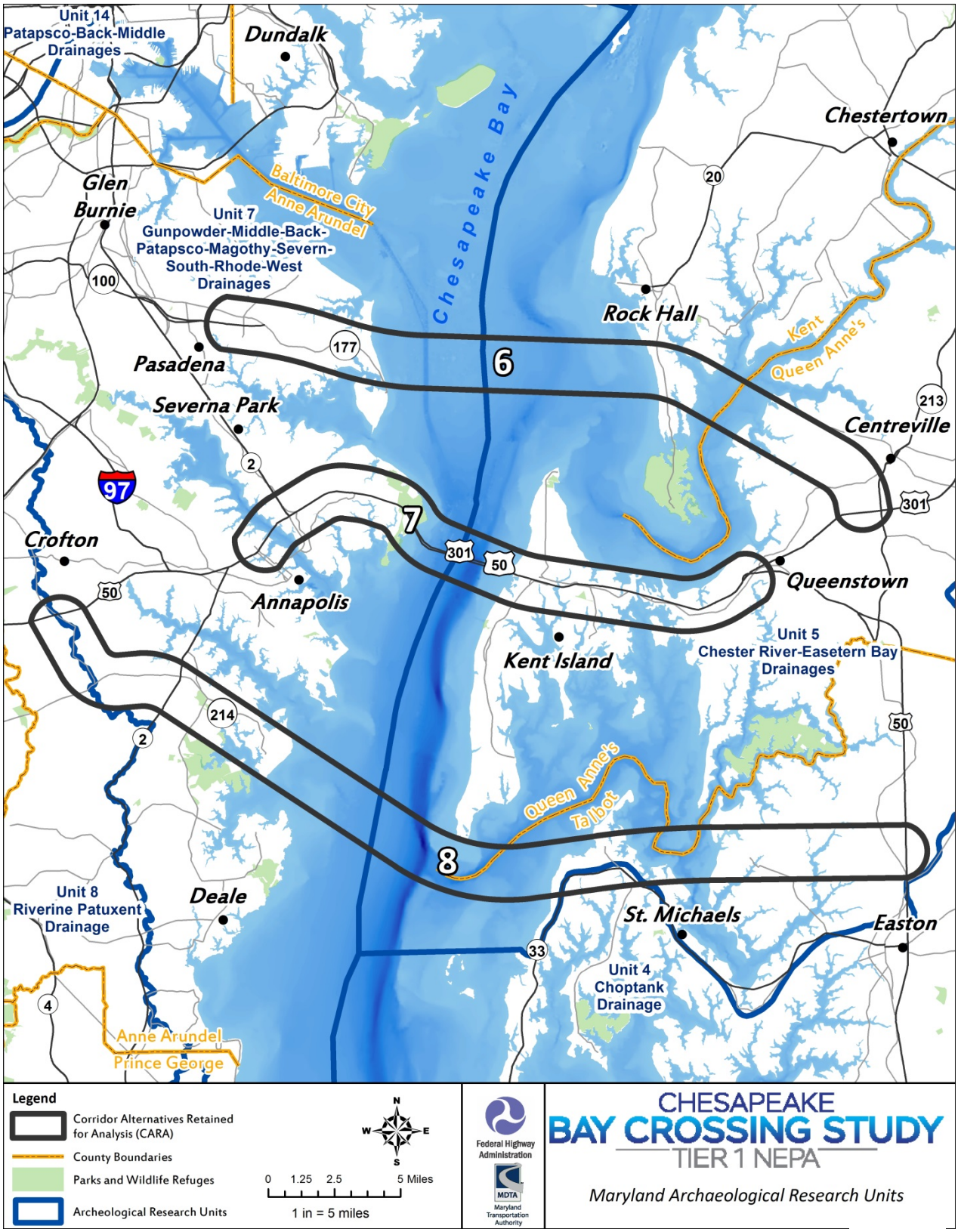
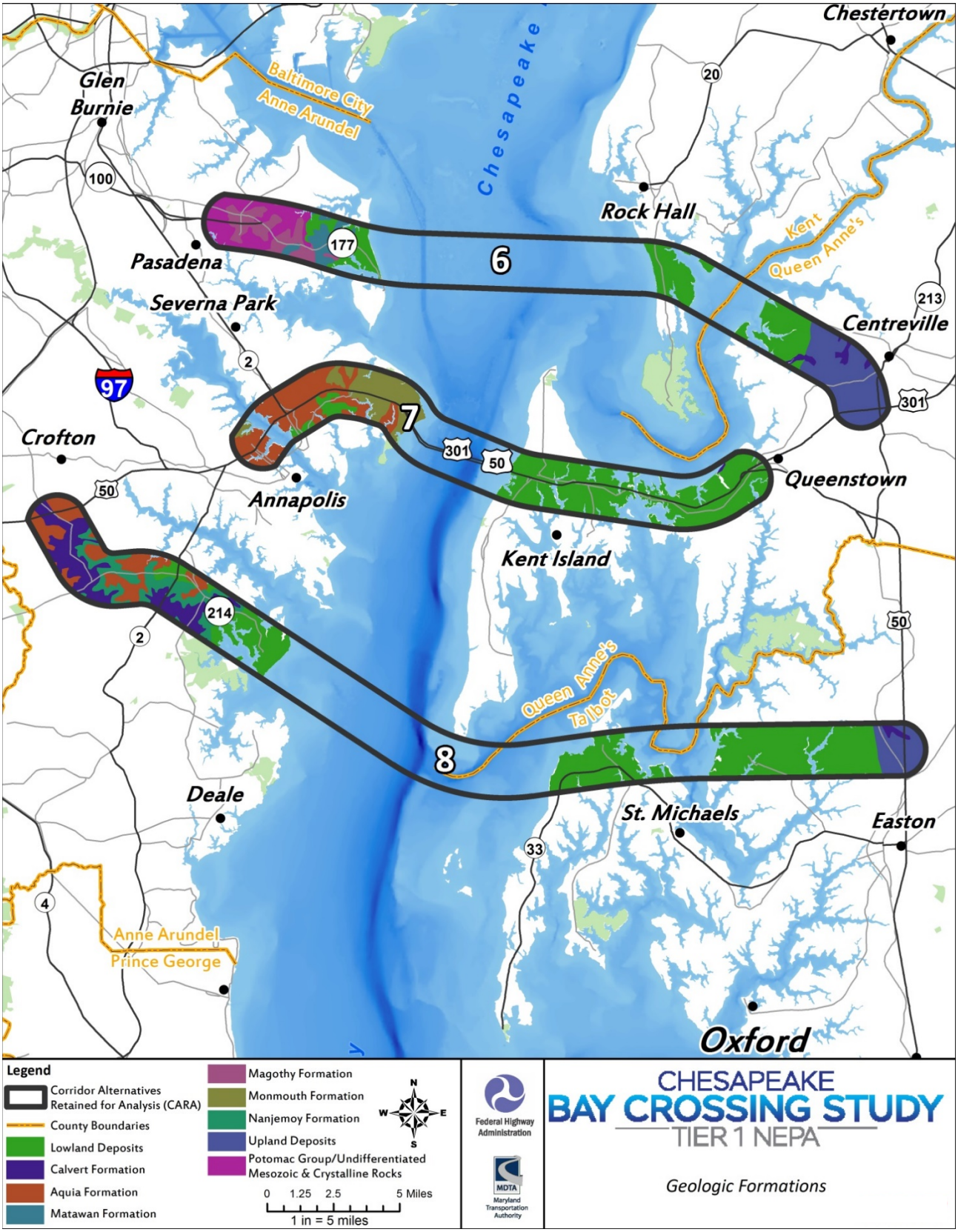


Figure 4-3: Geologic Formations



The Potomac Group (Kp), which only occurs in Corridor 6, dates to the Cretaceous Period and consists of interbedded quartzose gravels, protoquartzitic to orthoquartzitic argillaceous sands, and white, dark gray, and multicolored silts and clays. The total thickness of the Potomac Group is 0 to 800 feet. Two subsurface members of the Potomac Group include Undifferentiated Mesozoic Rocks and Undifferentiated Crystalline Rock. Undifferentiated Mesozoic Rocks include course-grained conglomerate with pebbles of quartzite, pegmatitie, serpentine, and vein quartz at its base with reddish-brown, gray and green mottled fine to course-grained sandstone, siltstone, and shale present in the subsurface. Its maximum thickness is 600 feet. Undifferentiated Crystalline Rock likely dates to the Paleozoic-Precambrian Periods. It consists of weathered schist and mica gneiss with pegmatite dikes, serpentine, and metagabbro, as well as horneblende gneiss and biotite-quartz gneiss. The Magothy Formation, which only occurs in Corridor 6, dates to the Cretaceous Period and consists of loose, white cross-bedded "sugary" sands, lignitic sands and dark gray, laminated silty clays, and white to orange-brown, iron stained, sub-rounded quartzose gravels. The thickness of the Magothy Formation is 0 to 60 feet. The Matawan Formation, which only occurs in Corridor 6, dates to the Cretaceous Period and consists of dark gray, micaceous, glauconitic, argillaceous, fine-grained sand and silt. The thickness of the Matawan Formation is 0 to 70 feet.

4.3 Hydrology

On the Eastern Shore, the CARA traverse the Chester River Watershed. The Chester River is the primary drainage in Corridor 6. Several of the Chester River's small unnamed tributaries also present in the corridor. Tributaries to Earl Creek, the Mill Stream Branch, and Reed Creek are also located within Corridor 6. In Corridor 7, major drainages are represented by Thompson Creek, Cox Creek, Crab Alley Creek, and the Wye River. The Miles River is the primary drainage in Corridor 8. Tributaries to the Miles River within Corridor 8 include Potts Mill Creek and Kirks Creek. Goldsborough Creek is the primary drainage in the southeastern portion of Corridor 8.

On the Western Shore, the CARA traverse three watersheds. These include the Patapsco River Watershed (Corridor 6), the West Chesapeake Bay Watershed (Corridors 6, 7, and 8), and the Patuxent River Watershed (Corridor 8). The Magothy River is the primary drainage found within the southern portion of Corridor 6, in addition to its tributaries, which include Baileys Branch, Brookfield Branch, Beachwood Branch, and Nannys Branch. Cornfield Creek, which empties into the West Chesapeake Bay, is also located in the southern portion of Corridor 6. Main Creek and Wharf Creek represent the primary drainages in the northern portion of Corridor 6. The far western portion of Corridor 7 is drained by the Cowhide Branch. Moving eastward, other major drainages include Mill Creek, Deep Creek, Whitetail Creek, and Meredith Creek. The main drainages in Corridor 8 include Kings Branch, Marriots Branch, Alexander Branch, Bear Neck Creek, Whitemarsh Creek, and Cadle Creek.

4.4 Soils

On the Eastern Shore, the CARA traverse 11 soil associations (**Table 4-1**). The Elkton-Othello-Barclay association is found on peninsulas, necks, and a few small islands throughout the tidewater area. It consists of level and nearly level, poorly drained and somewhat poorly drained soils that have a subsoil of silty clay to silt loam. The Fallsington-Pocomoke association is composed of level to depressional, poorly drained and very poorly drained soils that have a subsoil of sandy loam or sandy clay loam (Reybold 1970). Small areas of Fallsington-Pokomoke association soils are located near S.R. 33 west of the town of MacDaniel. The Honga-Bestpitch soil complex is associated with tidal marshes and floodplains near the Chesapeake Bay. It consists of nearly level, very poorly drained soils that formed in organic deposits overlying mineral sediments (Shields and Davis 2002). The Ingleside-Pineyneck-Unicorn association is

found in northern and central Queen Anne's County in areas with highly dissected drainage patterns. It consists of nearly level to steep, well drained and moderately well drained soils that formed in stratified sediments. The Keyport-Mattapex association is mainly located in narrow areas that border tidal streams. It consists of level to gently sloping, moderately well drained soils that have a subsoil of silty clay loam or silty loam. The Matapeake-Mattapex-Nassawango association is found on Kent Island and on uplands near Centreville. It includes nearly level to moderately sloping, well drained and moderately well drained soils that formed in silty sediments. The Mattapex-Matapeake association occurs throughout Talbot County, but is most commonly found bordering tidal streams and rivers. Its soils are composed of level to strongly sloping, moderately well drained and well drained soils that have a subsoil of loam to silty clay loam. The Mattapex-Othello association includes nearly level to moderately sloping, moderately well drained and poorly drained soils in silty materials. The Sassafras-Woodstown association is located mostly within large areas along U.S. 50 and eastward towards the Choptank River. It consists of level to strongly sloping, well drained and moderately well drained soils that have a subsoil of sandy loam or sandy clay loam. The Westbrook-Kingsland-Ipswich association consists of level, very poorly drained marsh soils formed in organic and mineral materials (White 1982). The Whitemarsh-Hurlock-Carmichael association occurs in the area to the southwest of Queenstown and throughout Queen Anne's County on the interior of interfluves with limited surface drainage. It is composed of nearly level, poorly drained soils that formed in silty and loamy sediments (Shields and Davis 2002).

Table 4-1: Soil Associations on the Eastern Shore within the CARA

		Acres per Corridor		
Soil Association	**Total Acres**	**6**	**7**	**8**
Elkton - Othello - Barclay	8788	0	0	8788
Fallsington - Pocomoke	579	0	0	579
Honga - Bestpitch	671	0	671	0
Ingleside - Pineyneck - Unicorn	8680	3885	4795	0
Keyport - Mattapex	2950	0	0	2950
Matapeake - Mattapex - Nassawango	8264	4629	3635	0
Mattapex - Matapeake	5658	0	0	5658
Mattapex - Othello	2129	2129	0	0
Sassafras - Woodstown	3179	0	0	3179
Westbrook - Kingsland - Ipswich	798	798	0	0
Whitemarsh - Hurlock - Carmichael	10118	3343	6775	0

On the Western Shore, the CARA traverse four soil associations (**Table 4-2**). The Elkton-Othello-Mattapex association soils are located in two areas in the eastern part of Anne Arundel County. The first is located on a silty, nearly level terrace adjacent to the Chesapeake Bay and the northernmost area is east of Annapolis in the vicinity of the Chesapeake Bay Bridge. The Elkton-Othello-Mattapex association consists

of level to sloping, poorly drained and moderately well drained loamy soils. The Evesboro-Rumford-Sassafras association is found in the northern part of the County and is composed of gently sloping to moderately steep, excessively drained and well-drained sandy and loamy soils. The Monmouth-Collington association is located within the central portion of the County and extends from within one mile of the Patuxent River eastward towards the Chesapeake Bay. It is composed of nearly level to moderately steep, well drained, sandy and loamy soils that developed in sediments containing glauconite. The Marr-Westphalia-Sassafras association is located in the southern part of Anne Arundel County. It is composed of gently sloping to steep, dominantly severely eroded, well-drained, loamy soils that contain much fine sand (Kirby and Mathews 1973).

Table 4-2: Soil Associations on the Western Shore within the CARA

		Acres per Corridor		
Soil Association	**Total Acres**	**6**	**7**	**8**
Elkton - Othello - Mattapex	6559	0	5168	1391
Evensboro - Rumford - Sassafras	12564	12564	0	0
Manmouth - Collington	22311	0	8983	13328
Marr - Westphalia - Sassafras	7356	0	0	7356

4.5 Paleoenvironment and Vegetation

Maryland has undergone radical changes in environment during the last 15,000 years. Although the study area was not glaciated, the Pleistocene climate was colder and dryer than present conditions. During Pleistocene period, a forest tundra mosaic likely existed, consisting of spruce stands intermingled with dwarf birch (Watts 1979). As the climate became warmer, following the retreat of the Wisconsin glaciation, fir, pine and alder entered the forest. Birches were present by 13,000 BP, and hemlock and chestnut appeared ca. 8,000 BP (Watts 1979). Although the forest species continued to shift until ca. 1,500 BP, conditions similar to the modern forest were probably present by 5,000 BP (Carbone 1976; Stewart 1981).

The CARA are located in the Temperate Deciduous Forest Biome of North America (Shelford 1974). This biome, under pristine climax forest conditions, is a multi-layered forest with different species dominating the various layers. Large trees (oak, chestnut, hickory, elm, beech and maple) form the canopy with young members and smaller species (dogwood, sassafras and hornbeam) just below. Immediately beneath this understory tree layer is a bi-level shrub layer, under which is a bi-level herb layer (Shelford 1974). This diverse multi-layered forest provides many resources for animal and human exploitation, including food (nuts, seeds, berries and fruit), fuel, wood, fibers, and various plant products used for dyes and medicinal purposes.

The forests in this region, at the time of European settlement, were not completely untouched; thousands of years of Native American exploitation had modified considerable portions of them. The effects of the activities of these original inhabitants were minimal, however, when compared to the impact of the Europeans. The extensive clearing of the existing forests for fuel, lumber, and agricultural purposes rapidly destroyed the integrity of the existing biotic community. Similarly, the faunal resources (elk, deer,

bear, wolf, fox, rabbit, hare, beaver, turkey, partridge, pigeon and other fowl) had been exploited by the Native Americans, but their habitats were largely destroyed by European settlement. For the precontact and early historic populations, however, this region contained an abundance of resources.

5.0 CULTURAL CONTEXT

5.1 Precontact Archaeological Context

The precontact history of human occupation in the Middle Atlantic and Chesapeake Bay Region is divided into three chronological periods: Paleoindian (circa 11,000 to 8,000 B.C.), Archaic (8,000 to 1,000 B.C.) and Woodland (1,000 B.C. – A.D. 1600). The Archaic and Woodland periods are each sub-divided into Early, Middle, and Late stages based on discernable changes in the archaeological record in subsistent strategies, settlement patterns, tool kits and social organization. The prehistoric periods represented in the Middle Atlantic Coastal Plain and specifically the Chesapeake Region is based on extensive regional research completed by Custer (1984) Steponaitis (1978), Wasner (1982), Wright (1973) and many other scholars. As research continues, the exact dates applied for each period has and is at times subject to some debate but the framework of the chronology is widely accepted as reflecting the periods of cultural adaptation and subsistent strategies (Custer 2001).

5.1.1 Paleoindian (circa 11,000 B.C. to 8,000 B.C.)

The Paleoindian tradition is characterized by small hunter-gatherer groups subsisting mainly on large animals, many of which are now extinct or no longer present in the area (woolly mammoth, mastodon, and caribou). Paleoindian sites are most commonly identified by the presence of distinctive, fluted points and bifaces. In Maryland, fluted points generally occur as isolated finds (Ebright 1992), although two fluted quartz points were found in undisturbed contexts at the Higgins site in Anne Arundel County (Steponaitis 1980). Other parts of the Paleoindian toolkit include formal flake tool types and large, bifacial cores. In general, Paleoindian toolkits are marked by a conspicuous use of high-quality cryptocrystalline lithic materials that often originate at considerable distances from their point of discard. The former characteristic is inferred to result from a need for durability over numerous episodes of intensive use at locations distant from sources (Goodyear 1989), while the distances from sites to sources have been used to estimate maximum travel distances ranging from 75 to 400 kilometers for eastern North America (Custer and Stewart 1990). These artifacts have been found in association with various floral and faunal resources in sites across the eastern United States (Funk 1969; Gardner 1974, 1978; Adovasio 1977). This evidence suggests that these populations exploited a wide variety of terrestrial resources for subsistence. No Paleoindian sites have been identified within the CARA for the Chesapeake Bay Crossing Study.

5.1.2 Archaic (8,000 B.C. to 1,000 B.C.)

The Archaic Period ranged from ca. 8,000-1,000 B.C. and was largely characterized by trends toward an increasingly warmer and drier climate, and the establishment of environmental conditions similar to the present day. The sub-periods recognized within the Archaic period include Early (8,000-6,500 B.C.), Middle (6,500-3,000 B.C.), and Late Archaic (3,000-1,000 B.C.).

The Archaic period is distinct from the Paleoindian by the more generalized subsistence strategy that was employed. This change was in response to environmental and perhaps social conditions. Approximately 10,000 years ago, as glacial conditions slowly gave way to the warmer Holocene climate, hardwood forests gradually replaced the tundra-like vegetation (Sirkin 1977). Due to the disappearance of the megafauna and to the emergence of new subsistence items, resource procurement strategies changed. These

changes included the exploitation of a wider range of floral and faunal resources. The Early Archaic period is not well represented in the Potomac headwaters or the lower Susquehanna drainage (Carr 1998). In general, more time was spent focused on plant food and processing activities, which contributed to a larger part of the diet than during the Paleoindian period (Meltzer and Smith 1986). These changes are reflected in the new tool types, which along with new subsistence strategies, mark the beginning of the Archaic period (Bryan 1977).

Evidence suggests that early in the Early Archaic (7,500 B.C.-6,500 B.C.) period people lived in small nomadic groups. The resources exploited varied on the basis of local availability. This factor, coupled with the types and quantities of the lithic materials employed in tool making, results in different artifacts assemblages at different sites; therefore, it is difficult to characterize a typical regional Archaic tool assemblage. Archaic assemblages are clearly distinguished from those of the preceding Paleoindian period by the replacement of fluted points with smaller points of cruder materials, along with the emergence of ground stone tools (axes, chisels, and gouges). The emergence of bifurcate style points such as the Lecroy, St. Albans, and Kanawha are diagnostic for the early part of the Archaic as are Kirk (stemmed and notched) Palmer types (Broyles 1971). In general, tool assemblages from this period are marked by increasing diversification and specialization over time.

The increased number of sites representing the Archaic tradition is evidence that population density was greater than before. This increase in population was possible because as climactic fluctuations associated with the late Pleistocene/early Holocene stabilized and hardwood forests became established, the carrying capacity of the environment increased. Studies conducted on the Piedmont and Coastal Plain portions of New Jersey, Delaware, and Maryland suggest increased aeolian deposition and site burial during the late part of the Archaic (Curry and Custer 1982, Stewart 1990). During this time, rising sea levels also formed extensive marshes and estuaries along major rivers in which fauna thrived. As resources became more abundant in and around major waterways, settlement patterns became increasingly focused along them (Kraft 1977; Gardner 1980). Despite this trend, there is evidence of continued seasonal nomadism based on a resource scheduling strategy (Cushman 1981). The Late Transitional Archaic also witnessed expanding trade networks in lithic materials and some new artifact types (e.g. steatite vessels). A larger population with more diverse procurement activities is likely to have increasingly utilized upland regions. Numerous sites representing this cultural tradition are found in this region (Custer 1988).

Hatch et al. (1985) feel that the Archaic tradition is characterized by groups of maximal size positioning camp locations in floodplain and estuarine settings so as to maximize access to multiple resource zones or distinct micro-environmental settings. Their model assumes that a full range of domestic activities would occur at these sites. Smaller camps of specialized function are suspected to have been located away from the main base camp on small knolls at the edge of the floodplain, at resource specific locations, adjacent to marshes, or along lake shores. By the Middle Archaic (6500 B.C.-3000 B.C.), there is ample evidence to demonstrate that interiorly located landforms (i.e., knolls near ephemeral streams, springs, low knolls near interior wetlands, floodplains and terraces of higher order drainages, and knolls adjacent to floodplains) were occupied (Custer 1996:158). The localities are thought to represent small task groups involved in hunting, gathering, and the preliminary processing of foodstuffs.

Background research indicates that 53 sites with Archaic Period components have been recorded within the CARA for the Chesapeake Bay Crossing Study. Thirty-four of these are located on the Eastern Shore

and 19 are on the Western Shore. Twelve of the sites are described as Archaic, with no specifically assigned sub-period; seven contain Early Archaic components; six contain Middle Archaic components; and 28 have Late Archaic components.

5.1.3 Woodland (1,000 B.C. to A.D. 1600)

The beginning of the Woodland tradition in this region is marked by the introduction of ceramics (Gardner 1980) and by two major trends: increasing sedentism and the development of extensive agriculture (Curry and Custer 1982). The Woodland Period is divided into three sub-periods: Early (1,000 B.C.-A.D. 300), Middle (A.D. 300 to 1000), and Late Woodland (A.D. 1000 to 1600).

In the Woodland tradition, permanent or semi-permanent settlements replaced seasonal base camps. Settlement patterns focused on major waterways where the exploitable biomass was the greatest (Curry and Custer 1982). The harvesting of various plants, waterfowl, fish and shellfish would have provided a more than adequate supply of food. These waterways supplied relatively easy transportation, facilitating trade and increasing the range and quantity of resources that could be exploited. During the Late Woodland, the floodplains served as fertile fields for maize, beans, squash and pumpkins. The fact that the floodplains were highly favored areas for habitation is demonstrated by the scarcity of upland sites.

The Woodland tradition is also marked by the growth of trade networks and the elaboration of existing specific cultural practices. Late Archaic trade networks in exotic, primarily lithic raw materials expanded, becoming an important Woodland feature. There is evidence of increased mortuary ceremonialism and of specialized—perhaps ceremonial—artifact forms (Curry and Custer 1982). These traits suggest the emergence of a level of sociopolitical organization that had not previously existed. Middle to Late Woodland settlement witnessed the appearance of farming hamlets and villages. The larger stockaded villages were located along the major water courses and in association with the more productive agricultural soils. The smaller farming hamlets tended to be located away from major rivers, along second order streams. These settlements may represent the habitation of several extended family units on a seasonal basis. Special purpose hunting and gathering sites were located in valley floodplains and upland regions as in previous traditions (Custer 1986).

The increasing sedentism of the Early Woodland period is evidenced by more reliance on storage vessels with advances in ceramic technology. The Early Woodland is as a period of experimentation with tempering agents and methods of manufacture. The earliest ceramic vessels were oblong in shape with flat-bottoms and straight walls and were usually tempered with steatite. On the Maryland Coastal Plain, ceramic types such as Marcey Creek, Accokeek, Seldon Island (on the Western Shore), are associated with the Early Woodland (MACL 2003). Projectile point types diagnostic to the Early Woodland in Maryland include the Piscataway/Rossville and Calvert points (Ebright 1992). During the Middle Woodland, Mockley, a shell-tempered, cord or net-impressed style, became the predominant ceramic type found throughout the Western and Eastern Shore Coastal Plain of Maryland. Rossville, Selby Bay/Fox Creek, and Jack's Reef pentagonal and corner-notched forms are common projectile point types found in the area (MACL 2020).

Hay and Hamilton (1986) suggest that the Late Woodland can be characterized by the adoption of full-scale maize horticulture, gradual nucleation of settlements, and an overall increase in population size. They view the increased use of quartz during the Late Woodland as a reflection of reduced tribal territories, increased tribal competition, and a breakdown of regional trade networks. The breakdown of trade may have resulted in limited access to various raw materials including preferred lithic resources,

making the use of more labor intensive and thus fewer desirable materials necessary. During the Late Woodland, triangular points became the predominant, near universal projectile style. Other diagnostic artifacts of the Late Woodland in the Maryland Coastal Plain include shell or grit-tempered ceramics, including Potomac Creek and Townsend wares (MACL 2020)

Background research indicates that there are 79 previously recorded sites with Woodland Period components within the CARA for the Chesapeake Bay Crossing Study. Thirty-two of these are located on the Eastern Shore and 47 are on the Western Shore. Nineteen sites are described as Woodland, with no specifically assigned sub-period. Eighteen contain an Early Woodland component; 40 contain a Middle Woodland component; and 33 have a Late Woodland component.

5.2 Historic Cultural Context

5.2.1 Contact and Settlement Period (1570-1750)

The earliest contact between Europeans and Native Americans came in the late sixteenth century when Spanish explorer Vincente Gonzales entered the lower Chesapeake Bay in 1588 (Stephenson et al. 1963). Captain John Smith explored the Chesapeake Bay for the English between 1607 and 1609 recording his observations and contacts with numerous Native American groups (Stephenson and Ferguson 1963; Roundtree et al. 2005).

Captain John Smith met representatives of the Susquehannock tribe in 1608 at the head of the Chesapeake Bay (Jennings 1984:115, Kent 1993:25-28). The Susquehannocks are thought to have migrated to the lower Susquehanna Valley between 1550 and 1575 (Kent 1993). From the 1620s to the 1660s the Susquehannocks were the primary fur suppliers to the English colonies of Maryland and Virginia and the Dutch settlements on the Delaware Bay. In 1673, two Susquehannock villages were known to be located in York County, Pennsylvania and by 1675 it appears that the group left their villages for an unknown reason. Jesuit records from 1675 indicate that the Five Nations of the Iroquois defeated the Susquehannocks, although Jennings (1968, 1984) surmises that Lord Baltimore invited the Susquehannocks to live in Maryland. In 1675, a large number of Susquehannocks met with the authorities in St. Mary's City, requesting sanctuary (Jennings 1984:139). Unfortunately, they were dispersed from the area by the combined Maryland and Virginia militia.

Maryland colonial documents suggest that the Susquehannocks returned to the lower Susquehanna Valley by 1676, and that others lived amongst the Lenni Lenape (Kent 1993:48-55, Jennings 1984:149-154). The small Susquehannock settlement was known as Conestoga and remained as an important location for trade and political deliberations with colonists (Kent 1993:58-61). After the 1740s, Conestoga rapidly declined with the westward expansion of the fur trade, and in 1763, all but two of the Conestoga's occupants were murdered by residents of the Harrisburg area (Kent 1993:62-67).

The first permanent settlement in Maryland was on Kent Island in 1631. William Claiborne, a surveyor from Virginia who was given permission to explore the Chesapeake Bay and trade with the Native Americans, chose this spot to settle. The "Kentish Isle," named for Kent, England, originally encompassed a very large territory located on the north side of the Choptank River, while all the lands on the south side of the river were known as the Eastern Shore. From the Kent Island, the following counties were created: Kent County in 1642, part of Baltimore County in 1659, Talbot County in 1662, Cecil County in 1674, Queen Anne's County in 1706, and Caroline County in 1773 (Earle 1916:1-2).

Early settlers of the area were a mix of Indian Traders, and those seeking religious freedoms. The settlement of Providence, near present day Annapolis, was founded in 1649 by a group of nonconforming Protestants known as the Virginia Puritans. They were offered land and guaranteed religious freedoms in what was primarily a Catholic colony. Settlement of Queen Anne's County occurred prior to 1700. Most of the colonists came from England; however, some were religious refugees from New England and Virginia who came to the State because of the Maryland Toleration Act of 1649. Talbot County was primarily settled by Quakers moving south from Pennsylvania. William Penn realized what a stronghold the members would make and established the Tred Avon Monthly Meeting as a branch of the Philadelphia Yearly Meeting (Earle 1916:27-28). Settlement in the area was primarily on or near the navigable waters of the Chesapeake Bay.

5.2.2 Rural Agrarian Intensification (1680-1815)

In southern Maryland, Europeans settled in the area of present-day St. Mary's in an effort to establish a fur trade. The fur trade there proved to be a failure, and Maryland settlers quickly turned to agriculture, namely tobacco. Tobacco was already cultivated by the area's Native Americans (Ruffner 1997:16), and the new European settlers quickly made it their cash crop. To grow tobacco profitably, planters needed easy access to waterfront landings. Their reliance on tobacco as a primary export led to more scattered settlements along the shores, instead of the growth of towns (Chapelle et al. 2018).

Soon tobacco became the main cash crop of the Chesapeake region. The soils and climate were favorable, but tobacco cultivation had several limitations. It was a very labor-intensive crop, which forced farmers to rely on slaves and indentured servants. To meet the labor requirements, slavery was sanctioned by law in 1664. Crop rotation was not yet practiced in the State, and the once-fertile soils were rapidly depleted, affecting the quality and quantity of the harvest. Even the most successful farmers suffered severe financial hardship during the periodic dips in the tobacco market, and many marginal farmers were forced to relocate (Anne Arundel County 2019).

In 1683, the General Assembly passed "An Act of the Advancement of Trade," in hopes of spurring urban development and to help generate tax revenues by instituting centralized export locations. On the Mayo Peninsula in Anne Arundel County, Londontown (established 1684) was one of the more successful of the first towns proposed in the Act. The town of Severn (previously known as Providence) found more metered success until it became known as Annapolis in 1695 when it was identified as the new colonial capital (MSA 1889). In Kent County, tobacco plantations increased to such an extent that it became necessary to establish a port of entry further up the river than New Yarmouth at the present site of Chestertown. This led Maryland's General Assembly to authorize the Commissioners of Kent County to build a new courthouse at Chestertown in 1696 (Earle 1916:3). The move of the County Seat from New Yarmouth to Chestertown was soon followed by an order of the Council in 1707 that made "all towns, rivers, creeks, and coves in Cecil, Kent, and Queen Anne's Counties (except Kent Island) members of Chester Town in Chester River." Other towns also were ordered to be laid out, including Shrewsbury Town, Gloucester Town and Milford Town. These towns never became more than landing places (Earle 1916:4). By 1696, Kent County was divided into administrative units called hundreds, which in 1696 were Town, Lower Chester River, Lower Langford, Swan Creek, Island, Eastern Neck, and Chester Upper Hundred (Earle 1916:4).

The success of tobacco farming lead to the creation of plantations all along the Chesapeake Bay. Many of the plantation houses remain today, including Wye Town Farm House (T-89), Sandy Point Farm (AA-330), Howard's Inheritance (AA-136), and Mount Airy (AA-160), all within this project area.

Despite the success of tobacco in Maryland, English merchants preferred to trade with the Virginians, while Maryland tobacco was deemed of lesser quality. In 1747 the General Assembly passed the "Tobacco Inspection Act" which instituted closer regulation of the quality of tobacco allowed to market in order to improve the reputation of Maryland's sotweed which faced heavy competition from Virginia growers (MSA 1925). The transportation of tobacco shifted from the shorelines of the Bay to inland locations along the Patapsco and Patuxent Rivers (Hemphill 1959). The shift also reflected changes in population patterns as more and more plantations developed inland. Annapolis began to overshadow Londontown leaving the shoreline to a more rural development. As the eighteenth century progressed, the Anne Arundel County's population grew and expanded westward.

By the mid-eighteenth century wheat gradually emerged as the new cash crop for the Eastern and Western Shore settlements and slowly replaced the tobacco industry. The lack of labor-intensive cultivation and the ease of processing into commodities such as flour for market delivery made grain a new favorite cash crop (Stiverson 1977). Corn was also grown for livestock feed and sold to the West Indies. The increase in wheat production spurred the development of milling operations. Timber was also harvested and shipbuilding made use of Maryland's resources. Ship construction utilized carpenters and blacksmiths, and iron ore was processed to meet these needs. The development of such industries led to the growth of Eastern Shore towns and the need for professionals like doctors, surveyors, merchants, and clergymen.

In 1774, the colonists formed the Continental Congress which served as a provisional government, with Maryland forming the first Maryland Constitutional Convention in 1776. Maryland, Virginia, and North Carolina jointly agreed not to export tobacco to England. In addition, the convention voted that every free male between the ages of 16 and 50 should be enrolled in a military company. Each of the Maryland counties generally provided four delegates to the convention (Scharf 1879).

During the Revolutionary War, British forces entered the Chesapeake Bay and used it as a means to transport troops north to other locations, and raided farms for food and supplies. Following the conclusion of the Revolutionary War, Marylanders once again shift their focus back to domestic affairs. The capital of the United States was relocated to the District of Columbia. The establishment of the capital at this location spurred growth and development throughout the region including the Western Shore, though counties on the Eastern Shore still consisted largely of scattered rural agricultural communities (Chapelle et al. 1986).

The War of 1812 once again found the United States in military conflict with England. President James Madison declared war in June of 1812, bringing the conflict directly to the Maryland region. The United States forces tried to invade neighboring Canada in a failed attempt to liberate the colony from England. American militias were recalled to provide local defensive measures against any invasion. British forces succeeded in placing a blockade on the Chesapeake Bay. On August 5, 1813, approximately 2,000 British troops landed on Kent Island in the Chesapeake Bay. A small fort at St. Michaels, in Talbot County, and the village of Queenstown fell to the British advance, with the Queen Anne's militia providing limited resistance to the British advance at Queenstown (Emory 1981). Following the burning the Washington, D.C., British forces attempted to take Fort McHenry in Baltimore, but were unsuccessful. The War ended

in December 1814, with the signing of the Treaty of Ghent. The treaty was ratified by Congress in December 1815 but given the limits of communication during the time, isolated engagements between American and British forces continued into the spring of 1815.

5.2.3 Agricultural-Industrial Transition (1815-1870)

With tobacco no longer the main economic driver of the region, other agricultural products and industries took its place. Northern Anne Arundel County became more urban in character during this period while the southern reaches of the County maintained the rural tradition of farming. Declining crop yields and exhausted soils became more problematic and as a result agricultural societies formed to encourage more scientific approaches to farming such as field fertilization and crop rotation (Brugger 1988). The benefits would be seen by 1850 when Anne Arundel County was the second largest producer of tobacco in the State while producing a full range of other crops such as potatoes, hay, oats, rye, buckwheat, corn and wheat. The Eastern Shore of Maryland remained largely an agricultural-based region into the nineteenth century. Grain crops, tobacco, livestock, fruits and vegetables, and a variety of fish and shellfish supplied foodstuffs to the growing cities of Baltimore and Washington, D.C.

Residents on both sides of the Bay began to intensely harvest and exploit the Bay's resources. Shad, herring and oysters were the most popular hauls. While fishing had always been part of life in this region, it was during this time the industry took off. The population of the region was growing and seafood was a readily available food source. Commercial fishing also increased due to the development of the canning system and railroads allowing for further transport of the goods. Baltimore's seaports made it an ideal location for canneries. By 1840, oyster canning was well established in the City, and the railroad allowed for its transportation to markets as far away as Minneapolis. With the abolition of slavery, former slaves and their descendants began working in the canneries, and the industry continued to thrive. Fishing communities grew throughout the Chesapeake Bay. Eventually, overfishing took its toll and the industry declined by the turn of the twentieth century (Smithsonian 2020).

In 1804 the Chesapeake and Delaware Canal opened, connecting the Bay to Philadelphia and other areas north. Steamboats began operating on the Bay in 1813 (NPS 2020). The development of the port of Baltimore allowed for this area to become the new economic center of the State. By 1820, Baltimore was the nation's third largest city. Northern Anne Arundel County developed an economy based in iron ore, and the creation of the Annapolis and Elkridge Railroad in 1840 linked Anne Arundel to the Baltimore and Ohio (B&O) Railroad, enabling ore and other products to be shipped farther than previously (Anne Arundel County 2019).

The canning industry, first introduced in Dover, Delaware in 1855, began to expand into the countryside of Maryland, Delaware, and New Jersey during the latter decades of the nineteenth century. This new industry was possible due to improved transportation systems that included railroads and steamboats. The canning industry enabled businessmen to invest their capital in countryside plants, close to the source of the fruits and vegetables, which more than offset the increased transportation costs to get their products to market (Kee 2006). While the majority of canneries in Maryland were located in the immediate vicinity of Baltimore in the late nineteenth century, the industry also was growing on the Eastern Shore. Of the 73 canneries that operated on the Eastern Shore prior to 1900, 24 were located in Caroline County (Kee 2006). As it developed, the canning industry became "an industry of mass production, linking the region's farmers and watermen with urban markets by creating a nonperishable form of an otherwise highly perishable product" (Kee 2006).

In 1845 the Naval School was established in Annapolis. The Army post Fort Severn was chosen for its location, and its first year there were 50 students and seven professors learning navigation, gunnery and steam, chemistry, and mathematics. In 1850, it was renamed the United States Naval Academy and over the years more land was purchased to support the growing facility (USNA 2020).

The Civil War brought an intermission to the relative prosperity of the area. Pro-southern sentiments ran high throughout portions of the State. The Union Army maintained a strong presence in Anne Arundel County and occupied both Annapolis and Baltimore during the War to safeguard any attempt by Maryland to secede even though many of the State leaders were pro-Union (Newman 1977). Maryland's Fourth Constitution was adopted November 1, 1864 freeing all remaining slaves in the State of Maryland. As a result of emancipation and the loss of an enslaved labor force, many farmers shifted to less labor intensive crops such as corn, wheat, hay, and fruit, though tobacco was and still is grown.

5.2.4 Industrial/Urban Dominance (1870-1930)

Success in agricultural production and distribution networks provided industrial growth in Maryland after 1870. The railroads and canals transported coal, iron, and steel to the metropolitan areas where newly freed African Americans and a growing immigrant population provided manual labor. At the same time, the invention of the roller mill in 1872 brought about the demise of Maryland's flour industry (Scharf 1882). The vast tracts of harder western wheat grown in the prairie states could now be processed as cheaply as local grains. Wheat-producing states like Maryland and Pennsylvania could not compete with the volume of wheat harvested in Kansas, Iowa, and Oklahoma, and by the early twentieth century, the flour industry shifted to the Midwest (McGrain 1980). Railroads provided a direct link between agricultural communities and the urban markets. The Baltimore & Eastern Shore Railroad, completed in 1896, traversed across the Eastern Shore peninsula, connecting Kent Island on the Chesapeake Bay to Ocean City on the Atlantic Ocean.

Even with the establishment of a railroad system, steamboats still played an important role for passengers along the Chesapeake Bay. In the latter half of the nineteenth century and first quarter of the twentieth century, they combined comfort and luxury with convenience that the railroad could not match. Steamboat service was provided on a nightly basis to Baltimore with numerous stops along the way (Preston 1986).

The Eastern Shore of Maryland remained generally rural during the late-nineteenth and early-twentieth centuries, maintaining small, rural villages and larger towns located along landings. Agriculture continued to be an important way of life. Large-scale industry was limited to a few operations. The Helvetia Milk Condensing Company built a large processing plant in Greensboro in June 1920 capable of producing up to 150,000 to 200,000 pounds of milk daily (Noble 1920). The Armour Plant, a large-scale factory devoted to the manufacture of strawberry preserves, housed their operation in Ridgely (Noble 1920).

A tomato boom during the first few decades of the twentieth century prompted farmers to grow tomatoes for processing and packing at local canneries. By 1919, 36 percent of all canneries in the United States were located in Maryland, Delaware, New Jersey, and Virginia (Kee 2006). Many of these were located on both the Western and Eastern shores of the Chesapeake. Dairy production, truck farming, and poultry farming also gained a foothold in the agricultural economy. Shellfish and fish continued to play a key role in the commercial endeavors of the numerous small communities located along tidal waterways. St. Michaels's economic recovery following the Civil War was primarily due to the resurgence of oystering in

the late nineteenth century (Preston 1986). Unfortunately, this boom would eventually falter, as the oyster beds were exhausted due to over harvesting and a lack of reseeding (Preston 1986).

On the Western Shore in Anne Arundel County, the Victorian era and the industrial revolution brought with it a newfound prosperity and an increase of leisure time. By the late 1880s, recreation would become a major business throughout the County with the opening of resorts along the Bay (McWilliams and Patterson 1986). Bay Ridge Resort first opened in 1881 and was one of the most elaborate and highly visited of these resorts in Anne Arundel County. These early resorts were serviced primarily by steamboats although some like Bay Ridge also had rail service. Initially, the resorts in the northern portion of the County fared better because of direct rail and steamship transportation. The southern portion of the County did not see direct access for its shores until road systems were better established with the advent of the automobile in the twentieth century.

The movement for State responsibility for roads began in 1898 when the State legislature, after agitation by farmers for better roads, created a Highway Division within the Maryland Geological Survey to oversee an investigation of the condition of the State's roads and the estimated cost for improving them. In 1908, Governor Austin Crothers, leader of the Good Roads Movement in Maryland, persuaded the State legislature to appropriate five million dollars for the State-sponsored improvement and construction of roads. This resulted in the creation of the State Roads Commission, responsible for constructing, improving, and maintaining a State system of improved roads and highways. Subsequent State projects focused on the interior roads that connected inland towns.

As roadways improved in the early twentieth century, it also spelled the end of the steamboat and railroad eras. Improved roads and the automobile age also brought the end of the one-room school. Busing of school children began during World War I, when poorly attended schools were closed and the children transported to larger schools. Public education improved with the institution of a 180-day calendar school year and the introduction of the twelfth grade to secondary schools (Preston 1986).

5.2.5 Modern Period (1930 to Present Day)

In 1933, President Roosevelt's New Deal attempted to solve the problem of the Great Depression. The national government created programs to provide relief to families, and promoted industrial and agricultural prosperity, and created opportunities for employment. As the government created new programs, the workforce in Washington, D.C. increased, thus necessitating growth into the suburbs to house additional personnel and their families (Chapelle et al. 1986). The Great Depression hit hard across the Eastern Shore, but its residents, particularly the farmers who had already faced tough times, endured. The construction of a new bridge and causeway across the Choptank River in 1935 brought the hope that the Depression would soon end, as it provided a link between the upper and lower shores and enabled tourist traffic to pass through the heart of the Eastern Shore (Preston 1986). While the bridge did bring increased traffic through the area, it took several more years for Caroline County to break out of its economic slump.

With the advent of World War II, local factories began producing aircraft and weapons, and farms intensified their production to meet wartime needs. Local shipbuilders employed additional personnel and steel factories worked to full capacity. With men leaving to fight overseas, vacancies were filled by women. African Americans also helped fill out the workforce. The need for workers created an influx into the metropolitan areas of Baltimore and Washington, D.C., resulting in a shortage of housing in those metropolitan areas and extending into Anne Arundel County. The limited industrial base across the

Eastern Shore provided little boom during World War II. Rather, the agricultural community focused on crop production for foodstuffs canned and packaged for deployment to overseas troops. By the end of the war, Maryland had rebounded back from the preceding depression and looked to an era of prosperity (Chapelle et al. 1986).

The Modern Era ushered in significant changes in transportation. Friendship International Airport (Baltimore/Washington International Thurgood Marshall Airport) was dedicated in 1950 by President Harry S. Truman and was considered the most advanced facility in the United States. In 1957, the airport was the East Coast terminus of the record-breaking transcontinental flight by the first Boeing 707 jetliner (BWI 2020). As road systems developed and cars became more prevalent in the 1940s and 1950s small beach resorts and summer cottages communities on the Western Shore flourished, catering to city dwellers in Washington and Baltimore. Prior to the opening of the William Preston Lane Jr. Bridge (Chesapeake Bay Bridge) in 1952 the camps, parks and beaches along the Western Shore of the Chesapeake Bay offered accessible and enjoyable vacation destinations. The construction of the Chesapeake Bay Bridge connected Kent Island with the Western Shore and allowed people to move more easily across the bay by automobile. As a result the population on the Eastern Shore grew and the US 50/301 corridor saw the development of new businesses— restaurants, gas stations, motels — as the suburbs came to the island and more people traveled that route to get to the beach.

As destinations across the Bay became more popular the resorts on the Western Shore declined, the properties on the Western Shore became more valuable as private residences. Valuable waterfront, water-access and water-oriented properties within commuting distances to Annapolis, Washington DC and Baltimore brought intensive development to the region within the last 25 years.

Commercial fishing of the Bay was no longer sustainable due to overfishing, and again the area returned to agriculture. But In this period, animal husbandry was more prevalent than crops. By the middle of the twentieth century, the dairy farm was the most common type of farm in the region. Other types of farms were cash-grain farms, poultry farms, livestock farms, general farms, and vegetable farms (USDA 1966:4).

6.0 ARCHAEOLOGICAL GAP ANALYSIS

The archaeological gap analysis evaluation of existing data sources documents and assesses the potential for archaeological historic properties within each CARA. The archaeological gap analysis first identifies areas within each CARA that have been subjected to Phase I archaeological survey meeting MHT's current standards as presented in *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994). For the purposes of this study, all surveys conducted in 1990 or later are considered to meet current standards and those conducted prior to 1990 are considered not to meet current standards. The analysis also reviews previously recorded archaeological sites within the CARA for their NRHP status.

6.1 Recorded Archaeological Resources

6.1.1 Previous Terrestrial Archaeological Surveys

The Phase I archaeological survey data maintained by MHT was reviewed to determine the portions of each CARA that have been subjected to Phase I terrestrial archaeological survey meeting current MHT standards. A total of 16 surveys measuring 584.8 acres, have been conducted within Corridor 6 (**Appendices C and D**). By comparison, a total of 31 surveys, measuring 1,977.2 acres, have been conducted within Corridor 7 (**Appendices C and E**) and 20 surveys, measuring 4,175.3 acres, have been conducted with Corridor 8 (**Appendices C and F**).

6.1.2 Previous Underwater Archaeological Surveys

The data maintained by MHT was also reviewed to determine the portions of each CARA that have been subjected to Phase I underwater archaeological survey that meets current MHT standards. A total of six Phase I underwater archaeological surveys, measuring 815.4 acres, have been completed within Corridor 6 (**Appendices D and G**). Three surveys, measuring 166.8 acres, have been conducted in Corridor 7 (**Appendices E and G**). Three surveys, measuring 1,119.4 acres, have been conducted within Corridor 8 (**Appendices F and G**).

6.1.3 Recorded Terrestrial Archaeological Resources

The archaeological site data maintained by MHT was reviewed to identify recorded terrestrial and submerged terrestrial archaeological sites within each CARA (**Appendix H**).

6.1.3.1 Corridor 6

There are 43 previously recorded terrestrial archaeological sites within Corridor 6 (**Appendices D and H**). Of these, 21 are on the Eastern Shore and 22 are on the Western Shore. Of the 43 sites, 20 sites are precontact, 14 sites are historic, and nine are multi-component sites. The historic archaeological site types include artifact scatters, farmstead and domestic sites, and unidentified foundation remains. Representative precontact site types include lithic scatters, short-term encampments, villages, and shell middens. Precontact sites from the Early Archaic, Late Archaic, Early Woodland, Middle Woodland, and Late Woodland are present, along with sites not datable to a specific cultural period. Five additional terrestrial sites have been recorded in the archaeology quad files within Corridor 6. Of the recorded archaeological sites, one has been determined ineligible for listing in the NRHP. This site is the multi-component Denbigh Farm (18QU218). The other 42 sites have not yet been evaluated for listing in the NRHP.

6.1.3.2 Corridor 7

There are 127 previously recorded terrestrial archaeological sites in Corridor 7. Eighty-two of the sites are located on the Eastern Shore and 45 of the sites are on the Western Shore (**Appendices E and H**). Of the 127 sites, 64 are precontact, 35 sites are historic, 26 sites are multi-component, and two sites are of an unrecorded cultural period. Representative historic site types within Corridor 7 include artifact scatters, domestic and agricultural structural remains, and a cemetery. Representative precontact site types consist of base camps, lithic scatters, shell middens, and refuse pits. The precontact cultural periods represented within Corridor 7 include those identified as unspecified Archaic, Late Archaic to Late Woodland, and several generally classified precontact sites not dated a to a specific cultural period. There are 12 additional terrestrial sites recorded in the archaeology quad files.

In Corridor 7, two of the recorded sites are listed in the NRHP, two sites are eligible for listing, and 12 sites are ineligible. The remaining 111 archaeological sites have not yet been evaluated for listing in the NRHP. Of the four sites in Corridor 7 that are listed or determined eligible for listing in the NRHP, one is a historic site and the remaining three are multi-component.

Martin's Pond (18AN141) is a precontact and historic site in Anne Arundel County and listed in the NRHP under Criterion D. This site is the deepest recorded stratified site in the Middle and Upper Chesapeake Bay region. This site exhibits deep Holocene soils in 25 distinct levels. This site was instrumental in developing regional cultural chronologies and has potential to yield additional information. The site has been subjected to Phase II-level excavations. The site is currently threatened by erosion and an unknown percentage of the site presently remains intact.

Sandy Point Farmhouse (18AN534) is a historic site in Anne Arundel County and is listed in the NRHP under Criterion D. The site has been subjected to Phase II-level excavations. This site is associated with the NRHP-listed Sandy Point Farmhouse (MIHP #AA330). This site contains artifacts and features associated with the Sandy Point Farmhouse dating from the second half of the eighteenth-century and extends to the modern era.

Sharpe-Rideout-Boone Mill (18AN652) is located in Anne Arundel County and consists of a multicomponent precontact and historic site which is eligible under Criterion D. The precontact component consists of a lithic scatter of unknown temporal affiliation. The historic component consists of a mill complex and house dating from the late eighteenth through nineteenth century. This site is comprised of a mill complex consisting of a miller's house, mill, mill dam and raceway. It lies in historically created wetlands with conditions that have resulted in the preservation of organic materials. This site has been subjected to Phase III-level excavations.

Gibson's Grant 1 (18QU968) is a historic site located on Kent Island in Queen Anne's County. The site is listed under Criterion D and has been subjected to Phase III-level excavations. This site is associated with the NRHP-eligible White's Heritage (MIHP #QA-222), an eighteenth-century manor house and farm. The site includes a precontact, short-term encampment of unknown temporal affiliation and colonial plantation dating to circa 1675-1730.

6.1.3.3 Corridor 8

There are 154 previously recorded terrestrial archaeological sites within Corridor 8. Of these, 32 are on the Eastern Shore and 122 are on the Western Shore (**Appendices F and H**). Of the 154 sites, 72 sites are precontact, 58 sites are historic, and 24 are multi-component sites. Representative historic site types include artifact scatters, structural remains, cemeteries, trash pits, and shell middens. Representative precontact site types include short-term encampments, shell middens, lithic scatters, and villages. The precontact cultural periods represented within Corridor 8 include Early Archaic, Late Archaic, Early Woodland, Middle Woodland, Late Woodland, and generally classified precontact sites not dated to a specific period. Eight additional terrestrial sites have been recorded in the archaeology quad files.

In Corridor 8, one of the recorded sites is listed in the NRHP, four sites are eligible for listing, and nine sites are ineligible. The remaining 140 sites have not been evaluated for listing in the NRHP.

Gresham (18AN571) is a historic site located in Anne Arundel County and listed in the NRHP under Criterion D. This site is associated with the NRHP-listed Gresham house (MIHP #AA-232). This domestic archaeological site consists of artifacts that date from 1781 to the modern era. The site has been subjected to Phase I-level excavations.

Smithsonian Pier (18AN284) is a precontact and historic site located in Anne Arundel County and is determined eligible for the NRHP under Criterion D. The site primarily consists of a shell midden dating to the Middle and Late Woodland periods with a minor historic component dating from 1821 to 1860. The site has been subjected to Phase III-level excavations. Excavations from 1990 indicated that this site and Smithsonian Pier West are two parts of the same site. This was confirmed by further excavations in 1995.

Smithsonian Pier West (18AN285) is a precontact site located in Anne Arundel County and is eligible for the NRHP under Criterion D. The site consists of a shell midden dating to the Middle and Late Woodland periods. The site has been subjected to Phase II-level excavations. Excavations from 1990 indicate that this site and Smithsonian Pier may be two parts of the same site.

SH 8 (18TA424) is a precontact and historic site in Talbot County and is eligible for the NRHP under Criterion D. The site is primarily a short-term resource procurement site and possible base settlement dating to from the Early Archaic to the Middle Woodland periods with an eighteenth-century through nineteenth-century historic artifact scatter component. Phase II-level excavations identified deep pit features related to the Late Archaic occupation.

SH 9 (18TA425) is a precontact and historic site in Talbot County and is eligible for the NRHP under Criterion D. The historic component comprises two overlapping but temporally distinct occupations: one from the eighteenth century and the other from the nineteenth and early twentieth centuries associated with a known historic dwelling. It also has a precontact component of unknown period. Phase II-level excavations identified well, cellar, and other pit features associated with the eighteenth-century occupation.

6.1.3.4 Recorded Underwater Archaeological Resources

The archaeological site data maintained by MHT were reviewed to identify recorded underwater maritime and submerged terrestrial archaeological sites within each CARA (**Appendix H**).

There are four previously recorded underwater archaeological sites in Corridor 6. Of the four sites, one is a submerged terrestrial precontact resource, and three are historic resources. None of the four sites have been evaluated for listing in the NRHP. Two additional underwater sites were recorded in the archaeology quad files within Corridor 6.

There are eight previously recorded underwater archaeological sites in Corridor 7. None of the sites have been evaluated for listing in the NRHP. Nine additional underwater sites were recorded in the archaeology quad files within Corridor 7.

There are ten previously recorded underwater archaeological sites in Corridor 8. None of these sites have been evaluated for listing in the NRHP. Twenty additional underwater sites were recorded in the archaeology quad files within Corridor 8.

6.1.3.5 Recorded Shipwrecks

Shipwreck data maintained by NOAA was reviewed to identify potential additional underwater archaeological resources in each CARA. Six shipwrecks were recorded within Corridor 6 (**Appendices D and I**). Fourteen shipwrecks were recorded within Corridor 7 (**Appendices E and I**). Eighteen shipwrecks were recorded within Corridor 8 (**Appendices F and I**).

6.2 Unsurveyed Areas

Using the predictive models developed for this study, unsurveyed areas within the CARA were assessed for future archaeological identification survey needs and categorized as either areas that may require archaeological survey or areas with low archaeological potential. The areas that may require archaeological survey are both terrestrial and underwater.

6.2.1 Terrestrial

Unsurveyed terrestrial areas within each CARA may require archaeological survey if they contain no documented soil disturbance, are located on moderately well to very well drained soils on slopes of less than or equal to 10 percent or 15 percent on the Eastern and Western shores, respectively. Corridor 6 contains approximately 15,738 acres of land that may require additional archaeological survey (**Table 6-1**; **Appendix J**). Corridor 7 contains 10,081 acres that may require additional archaeological survey (**Appendix K**), and Corridor 8 contains 17,580 acres that may require additional archaeological survey (**Appendix L**).

Unsurveyed terrestrial areas within each CARA were considered to have low potential to contain precontact archaeological resources if they are located on urban land or udorthents or on moderately poorly to very poorly drained soils on slopes in excess of 10 percent or 15 percent on the Eastern and Western shores, respectively. Approximately 11,550 acres within Corridor 6 are identified as low potential (**Table 6-1**). In Corridor 7, 19,047 acres are low potential and 25,914 acres in Corridor 8 are classified as low potential for containing archaeological resources.

Table 6-1: Acres that May Require Additional Terrestrial Archaeological Survey

Corridor	Acres that may require survey	Acres with Low Potential
6	15,738	11,550
7	10,081	19,047
8	17,580	25,914

6.2.2 Underwater

Within each CARA, unsurveyed underwater areas where ground disturbance would occur may require additional underwater archaeological survey to identify maritime and submerged terrestrial resources. Corridor 6 contains 29,296 acres that may require underwater archaeological survey. Corridor 7 contains 16,155 acres that may require underwater archaeological survey and Corridor 8 contains 31,583 acres that may require underwater archaeological survey.

7.0 ARCHITECTURAL RESOURCES GAP ANALYSIS

7.1 Recorded Architectural Resources

For this Tier 1 study, MDTA conducted architectural resources identification within the CARA. The gap analysis identifies known historic properties, those listed or eligible for listing in the NRHP, and the potential for additional historic properties in the form of recorded resources within each of the CARA.

7.1.1 Corridor 6

A search of existing records has identified 61 recorded architectural resources within Corridor 6. A full table of all recorded resources in Corridor 6 is included as **Appendix M**. These properties are mapped in **Appendix N**.

7.1.1.1 Architectural Historic Properties

There are two recorded historic properties, both listed in the NRHP, in Corridor 6: Reed's Creek Farm (QA-5) and Bachelors Hope (QA-224) (

Table 7-1). Reeds Creek Farm is on Wrights Neck Road near Centreville, Queen Anne's County. The property was listed in the NRHP on July 7, 1975. Bachelor's Hope is at 201 Bachelor's Hope Farm Lane near Centreville, Queen Anne's County and is significant for its architecture under Criterion C. The period of significance is 1798-1815.

Table 7-1: Architectural Historic Properties in Corridor 6

County	MIHP No.	Name	Status and Date	Significance Criterion
Queen Anne's	QA-224	Bachelor's Hope (also Phares Morris Farm)	Listed; May 3, 1984	C – Architecture
Queen Anne's	QA-5	Reed's Creek Farm	Listed; July 7, 1975	C – Architecture

7.1.1.2 Not Eligible Resources

There are 20 recorded resources in Corridor 6 that have been determined not eligible for listing in the NRHP (**Table 7-2**).

Table 7-2: Not Eligible Resources in Corridor 6

County	MIHP No.	Address	Date of DOE
Anne Arundel	AA-2230	4602 Mountain Road	2/5/1999
Anne Arundel	AA-2234	8399 Carol Drive	2/5/1999
Anne Arundel	AA-2252	8328 Schmidts Lane	2/5/1999
Anne Arundel	AA-2253	4374 Mountain Road	2/5/1999
Anne Arundel	AA-2254	4395 Mountain Road	2/5/1999
Anne Arundel	AA-2255	4424 Mountain Road	2/5/1999
Anne Arundel	AA-2256	4426 Mountain Road	2/5/1999
Anne Arundel	AA-2257	4439 Mountain Road	2/5/1999
Anne Arundel	AA-2258	4447 Mountain Road	2/5/1999
Anne Arundel	AA-2259	4485 Mountain Road	2/5/1999
Anne Arundel	AA-2260	4487 Mountain Road	2/5/1999
Anne Arundel	AA-2261	4499 Mountain Road	2/5/1999
Anne Arundel	AA-2263	4530 Mountain Road	2/5/1999
Anne Arundel	AA-2264	4558 Mountain Road	2/5/1999
Anne Arundel	AA-2265	4583 Mountain Road	2/5/1999
Anne Arundel	AA-2266	4589 Mountain Road	2/5/1999
Anne Arundel	AA-2267	4597 Mountain Road	2/5/1999
Anne Arundel	AA-2269	Not recorded	2/5/1999

County	MIHP No.	Address	Date of DOE
Anne Arundel	AA-2270	Not recorded	2/5/1999
Anne Arundel	AA-2272	Not recorded	2/5/1999

7.1.1.3 Unevaluated MIHP Resources

There are 35 recorded resources in Corridor 6 that have been surveyed for the MIHP, but not individually evaluated for listing in the NRHP (**Table 7-3**).

Table 7-3: Unevaluated MIHP Resources in Corridor 6

County	MIHP No.	Name
Anne Arundel	AA-937	Jefferson M. Cook House
Anne Arundel	AA-936	Gibson Island
Anne Arundel	AA-1043	Magothy United Methodist Church
Anne Arundel	AA-1044	Mt. Zion Methodist Church
Anne Arundel	AA-1045	Scholtz-Listman House
Anne Arundel	AA-128	House on Mountain Road
Anne Arundel	AA-2050	Magothy Methodist Church Hall
Anne Arundel	AA-2051	Magothy Methodist Church Cemetery
Anne Arundel	AA-1095	Mountain Road Farmhouse
Anne Arundel	AA-923	Lakeshore School
Anne Arundel	AA-2262	4600 Mountain Road
Anne Arundel	AA-2268	No record found
Anne Arundel	AA-995	Rocky Beach Farm, site (Downs Memorial Park)
Kent	K-537	Grays Inn Point Farm (Grays Inn Creek Farm)
Kent	K-269	Huntingfield, site
Kent	K-275	Napley Green
Queen Anne's	QA-100	John Cannon House
Queen Anne's	QA-100A	John Cannon Granary
Queen Anne's	QA-101	Sidney Gadd Farm
Queen Anne's	QA-102	Warfield Emory Farm

County	MIHP No.	Name
Queen Anne's	QA-110	Walnut Grove
Queen Anne's	QA-111	Green Lots
Queen Anne's	QA-112	Reed Lea
Queen Anne's	QA-184	Woodlawn, site
Queen Anne's	QA-245	Carter Bryan House
Queen Anne's	QA-248	Stoney Duffey Farm
Queen Anne's	QA-249	Claude Anthony Farm
Queen Anne's	QA-250	Jackson Collins Farm
Queen Anne's	QA-385	Chester Church, site
Queen Anne's	QA-397	Temple Rhodes Tenant House, site
Queen Anne's	QA-415	Raskob Overseer's House
Queen Anne's	QA-416	Raskob Riding Arena & Stables
Queen Anne's	QA-475	Earle's Chapel
Queen Anne's	QA-476	John Hicks House
Queen Anne's	QA-99	Peace and Plenty

7.1.1.4 Demolished Resources

There are four recorded resources in Corridor 6 that have been demolished. In Anne Arundel County they include Williams Farm (AA-21), Wharf Creek House & Cemetery (AA-1008), and Long Point House (AA-1009). Reeds Creek Farm, Hunting Lodge (QA-5-1) was also demolished in Queen Anne's County.

7.1.2 Corridor 7

A search of existing records identified 166 recorded architectural resources within Corridor 7. A table of all recorded resources in Corridor 7 is included as **Appendix O**. These properties are mapped in **Appendix P**.

7.1.2.1 Architectural Historic Properties

There are 13 recorded historic properties in Corridor 7 (**Table 7-4**). One of those has been designated an NHL: U.S. Naval Academy (AA-359). The Naval Academy was designated July 4, 1961. It has played a significant role in American education and naval affairs, producing career officers for more than a century. Most of the Academy's buildings are in late French Renaissance style, the result of a building program begun in 1899. The Naval Academy was listed in the NRHP October 15, 1966. There is one contributing property within the Naval Academy that is within Corridor 7: Building 187, Steam Generation Building (AA-359-15). It was determined eligible June 23, 2014.

There are six additional properties listed in the NRHP in Corridor 7. Howard's Inheritance (AA-136) (**Figure 7-1**) was listed in the NRHP on July 23, 1998 and is significant as an excellent example of a hall-parlor plan house, typical of 18th century vernacular domestic architecture in the Chesapeake tidewater. Sandy Point Farm House (AA-330) (**Figure 7-2**) was listed in the NRHP on February 11, 1972 and is significant example of conservative architecture built during the early nineteenth century in Maryland.

Stevensville Historic District (QA-463) (

Figure 7-3) was listed in the NRHP on September 11, 1986. It was re-evaluated on March 19, 1998 and remains listed in the NRHP. It is significant for its architecture and association with the development of transportation and commerce on Maryland's rural Eastern Shore during the latter half of the 19th century and first three decades of the 20th century. There are 15 properties listed in the MIHP within the historic district that contribute to its significance (**Table 7-5**): John Eareckson House (QA-125), John Benton House (QA-263), Stevensville Post Office (QA-265), Lowery's Hotel (QA-266), Stevensville Country Store (QA-465), Gillis House (QA-467), J.H. Tolson Store (QA-468), Ford House & Garage (QA-469), Charles Stevens Store (QA-470), Turner House (QA-471), 416 Main Street (QA-658), 418 Main Street (QA-659), 502 Main Street (QA-661), Christ Church Rectory (QA-267), and Trinity Methodist Protestant Church (QA-217).

Three additional resources within the historic district are individually eligible for the NRHP. Cray House (QA-259) was listed in the NRHP on May 9, 1983 and is significant as a surviving example of a post-and-plank dwelling in Tidewater Maryland. It was placed within a Preservation Easement on February 2, 2001. Christ Church (QA-212) was listed in the NRHP July 24, 1979 and is significant as a superb example of Queen Anne style of ecclesiastical architecture. It was placed within a Preservation Easement on July 26, 2005. Stevensville Bank (QA-264) was listed in the NRHP January 3, 1985 and is significant for its architecture and its role in the commerce of Kent Island and Queen Anne's County.

There are six additional recorded resources in Corridor 7 that have been determined eligible for listing in the NRHP. Both the eastbound and westbound spans of the William Preston Lane, Jr. Memorial Bridge (AA-47 and AA-48) were determined eligible for the NRHP April 3, 2001. The bridges are significant examples of J.E. Greiner's design work and the suspension bridge type in Maryland. The Weems Creek Bridge (AA-765) was determined eligible for the NRHP April 23, 1993 and is significant under Criteria A and C for its association with the development of transportation infrastructure and as an example of a swing span movable bridge.

White's Heritage (QA-222) (**Figure 7-4**) was determined eligible for the NRHP February 11, 1980 and is significant under Criterion C as an example of mid-19th century vernacular architecture applied to the renovation and expansion of a Georgian house. There are three properties within Corridor 7 that contribute to the significance of White's Heritage: Garage (QA-222-1), Tenant House (QA-222-2), and Tenant Farm Complex (QA-222-3). These properties were identified as contributing to White's Heritage on September 21, 2006. Barnstable Hill (QA-524) (**Figure 7-6**) was determined eligible February 11, 1980 and is significant under Criteria A and C for its association with agriculture and as a representative example of rural, vernacular domestic architecture at the turn of the 20th century. SHA Bridge 1700600 (QA-542) (

Figure 7-5) was determined eligible for the NRHP June 3, 2011 and is significant under Criteria A and C for its association with the roadbuilding campaign associated with the construction of the Chesapeake Bay Bridge and as a rare example of a trunnion double leaf bascule bridge in Maryland.

Table 7-4: Architectural Historic Properties in Corridor 7

County	MIHP No.	Name	Status and Date	Significance Criterion
Anne Arundel	AA-359	U.S. Naval Academy	NRHP Listed 10/15/1966; NHL designated 4/4/1961	C-Historic District
Anne Arundel	AA-359-15	Building 187, Steam Generation Building	Eligible 6/23/2014	C-Contributes to U.S. Naval Academy
Anne Arundel	AA-136	Howard's Inheritance	Listed 7/23/1998; Preservation Easement recorded 12/29/1986	C- Architecture
Anne Arundel	AA-330	Sandy Point Farm House	Listed 2/11/1972	A-Agriculture C-Architecture
Queen Anne's	QA-463	Stevensville Historic District	Listed 9/11/1986; reevaluated 3/19/1998	C-Historic District
Queen Anne's	QA-259	Cray House	Listed 5/9/1983; Preservation Easement recorded 2/2/2001	C-Architecture
Queen Anne's	QA-212	Christ Church	Listed 7/24/1979; Preservation Easement recorded 7/26/2005	A- Settlement, Religion C-Architecture
Queen Anne's	QA-264	Stevensville Bank	Listed 1/3/1985	A-Commerce C-Architecture
Anne Arundel	AA-47	William Preston Lane, Jr., Memorial Bridge, Eastbound	Eligible 4/2/2001	A-Association with designer and builder C-Engineering
Anne Arundel	AA-48	William Preston Lane, Jr., Memorial Bridge, Westbound	Eligible 4/3/2001	A-Association with designer and builder C-Engineering
Anne Arundel	AA-765	Bridge 2081, Weems Creek Bridge	Eligible 6/29/1993	A-Transportation C-Engineering
Queen Anne's	QA-222	White's Heritage	Eligible 2/11/1980	C-Architecture
Queen Anne's	QA-222- 1	Garage, White's Heritage	Eligible 9/21/2006	C-Contributes to White's Heritage HD
Queen Anne's	QA-222- 2	Tenant House, White's Heritage	Eligible 9/21/2006	C-Contributes to White's Heritage HD

County	MIHP No.	Name	Status and Date	Significance Criterion
Queen Anne's	QA-222- 3	Tenant Farm Complex, White's Heritage	Eligible 9/21/2006	C-Contributes to White's Heritage HD
Queen Anne's	QA-542	SHA Bridge No. 1700600	Eligible 6/3/2011	C-Engineering
Queen Anne's	QA-524	Barnstable Hill, Lowery Farm	Eligible 9/11/1980	A-Agriculture C-Architecture

Table 7-5: Resources that Contribute to Stevensville Historic District

County	MIHP No.	Name	Date of DOE
Queen Anne's	QA-125	Eareckson House	5/7/2002
Queen Anne's	QA-263	John Benton House	8/24/1978
Queen Anne's	QA-265	Stevensville Post Office	9/29/1988
Queen Anne's	QA-266	Lowery's Hotel	12/19/1988
Queen Anne's	QA-465	Stevensville Country Store	9/22/1986
Queen Anne's	QA-467	Gillis House	3/23/1988
Queen Anne's	QA-468	J.H. Tolson Store	3/23/1988
Queen Anne's	QA-469	Ford House & Garage	7/7/1988
Queen Anne's	QA-470	Charles Stevens Store	4/20/1988
Queen Anne's	QA-471	Turner House	9/29/1988
Queen Anne's	QA-658	416 Main Street	5/31/2010
Queen Anne's	QA-659	418 Main Street	6/11/2010
Queen Anne's	QA-661	502 Main Street	5/1/2010
Queen Anne's	QA-217	Trinity Methodist Protestant Church	9/11/1986
Queen Anne's	QA-267	Christ Church Rectory	9/11/1986

Figure 7-1: Howard's Inheritance (AA-136), NRHP eligible for its architecture

Figure 7-2: Sandy Point Farm House (AA-330), NRHP eligible for association with agricultural and its architecture

Figure 7-3: Stevensville Historic District (QA-463), NRHP eligible for architecture

Figure 7-4: White's Heritage (QA-222), NRHP eligible for architecture

Figure 7-5: SHA Bridge No. 1700600 (QA-542), NRHP eligible for engineering

Figure 7-6: Barnstable Hill (QA-524), NRHP eligible for association with agricultural and its architecture.

7.1.2.2 Not Eligible Resources

There are 44 recorded resources in Corridor 7 that have been determined not eligible for listing in the NRHP (**Table 7-6**).

Table 7-6: Not Eligible Resources in Corridor 7

County	MIHP	Name or Address	Date of DOE
Anne Arundel	AA-2121	Bridge 2052	4/3/2001
Anne Arundel	AA-2220	177 Brown's Wood Road	11/2/1990
Anne Arundel	AA-2222	312 Forest-Beach Road	11/2/1990
Anne Arundel	AA-2225	721 Melvin Avenue	10/19/1994
Anne Arundel	AA-2283	Building 106HV, U.S. Naval Academy	5/22/1997
Anne Arundel	AA-2312	Rogers Heights Historic District	8/4/2003
Anne Arundel	AA-2313	7 Gladden Road	8/4/2003
Anne Arundel	AA-2362	Annapolis U.S. Army Reserve Center	8/4/2003
Anne Arundel	AA-332	Glebe Farmhouse	3/26/1998
Anne Arundel	AA-359- 24	Building 580, Laundry/Dry Cleaning Plant	10/6/2011
Anne Arundel	AA-359- 25	Building 571, John R. Perry Center	10/6/2011
Queen Anne's	QA-537	Hissey Farm	5/2/1993
Queen Anne's	QA-504	John Henry Hynson House	12/18/1998
Queen Anne's	QA-523	Queenstown Bridge	2/22/1980
Queen Anne's	QA-487	Cornelius Tanner House	4/1/1996
Queen Anne's	QA-491	Bridge (SHA 17001)	4/3/2001
Queen Anne's	QA-535	Baltimore & Eastern Railroad Trestle	3/31/1997
Queen Anne's	DOE-AN-0001	MD 70 over Weems & College Creeks	2/5/2003

County	MIHP	Name or Address	Date of DOE
Queen Anne's	DOE-AN-0002	Bridge 2042 over Weems & College Creeks	2/5/2003
Anne Arundel	DOE-AN-0106	203 Kirkley Road, Annapolis	10/13/2006
Anne Arundel	DOE-AN-0061	345 Dewey Drive, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0069	707 Arundel Place, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0064	705 Arundel Place, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0065	705 1/2 Arundel Place, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0063	703 Arundel Place, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0062	701 Arundel Place, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0067	2 North Weems Creek Dr, Annapolis	7/14/2003
Anne Arundel	DOE-AN-0068	4 Weems Creek Dr. Annapolis	7/14/2003
Anne Arundel	DOE-AN-0066	306 Annapolis St., Annapolis	7/14/2003
Anne Arundel	DOE-AN-0306	141 Riverview Ave, Annapolis	8/27/2014
Anne Arundel	DOE-AN-0307	143 Riverview Ave, Annapolis	8/27/2014
Anne Arundel	DOE-AN-0271	Bridge 0203800 US 50 over Severn River	6/15/2011
Anne Arundel	DOE-AN-0315	129 S Winchester Rd., Annapolis	9/19/2016
Anne Arundel	DOE-AN-0314	141 S Winchester Rd., Annapolis	9/19/2016
Anne Arundel	DOE-AN-0313	109 S Winchester Rd, Annapolis	9/19/2016
Anne Arundel	DOE-AN-0312	105 S Winchester Rd, Annapolis	9/19/2016
Anne Arundel	DOE-AN-0259	Bridge 020800 MD2 Ramp 8 over Boulters Way	6/15/2011
Anne Arundel	DOE-AN-0272	Bridge 0203900 US 50 over Boulters Way	6/15/2011

County	MIHP	Name or Address	Date of DOE
Anne Arundel	DOE-AN-0260	Bridge 0200900 US 50 Ramp 6 over Boulters Way	6/15/2011
Anne Arundel	DOE-AN-0285	Bridge 0210000 MD 2 Ramp K over US 50	6/15/2011
Queen Anne's	DOE-QU-0001	4802 Main Street, Grasonville	12/2/2002
Queen Anne's	DOE-QU-0023	Bridge 1700400 US 50/301 over Cox Creek	6/15/2011
Queen Anne's	DOE-QU-0024	Bridge 1700503 US 50/301 EB over Piney Creek	6/15/2011
Queen Anne's	DOE-QU-0025	Bridge 1700504 US 50/301 WB over Piney Creek	6/15/2011

7.1.2.3 Unevaluated MIHP Resources

There are 93 recorded resources in Corridor 7 that have been surveyed for the MIHP, but not individually evaluated for listing in the NRHP (**Table 7-7**). Additionally, there are two roadways in Anne Arundel County that are listed in the MIHP, but for which no documentation has been filed.

Table 7-7: Unevaluated MIHP Resources in Corridor 7

County	MIHP	Historic Name
Anne Arundel	AA-4	Governor Ritchie Highway, Annapolis Boulevard
Anne Arundel	AA-1050	C. E. Smith House
Anne Arundel	AA-1059	Ridgely Avenue School
Anne Arundel	AA-2305	Sandy Point State Park
Anne Arundel	AA-38	Annapolis-Bay Bridge Nike Missile Site W-26
Anne Arundel	AA-1011	Pettibone House
Anne Arundel	AA-333	Whitehall - Homewood's Lott: Boundary Marker
Anne Arundel	AA-335	Rich Neck Cove, site
Anne Arundel	AA-339	Goshen
Anne Arundel	AA-339A	Goshen Slave Cabin
Anne Arundel	AA-1012	Whitehall Creek, site
Anne Arundel	AA-320	Whitehall - Homewood's Lott: Boundary Marker
Anne Arundel	AA-321	Whitehall - Homewood's Lott: Boundary Marker

County	MIHP	Historic Name
Anne Arundel	AA-322	Weedon Farmhouse
Anne Arundel	AA-326	Taylor Residence
Anne Arundel	AA-326A	Whitehall Overseer's Quarters
Anne Arundel	AA-327	Whitehall Brick Yard, site
Anne Arundel	AA-328	Belfield and dependencies, site
Anne Arundel	AA-338	Woodly Farm House
Anne Arundel	AA-956	Bay Head Manor
Anne Arundel	AA-316	Old St. Margarets Church Rectory
Anne Arundel	AA-317	John Small House
Anne Arundel	AA-318	St. Margarets Church
Anne Arundel	AA-319	Whitehall Miller's House
Anne Arundel	AA-1013	House
Anne Arundel	AA-2052	House
Anne Arundel	AA-313	Manresa
Anne Arundel	AA-314	Erwincrest
Anne Arundel	AA-928	Severn River Baltimore & Annapolis Railroad Bridge
Anne Arundel	AA-951	St. Conrad's Friary
Anne Arundel	AA-986	Brice/Winchester Mill, site
Anne Arundel	AA-1014	Brown's Corner Store
Anne Arundel	AA-334	Whitehall - Homewood's Lott: Boundary Marker

County	MIHP	Historic Name
Queen Anne's	QA-213	Castle Marina
Queen Anne's	QA-214	Gardner's Purchase, site
Queen Anne's	QA-282	Dundee, site
Queen Anne's	QA-359	Nash House, site
Queen Anne's	QA-548	John Coursey Store, site
Queen Anne's	QA-549	Martin Jones Store, site
Queen Anne's	QA-550	James E. Kirwan House and Store
Queen Anne's	QA-551	Frankilin W. Coleman House
Queen Anne's	QA-556	Harbor View (subdivision)
Queen Anne's	QA-581	Gilmore and Beulah Green House
Queen Anne's	QA-583	Dominion Road/Main Street Survey District
Queen Anne's	QA-586	2000 block Main Street Survey District
Queen Anne's	QA-587	Postal Road/Cox Neck Road Survey District
Queen Anne's	QA-607	Hilary D. and Hilda I. Kelley House
Queen Anne's	QA-608	Golt-Mealey House
Queen Anne's	QA-553	Harvey Ruth Oyster Packing House
Queen Anne's	QA-554	Harvey Ruth Oyster Packing House Shanties
Queen Anne's	QA-557	W.H. Harris Seafood
Queen Anne's	QA-567	Wading Place Lodge
Queen Anne's	QA-570	Winchester Creek Survey District

County	MIHP	Historic Name
Queen Anne's	QA-571	VFW Post No. 7464
Queen Anne's	QA-573	Bryan's Chapel
Queen Anne's	QA-611	Grasonville Survey District
Queen Anne's	QA-625	Perfect Garment Company
Queen Anne's	QA-117	Wheatlands, site
Queen Anne's	QA-118	Walsey
Queen Anne's	QA-119	Bryan Farm
Queen Anne's	QA-281	Conyer House
Queen Anne's	QA-361	Blackbeard, site
Queen Anne's	QA-362	Slippery Hill Battlefield, site
Queen Anne's	QA-136	The Glebe Farm
Queen Anne's	QA-137	Steven's Adventure, site
Queen Anne's	QA-162	Christ Church Cemetery
Queen Anne's	QA-217	Trinity Methodist Protestant Church
Queen Anne's	QA-260	James Baxter House
Queen Anne's	QA-262	Old Stevensville High School
Queen Anne's	QA-267	Christ Church Rectory
Queen Anne's	QA-268	Wesley Methodist Episcopal Church, site
Queen Anne's	QA-284	Pennyworth Farm
Queen Anne's	QA-285	Pennyworth Tenant House

County	MIHP	Historic Name
Queen Anne's	QA-286	Stevensville (or Kent Island) M.E. Church, site
Queen Anne's	QA-354	Marstellar House
Queen Anne's	QA-355	Broad Creek Farm
Queen Anne's	QA-356	Clarke House, site
Queen Anne's	QA-464	Charles Downes Store
Queen Anne's	QA-606	Tolson-Cockey House
Queen Anne's	QA-647	117 Main Street, Stevensville
Queen Anne's	QA-649	Davidson Farm
Queen Anne's	QA-651	161 Fair Prospect Farm Lane
Queen Anne's	QA-661	502 Main Street, Stevensville
Queen Anne's	QA-662	507 Main Street, Stevensville
Queen Anne's	QA-663	701 Main Street, Stevensville
Queen Anne's	QA-664	703 Main Street, Stevensville
Queen Anne's	QA-665	705 Main Street, Stevensville
Queen Anne's	QA-672	206 Duke Street, Stevensville
Queen Anne's	QA-680	711 Main Street, Stevensville
Queen Anne's	QA-692	709 Main Street, Stevensville
Queen Anne's	QA-693	712 Main Street, Stevensville
Queen Anne's	QA-694	1105 Main Street, site
Queen Anne's	QA-697	219 State Street, Stevensville

County	MIHP	Historic Name
Anne Arundel	AA-2348	Scenic and Historic Road, St. Margaret's Road
Anne Arundel	AA-2356	Scenic and Historic Road, Pleasant Plains Road

7.1.2.4 Demolished Resources

There are three recorded resources in Corridor 7 that have been demolished. Severnside (AA-312) and the Goodhand House (QA-10) were demolished on unknown dates. The dwelling at 216 Evans Avenue (QA-597) was demolished circa 2007.

7.1.3 Corridor 8

A search of existing records identified 133 recorded architectural resources within Corridor 8. A table of all recorded resources in Corridor 8 is included as **Appendix Q**. These properties are mapped in **Appendix R**.

7.1.3.1 Architectural Historic Properties

There are 15 recorded historic properties in Corridor 8 (**Table 7-8**). Of these, 12 are listed in the NRHP and three have been determined eligible for listing– two by preservation easement. Properties with MHT Easements are considered by MHT to be eligible for the NRHP regardless of whether a formal DOE has been prepared.

Table 7-8: Architectural Historic Properties in Corridor 8

County	MIHP No.	Name	Status and Date of DOE	Significance
Anne Arundel	AA-1006	Davidsonville Historic District	Listed; 3/27/1992	C-Historic District
Anne Arundel	AA- 140	South River Club	Listed; 5/15/1969	A-Social C-Architecture
Anne Arundel	AA-144	Summer Hill	Listed 7/25/1974	C-Architecture
Anne Arundel	AA-160	Mount Airy	Listed 4/13/1973	A-Agriculture C-Architecture
Anne Arundel	AA-200	Indian Range	Listed 2/13/1986	C-Architecture
Anne Arundel	AA-200A*	Indian Range Servant's Quarters	Listed 2/13/1986	C-Architecture
Anne Arundel	AA-150	All Hallow's Church	Listed 5/15/1969	A-Religion C-Landscape Arch., Architecture
Anne Arundel	AA-232	Gresham	Listed 9/7/1984	B-Assoc. with Comm. Isaac Mayo
Queen Anne's	QA-297	Bloody Point Bar Light	Eligible 2/22/2007	Preservation Easement

County	MIHP No.	Name	Status and Date of DOE	Significance
Talbot	T-244	Sherwood Manor	Listed; 4/5/1977	C-Architecture
Talbot	T-527	Skipjack CLAUD W. SOMERS	Listed; 5/16/1985	A-Commerce and Transportation
Talbot	T-90	Hope House	Listed; 11/1/1979	C-Architecture
Talbot	T-89	Wye Town Farm House	Listed; 12/16/1982	C-Architecture
Talbot	T-381	Unionville	Eligible; 3/24/1999	A-African-American settlement C-Historic District, Architecture
Talbot	T-211	Rich Neck Manor	Eligible; 12/19/1988	Preservation Easement

* Indian Range Servant's Quarters (AA-200A) has a separate MIHP number but is connected to Indian Range (AA-200); both resources are included in the Indian Range NRHP nomination form.

The Davidsonville Historic District (AA-1006) is a small crossroads community listed in the NRHP under Criterion C. It is significant as a well-preserved crossroads community that was founded in coastal Maryland in the late-nineteenth and early-twentieth century. There are 13 properties listed in the MIHP within the historic district that contribute to its significance (**Table 7-9**). The South River Club (AA-140) (**Figure 7-7**:) is listed in the NRHP under Criterion A as the oldest continuous social club in America. Club minutes date back to 1740. Summer Hill (AA-144) is a historic farmhouse listed in the NRHP under Criterion C as an exemplary example of a mid-nineteenth century Greek Revival influenced brick farmhouse in Anne Arundel County. Mount Airy (AA-160) is a farmhouse listed in the NRHP under Criterion C for its Greek Revival-influenced architecture. It is additionally significant under Criterion A for its association with tobacco farming. Indian Range (AA-200) and the connected Indian Range Servants Quarter (AA-200A) is listed in the NRHP under Criterion C as an exemplary example of a Gothic villa. It is one of the few extant examples of villas built before the style became popular in the 1850s. All Hallows' Church (AA-150) (**Figure 7-8**) is listed in the NRHP under Criterion A for its contribution to religious history in Anne Arundel history and under Criterion C for its architecture. Gresham (AA-232) is listed in the NRHP under Criterion B for its association with Commodore Isaac Mayo, a decorated U.S. Navy officer, who resided at the dwelling.

Bloody Point Bar Light Station (QA-297) is eligible for listing in the NRHP for its significant association with the federal government's efforts to provide an integrated system of navigational aids and to provide safe maritime transportation in the Chesapeake Bay. Bloody Point Bar Light Station (QA-297) has an unrecorded MHT Preservation Easement. It is MHT's practice that all properties with a preservation easement are considered eligible for the NRHP. Sherwood Manor (T-244) is listed in the NRHP under Criterion C for its architecture as an example of a brick dwelling built at the end of the nineteenth century in the conservative Georgian Style.

Table 7-9: Resources that Contribute to Davidsonville Historic District

County	MIHP No.	Name
Anne Arundel	AA-79	Davidsonville United Methodist Church
Anne Arundel	AA-96	All Hallows Rectory
Anne Arundel	AA-159	Davidson House
Anne Arundel	AA-202	All Hallow's Chapel
Anne Arundel	AA-850	Holy Family Catholic Church
Anne Arundel	AA-858	Talbot's Lot
Anne Arundel	AA-860	Talbot's Lot III
Anne Arundel	AA-861	Talbot's Lot II
Anne Arundel	AA-862	Davidson-Neall House
Anne Arundel	AA-1001	William Neall House
Anne Arundel	AA-1002	Davidsonville Store
Anne Arundel	AA-1003	Davidsonville United Methodist Church Parsonage
Anne Arundel	AA-1005	Simmons House

Figure 7-7: South River Club (AA-140), NRHP Eligible as the oldest social club in the US and for its architecture

Figure 7-8: All Hallows Church (AA-150), NRHP Eligible for its association with the religious history of Maryland as well as its architecture

Skipjack Claud W. Somers (T-527) is listed in the NRHP under Criterion A for its association with commercial fishing in the Chesapeake Bay. It is additionally significant under Criterion C as a surviving example of a traditional Chesapeake Bay skipjack. At the time the Claud W. Somers was listed in the NRHP, the skipjack was moored in Maryland. However, it was removed to the Reedville Fishermen's Museum in 2000 for restoration and has been docked there since that time. It was listed in the NRHP in 2005 at its Virginia location. Hope House (T-90) is a seven-part brick mansion listed in the NRHP under Criterion C for its architecture. The Wye Town Farmhouse (T-89) is listed in the NRHP under Criterion C for its architecture. Unionville (T-381) is eligible for listing in the NRHP under Criteria A and C. It is significant for being established as a free African American Community and for its examples of vernacular architecture. Rich Neck Manor (T-211) has an MHT Preservation Easement. It is MHT's practice that all properties with a preservation easement are considered eligible for the NRHP.

7.1.3.2 Not Eligible Resources

There are ten recorded resources in Corridor 8 that have been determined not eligible for listing in the NRHP (**Table 7-10**).

Table 7-10: Not Eligible Resources in Corridor 8

County	MIHP No.	Historic Name, Address	Date of DOE
Anne Arundel	AA-2504	Mayo Hall, 1175 Mayo Road, Mayo	6/16/2014
Anne Arundel	AA-2107	Dove House, 1332 Rossback Road, Davidsonville	1/17/2003
Anne Arundel	AA-208	J. B. Fulton House, 1408 Rossback Road	1/17/2003
Anne Arundel	AA-2207	Mayo School, 1152 Central Ave, Mayo	1/6/2000
Anne Arundel	DOE-AN-0137	10 South River Club House Road, Edgewater	9/29/2004
Anne Arundel	DOE-AN-0139	3414 Solomons Island Rd, Edgewater	9/29/2004
Anne Arundel	DOE-AN-0140	3601 Solomons Island Rd, Edgewater	9/29/2004
Anne Arundel	DOE-AN-0138	3611 Solomons Island Rd, Edgewater	9/29/2004
Anne Arundel	DOE-AN-0004	525 E Central Ave, Edgewater	9/29/2004
Anne Arundel	DOE-AN-0005	500 Mayo Rd, Edgewater	9/29/2004

7.1.3.3 Unevaluated MIHP Resources

There are 88 recorded resources in Corridor 8 that have been surveyed for the MIHP, but not evaluated for NRHP eligibility (**Table 7-11**). Additionally, there are seven roadways in Anne Arundel County that are listed in the MIHP, but for which no documentation has been filed.

Table 7-11: Unevaluated MIHP Resources in Corridor 8

County	MIHP No.	Name
Anne Arundel	AA-142	P. T. Owings Residence

County	MIHP No.	Name
Anne Arundel	AA-146	Java, ruins
Anne Arundel	AA-147	Y. Kirkpatrick-Howat Residence
Anne Arundel	AA-148	Middle Ridge Farm and Store (A)
Anne Arundel	AA-149	Sellman Farm Tenant House
Anne Arundel	AA-2061	Clydesdale Farm
Anne Arundel	AA-2068	Contees Wharf Houses (Cottage A and B)
Anne Arundel	AA-2079	Hope Chapel Cemetery
Anne Arundel	AA-239	Y. Kirkpatrick-Howat Cottage
Anne Arundel	AA-767	Hope's Chapel U.M. Church
Anne Arundel	AA-68	Cumberstone Road Rural Historic District
Anne Arundel	AA-162	Cobb Residence
Anne Arundel	AA-193	Middle Plantation
Anne Arundel	AA-196	Locust Farm
Anne Arundel	AA-197	Willow Glen Farm
Anne Arundel	AA-201	Vitzthum Residence
Anne Arundel	AA-210	Hill n' Dale Farm
Anne Arundel	AA-773	Union Memorial Church (Methodist), site
Anne Arundel	AA-847	Hillary-Main House
Anne Arundel	AA-853	Cedars
Anne Arundel	AA-2077	August Quade House
Anne Arundel	AA-145	Aisquith Residence, site
Anne Arundel	AA-2074	Brashears/Witt House
Anne Arundel	AA-778	St. Mark's Methodist Episcopal Church
Talbot	T-174	Ashby
Talbot	T-361	Maple Hall
Talbot	T-883	Ben Perry House
Talbot	T-884	Nicholas Haddaway House

County	MIHP No.	Name
Talbot	T-885	Cora D. Roberts House
Talbot	T-886	Locust Hill
Talbot	T-887	Mrs. L. Erhardt House
Talbot	T-888	The Bungalow
Talbot	T-889	Claiborne Supply Company
Talbot	T-890	Wrightson Garage
Talbot	T-891	Jackson Store
Talbot	T-892	Bergman Bakery
Talbot	T-898	William Hunt House
Talbot	T-899	E. Russell Casson House
Talbot	T-900	Sam Bullen House
Talbot	T-901	Ernest Davis House
Talbot	T-902	William Wallace House
Talbot	T-903	Lida Smith House
Talbot	T-904	Claiborne United Methodist Church
Talbot	T-905	A.B. Corkran House
Talbot	T-906	Prettyman House
Talbot	T-907	Ferry Ticket Offices
Talbot	T-237	Dorsey Farm
Talbot	T-340	Pickbourn
Talbot	T-60	Fairview
Talbot	T-805	Copperville School
Talbot	T-806	Deshields M.E. Chapel
Talbot	T-807	Laura Miller House
Talbot	T-808	Daniel Moaney House
Talbot	T-809	James Henry Moaney House
Talbot	T-810	John Moody House

County	MIHP No.	Name
Talbot	T-811	Harry Goldsborough House
Talbot	T-812	Nancy Copper House
Talbot	T-91	Fair Haven
Talbot	T-92	New Design Farm
Talbot	T-101	Springwood Farm
Talbot	T-102	Anne Parris Telescopic House, site
Talbot	T-247	Tilghman's Fortune
Talbot	T-386	Cottingham Farm Orchard Buildings
Talbot	T-56	Wickersham
Talbot	T-84	Pleasant Valley
Talbot	T-214	Webley
Talbot	T-212	McDaniel Telescope House
Talbot	T-213	Wades Point
Talbot	T-235	Emerson Point
Talbot	T-349	Ennion's Range
Talbot	T-908	Little-Haven-on-the-Bay
Talbot	T-210	Martingham
Talbot	T-236	Elberton
Talbot	T-793	Unionville Odd Fellow Lodge
Talbot	T-794	Unionville School
Talbot	T-795	Henry M. Green House
Anne Arundel	AA-2334	Governor Bridge Road
Anne Arundel	AA-2330	Davidsonville Road
Anne Arundel	AA-2346	Rossback Road
Anne Arundel	AA-2345	Riva Road
Anne Arundel	AA-2325	Brick Church Road
Anne Arundel	AA-2352	South River Clubhouse Road

County	MIHP No.	Name
Anne Arundel	AA-2327	Contees Wharf Road

7.1.3.4 Demolished Resources

There are 12 recorded resources in Corridor 8 that have been demolished as reported by the Anne Arundel County Office of Planning and Zoning (**Table 7-12**).

Table 7-12: Demolished Resources in Corridor 8

County	MIHP No.	Historic Name, Address
Anne Arundel	AA-226	Margaret's Fields
Anne Arundel	AA-230	Edward Collison House
Anne Arundel	AA-866	Elizabeth Towsend Iglehart House
Anne Arundel	AA-230A	Edward Collison Farm Slave Cabin
Anne Arundel	AA-1061	Dr. Richard Weems House
Anne Arundel	AA-2221	Emory Davis House
Anne Arundel	AA-2058	Edward A. Ditty Farm
Anne Arundel	AA-2060	John B. Owens House
Anne Arundel	AA-2073	Black School, Collison Corner
Anne Arundel	AA-2075	Henry Behlke House
Anne Arundel	AA-2076	Willy Behlke House
Anne Arundel	AA-2078	Witt House

7.2 Unrecorded Architectural Resources

For this Tier 1 study, MDTA has conducted a preliminary assessment of unrecorded architectural resources with a date of construction in or prior to 1980 located within the CARA. The build years were retrieved from SDAT to determine the total count of resources. These dates were brought into ArcGIS online as a point layer to study the property locations set against modern aerial photography and parcel data to create potential resource groupings. This assisted in the identification of unrecorded districts, which are counted as single architectural resources. Some of these unrecorded districts may include vacant parcels associated with buildings and structures within the district. These unrecorded districts are predominantly residential, although they may contain other uses. For the purposes of this study, these unrecorded districts are considered residential resources.

The study eliminated parcels overlapping with previously surveyed historic architectural resource layers on MHT's Medusa, including: MHT Preservation Easements, National Register of Historic Places, Determination of Eligibility Short Forms, Resources listed in the MIHP, and Resources Pending Submittal

to the MIHP. Potential NRHP evaluation or re-evaluation of resources in the aforementioned categories are addressed in the recorded architectural resources section of this study.

To more accurately identify unrecorded architectural resources without a build date, a review of SDAT data was undertaken. Properties unlikely to have architectural resources, such as those indicated as "open space" or "flood plain," were removed, as were properties that appeared to be vacant lots. Those properties determined likely to contain an architectural resource underwent a second level of review using aerial imagery and Google Street View to verify the existence of a building or structure on the parcel. For the purposes of this Tier 1 study, it is assumed that all these architectural resources without a build year in SDAT, but likely to contain a building, were constructed in or before 1980. As detailed in **Table 7-13**, the total unrecorded architectural resources is comprised of unrecorded resources with a build date in or prior to 1980, unrecorded districts, and unrecorded resources without an associated build date, but likely to contain a building or structure.

Table 7-13: Unrecorded Architectural Resources in the CARA

Corridor	Unrecorded Resources Built Pre-1980	Unrecorded Districts	Unrecorded Resources with No Build Year Likely to Contain Buildings	Total Unrecorded Architectural Resources
6	944	37	89	1,070
7	1,931	38	160	2,129
8	1,115	34	105	1,254

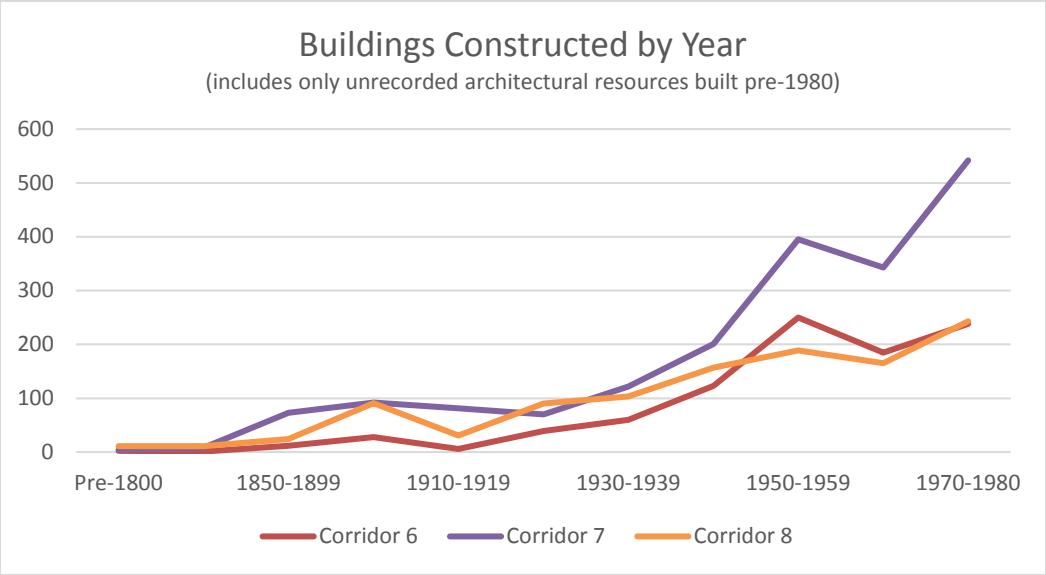
Properties with structures were then assigned one of five property types based on the land use description in SDAT—agricultural, commercial, industrial, miscellaneous, and residential. **Table 7-14**: Unrecorded Architectural Resources in shows the number of tax parcels with structures by property type for each of the three corridors. The miscellaneous category includes a variety of property uses, such as parks, schools, governmental and institutional buildings, and cemeteries. A table with specific information about the unrecorded architectural resources is included as **Appendix S**. Mapping showing the location of these properties is included as **Appendix T**.

Table 7-14: Unrecorded Architectural Resources in CARA by Property Type

Property Type	Corridor 6	Corridor 7	Corridor 8
Agricultural	46	25	113
Commercial	92	217	76
Industrial	0	1	0
Miscellaneous	30	115	42
Residential	902	1,771	1,023
Total	**1,070**	**2,129**	**1,254**

The vast majority of the unrecorded architectural resources in the CARA are residential properties dating to the post–World War II period. **Table 7-15** shows the distribution of unrecorded architectural resources by date. As shown on **Table 7-16**, nearly all of the unrecorded districts have an average build date after 1950. The first Bay Bridge span opened to traffic June 30, 1952. Corridor 7 has the highest number of pre-1900 properties at 85, but pre-1900 properties comprise just four percent of the total unrecorded architectural resources in both corridor 7 and 8. Commercial and miscellaneous properties are 10 percent or less of the resources in all corridors. Corridor 8 has the highest percentage of agricultural properties at 9 percent.

Table 7-15: Unrecorded Architectural Resources by Build Year in the CARA



[1] *This chart analyzes the unrecorded resources with build years sourced from SDAT.*

Table 7-16: Unrecorded Districts in the CARA

Corridor	Number of Districts	Total Number of Parcels within the Districts	Average Build Year 1920s	Average Build Year 1930s	Average Build Year 1940s	Average Build Year 1950s	Average Build Year 1960s	Average Build Year 1970-1980
6	37	2,520	0	0	2	10	13	12
7	38	2,848	0	1	3	4	15	15
8	34	1,350	1	1	4	3	11	14

8.0 SUMMARY AND RECOMMENDATIONS

8.1 Archaeological Resources Summary

The goal of the archaeological gap analysis is to identify and compare the potential future archaeological survey and evaluation needs within each CARA. To that end, the Gap Analysis reviewed soil data, archaeological survey and site data, and maritime data of each CARA and identified areas that may require additional terrestrial and underwater archaeological survey, the number of archaeological sites listed in or eligible for listing in the NRHP, and the number of archaeological sites or shipwrecks that may require evaluation for eligibility for listing in the NRHP during the Tier 2 study if they are included within the Tier 2 APE. A summary of the results is presented in **Table 8-1**.

Table 8-1: Summary of Archaeology Results.

Corridor	Acres that May Require Additional Terrestrial Survey	Acres that May Require Additional Underwater Survey	Number of NRHP Listed or Eligible Sites	Number of Unevaluated Sites (Including Quad Files)	Number of NOAA Recorded Shipwrecks
6	15,738	29,296	0	53	6
7	10,081	16,155	4	140	14
8	17,580	31,583	5	178	18

Corridor 7 contains the fewest acres that may require additional terrestrial and underwater testing. Corridor 6 contains the fewest unevaluated archaeological sites and recorded shipwrecks and it also contains no NRHP listed or eligible sites.

8.2 Architectural Resources Summary

Tier 1 architectural resources identification has found that historic properties are distributed evenly between Corridors 7 and 8, with the fewest number of recorded historic properties in Corridor 6 (**Table 8-2**). Corridor 6 has 37 unevaluated resources. This is markedly lower than the number of unevaluated resources in Corridor 7 (94) and Corridor 8 (102).

Perhaps spurred by development following the construction of the William Preston Lane, Jr. Memorial Bridges, Corridor 7 has 2,129 resources built prior to 1980 (inclusive), compared to 1,070 in Corridor 6 and 1,254 in Corridor 8.

Table 8-2: Summary of Architectural Resources within the CARA

Corridor	Recorded Historic Properties	Unevaluated MIHP Resources	Not Eligible Resources	Resources Built Pre-1980
6	2	37	20	1,070
7	13 (including 1 NHL)	94	44	2,129
8	14	102	10	1,254

8.2.1 Corridor 6

A new crossing within Corridor 6 could impact two recorded historic properties, both of which are located on the Eastern Shore in Queen Anne's County. Bachelor's Hope (also known as Phares Morris Farm) (MIHP QA-224) and Reed's Creek Farm (MIHP QA-5) are both eighteenth and nineteenth-century plantations that may contain extensive lands within their boundaries. Because of their size, both the land and the buildings of the properties may be impacted directly or indirectly. Of the three CARA, selecting Corridor 6 as the Preferred Corridor would require the least amount architectural survey during Tier 2, involving 37 unevaluated resources and 1,070 unrecorded resources. These unrecorded resources are overwhelmingly residential at 84 percent of the total; three percent are miscellaneous, four percent are agricultural, and nine percent are commercial. Of these unevaluated resources two are eighteenth century and 13 are nineteenth century. The other 98 percent (929) of resources are twentieth century, 71 percent (673) of which date to after 1950.

8.2.2 Corridor 7

A new crossing within Corridor 7 could impact 13 recorded historic properties, including one NHL: the U.S. Naval Academy (MIHP AA-359). Particular attention must be paid to the U.S. Naval Academy per Section 110(f) of the NHPA and 36 CFR 800.10 which requires the agency official to undertake such planning and actions as may be necessary, to the maximum extent possible, to minimize harm to any NHL that may be directly and adversely affected by an undertaking. Of the three CARA, selecting Corridor 7 as the Preferred Corridor would require the most architectural survey during Tier 2, including 94 unevaluated resources and 2,129 unrecorded architectural resources. These unrecorded resources are overwhelmingly residential at 83 percent of the total; one percent is agricultural, five percent are miscellaneous, and 10 percent are commercial. There is one industrial parcel in the corridor. Of these unevaluated resources, four are eighteenth century and 81 are nineteenth century. The other 96 percent (1,846) of resources are twentieth century, 66 percent (1,280) of which date to after 1950. Because of the high number of post–World War II resources, the need for an area-specific suburbanization historic context would be most critical in this corridor.

8.2.3 Corridor 8

A new crossing within Corridor 8 could impact 14 recorded historic properties. Of the three CARA, selecting Corridor 8 as the Preferred Corridor would require the second most architectural survey during Tier 2, with 102 unevaluated resources and 1,254 unrecorded resources. Like the other two corridors, these unrecorded resources are overwhelmingly residential at 82 percent of the total; three percent are miscellaneous, and six percent are commercial. Of the three corridors, Corridor 8 contains the highest number of agricultural properties, totaling nine percent. Buildings in this corridor are also older. There are 11 eighteenth century resources and 35 nineteenth century resources. The other 96 percent (1,069) of resources are twentieth century, only 54 percent (597) of which date to after 1950.

8.3 Tier 2 Recommendations

When and if there is a Bay Crossing Study Tier 2 NEPA study, the Section 106 process (36 CFR 800 Subpart B) will resume and phased identification of historic properties will continue within the APE established within the Preferred Corridor identified during Tier 1 NEPA (**Figure 3-1**). The following section outlines how phased identification would proceed during the Tier 2 NEPA process. These recommendations would require review and reevaluation at the start of Tier 2, when more information is available about the

project and any constraints, such as the project schedule, the project delivery method, or other factors that are unknown during Tier 1. Given these constraints, the recommendations in this section are intended to provide a general outline of the remainder of the historic property's identification process, as well as to identify areas in which additional work may be needed, based on the findings of the Tier 1 Technical Report.

A future Tier 2 NEPA study would include delineation of an APE based on Tier 2 alignment alternatives (within the Tier 1 Preferred Corridor) and their potential for direct and indirect effects to historic properties. Identification efforts during a Tier 2 study would involve detailed identification of historic properties within the APE of the alignment alternatives and assessment of effects on those historic properties. As part of the identification effort, FHWA and MDTA will continue to work with the consulting parties in identifying knowledgeable individuals and organizations who could provide information that could assist in the identification and evaluation of historic properties within the Tier 2 APE. FHWA and MDTA will continue Section 106 consultation with the ACHP, MHT, Federally Recognized Tribes, consulting parties participating during Tier 1, any consulting parties newly identified during Tier 2, and the general public.

8.3.1 Archaeological Resources

It is recommended that a Tier 2 archaeological study include a more detailed assessment of the precontact and historic archaeological potential within the APE of the Preferred Corridor.

The detailed archaeological assessment would build on the Tier 1 archaeological assessment by:

- reviewing the methodologies of all the previously conducted archaeological surveys within the APE to determine which surveys conform to MHT's archaeological guidelines and which do not and will require additional survey;
- assessing and verifying the potential for additional ground disturbance within the APE beyond that documented in the soil data through the use of LiDAR and windshield survey;
- developing specific criteria for assessing the areas that may require archaeological survey for their specific precontact and historic terrestrial archaeological potential including a consideration of distance from surface potable water, known archaeological sites, and former shorelines, as well as land use history; and
- conducting a GIS-based predictive terrestrial archaeological potential model.

Tier 2 archaeological studies are recommended to include a Phase I terrestrial archaeological survey of all areas within the APE, identified by the detailed assessment of precontact and historic archaeological potential as having terrestrial archaeological potential. Phase I underwater survey of areas within the Tier 2 APE are also recommended to identify any maritime or submerged terrestrial archaeological resources where there will be direct impacts. It is also recommended that the locations of all unevaluated sites within the Tier 2 APE be reestablished and additional evaluation be conducted based on site integrity and potential significance.

All investigations will be conducted in accordance with the *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994), and *Standards and Guidelines for Archeological Investigations in Maryland, Technical Update No. 1* (Morehouse et al. 2018). It is also recommended that Tier 2 investigations for underwater archaeological resources are undertaken in consultation with MHT. Although dependent on the location and nature of the undertaking and consultation with MHT,

subsequent investigations may entail geophysical survey operations such as single beam bathymetry, side scan sonar, sub-bottom profiling, and electromagnetic (EM) interrogation of the seabed to identify potential submerged archaeological resources within the Chesapeake Bay.

8.3.2 Architectural Resources

Architectural resources would be surveyed, evaluated, and documented following the standards and guidelines published in the MHT document, *Standards and Guidelines for Architectural and Historical Investigations in Maryland* (MHT 2019). Historic properties would be identified according to criteria outlined in National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation (Bulletin 15) (DOI 1990). The NRHP significance criteria will be used to evaluate the historic significance of the resources.

8.3.2.1 Evaluation of Recorded Architectural Resources

Recommended Tier 2 architectural identification efforts would include verifying and updating information gathered during Tier 1 NEPA, to include resource evaluations completed subsequent to this report. Desktop analysis and field survey would be used to document whether resources are extant or any other changes have affected the integrity of the resources. MDTA would complete NRHP evaluations of any unevaluated resources within the APE of the Preferred Corridor. Re-evaluations of resources would be completed on a case-by-case basis, particularly if documentation of the eligibility and/or significance of recorded resources does not contain sufficient information to make an effects determination. Resources identified during Tier 1 that may require additional documentation include unevaluated MIHP resources; MHT preservation easement properties without eligibility determinations; historic properties for which new information or historic contexts have become available since its listing or eligibility determination; changes to a resource's integrity; or demolition.

8.3.2.2 Unrecorded Architectural Resources

Identification of unrecorded architectural resources in the Tier 2 APE would begin with desktop GIS analysis to identify all resources constructed 50 years prior to the project's anticipated completion date. Resources will be identified using research tools such as SDAT, current and historic aerial imagery, plat maps, and field survey. MDTA would include consulting parties such as local governments, historic preservation organizations, and other parties with demonstrated interest in the undertaking to assist in the identification of historic properties. MDTA will also continue efforts to consider property types within the Tier 2 APE that may not be adequately represented in the MHT's MIHP.

Resources would be grouped and evaluated as districts where appropriate, such as subdivisions; suburban, urban, or rural historic districts; or farm complexes.

Property specific research would be conducted as needed. The evaluations would rely on the existing historic contexts, such as *Suburbanization Historic Context* (KCI 1999) and the *Suburbanization Historic Context Addendum* (Manning et al. 2019) if the Tier 2 APE includes suburban areas. The need for additional historic context development would be assessed for areas or resource types without sufficient existing context to complete NRHP evaluations. The majority of unrecorded resources in all corridors date to after 1950; however, postwar suburban development patterns in Anne Arundel, Kent, Queen Anne, and Talbot Counties differ from those in Montgomery and Prince George's Counties because of their distance from Washington, DC, and lack of limited-access highways. It will likely be necessary to complete a suburbanization historic context addendum for those counties. The goal of an addendum would be to identify patterns of development and character-defining elements for the various types of suburban

development within the proposed alternatives. This document would focus heavily on residential development types as they are the majority of resources requiring evaluation. In addition, because of the relatively large number of agricultural resources in Corridor 8, additional agricultural historic contexts may be necessary should that corridor move forward into Tier 2. Few existing contexts are available describing the impact agricultural diversification and mechanization had on twentieth-century farms locally or statewide.

8.3.3 Cemeteries

In addition to the archaeological and architectural resources, there are numerous recorded cemeteries and burial grounds within the three CARA. During Tier 2 MDTA will continue phased identification and NRHP evaluation of cemeteries and burial grounds within the Tier 2 APE.

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Appendices