

6.0 PHASE I ARCHAEOLOGICAL
SURVEY INTERPRETATIONS AND
RECOMMENDATIONS

6.0 PHASE I ARCHAEOLOGICAL SURVEY INTERPRETATIONS AND RECOMMENDATIONS

The Phase I Archaeological Survey of the SR 1 Frederica Interchange project APE revealed extensive evidence of prehistoric and historic occupation across the landscape. Geomorphologic testing determined that the project APE consists of Pleistocene-age alluvial deposits capped with disturbed, surficial plowzone (Ap) horizons. Examination of the project area noted that in some areas gravel-rich Pleistocene deposits extended up to and within the disturbed surface plowzone stratum, while in other areas gravel-rich strata were clearly overlain with silty sands that exhibited a relatively high degree of sorting and conspicuous lack of gravel. Two test units, N590 E554 and N660 E584, were examined in detail for comparative characteristics of these soil variations. These silty sands are attributable to eolian redistribution of surface fines from erosional blowout features and low dunes across much of the regional landscape. While the age and depositional mode responsible for these near-surface fines is not clear, they were noted to occasionally include Holocene-age, prehistoric archaeological materials in subplowzone context, while within gravel-rich portions of the project area most archaeological materials (historic and prehistoric) were recovered from in and near the plowzone.

6.1 Area 1

The implementation of a series of controlled surface collections and the excavation of 47 STPs and 30 1.0-meter by 1.0-meter (3.3-ft by 3.3-ft) test units identified the presence of potentially significant prehistoric and historic archaeological deposits in Area 1 of the APE. The diverse assemblage of prehistoric artifacts recovered from several discreet loci during the surface collection suggests that this parcel of land was repeatedly occupied for extended periods of time, likely as a small community linked to a regional exchange network. Diagnostic artifacts, including an Archaic to Woodland I period (6500 B.C. to A.D. 1000) jasper Lamoka point, a Woodland I period (3000 B.C. to 1000 A.D.) quartz MacPherson point, and eight prehistoric ceramic sherds with sufficient diagnostic characteristics reflective of Woodland I period (3000 B.C. to 1000 A.D.) wares, reflect a significant temporal period of occupation. The presence of numerous prehistoric ceramic sherds, projectile points, bifaces, grinding stones, lithic blanks, a netsinker, shaft abraders, and other stone tools indicates that cooking, processing, and lithic

maintenance activities took place in the APE. Prehistoric artifact distribution maps identified six individual loci in Area 1 that contained high concentrations of prehistoric cultural remains. These loci may represent discrete activity areas utilized at different occupation episodes spanning the Archaic through Woodland II periods. Numerous argillite blanks (n=5), a rhyolite blank (n=1), and a fragment of a possible steatite pendant reflect the trade of lithic resources from south central and southeastern Pennsylvania, outside of the Delmarva Peninsula region.

While the prehistoric artifact assemblage collected from Areas 1 and 2 indicates a substantial Native American presence in the APE, the horizontal, vertical, and temporal boundaries of this cultural occupation have yet to be defined. One prehistoric archaeological site, Site 7K-F-11, has previously been documented within the APE in Area 1. A review of the CRS Archaeological Site Form for 7K-F-11 (CRS #K-632) suggests that Loci 5 and 7K-F-11 are the same cultural resource. However, there is the potential that the loci identified in Area 1 are also associated with 7K-F-12, the Robbins Farm Site #1, located outside of the APE on the west side of SR 1 and the farm pond drainage. The clustering of prehistoric sites and resources in such a small area leads us to ponder this question: do these loci represent one site (i.e., 7K-F-11), or is it necessary to assign individual site designations (i.e., 7K-F-11A, 7K-F-11B)? In addition, what is the relationship of Loci 1 through 6, as well as the prehistoric remains recovered in Area 2, to 7K-F-11 and 7K-F-12? These critical questions must be addressed before assigning a site designation to cultural features in the APE.

A comparison of the gravel-rich and gravel-poor areas in the plowzone horizon to the location of cultural features yielded limited evidence about the relationship between wind-blown soils and the preservation of prehistoric materials in Area 1. Feature 1 and 2 were both documented in the surface of the E-horizon, but the features and the surrounding soil matrix were left intact, prohibiting further excavations into soil column. It was not determined through the test unit excavations whether Feature 1 and 2 represent cultural activities within aeolian deposits, or if these feature stains are indicative of natural processes, such as root/rodent disturbance. Feature 3 was noted at the interface between the E-horizon and the Bt-horizon, extending into the Bt-horizon. The recovery of one FCR fragment and four lithic debitage within the top 20.0

centimeters of the feature matrix suggests that this soil stain is part of a prehistoric cultural feature. However, it is unclear if the overlying E-horizon is comprised of wind-blown soils.

Inconclusive evidence was also found in the correlation between the location of designated prehistoric loci and the presence of gravel-rich or gravel-poor areas in the plowzone horizon. The surface collection of Area 1 yielded a varied number of prehistoric finds in grid cells subjected to test unit excavations (Table 12). The largest number of surface-collected prehistoric artifacts was recovered from TU N629 E600 and N668 E600, both found in Locus 3. Inspection of the surface surrounding these two test units did not identify any gravel concentrations or soil anomalies which would distinguish gravel-rich or gravel-poor topsoil as an indicator of prehistoric artifact concentrations. Analysis of the soil profiles in these two test units produced a similar stratigraphy consisting of a plowzone horizon, E-horizon and Bt-horizon.

Table 12. Comparison of Surface Collection Artifact Counts to Soil Stratigraphy.

Grid Cells	Surface-Collected Artifact Count	Test Units	Features	Stratum	Locus
7-B	1	N568 E510 N569 E518		Ap/E/E Ap/E	
7-H	3	N560 E570		Ap/E/E	
8-C	0	N570 E525		Ap/E/Bt	
8-D	5	N570 E533 N570 E534 N573 E530 N576 E534 N576 E539	Feature 3 Feature 1	Ap/E/Bt Ap/E Ap/E/E Ap/E/Bt Ap/E	
9-E	1	N580 E543 N582 E546 N583 E549		Ap/E Ap/E/E Ap/E/Bt	
10-F	2	N590 E554 N594 E559	Feature 2	Ap/E/Bt Ap/E	
11-G	0	N600 E560 N609 E565		Ap/E/E Ap/E/E	
12-G	1	N619 E568		Ap/E	
13-H	3	N625 E570		Ap/E/Bt	
13-K	9	N629 E600		Ap/E/Bt	Locus 3
15-I	6	N643 E580		Ap/E/E	
17-I	4	N660 E584		Ap/E/Bt	
17-K	12	N668 E600		Ap/E/Bt	Locus 3
19-I	6	N680 E587		Ap/E/E	

The historic artifact collection recovered from the APE is representative of mid-eighteenth-through early-twentieth-century domestic and architectural refuse. A variety of historic ceramics,

including redware, whiteware, porcelain, pearlware, vitreous china, stoneware, other earthenware, and creamware, provide a common cross-section of mid-eighteenth- through twentieth-century domestic utilitarian ceramic types. Bottle glass and vessel glass rounded out the larger classes of domestic artifacts. Architectural artifacts included brick, window glass, and nails, are not unexpected given the presence of the Soulie Gray House in the APE.

While these historic cultural materials were recovered extensively from the plowzone horizon, the horizontal distribution of these materials does present interesting contrasts. The proximity of the Soulie Gray House to the proposed road alignment in Area 2 does provide a source for the surface scatter of brick, ceramics, bottle glass, and other historic refuse found in Area 2. However, the distribution maps indicate that a more diverse assortment of historic ceramics was encountered in Area 1, as opposed to Area 2.

The diversity of the architectural and domestic artifact assemblage in Area 1 may be attributed to a source other than the occupants of the Soulie Gray House. Background research of the property title suggests that an early- to mid-eighteenth-century occupation of the farm existed prior to the early- to mid-nineteenth-century construction of the Soulie Gray House. A brick house was described as part of the early- to mid-eighteenth-century property devised from John Brinckle Senior to his son, John Brinckle Junior, on a 70-acre tract of land situated on the west side of the county road. As previously discussed, the eighteenth-century old County Road followed the general track of a dirt farm lane found east of the project APE (Figure 9). The 1788 Furbee estate map does not depict any structures adjacent to the west side of old County Road. However, the 1868 map of the project area illustrates two buildings in the project APE west of the old County Road owned by John West, and a third structure north of the road, and outside of the APE. The 1866 fire insurance policy for West lists two houses, a “two story and attick frame dwelling 20x40 with back building,” which closely resembles the non-extant Soulie Gray house identified as Building B on the 1868 map, and a “two-story frame dwelling 16x18...occupied by D. Coverdale,” likely the structure to the north of the APE. Based on the description provided in the Brinckle Senior will, the early- to mid-eighteenth-century brick house cannot be the structure to the north of the APE, as this would place it east of the old County Road. It is suggested that

Building A on the 1868 map represents the location of the early- to mid-eighteenth-century brick house.

In addition, a concentration of brick was noted in a small area along the marshlands defined by Row 4 to the north, Column N to the east, Row 1 to the south, and Column K to the west. This historic artifact locus also contains two corroded square nails. It is suggested that this locus may represent the remains of a building associated with a river landing located along Spring Creek, such as a storage building. The diversity of historic ceramics in Area 1 may reflect broken dishes and crockery unloaded from a vessel and discarded along the landing, although this is only speculation. No records have been examined during this Phase IB Archaeological Survey that would indicate the presence of a dock in the APE. However, the documentation of an early-eighteenth-century landing downstream from the APE, and the reliance of maritime transportation for commercial goods in eighteenth- and nineteenth-century Frederica, suggests that Area 1 has strong potential to contain structures associated with a river landing.

Of particular note, the documentation of subsurface prehistoric features in Area 1 demonstrates that the APE has good potential for the spatial differentiation of site components (both temporal and functional) across the landscape. Feature 3, in particular, noted at 60.0 centimeters below surface, produced FCR (n=1) and lithic debitage (n=4) in the top 20.0 centimeters of the feature soil matrix. The overlying soil stratigraphy consists of silty sands possibly the result of eolian reworking of Pleistocene-age sediments. The presence of intact cultural features beneath the possible eolian soil package demonstrates the potential within sections of the project area for the preservation of archaeological site components within a buried and possibly stratified context.

A.D. Marble & Company recommended in a May 2004 Phase IB Archaeological Survey Management Summary report for the project that a Phase II Investigation be conducted of Area 1 (Emory 2004). The Phase II Investigation should focus on potential impacts within the area defined by the conceptual extended limits of disturbance as presented by Century Engineering, Inc. (Attachment A). Based on the recovery of significant prehistoric diagnostic artifacts, potential activity areas identified through a surface collection, and the potential for buried and possibly stratified archaeological deposits in an intact setting, this site is potentially eligible for

listing in the National Register under Criterion D. The prehistoric archaeological data offers an outstanding opportunity to further our understanding of the change in prehistoric lifeways and technological changes in the Murderkill River drainage. The recovery of Keyser Cord-Marked and Potomac Creek ceramics in 7K-F-12, located directly west of the APE, suggests that Area 1 may also yield similar ceramics, and expand upon limited information concerning migration patterns and exchange networks of Native Americans in the Chesapeake and Delaware Bay areas. In addition, an examination of the possible eolian component of Area 1 can provide additional information regarding the formation of eolian surface features in the project area, as well as throughout the region.

Area 1 also has the potential to produce significant archaeological deposits associated with early- to mid-eighteenth- through twentieth-century domestic and transportation-related activities in the APE. A brick concentration along the edge of the marsh lands may possibly represent the remains of a structure associated with a river landing in Area 1. In addition, Area 1 exhibits a diverse collection of eighteenth- through twentieth-century ceramics that are thought to represent crockery damaged during shipment by commercial vessels on the Murderkill River. While the brick locus is situated outside of the conceptual extended limits of disturbance, the potential does exist for historic features within the extended limits of disturbance.

6.2 Area 2

A.D. Marble & Company recommended in a May 2004 Phase IB Archaeological Survey Management Summary report for the project that a Phase II Investigation be conducted in Area 2 focusing on the historic occupation of the parcel (Emory 2004). Area 2 produced a limited amount of prehistoric and historic surface scatter, and subsurface testing identified a post mold feature, designated Feature 1, to the north side of the Soulie Gray House. No prehistoric cultural features were found in Area 2. A scatter of brick fragments, cut and wire nails, and window glass was also recorded in the same area as Feature 1. As noted in a 1937 aerial photograph of the project area, the Soulie Gray Farm is composed of the main house (Building A), a rectangular structure to the east of the house (Building B), and a second rectangular building situated to the northeast of the Soulie Gray House (Building C), all connected by a series of dirt roads (Figure 26). The resolution of the image prohibits identifying any structures smaller than these buildings.

A small drainage passes to the west of the farm. By 1954, the drainage has been dredged in certain areas and converted to a series of farm pond, with a third, smaller structure (Building D), possibly a pumping station, added to the complex near the headwaters of the pond (Figure 27). Buildings A and C are still present on the property, but Building B has been demolished. It is suggested that the demolition of Building B in the 1954 aerial photograph was the precursor to the construction of improved, modern barn, as the 1956 USGS topographic map of the project area illustrates the Soulie Gray House, identified as a solid black square (Building A), as well as two outbuildings, a new Building B and the original Building C, defined by gray squares (Figure 33). The 1961 aerial photograph of the farm depicts the new Building B and a second dirt road just to the south, confirming the information presented in the 1956 topographic map (Figure 28). The new Building B is depicted on the 1963 As-built map as a frame and concrete block barn with and attached frame shed (Figure 31).

Additional testing is recommended to determine whether the post mold is part of a post-in-ground structure associated with a mid-nineteenth through mid-twentieth-century outbuilding constructed along the north side of the farm lane, a fence post, and if any other historic features are present in the APE for Area 2. Given the mid-nineteenth-century date of the Soulie Gray House, outbuildings may have been present beyond the existing overgrown area of the farm, and were demolished due to disrepair and the necessity to expand tillable ground. As such, identifying the function of the post mold may offer new information about land use, farm outbuilding size, and other site-specific data.

6.3 Areas 3 and 4

No additional archaeological investigations are recommended for Areas 3 or 4. These areas did not exhibit significant cultural resources, and will not likely offer any new information on the prehistory and history of the project area.

6.4 Area 5

It was recommended by A.D. Marble & Company in a May 24, 2005 meeting with representatives of DelDOT, DESHPO, and Century Engineering that a Phase II Archaeological Investigation be conducted for Locus 2 and Locus 4. Locus 2 produced five lithic debitage and

two unclassified prehistoric ceramic sherds from the plowzone horizon, and two debitage from the E-horizon in STP N300 E700 and N300 E800. This resource may represent a continuation of Locus 3 or 4 identified in Area 1, as these loci were recorded on the west side of SR 1 opposite from Locus 2. In addition, three Native American subsurface features in Area 1 produced lithic artifacts from a silty feature matrix similar to an E-horizon soil. Intensive testing of Locus 2 in Area 5 would assist in determining if the E-horizon recorded in the STP excavations represents a natural deposit or a cultural feature.

The artifact assemblage in Locus 4 yielded an assortment of late eighteenth- through early-twentieth-century domestic, architectural and personal items from the plowzone horizon. Testing throughout the remainder of Area 5 produced a similar scatter of cultural materials, but in numbers of one to two artifacts per test pit and not in a concentration as noted in Locus 4. The absence of modern materials in the artifact collection of Locus 4 suggests that this concentration may represent refuse pulled from a midden, or a dump, as the collection was found exclusively in the plowzone horizon. The distribution of the materials in a small concentration suggests that an intact midden may still be present within Locus 4.

No further testing is recommended for Locus 1 and Locus 3 in the West Farm. These two loci contained a small number ($n < 9$) of lithic debitage found exclusively in the plowzone horizon. In general, each STP within Locus 1 and 3 contained two to three pieces of debitage, not uncommon considering the number of prehistoric sites recorded along the Murderkill River. Soil stratigraphy in these loci is represented by a plowzone horizon overlying a thin E-horizon and a Bt-horizon, with no evidence of deep E-horizon deposits or subsurface features. These materials are interpreted as artifact scatters transported through plowing activities and are not indicative of significant archaeological remains.

6.5 Area 6

Archaeological testing identified a distinct pattern of land use between the northern and southern sections of Area 6. The southern section of Area 6 appears to have consisted of plowed agricultural field during the historic occupation of the property, as the aerial photographs illustrate plowed, then fallow, land up to the border of the house lot. Although the southern

section includes the southeast corner of the house lot, the aerial photographs, historic topographic maps, and the As-Built map of the property does not illustrate the presence of any outbuildings in this area, nor does the artifact collection from STPs excavated along the southern edge of the house lot exhibit any trends to suggest the presence of infilled wells, trash middens, or other subsurface features containing cultural debris from the farmstead's occupation.

Conversely, excavations conducted across the northern section of Area 6 produced a significant assemblage of architectural and domestic debris. TU N519 E499, TU N519 E500, and STP N520 E500 yielded fragments of handmade brick, as well as a mix of mid-eighteenth- through early-twentieth-century ceramics, bottle glass, cut and wire nails, and other debris from a fill deposit and plowzone horizon overlying Feature 3, a dense concentration of brick. The 1937, 1954, and 1961 aerial photographs of the Soulie Gray House, as well as contemporaneous topographic maps of the project area and the 1963 As-Built map, do not depict any outbuildings in the general location of Feature 3. The quantity of brick recovered from the plowzone and in Feature 3, including examples of handmade brick, and the presence of mid-eighteenth-century ceramics interspersed in the plowzone and in Feature 3, possibly represents an in-filled well or other feature associated with a potential early- to mid-eighteenth-century brick structure located in Area 1.

A second concentration of architectural rubble and domestic refuse was observed in Stratum II of STP N520 E580 and TU N520 E579. Unlike Feature 3, this fill horizon exhibited a smaller number of brick fragments but a larger count of cut and wire nails. The architectural remains recovered in STP N520 E580 and TU N520 E579 correspond to the general location of a series of mid-twentieth-century frame agricultural outbuildings documented on the 1963 As-Built map and the 1980 structures survey. In addition, the 1866 fire insurance policy for the John West farm lists a meat house, corn crib, and other structures on the property, likely constructed along the periphery of the house lot. The fasteners and other materials recovered in STP N520 E580 and TU N520 E579 are interpreted as refuse from those demolished outbuildings dispersed by plow activities along with general household refuse around the perimeter of the property.

An intensive archaeological investigation is warranted to determine the integrity, origin, and age of the architectural rubble in Feature 3. It is uncertain if Feature 3 represents an intact foundation or ancillary feature associated with an early- to mid-eighteenth-century brick house described on the property, or a concentration of rubble graded across the property, but the feature has the potential to provide valuable information concerning the eighteenth-century occupation of the farm. Further archaeological investigation is also recommended for the concentration of architectural rubble and domestic refuse observed in Stratum II of STP N520 E580 and TU N520 E579. The 1963 As-Built map for the property, as well as photodocumentation conducted in 1980, clearly illustrates the presence of a series of small, mid-twentieth-century outbuildings along the northeastern end of the house lot. In addition, an 1866 fire insurance policy lists several types of outbuildings on the property, while a 1937 aerial photograph illustrates a possible barn at the very northeastern end of the house lot. All of these sources indicate that the northern section of Area 6 supports moderate to high potential for mid-nineteenth through mid-twentieth-century outbuildings. This deposit identified in STP N520 E580 and TU N520 E579 represents architectural refuse associated with the demolition of agricultural outbuildings on the farm, as well as domestic refuse from the occupants of the farm, distributed by historic and modern plowing, and is likely associated with the architectural and domestic artifact assemblage identified in Area 2. The potential exists for the northern section of Area 6 to contain intact subsurface deposits and features associated with mid-nineteenth through mid-twentieth-century outbuildings and farmstead activity areas.

The southern section of Area 6 yielded a dearth of architectural and domestic debris, as well as one prehistoric artifact, distributed by plow activities, and no features or soil anomalies. Historic aerial photographs indicate that the southern section of Area 6 was comprised of plowed field at least since the early twentieth century, with no evidence of outbuildings present in this area. No further testing is required in the southern section of Area 6.

6.6 Areas 7 and 8

The architectural and domestic refuse identified in two concentrations in Area 7 and the tile fragments along the farm pond are associated with late nineteenth- through mid-twentieth-century agricultural use of the property, previously recorded as 7K-F-163B. As noted previously

discussed in Section 5.2, the 1937 aerial photograph of the project area shows the Soulie Gray House (Building A), a rectangular structure to the east of the house (Building B), and a second rectangular building situated to the northeast of the Soulie Gray House (Building C), all connected by a series of dirt roads (Figure 26). The 1954 photograph illustrates a third, smaller structure (Building D), possibly a pumping station, added to the complex near the headwaters of the pond (Figure 27). By 1992, Buildings C and D were demolished (Figure 29), with Buildings A and B razed by 2002 (Figure 30).

Based on the information presented in the aerial images, the 30.0-meter square area of architectural and domestic debris surrounding and including STP N580 E580 represents refuse associated with the Building C. Building C is interpreted as a barn based on the size of the structure as depicted in the aerial photographs and the information presented on the 1956 USGS topographic map of the project area. This structure was demolished between 1961 and 1992 and the terrain incorporated into crop land, dispersing the artifact collection over the field. The recovery of cut (n=15), wire (n=10), and unidentifiable (n=7) nails in the artifact assemblage, combined with the presence of the building on a 1937 aerial photograph, suggests a mid- to late-nineteenth- through early twentieth-century date of construction for Building C, possibly corresponding to one of the barns listed on the 1866 fire insurance policy of John West. Domestic refuse collected from this resource, consisting of a very small number of late-eighteenth- through late-nineteenth-century Jackfield redware (n=1), pearlware (n=1), and eroded redware (n=1) sherds, a few early nineteenth- through twentieth-century whiteware (n=5), and numerous amber and colorless bottles glass fragments, reflect a contemporaneous date as suggested for the construction date of the barn.

The distribution of the artifact assemblage suggests that plowing and tilling of the field after the demolition of the building significantly impacted preservation of any subsurface deposits. The first 10.0 centimeters of the E-horizon in STP N580 E580 produced examples of cut (n=2), wire (2), and unidentifiable (n=1) nails, amber (n=1) and colorless (n=1) bottle glass, and one corroded metal fragment, while the remainder of the artifact assemblage was recovered from the plowzone horizon. Analysis of the artifact classes did not reveal any patterns that would suggest

the location of middens or building footprints, rather the artifact classes were evenly distributed throughout the concentration.

The small scatter of architectural and domestic refuse recorded in the plowzone horizon of STPs N540 E620, N550 E610, and N550 E600 is a continuation of the architectural and domestic artifact scatter recorded in Area 2. The collection of archaeological materials illustrates a mix of brick fragments, fasteners, bottle glass, and other debris from the farmstead. No evidence of remains associated with Building D, the possible pump house, was recovered during the Phase I survey. The small size and function of the structure suggests that it would have been a temporary building and not have left much of an impact in the ground.

A 20.0-meter by 40.0-meter area of lithic debris recorded in the southeastern corner of Area 7 is recommended for additional archaeological investigation. A new site number was not given for this resource, as the lithic concentration is located with an existing site, 7K-F-163B. The predominance of jasper in the primary (n=9), secondary (n=8), and tertiary (n=6) flake assemblage followed by chert secondary (n=2) and tertiary (n=2) flakes, and quartz secondary (n=1) and tertiary (n=1) flakes, reflects artifact types consistent with a small stone tool production activity area. No evidence of carbon, fire-reddened earth, or FCR was recovered from the soils in this artifact concentration, suggesting that the resource comprises an isolated lithic acquisition site utilizing local water-worn gravels readily obtainable on the ground's surface. Further archaeological excavations would be necessary to better define the spatial limits of the resource, assess the relationship between the E-horizon to the artifact counts, and document the presence of isolated, discrete chipping features within the larger concentration.