

4.0 Research Design and Methods

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4.1 Research Design

The purpose of the Phase I survey was to identify archaeological deposits associated with 7K-C-73, and the purpose of the Phase II study was to evaluate the NR eligibility of 7K-C-73, including any portion of the site that might be identified in the additional Phase I survey. More specifically, the goals for the Phase II work were to evaluate the potential of the archaeological-bearing deposits at the site to contain significant historical information, to determine the integrity and spatial extents of those deposits, and to discover the range of human activities that may have occurred at the site. This required supplemental archival collections research, fieldwork, laboratory work, and artifact analyses. This section presents the research plan and field and laboratory methods.

A.D. Marble & Company conducted the investigations in light of the *A Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1983). The project area falls within the Mid-Drainage Management Unit of the plan. The evidence recovered from 7K-C-73 shows that its occupations date to the Late Archaic and Woodland I periods. Based on the management plan, probability was considered moderate for finding Archaic period sites and considered high for finding Woodland I period sites. Sites within the unit that are attributed to the Late Archaic and Woodland I periods contain high significant site potential and are pressured by development on the edges of Dover (Custer 1983, 1986). Based on the local precontact archaeological site information documenting three nearby Woodland I sites, the likelihood of identifying sites attributed to the Woodland I period was considered high. The paucity of nearby Archaic period sites or components suggested that the chance of encountering an Archaic period site or component may be low. The likelihood of re-identifying 7K-C-73 (previously only attributed to the Woodland I period) was considered to be very high.

NR evaluations involved three main elements: significance, integrity, and horizontal and vertical extents (boundaries). Heite and Blume (1995:18-19) note that Custer et al. (1984, 1986) constructed a framework for evaluating sites in the nearby SR 1 corridor. The framework is applicable to the West Dover Connector context. Significance, in descending order, was defined

as: 1) all unplowed sites, regardless of type or period of occupation (high); 2) Late Paleoindian and Archaic sites that have undergone plowing but are otherwise undisturbed (high); 3) plowed base camps of all time periods (high); 4) plowed sites that are associated with bay/basin features and are not procurement sites (moderate); 5) plowed, disturbed, and eroded sites of all types (low); and 6) plowed procurement sites (low). At this time, based on knowledge generated by the 2012 Phase I survey, the site was known to be plowed and somewhat disturbed by utilities and appeared to be a resource procurement site/waypoint.

The ranking above corresponds to archaeological integrity of a site. Archaeological integrity can be characterized as the actual physical potential of a site to yield significant data about the past. Sites typically contain archaeological deposits that have been compromised (disturbed) to some degree. However, the more a site has been disturbed, the less its archaeological integrity due to its loss of stratigraphic and temporal character. Broad horizontal and vertical exposures via the Phase II TU excavations at 7K-C-73 provided information to assess site integrity and thus its potential to yield important information for reconstructing the occupation at the site. Implicit to this discussion is the research value of a site (Heite and Blume 1995). Site value may be assessed in its actual ability to address research issues, such as how internal site structure changed over time, the relationships between depositional contexts and site use, the relationship between ecological change and use of the site, how people employed lithic (and other) resources at the site, site function, and more broadly how a site fits within the history of Delmarva and the Mid-Atlantic. These investigations shed light on the significance, integrity, physical extents, and value of 7K-C-73.

4.2 Background Research

A.D. Marble & Company supplemented the background research already completed for the project, and to this end, the principal investigator met with Chuck Fithian of the Delaware State Museum to examine the artifact assemblage that was previously collected from 7K-C-73 in 1976 when the site was first identified. The principal investigator reviewed the collection and prepared a basic inventory of the previously collected site assemblage and compared it to the site assemblage recovered during the 2012 Phase I investigation that re-identified the site. The principal investigator then discussed the results of the review with DelDOT archaeology staff to

confirm the appropriateness of the additional Phase I and Phase II investigation methods. The results of the assemblage review are presented in the following section.

4.3 Field Methods

A.D. Marble & Company performed additional Phase I testing in the portion of the recently expanded portion of the APE that borders the east and west sides of 7K-C-73. Testing was conducted via 50-foot interval shovel test pit (STP) excavations. STPs measured approximately 1.5 foot in diameter and were excavated at least 4 inches into culturally sterile deposits. All excavated sediments were sifted through 0.25-inch wire mesh cloth. Excavation data from all STPs was recorded on standard field forms, and all artifacts were recovered for processing and analysis. A.D. Marble & Company did not conduct Phase I fieldwork in overtly disturbed areas inside the APE. Approximately 2.5 acres underwent shovel testing. A.D. Marble & Company excavated 54 STPs during the investigation. The locations of the STPs were recorded on scale maps.

Prior to the additional investigation at 7K-C-73, the horizontal extent of the site measured approximately 1.5 acre, and its artifact-rich core measured approximately 0.25 acre. The site area expanded slightly to the east based on the results of the additional Phase I work. In fact, the site core expanded slightly to the east as a result. Phase II evaluation took place in the site core. The goal of the Phase II fieldwork was to generate information that would evaluate the NR eligibility of 7K-C-73. The fieldwork further sampled the material assemblage associated with the site, determined if subsurface features (e.g., storage pits, hearths, postholes, etc.) were present, and clarified the functional and spatial nature of the site.

A.D. Marble & Company excavated 22 1-meter-by-1-meter TUs that were placed systematically on a 10-meter grid in the core of the site. All TUs were excavated by individual strata to a point at least 10 centimeters into culturally sterile subsoil. Soil removed from units was screened through 0.25-inch hardware cloth to ensure the uniform recovery of cultural materials, and recovered artifacts were retained in bags that were labeled with provenience information. Standardized forms were used to record data relating to depth of strata, soil Munsell color and

texture, and artifact content for each TU. One TU was excavated deeply (~1.2 meter) to determine the presence of any buried paleosols at the site.

4.4 Laboratory Methods

All artifacts recovered during the investigation were washed, inventoried, cataloged, and prepared for curation following the curation standards of the Delaware State Museum. Artifacts recovered during the survey were analyzed according to their relevant attributes and were characterized as to their type, function, period of attribution, and diagnostic features. Various sources were consulted for identifying the historic materials; these included works by Noël Hume (1969, 2001), Jones et al. (1989), Miller (1980), and South (1977). Works by Custer (1989, 2001) and Fogelman (1988) were consulted to identify the precontact materials. Analyses of the field findings included basic numeric and qualitative assessments of the artifacts to evaluate the nature of the artifact assemblages and their depositional contexts. The goal of these analyses was to determine the integrity of the archaeological deposits and to determine their potential to provide new and significant historical information.