SUMMARY AND EVALUATION

The Warwick Site (18CE371) is a small, low-density, near-surface concentration of Late Archaic to Early Woodland lithic material near the headwaters of the Sassafras River, on a landform near the drainage divide between the Chesapeake Bay and the Delaware River. Phase I survey associated with proposed improvements to U.S. 301 resulted in the identification of the Warwick Site. Phase II evaluation collected lithics primarily from the the plowzone and upper subsoil, though one possible pit feature that contained four microdebitage fragments and piece of charred wood was reported. The MHT, in consultation with DelDOT, determined the Warwick Site eligible for listing in the NRHP under Criterion D for its ability to reveal information about the prehistory of the northern Delmarva Peninsula.

Summary of the Phase III Data Recovery

The Phase III archaeological investigation built upon the Phase II evaluation by expanding the excavation to create a large block, collecting a range of data on spatial variation in the distribution of artifacts and ecofacts, and by examining the history of landscape alteration at the site. To search for cultural features, the topsoil was removed prior to further excavation and the surface of the subsoil cleaned and examined; none were discovered.

Archaeological surveys in northern Delmarva Peninsula and the broader circum-Chesapeake Region often encounter small near-surface sites dating to the Late Archaic and Early Woodland. Interpretations of such sites, particularly those conducted at the Phase I and Phase II levels, seldom extend beyond establishing an occupation date based on diagnostic artifacts and classifying the site by reference to commonly used settlement types. Phase III excavation and analysis attempted to provide a richer interpretation of the Warwick Site by examining the artifacts and site structure in detail, and by comparing the Warwick Site with a sample of the Phase III excavations of Late Archaic-Early Woodland/Woodland I sites in the northern Delmarva Peninsula. The analysis: 1) confirmed the probable date of the occupation as circa 5000–3000 B.P.; 2) documented the reliance on small cobbles, primarily cryptocrystalline materials, for tool production; 3) indicated that initial bipolar cobble reduction occurred elsewhere, while finishing and sharpening as well as use of flake tools occurred on site; 4) identified two distinct activity areas, one defined by a high density of microscopic and macroscopic debitage and the other by the greater density of fire-cracked rock and potassium; 5) revealed the existence of abandonment-phase refuse and toss-zone refuse within the debitage concentration through comparison with soil chemistry data; 6) recovered the largest floral assemblage from a Late Archaic site in Coastal Maryland, suggesting that floatation of plow-zone and other non-feature samples might provide an important context for the interpretation of samples from features as well as potentially providing information about formation processes and past land-management practices at a regional scale; 7) suggested, based on the metrics of stemmed points, that the bow-and-arrow perhaps appeared in the archaeological record prior to the Late Woodland; 8) examined fracture patterns and use wear to document multiple uses of projectile points, to record damage from hafts and

tool-use, and to identify a point that appeared to have been repurposed to create a hafted tool used to gather or process plants; 9) used viewshed and least-cost-path analysis to situate the site within the local cultural landscape; 10) documented the variation in assemblages, and by implication, the duration and intensity of occupation at short-term Late Archaic-Early Woodland sites in the northern Delmarva Peninsula; and 11) highlighted the critical importance of regional studes for archaeological interpretation.

Evaluation of the Research Design and Methods

The Phase III fieldwork and analysis, to a considerable extent, recapitualated the results of the analysis of the Phase II excavation data: artifacts occurred primarily in the plowzone and uppermost portion of the B1 horizon; late-stage debitage formed the majority of the assemblage; and stemmed points, primarily the Lamoka type, provided the sole basis for assigning the site to the Late Archaic and, perhaps, the Early Woodland period(s). Likewise, the ratio of debitage to FCR to tools remained relatively consistant in the Phase II and III assemblages, approximately 8 to 2 to less than 1. The focus of the excavation on the site core confirmed the estimated site size and artifact density patterns implied by the results of the Phase II excavation, but recovered no cultural features associated with the prehistoric occupation of the Warwick Site, leaving the interpretation of the possible feature identified during the Phase II excavation ambiguous. The major contributions of the Phase III fieldwork resulted from: the collection of information on spatial variation in microdebitage; the recovery of ethnobotanical data; the detailed analysis of the macroscopic artifacts, including use-wear analysis; and the use of GIS-based least-cost and viewshed analysis and comparative data on regional site distributions and artifact assemblages to situate the site within the regional cultural and natural landscape.

The results of the Phase III study suggest that an alternative approach to mitigation may have proved more fruitful. Ideally, the alternative would collect data to evaluate the representativeness of the Phase II sample as well as gathering the most informative classes of data collected during the Phase III excavation, while also addressing regional data in greater detail. Systematic recovery of microscopic artifacts and samples for flotation and an assessment of soil chemistry appears to have been warrented, as does the search for intact cultural features.

As Cowgill (1979:265) points out, no sampling strategy guarantees a representative sample. Nevertheless, probability theory, simulation studies, and empirical sampling experiments indicate that small, spatially dispersed, randomly selected sample units provide the best estimates of the artifact content of a given site (e.g., Ammerman et al. 1978; Read 1979). In Redman's (1979:151) words, "[b]y definition, sampling units are most effective if they are small and scattered." The excavation of 50-x-50 centimeter (19.5-x-19.5 in) units spaced at 10-meter (32.8-ft) intervals, for example, should produce a more controlled sample than typically collected during Phase I shovel testing, provide the opportunity to collect information unavailable from the Phase II work, and assess potential biases in the assemblage recovered during the Phase I and II fieldwork. Analyses of random sample of the small excavation units, perhaps using a resampling

approach, would provide an unbiased estimate of the expected composition of the assemblage (i.e., the mean of sample means) for comparison with the previously collected assemblage; the larger sample size provided by all the 50-x-50 centimeter (19.5-x-19.5 in) units would increase the absolute size of the artifact sample, thereby raising the probabability that rare artifacts, those that occur an low-denisties or were deposited along the margins of the site, would be unearthed (e.g., secondary refuse or materials associated with hunting rituals). In addition, the systematic excavation of small, controlled units could provide more replicable information on overall structure of the site than do the Phase I STPs, and cores extracted from the within or adjacent to the walls of the small units potentially provide samples for the collection of microdebitage, ethnobotanical samples, and soil for chemical analysis.

At that point, the relative contribution to knowledge of the past presented by further excavation of test units versus mechanical stripping of the plowzone to search for intact cultural features accompanied by more extensive collection and analysis of regional data could be assessed. Archaeologists generally value data recovered from cultural features and undisturbed, short-term living surfaces, which typically accumulated over relatively brief periods of time, over data from contexts like plowzones and other deposits that accumulated at varying rates of longer periods of time. Identification of activity areas, intact cultural features, and living surfaces genrally requires exposure of larger blocks, at least 2-x-2 meters (6.6-x-6.6 ft) in size (cf. also.Binford 1983b:160; O'Connell 1987; Simms and Heath 1990). The results of the Phase III excavation at the Warwick Site suggests that the Phase I and II fieldwork provided a solid basis for estimating site structure, the date of the site, the potential presence of cultural features, the relative frequency of different artifact classes present, and the probability of encountering different categories of archaeological data. Unfortunately, the interpretion of the possible feature uncovered during the Phase II excavation remains unclear. Therefore, the identification of cultural features would have contributed more to the understanding of site structure, chronology, and function than the collection of a much larger sample of artifacts from near-surface contexts. At the Warwick Site, more limited Phase III sampling that evaluated and built upon the results of the Phase I and II excavation, combined with mechanical removal of the plowzone to search for cultural features, would have provided similar information at far less cost while increasing the probability of discovering features, which typically occur at relatively low densities when present in upland settings. In addition, this approach would have left funding available for a more extensive analysis of regional patterns.

Important regional data sets that potentially improve the value of information collected during the excavaton of the Warwick Site include: archaeobotanical and artifact assemblages from previously excavated cultural features, living surfaces, and less secure contexts, incorporation of metric data or reanalysis of projectile point assemblages from a greater regional and temporal range and secure contexts; the creation of a regional data base for the analysis of sites and assemblages in the northern Delmarva Peninsula; expansion of the GIS-based analysis to identify least-cost paths in relation to known sites throughout the region; and an assessment of the viewshed from a range of site types in the northern Delmarva Peninsula.

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