

I. INTRODUCTION

A. Project Description and Location

The Delaware Department of Transportation (DelDOT), Division of Highways, is proposing completion of the dualization of a 6.3 mile stretch of State Route 896 (SR 896), from Summit Bridge to Route 4, Chestnut Hill Road, north of Interstate 95. The area lies south of Newark, in New Castle County, along the northern edge of the Coastal Plain physiographic province (Figure 1-1). As mandated by federal and state regulations, the proposed highway widening project was subjected to cultural resources investigations, including architectural and archaeological studies (Bowers 1987; Lothrop et al. 1987; Watson and Riley 1994). Subsequently, several areas remained to be investigated, including two stormwater management areas and the Iron Hill East site (7NC-D-108). The Cultural Resources Division of Parsons Engineering Science, Inc., was contracted to conduct the remaining Phase I survey and Phase II evaluative testing.

Phase I survey was conducted at the two proposed stormwater management areas, located approximately one-half mile north of Glasgow. Phase II evaluative testing was conducted at Iron Hill East (7NC-D-108), located south of the SR 896 / I-95 Interchange. Fieldwork was conducted in May, 1994. This report summarizes previous work conducted at these locations and presents all information acquired during the current Phase I and II investigations.

The SR 896 cultural resource investigations were conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The archaeological investigations were carried out in accordance with the standards of the Advisory Council on Historic Preservation, and the National Park Service (36CFR800; 36CFR66). All work was conducted under the "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation" (48 FR 44716-44742). The work also conformed to the standards of the Delaware State Historic Preservation Office, as

dehydrate to hematite if heated, turning the material brick red in color (Leavens 1979). The jasper often contains veins of goethite, quartz, manganese oxide, and opal in its matrix.

The jasper varies in texture, from cryptocrystalline to microcrystalline (Custer et al. 1986a). The cryptocrystalline jasper is extremely smooth with a fine sandy abrasiveness, sometimes exhibiting a waxy texture, and varying from yellow to dark brown in color. When found in mass, this form of jasper displays a good conchoidal fracture and thus represents an excellent lithic tool manufacturing resource. The microcrystalline jasper is rough, with a characteristic sandy abrasiveness, often very weathered, and exhibits a very poor conchoidal fracture. Preliminary chemical characterization studies have been performed on materials from the formation, which have indicated that lithic material from Iron Hill may be distinguished from sources to the north in the Delaware River Valley, and farther west in Pennsylvania and Virginia (Blackman 1976; Hatch and Miller 1985; Vidal 1988; Stevenson et al. 1990). Thus there is potential to map the regional distribution of lithics from Iron Hill, and subsequently, determine transportation/exchange routes and distances from sources.

Soils in the region fall into the Sassafras-Fallsingham-Matapeake association. These soils are described as level to gently rolling upland soils, medium to moderately coarse-textured, and containing both well-drained and poorly drained components (Matthews and Lavoie 1970). The characteristics of each specific soil series are described in association with the areas investigated.

C. Flora and Fauna

The Piedmont/Fall Line and High Coastal Plain zones of Delmarva lie within the Oak-Chestnut Forest Region as defined by Braun (1950:192). This community typically contains a variety of oak, poplar, beech, chestnut, hickory, maple, ash, cherry, elm, walnut, and butternut. Forests of this makeup are found in gently sloping areas. In

outlined in the *Guidelines for Architectural and Archaeological Surveys in Delaware* (1993). Several reports were used as guides to address historic contexts, including *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989), *A Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1986), *A Management Plan for the Prehistoric Archaeological Resources of Northern Delaware* (Custer and DeSantis 1986), and *Management Plan for Delaware's Historical Archaeological Resources* (DeCunzo and Catts 1990a).

In compliance with the Code of Federal Regulations (36 CFR Part 61), staff members were chosen who met the professional qualifications in archaeology. Michael D. Petraglia, Ph.D., served as Principal Investigator, Dennis Knepper served as Field Supervisor, and Jim Skocik served as Crew Chief. A complete listing of personnel is included in Appendix A.

B. Report Organization

This Phase I and II report is divided into nine sections and four appendices. Following this introductory section, Section II presents background material describing the environmental setting, discussing both current physiography as well as paleoenvironmental conditions. Section III presents the prehistoric background of the project area, with particular relevance towards understanding the nature of aboriginal occupations in the Coastal Plain of Delaware. Section III also includes a survey of the historic period background of the area. Section IV reviews previous archaeological research in the vicinity of the project area. Section V presents the research design for the archaeological investigation. Section VI summarizes the field and laboratory methods used during the Phase I survey and Phase II testing program. The findings of the Phase I survey at the stormwater management ponds are presented in Section VII. The findings of Phase II testing at Iron Hill East are presented in Section VIII. Section IX consists of general conclusions and recommendations. Appendices A-D consist of a list of

personnel, a glossary of archaeological terms, database abbreviations, and a complete inventory of all artifacts from the project areas.