CHAPTER 2

GEOGRAPHIC AND PREHISTORIC BACKGROUND

A. GEOGRAPHIC SETTING

The roughly 4.5 miles of Section 2 (Yellow) lie in the Inland Plain of the Coastal Plain Province (Figure 2.1). The underlying geology is primarily composed of the early- to mid-Pleistocene Columbia Formation, composed of braided stream deposits whose potential cultural significance lies in their inclusion of gravel bars containing cobbles and pebbles of value for the production of lithic tools by prehistoric populations. Section 2 is a gently undulating plateau, generally between 60 and 75 feet above sea level, forming the mid-peninsula drainage divide between the Chesapeake and Delaware Bays.

Soils in Section 2 are predominantly of the well-drained Matapeake-Sassafras Association, specifically Matapeake silt loams (Me-, Mk- and Ms-), with small areas of Sassafras sandy loams (Sa-) (Federal Highway Administration and Delaware Department of Transportation 2007: Figures III-14 and III-15). The valley bottoms are mapped as poorly drained Johnston Loam (Jo), a soil comprised of alluvial deposits and organic materials (Matthews and Lavoie 1970). In an unmodified state, the Matapeake soils supported a mixed hardwood forest under recent climate conditions. The slightly drier Sassafras sandy loams also support Virginia and shortleaf pine (Matthews and Lavoie 1970). In the geoarchaeological investigation area just west of the Section 2 alignment it was found that plateau soils have been repeatedly plowed, disturbed and deflated. Draws and other low-lying areas contain colluvial sediments that are primarily the product of deposition from historic cultivation (Hayes 2009).

B. THE MID-PENINSULA DIVIDE: PREHISTORIC CONTEXT

A.D. Marble & Company (2006) provides the most recent overview of the prehistory of the Delmarva Peninsula as a whole. This overview benefits from the substantial body of original and synthetic work pioneered by Custer (Custer 1989, 1994, and references there cited), and the reports and syntheses that have resulted from large-scale investigations of prehistoric sites sponsored by the Delaware Department of Transportation.

Cultural and chronological schemes in use in Delaware prehistoric studies are summarized in Figure 2.2. Many archaeologists in Delaware, and the state planning documents, have adopted Custer's periodization of prehistory which collapses the Late Archaic and Early and Middle Woodland into a Woodland I period, renames the Late Woodland period "Woodland II," and includes the Early Archaic in the Paleo-Indian period. Although this scheme is now being seen as in need of some re-evaluation as research into Delaware's prehistory continues (*e.g.* Louis Berger Group 2005:12-13), it continues to provide a standard organizing model.

Prominent among the major site studies are those of the Carey Farm (7K-D-3) and Island Farm (7K-C-13) Sites (Custer, Watson and Silber 1996); Hickory Bluff (Petraglia, Bupp, Fitzell and Cunningham 2002) the Leipsic Site (7K-C-194A. Custer, Riley and Mellin 1994); Lums Pond (7NC-F-18. Petralgia et al. 1998); Pollack (7K-C-203. Custer, Hoseth, Silber, Grettler and Mellin 1995); and Puncheon Run (Louis Berger Group 2005). Data from these and other Kent County drainage sites are summarized in Louis Berger Group

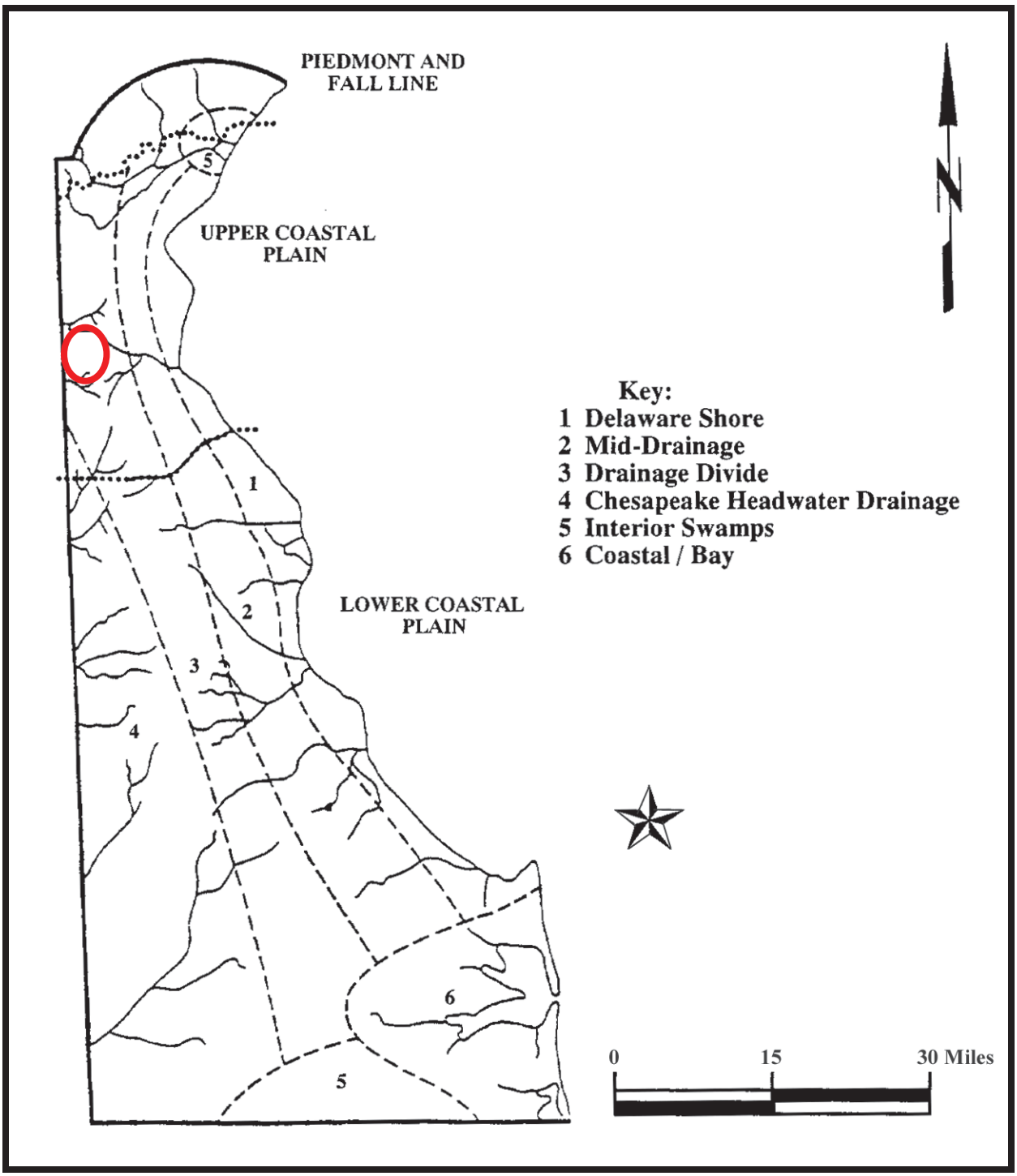

Figure 2.1. Physiographic Map of Delaware Showing the Location of Section 2 of the U.S. 301 Selected Alternative.

TABLE 1: DELAWARE AND REGIONAL CHRONOLOGIES

Uncalibrated Dates	Regional Period Name	Delaware Period	Delaware Cultural Complex
12,000[1] to 8000 BC	Paleoindian	Paleoindian	no complex
8000[2] to 6500 BC	Early Archaic	Paleoindian	no complex
6500 to 3000 BC	Middle Archaic	Archaic	no complex
3000 to 1000 BC	Late Archaic	Woodland I	Barker's Landing[3] 3000 to 500 BC (Clyde Farm in Piedmont/Fall Line)
1000 to 300 BC	Early Woodland	Woodland I	Delmarva Adena (500 to 1 BC) (Wolfe Neck in Low Coastal Plain and Black Rock I in Piedmont/Fall Line)
300 BC to AD 1000	Middle Woodland	Woodland I	Carey (1 BC to AD 600) (Black Rock II in Piedmont/Fall Line))
			Webb (AD 600 to 1000) (Delaware Park in Piedmont/Fall Line)
AD 1000 to 1500	Late Woodland	Woodland II	Slaughter Creek (AD 1000 to 1500)

[1] Apart from ambiguous and disputed early dates from Meadowcroft Rockshelter in western Pennsylvania and Cactus Hill in southeastern Virginia, there is no evidence of pre-Clovis human occupation of the eastern United States. Across North America, Clovis sites date to ca. 11,000 rcbp (radiocarbon years before present), i.e., 13,000 cal BP (calendar years before present) or 11,000 cal BC (calendar years before Christ or Common Era).

[2] Calendric or calibrated equivalents: 8000 BC=9500 cal BC; 6500 BC=7600 cal BC; 3000 BC=3800 cal BC; 1000 BC=1300 cal BC

[3] Custer et al. (1996) now divide the Barker's Landing complex into three periods based upon projectile point type frequencies: I, 3000-2000 BC; II, 2000-1200 BC; III, 1200-700 BC.

Figure 2.2. Regional Chronologies and Cultural Complexes in Delaware. (Source: Louis Berger Group 2005: Table 1).

2005 (18-35), and a synthesis is also presented in the study of McClements Tract in Dover (Hunter Research, Inc. 2006: 1-1 through 1-11). Among other relevant studies in the area are the Augustine Creek Sites [7NC-G-144 and 7NC-G-145] (Louis Berger & Associates, Inc. 2001); Drawyer Creek South [7NC-G-143] (Louis Berger Group, Inc 2001; the Snapp Site [7NC-G-101] (Custer and Silber 1995); the Sandom Branch Complex [7NC-J-227 and 228] (Bowen and Knepper 2003), and the Whitby Branch Site [7NC-G-151] (Louis Berger & Associates Inc. 2001)

These sites chiefly lie in Mid-Drainage or Delaware Shore locations on drainages in Kent and New Castle Counties. The exception is Lums Pond, by far the best-documented prehistoric site on the Mid-Peninsula Divide, and one of the most intensively studied prehistoric sites in the state (Petralgia et al. 1998).

Custer (1989:29) draws attention to the headwaters, swamps and bay-basin features that create what he characterizes as a "mosaic" of edaphic (meaning soil- rather than climate-determined) vegetational settings in the Divide. While this may be true in portions of the Divide to the south (Custer 1989: Figure 15), there are considerable areas along the selected alternative where a general lack of surface water resources and soil uniformity is more apparent. Aerial photography suggests the presence of possible periglacial features just outside the APE at Armstrong Corner Road, but otherwise evidence of these potentially important features is lacking (Demitroff and French 2001). Custer (1989:105-108) notes, however, that survey of bay-basin locations in southern New Castle County did not locate the predicted use of these locations by Paleo-Indian and earlier Archaic populations. Later Archaic bifurcate points around these features are interpreted as "short-lived hunting sites" (Custer 1989:134-135).

Much of the research on the upland environment of the Mid-Peninsula Divide has addressed cultural patterning in the Paleo-Indian and Archaic Periods because of the prevalence of finds of these periods in this setting. It is therefore likely that one research emphasis of the U.S. Route 301 project will be on these periods. The recent appearance of a collection of papers on the Archaic Period (Sassaman 2008) is therefore timely. Among the pertinent insights from these papers is Lovis' presentation of the idea of site-locale-landscape as "nested spatial research areas" and his questioning of the very concept of "site" as a unit of observation for Archaic archaeology (Sassaman 2008:27). Sassaman (2008:6-8) stresses the wide range of cultural expression hiding under the term "Archaic", and points out that both cultural and social complexity and the use of cultigens, both previously used as markers for Woodland cultures in eastern North America, can be found in contexts otherwise regarded as Archaic.

Since the pioneering study of Custer and Galasso (1980), it has been understood that the distribution of primary and secondary lithic resources in the Delmarva Peninsula influenced human behavior in prehistory. Because of the dominance of lithics in the archaeological record, a substantial body of research is now available on Delmarva lithic technology. Primary lithic resources are confined in Delaware to the jasper resources of Iron Hill and nearby areas (the Delaware Chalcedony Complex), and intentional quarry-related procurement and primary lithic processing sites are chiefly limited to that area. Ironstone resources in Cecil County, Maryland, have also been studied by Ward and Doms (1984), in the context of the Herring Island Site on the Elk River.

For the most part, the remaining lithic sources are secondary cobble materials found in the Columbia Formation and deposits derived from it. These lithic resources are composed of a wide variety of stone brought to the area from the north by ancestral river systems and glacial floodwaters. The unpredictable distribution and density of these deposits probably meant that lithic procurement would have been

"embedded" in other procurement activities in the Mid-Peninsula Divide, rather than being a specialized task (Custer and Galasso 1980:9).

C. PREHISTORY OF THE SECTION 2 VICINITY

Seven small prehistoric sites have been recorded within one mile of the Section 2 centerline. Locations of these sites are shown in Figure 2.3. Sites 3 through 7 were identified during the Choptank Road Survey (Kise Straw and Kolodner 2008: Appendix VII). These sites all consist of low density to very low-density plowzone scatters close to drainages and headwaters. Only one, 7NC-F-31 has a recorded diagnostic artifact: an Archaic or Woodland I stemmed point. 7NC-F-103 yielded fire-cracked rock in addition to debitage. Such archaeological expressions are of the type expected in these upland settings.

One probable Contact Period site has also been encountered during the background research for this report. This is a site near "Pipe Spring" on the Sandy Branch about 1.5 miles west of the Section 2 APE. In a deposition of May 1723, James Browning of Cecil County, Maryland, in describing the alignment of the Delaware Path (see Chapter 4) stated that about 40 years before (i.e. in the 1680s) this route:

went across the middlemost branch of the head of the Bohemia River near a place called the Pipe or Horn spring near which place the Indians used to set up their cabins sometimes and farther said that the Indians did sometime try their guns by shooting at marks made upon the trees some of which holes made by the Indians tommyhacks by cutting out the bullets still remain…(Quoted in Marye 1936:final page).

This passing reference throws light on the still archaeologically elusive Contact and early historic settlement phases in Delaware. These are the object of a continuing research focus in the State to which the U.S. Route 301 project may be expected to contribute.