

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The following technical report was submitted to the Delaware Department of Transportation (DelDOT) by Versar, Inc. (Versar), under Agreement 1539. The work herein involved Phase I archaeological identification survey of an approximately 24-acre parcel to determine the presence of archaeological sites and, if appropriate, to provide preliminary assessments of significance and potential for inclusion in the National Register of Historic Places (NRHP).

DelDOT desires to expand the Mid-County DMV at US 13 and SR 72, in New Castle County (Federal Aid No. CMAQ-2012(1), State Contract T201259401). The Area of Potential Effect (APE) for this investigation was defined by DelDOT based on the tax parcels upon which the project has the potential to directly or indirectly impact historic resources. The APE was confirmed by the Delaware State Historic Preservation Office (DE SHPO). Located in east/central New Castle County, approximately 3.5 miles east of Delaware City, the APE comprises a fallow field overtaken by Russian Olive that was in cultivation within the past 10 years bounded on the east by US 13, north by the DART facility access drive and parcel line, west by the tree line and bank down to Silver Run, and south by the parcel line (Figure 1-1).

The work described herein was performed in accordance with the requirements of the National Historic Preservation Act of 1966 (specifically Section 106), the Advisory Council's Guidelines set forth in 36CFR800 for the Protection of Historical and Cultural Properties, the Delaware State Management Plans for Historic (De Cunzo and Catts 1990) and Prehistoric Resources (Custer 1986), and the Guidelines for Architectural and Archaeological Surveys in Delaware (1993).

1.2 LOCATION AND SETTING

The APE comprises almost 23.96 acres, 3.57 of which are utilized by the county as a yard waste demonstration site (Figure 1-2). Due to logistical challenges resulting from extensive yard waste dumping, it was determined in advance that this almost 4 acre facility would not be tested. The testable 20.5-acre project area was farmed historically and was in cultivation within the past 10 years. Since this time, however; invasive Russian Olive had taken over the field. This extremely dense, thorny shrub/small tree is quick to mature and can quickly overrun native vegetation (Muzik and Swearingen n.d.). As such, DelDOT had the field mulched using a GeoBoy tracked mulcher in the fall of 2011 in preparation for archaeological survey. Due the remnant thick woody debris and intact root systems, however; the field could not be plowed. At the time of fieldwork, the project was covered with early successional species common to fallow agriculture fields on the mid-Atlantic including: a variety of grasses, clover, thistle, poison ivy, grapevine, Queen Anne's lace, goldenrod, and aster. The APE displays mild relief with low-lying areas along the unnamed, intermittent drainage that runs roughly parallel to the DART access road to its confluence with Silver Run.

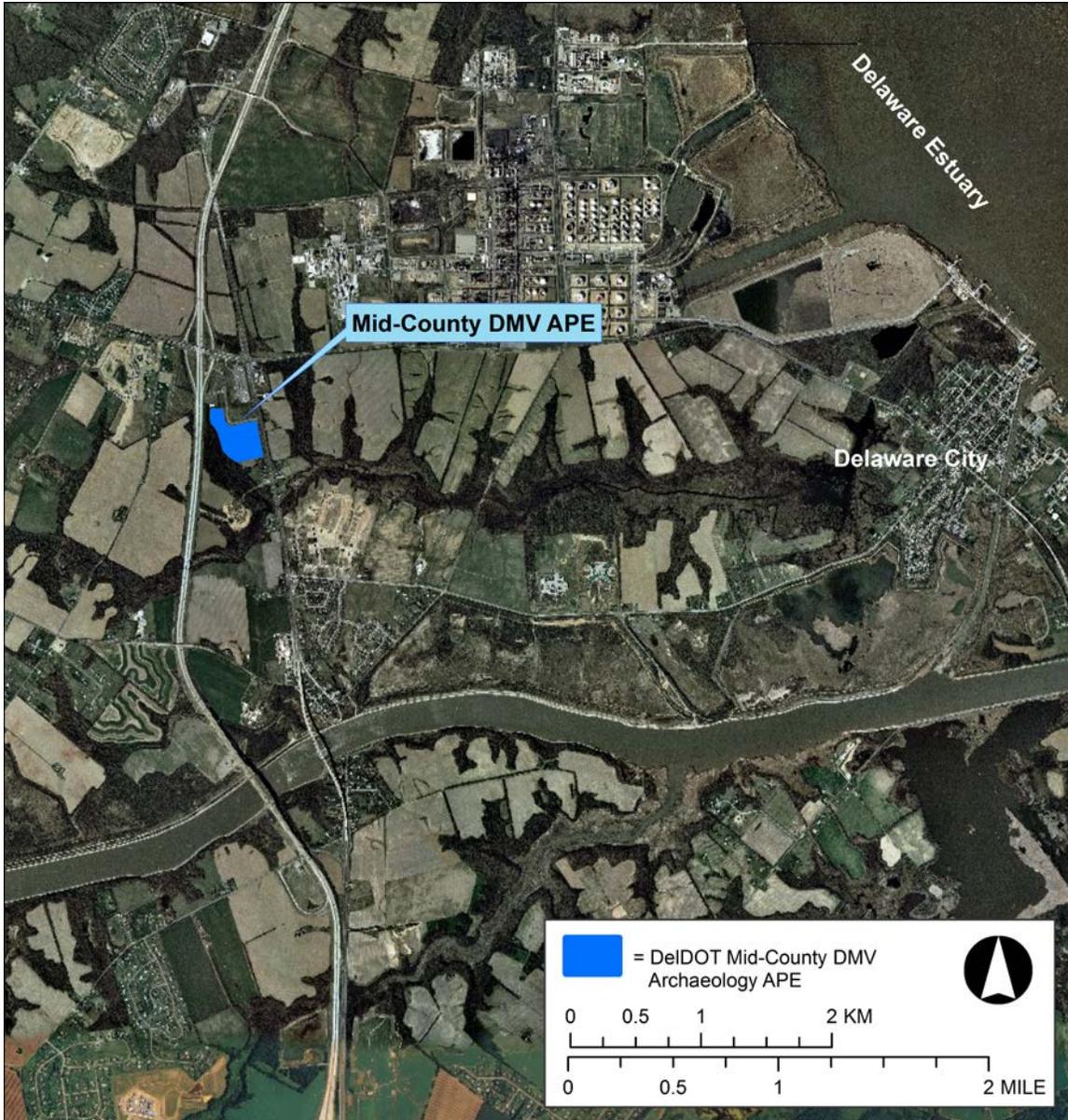


Figure 1-1: Location of the Area of Potential Effect.
(United States Geological Survey [USGS] 2010; Delaware DataMIL)



Figure 1-2: Area of Potential Effect Illustrated on Aerial Image with Reference to Yard Waste Demonstration Site and US 13 – South DuPont Highway.
 (USGS 2010; Delaware DataMIL)

1.3 PHYSICAL ENVIRONMENT

The APE lies within the Atlantic Coastal Plain physiographic province. The coastal plain exhibits level to gentle relief across New Castle County with elevations ranging from sea level to 100 feet (ft) above sea level (asl) (Matthews and Lavoie 1970). Elevations in the project area range from approximately 30 to 45 ft asl (Figure 1-3). Soils of the Matapeake and Reybold series are mapped within the project area. Matapeake silt loam, a deep, well-drained soil common throughout the coastal Plain of New Castle County, comprises the majority of the testable portions of the project area. Reybold silt loam is mapped running above and along Silver Run and its unnamed, intermittent

tributary (United States Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS], Web Soil Survey [WSS] 2012). Soils are underlain by the Pleistocene-aged Columbia Formation. The Columbia Formation is interpreted as a body of glacial outwash sediment deposited during middle Pleistocene and consists of feldspathic quartz sand with varying amounts of gravel. The gravel fraction consists of primarily quartz with lesser amounts of chert and clasts of a variety of material from Valley and Ridge and Piedmont are also present. The Columbia formation ranges from less than 10 ft to over 100 ft in thickness (Ramsey 2005).

New Castle County has a humid, continental climate with four distinct seasons – modified due to its proximity to the Atlantic Ocean as easterly winds raise temperatures in the winter and lower them in the summer (Matthews and Lavoie 1970). As recorded for nearby Bear, DE - average high temperatures in the summer stay in the mid-to-high 80s while average lows in the winter range from the mid-20s to mid-30s. Average precipitation stays fairly consistent and well distributed throughout the year ranging from 2.7 to 4.5 inches per month (2008 countrystudies.us).

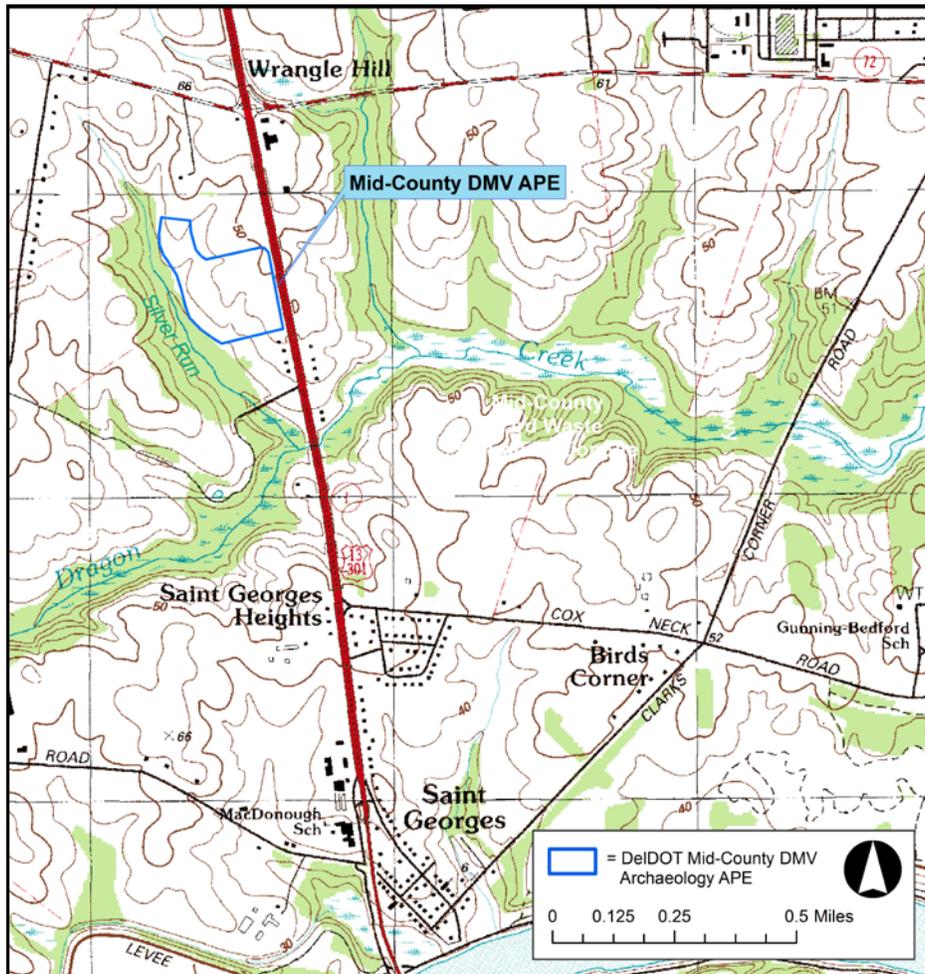


Figure 1-3: Area of Potential Effect Illustrating Topography (prior to the construction of State Route 1).

(USGS 1989; Geographic Information System [GIS] Data Depot)