PHASE I

ARCHAEOLOGICAL SURVEY AHEAD OF THE RECONSTRUCTION OF KY 111 – WYOMING ROAD, BATH COUNTY, KENTUCKY

KYTC ITEM # 9-193.00

By:

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Submitted by:

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Kentucky Office of State Archaeology Project Number:

FY16-8655

CDM Smith

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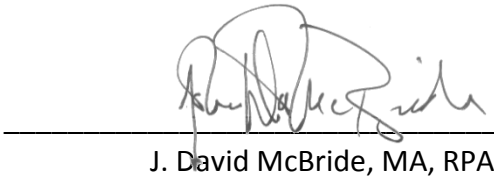

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Lead Federal Agency: Federal Highways Administration

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Archaeology Report

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Abstract

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from CDM Smith conducted a Phase I archaeological survey for reconstruction of KY 111 – Wyoming Road, in Bath County, Kentucky (Item Number 9-193.00). The area of potential effect (APE) consisted of 16 acres (6.5 ha) along KY 111. The APE was visited by a CDM Smith archaeology crew on November 24, 2015, at which time approximately 100 percent of the APE was either in pasture grasses or mowed lawns that offered zero ground surface visibility. The archaeological survey involved systematic shovel test excavation and visual inspection over the entire APE.

Three previously unrecorded archaeological sites, 15Bh293-15Bh295, were identified within the project bounds. None of the sites qualified for nomination to the National Register under Criterion D and no further work is recommended.

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Acknowledgements

The Principal Investigator for the archaeological survey was Mr. J. David McBride, RPA. Field crew consisted of J. David McBride, Robert Ball, Dona Daugherty, and Chris Rankin. Howard Beverly generated maps and formatted the report.

Section 1 -

Introduction

This report describes the field and laboratory method and the results of a Phase I archaeological survey conducted at the request of the Kentucky Transportation Cabinet (KYTC) by archaeologists from CDM Smith for the realignment of KY 111 (Wyoming Road) in Bath County, Kentucky (Item Number 9-193.00). Field work was conducted on November 24, 2015.

1.1 Project Sponsor and Regulatory Authority

The state agency sponsoring this survey is the KYTC; the lead federal agency is the Federal Highway Administration. The survey was conducted in compliance with the guidelines established by the Kentucky Heritage Council Guidelines (Sanders 2006) and the National Historic Preservation Act of 1966 (P.L. 89-655; 80 Stat. 915, 16 U.S.C. 470 et seq), the National Environmental Policy Act of 1969 (P.L. 910190; 83 Stat. 852, 42 U.S.C. 4321 et seq), Procedures of the Advisory Council on Historic Preservation (36CFR800), Executive Order 11593, and the Protection and Enhancement of the Cultural Environment (16 U.S.C. 470; supp. 1, 1971).

1.2 Purpose and Scope of Work

A Phase I archaeological survey was conducted for the realignment of KY 111 in Bath County, Kentucky (Item Number 9-193.00).

The archaeological surveyors were prepared to shovel probe areas of less than 15% slope, auger deeper soil deposits, and to visually inspect the entire area. The purpose of this work was to identify any archaeological resources which might have existed and to record their extent, significance, and the potential impact of the proposed project on these cultural resources.

1.3 Project Location and Description

This project is located along the KY 111 between STA 100+00 and STA 137+00 in Bath County, in the Kentucky Department of Highways District 9 (Figure 1-1). The project area involves the realignment of KY 111 (Figure 1-2 and Figure 1-3).

1.4 Area of Potential Effect (APE)

The area of potential effect (APE) is defined as the limits of the proposed right-of-way and proposed temporary construction easement. The total area is 16 acres (6.5 ha).

1.5 OSA Records Research

On November 16, 2015, the site files and survey records at the Office of State Archaeology (OSA) were accessed.

1.6 Principal Investigator

The principal investigator for the project was J. David McBride, MA, RPA.

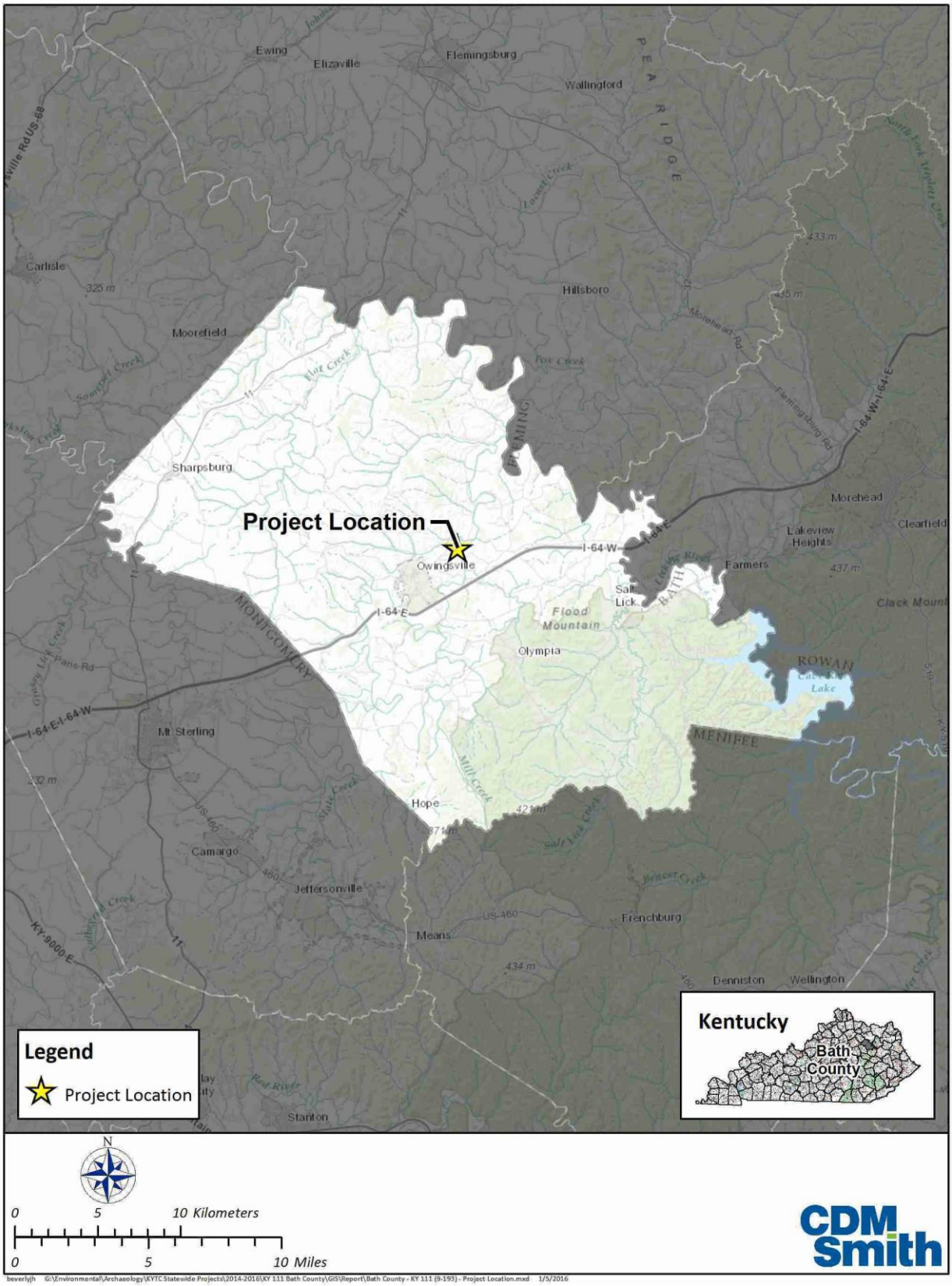

Figure 1-1. Project Location within Bath County.

Figure 1-2. USGS Topographical Map showing Project Location.

Figure 1-3. Aerial Map showing Project Location.

1.7 Field and Laboratory Crew

The field crew consisted of J. David McBride, Robert Ball, Dona Daugherty, and Chris Rankin. Mr. McBride served as the field director and planned, coordinated, and supervised all field activities. J. David McBride and Dona Daugherty prepared the final report, and J. Howard Beverly, Jr., prepared the maps and formatted the report. Laboratory analysis was coordinated by Dona Daugherty. Prehistoric and historic artifact analysis was conducted by J. David McBride.

1.7.1 Field Effort

The total number of hours expended during fieldwork was 36. Field work for the project was conducted on November 24, 2015.

1.7.2 Laboratory Effort

The total number of hours expended to wash, catalog, analyze, and write up artifacts was 35 hours. Identification of artifacts was conducted using available library references and by comparison with artifact collections at CDM Smith.

1.8 Maps and Figures

Maps and figures for this report were prepared using a combination of Microstation design files, GIS data overlays, and databases gathered from a number of different resources. Existing site information was provided by the Office of State Archaeology. Soil mapping was provided by United States Department of Agriculture online and printed resources. Landowner data and vegetation coverage were obtained from aerial photographs and field reconnaissance. All GIS work was conducted by J. Howard Beverly, MA, RPA.

1.9 Curation

All field notes, maps, forms, and artifacts will be curated at the University of Kentucky's curation facility, the William S. Webb Museum of Anthropology.

1.10 Summary of Investigations

A Phase I archaeological survey was conducted by archaeologists from CDM Smith at the request of the KYTC ahead of the proposed realignment of KY 111 in Bath County, Kentucky. The total APE measures 16 acres (6.5 ha). The survey identified three prehistoric archaeological sites. The sites were not eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D. Therefore, no additional work is recommended for these sites.

Section 2 -

Environmental

Aspects of the natural environment often influence the development of prehistoric and historic communities. In this section, the environmental background of Bath County and the surrounding region is reviewed. Environmental data includes physiography, geology, hydrology, soils, climate, flora, and fauna.

2.1 Physiography and Topography

Kentucky can be divided into five primary regions: the Cumberland Plateau (Eastern Coalfields) in the east, the north-central Bluegrass Region, the south-central and western Pennyroyal Plateau, the Western Coal Fields and the far-west Jackson Purchase. The Bluegrass Region is divided further into two regions - the Inner Bluegrass and the Outer Bluegrass.

Bath County lies within three physiographic regions of Kentucky (Figure 2-1), the Outer Bluegrass, the Knobs, and the Eastern Coalfields. The topography of the county area is hilly with steep hillsides and undulating to rolling ridgetops (Richardson et al 1982).

2.2 Geology

The geology underlying the project area consists of strata deriving from the Upper Ordovician and the Pleistocene and Holocene (Figure 2-2 and Figure 2-3).

The Outer Bluegrass Physiographic Region is underlined by Upper Ordovician rocks. This layer consists of interbedded fossiliferous limestone or dolomite and shale. The shale dominates some parts of the section, and limestone or dolomite in other parts (McDowell 1984). Rocks of Upper Ordovician were deposited in tropical latitudes in shallow marine water on a shelf that sloped gently northward (McDowell 1984). The project area is underlain by Lexington Limestone (Blade 1978).

The Pleistocene and Holocene rocks consist of Alluvium. Most Alluvium is Holocene, but some is late Pleistocene in origin (McDowell 1984).

2.3 Hydrology

Bath County is drained by the Licking River which is located in the northern part of the county and Hinkston Creek on the western part of the county. The Project Area is located within the Licking River watershed. The project area is drained by the Slate Creek. Slate Creek flows into the Licking River (Figure 2-4).

2.4 Soils

Most of the soils found in Kentucky developed under the same formation processes and climate conditions. The differences in soils from one area to another are chiefly dependent on three factors: parent material, the topography where the soils are found, and the amount of time exposed to erosional forces.

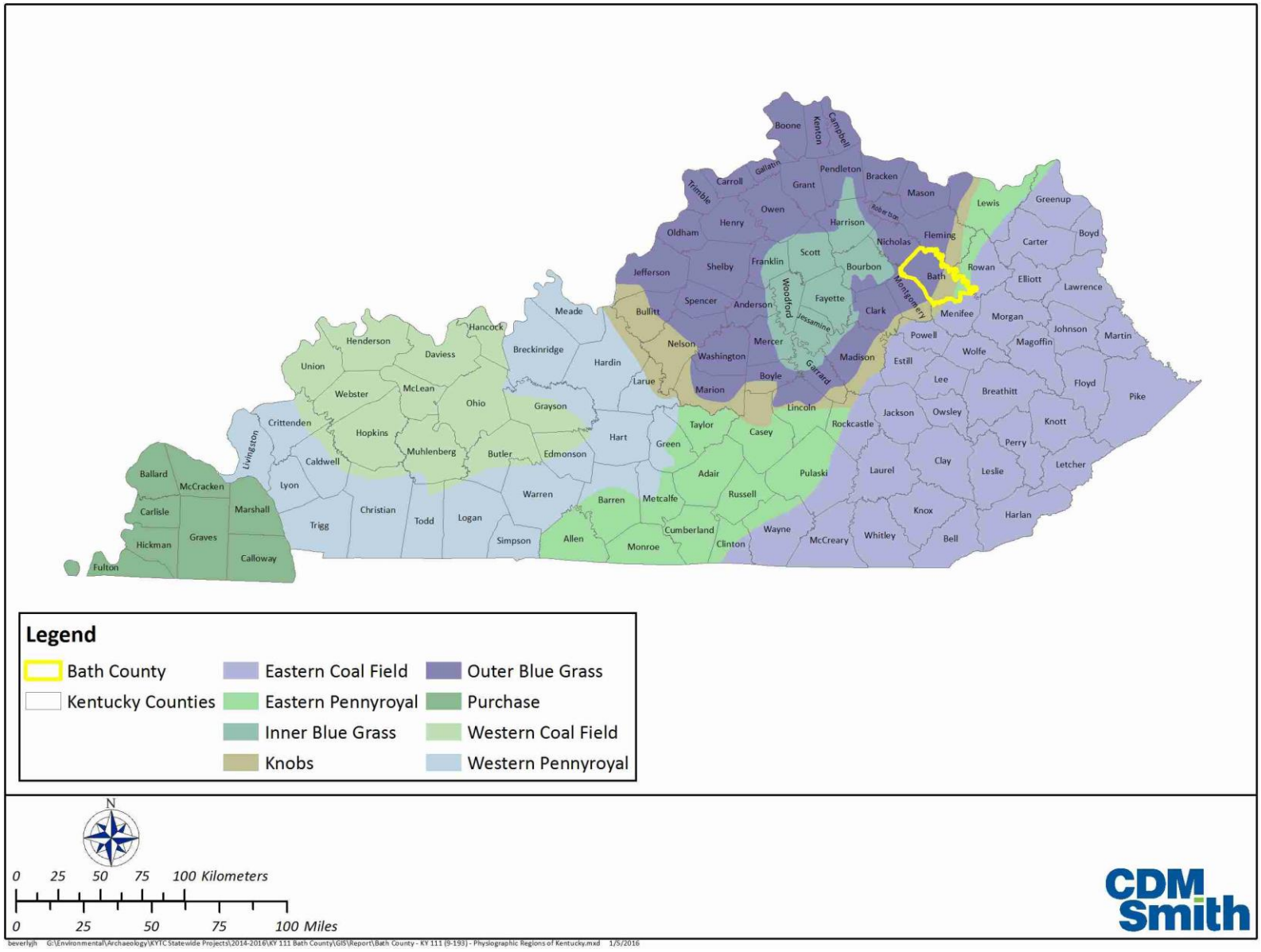

Figure 2-1. Physiographic Map of Kentucky.

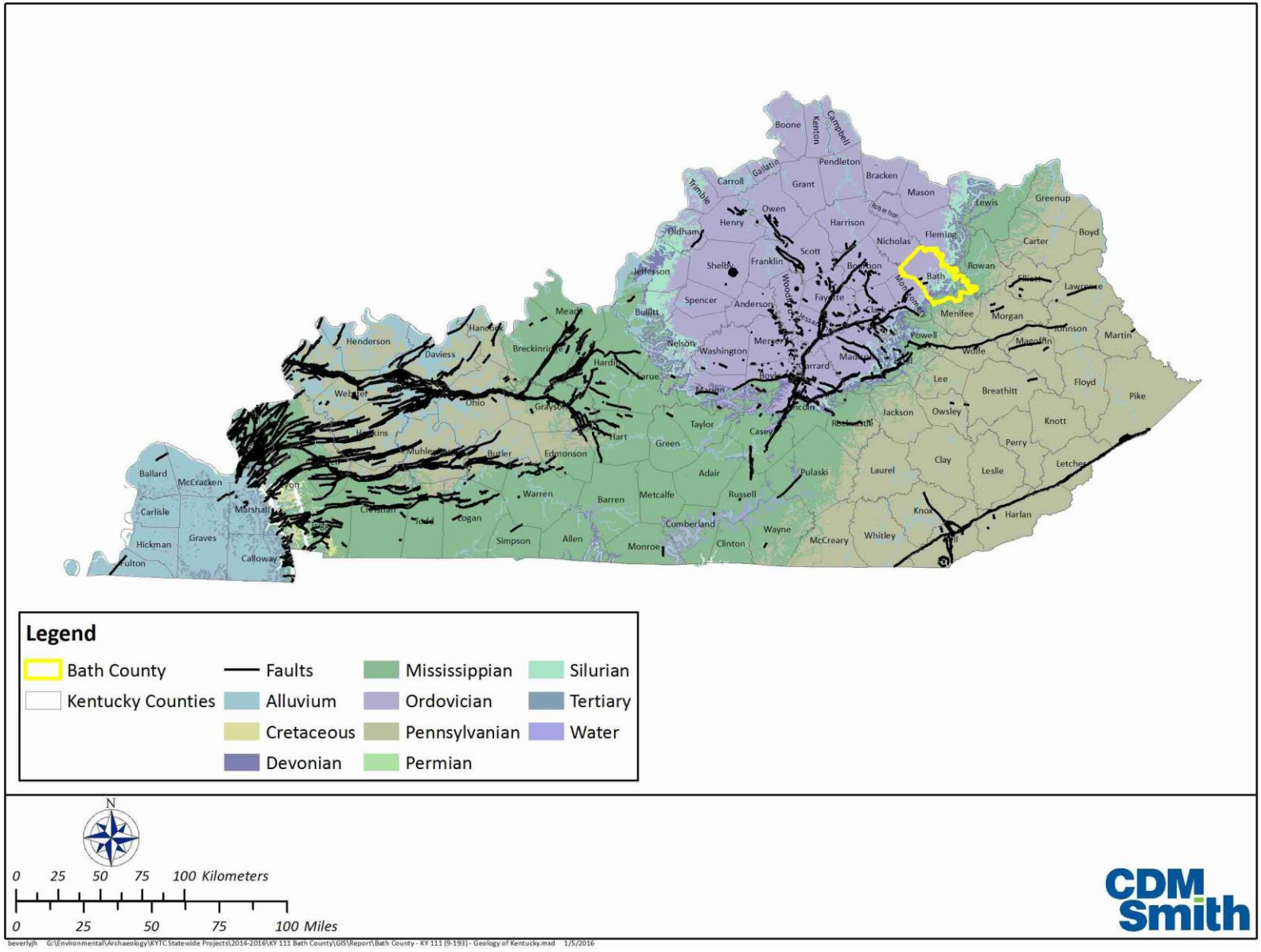

Figure 2-2. Geologic Map of Kentucky.

Figure 2-3. Geological Quadrangle.

Figure 2-4. Hydrology.

There are ten soil types found within the project area (Figure 2-5). They are described below.

The Beasley silt loam, 2 to 6% slopes (BaB) is a deep, well-drained soil often found on upland ridges, and its parent material consists of clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System. The soils depth extends to about 40 to 60 inches to a weathered shale called Paralithic bedrock and found often at 620 to 870 ft. ASML. This soil type is often used for cropland, hayland, pasture, and a few small areas of woodland (USDA 2008).

The Beasley silt loam, 6 to 12% slopes, eroded (BcC2) is a deep, well-drained soil often found on upland ridges, and its parent material consists of clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System. The soils depth extends to about 40 to 60 inches to a weathered shale called Paralithic bedrock and found often at 620 to 1,080 ft. ASML. This soil type is often used for cropland, hayland, pasture, and a few small areas of woodland (USDA 2008).

The Beasley-Shrouts silt loams, 12 to 20% slopes, eroded (BeD2) is deep, well-drained soil often found on upland ridges, and its parent material consists of clayey residuum weathered from calcareous shale, dolomite, and/or calcareous siltstone of the Silurian System and calcareous shale and dolomite of the Preachersville Member of the Ordovician System.The soils depth extends to about 40 to 60 inches to a weathered shale called Paralithic bedrock and found often at 620 to 1,080 ft. ASML. This soil type is often used for hayland, pasture, and woodland (USDA 2008).

The Elk silt loams, 12 to 20% slopes, eroded (ElD2) is a very deep, well-drained soil often found along stream terraces in river valleys, and its parent material consists of fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System. The soils depth extends to more than 80 inches before hitting a restrictive feature and about 3 to 5 ft. before hitting the seasonal high water table. The soils are often at 640 to 750 ft. AMSL. The soil type is often used for hayland, pasture, woodland, and a few small areas of cultivated cropland (USDA 2008).

The Elk silt loam, 2 to 6% slopes, rarely flooded (ErB) is a well-drained soil often found along stream terraces, and its parent material consists of mixed fine-silty alluvium over mixed loamy alluvium. The soils depth extends more than 80 inches before hitting a restrictive feature and the depth to water table is more than 80 inches. The soils range from 380 to 1,110 ft. AMSL. The soil type is often used for farmland (USDA 2015).

The Elk silt loam, 6 to 12% slopes (EkC) is a very deep, well-drained soil often found along stream terraces in river valleys, and its parent material consists of fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System. The soils depth extends more than 80 inches before hitting a restrictive feature and about 3 to 5 ft. before hitting the seasonal high water table. The soils are often at 640 to 750 ft. AMSL. The soil type is often used for cropland, hayland, pasture, and a few small areas of woodland (USDA 2008).

The Nolin silt loam, 0 to 4% slopes, frequently flooded (NoA) is a very deep, well-drained soil often found along floodplains in river valleys, and its parent material consists of fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System. The soils depth extends more than 80 inches before hitting a restrictive feature, and more than 6 ft. to the depth of the seasonal high water table. The soils are often at 600 to 800 ft. AMSL. The soil type is often used for cropland, hayland, pasture, and a few small areas of woodland (USDA 2008).

Figure 2-5. Soils in the Project Area.

The Otwood silt loam, 2 to 6% slopes (OtB) is a very deep, moderately well-drained soil often found along stream terraces in river valleys, and its parent material consists of fine-silty mixed alluvium derived from limestone, siltstone, and shale of the Quaternary System. The soils depth extends about 20 to 36 inches before hitting Fragipan, and the seasonal high water table is about 1.2 to 2.4 ft. in depth. The soils are at 640 to 750 ft. AMSL. The soil type is often used for cropland, hayland, pasture, and a few small areas of woodland (USDA 2008).

The Shrouts-Beasley complex, 20 to 30% slopes, eroded (StE2) is a moderately deep, well-drained soil often found on hills on upland areas, and its parent material consists of clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System. The soil depth varies between properties. The soil type is often used for pasture and woodland (USDA 2008).

The Shrouts-Beasley-Rock outcrop complex, 6 to 20% slopes, eroded (SrD2) is a deep, well-drained soil often found on hills on upland areas, and its parent material consists of clayey residuum weathered from calcareous shale and/or calcareous siltstone of the Silurian System. The soil deph varies between properties. The soil type is often used for pasture and woodland (USDA 2008).

2.5 Cherts

Chert is found in the Boyle Dolomite and the quaternary alluvium and fluvial deposits in the Colfax quadrangle (McDowell 1976).

2.6 Prehistoric Climate Conditions

The beginning of the Holocene Age, dating between 12,700 and 11,300 B.P., is believed to be associated with major and rapid warming temperatures, decreases in cloud cover, and generalized landscape instability (Delcourt 1979:270). Estimated temperature increases during this period are three times greater than later Holocene fluctuations. During the early Holocene, rapid increases in boreal plant species occurred on the Allegheny Plateau in response to the retreat of the Laurentide ice sheet from the continental United States (Maxwell and Davis 1972:517-519; Whitehead 1973:624). At lower elevations, deciduous species were returning after having migrated to the southern Mississippi Valley refugia during the Wisconsin advances (Delcourt and Delcourt 1981:147). The climate during the early Holocene seems considerably cooler than the modern climate, and extant species in upper altitude zones of the Allegheny Plateau reflect conditions most similar to the Canadian boreal forest region (Maxwell and Davis 1972:515-516).

Conditions at lower elevations were probably less severe and favored the transition from boreal to mixed mesophytic species. Middle Holocene (8,000 to 4,000 B.P.) climate conditions appear to have been consistently drier and warmer than twentieth century conditions (Delcourt 1979: 271; Wright 1968). The influx of westerly winds during this Hypsithermal climatic episode contributed to periods of severe moisture stress in the Prairie Peninsula and to an eastward advance of prairie vegetation (Wright 1968). Delcourt has identified Middle Holocene moisture stress along the Cumberland Plateau in Tennessee, but indicated that upland barrens did not expand appreciably as did the Midwestern prairies (Delcourt 1979:274). Changes in Archaic settlement patterns in both central and northern Missouri have been associated with possible decreases in upland resource availability during the Hypsithermal.

The earliest distinguishable Late Holocene climatic episode began circa 5,000 to 4,000 B.P. and ended around 2,800 B.P. This episode is associated with the establishment of modern deciduous forest communities in the southern highlands and increased precipitation across most of the mid-continental

United States (Delcourt 1979:270; Maxwell and Davis 1972:517-519). Beginning around 2,800 B.P., warm conditions similar to the modern climate prevailed until the onset of the Neo-Boreal episode around 700 B.P. Fluctuations in this Late Holocene Pacific episode appear to have varied locally, with either increased or decreased temperatures and precipitation (Delcourt 2002). Certain fluctuations have been associated with adaptive shifts in midwestern prehistoric subsistence and settlement systems. An example is Struever and Vickery's (1973) suggestion of a possible correlation between the onset of a cooler and moister period circa 1,600 B.P. and increased use of polygonum species (smartweed) by Late Woodland groups in the Midwest (Struever and Vickery 1973:1215-1216). Researchers have inferred warmer temperatures for the Great Plains and drier conditions for the Upper Great Lakes during this same period (1,600-1,300 B.P.) (Delcourt 2002). Other fluctuations during the Pacific episode are similarly non-uniform across the mid-continental United States; however, the interfaces of all fluctuations are generally consistent.

Local paleoecological evidence is required to determine the kinds of climatic fluctuations Woodland populations experienced during the Pacific episode. Given evidence of fluctuations elsewhere, it is most likely that changes occurred circa 1,700 B.P., 1,300 B.P., and 900 B.P., with a possible fourth change around 2,300 B.P.

Studies of historic weather patterns and tree ring data by Fritts (1971) have indicated that climatological averages are "unusually mild" when compared with seventeenth and nineteenth century trends. His study suggests that winters were generally colder, weather anomalies were more common, and severe winters were more frequent between A.D. 1602 and 1899 than after 1900. These cooler, moister conditions are associated with the Neo-Boreal episode, or Little Ice Age, which began around 700 B.P. and coincided with minor glacial advances in the northwest and Europe.

The effects of the Neo-Boreal episode, which ended during the mid- to late nineteenth century, have not been studied in detail for this region. Despite this, it appears that the area experienced less radical temperature decreases during the late Neo-Boreal than did the upper Midwest and northern Plains (Fritts 1971). Related changes in extant vegetation should therefore be more difficult to detect. It is probably safe to assume, however, that average temperatures were at least a few degrees cooler during the late Prehistoric and early Historic periods. The frequency of severe winters and average winter precipitation were probably greater as well.

2.7 Current Climate Conditions

Bath County has hot summers and moderately cold winters. The average summer temperature is 73.5^0 F and the average winter temperature is 34.7^0 F. On average, thunderstorms occur on about 42 days each year. About 29 inches, just over half of the annual precipitation, falls between April and October. During winter, at least 12 days have at least one inch of snow on the ground, and the average snow fall accumulation is 6.7 inches (Jacobs and Eigel 2008).

2.8 Prehistoric and Present Flora and Fauna

The project area is included in the Western Mesophytic Forest Region, which is transitional between the extremely diverse Mixed Mesophytic Forest of the Appalachian Mountains and the Tall-Grass Prairies of the Midwest. The Western Mesophytic Forest contains a wide variety of vegetation climaxes and subclimaxes throughout its range, with oak and hickory as the dominant species. Trees commonly occurring in the project area include chinquapin, red oak, water maple, honey locust, elm, black cherry, hackberry, Kentucky coffeetree, walnut, shagbark and butternut hickory, basswood, sycamore, box

elder, willow, and cedar. Common shrubs include sumac, blackberry, poison ivy, Virginia creeper, pawpaw, spicebush, plum, hornbean, redbud, wild grape, and buckberry. Some of the common native herbaceous plants are ironwood, milkweed, cane, nettle, white snakeroot, bloodroot, spring beauty, trillium, violets, cardinal flower, wild strawberry, goldenrod, and May apple.

These forest communities have produced and supported a wide variety of animals, such as white-tailed deer, red fox, raccoon, squirrel, rabbit, groundhog, other mammal species, birds, reptiles, amphibians, fish, and mollusks (Barbour and Davis 1974; Esarey et al 1992:4). During prehistoric times white-tailed deer was by far and away the most important animal resource. Other species were also exploited, including turkey, fish, waterfowl, and mollusks (Fenton et al. 1996).

2.9 Current Land Use

Present land use for the Archaeological APE was derived from the National Land Cover Database compiled in 2006 and based on the classification scheme developed by Homer et al. (2004), combined with reconnaissance, in-situ observations.

The land cover classification data was created by a combination of Landsat imagery and ancillary data. The combined image data is then generalized to a 1 acre minimum mapping unit. An algorithm is then used to compare the pixel data against known values resulting in a product that identifies land cover type for the pixel. The land cover within the Archaeological APE is shown in Figure 2-6 and examples are shown in Figure 2-7 through Figure 2-9.

Developed, open space areas are areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes. Figure 2-7 shows an example of this type of area within the project area.

Deciduous forest areas are areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.

Pasture/hay areas are areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation. Figure 2-8 shows an example of this type of area within the project area.

Developed, low intensity areas are areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units. Figure 2-9 shows an example of this type of area within the project area.

Cultivated crops areas are areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.

Figure 2-6. Existing Land Use, 2006.

Figure 2-7. Developed, Open Space inside the Project Area.

Figure 2-8. Pasture/Hay use area inside the Project Area.

Figure 2-9. Developed Light Intensity use areas inside the Project Area.

Section 3 -

Cultural Context, Previous Investigation, and Summary of Known Sites

In this chapter, the culture history of Bath County and this region of Kentucky are reviewed. The research methodology used to develop this background and context involved archival research at the Office of State Archaeology, and research at the University of Kentucky's various libraries. Included within the culture history section are reviews of the known prehistory from the State Plan for this part of the Commonwealth (Applegate 2008; Jefferies 2008; Maggard and Stackelbeck 2008; and Pollack 2008) followed by a consideration of the major historic time periods and subperiods (McBride and McBride 2008). This general review of the culture history of the region is followed by a synopsis of the cultural resource management recommendations for sites already documented within the archaeological APE and within two km of it. These recommendations are in accordance with the Kentucky Heritage Council specifications (Sanders 2006).

The prehistoric cultural chronology of Kentucky is divided into a series of periods that generally correspond to major shifts in subsistence procurement strategies, social organization, technology, and settlement patterning. They are also linked to distinct material cultural styles, particularly in projectile point shapes and (in later times) ceramic vessel form and decoration. These periods form a convenient framework for the discussion of human societies in eastern North America.

Since the Late Pleistocene, humans have occupied all areas of the continental U.S., adapting to the regionally diverse ecosystems and the long-term changes brought about by human occupation. Only the past 500 years is historically documented in any fashion; most of the past 15,000 years can be documented only by the study of prehistoric sites. This period of prehistory is commonly divided into four major chronological periods, which are discussed below.

3.1 Prehistoric Period

This section examines general prehistory of the archaeological APE area. The prehistory of the archaeological APE area can be usefully divided into four major periods – Paleo-Indian, Archaic, Woodland, and Late Prehistoric. Each of these periods is discussed below.

3.1.1 Paleoindian Period

The Paleoindian period begins around 13,000 B.C. and continues to circa 8,000 B.C., coinciding with the end of the Pleistocene and the beginning of the Holocene. The earliest documented inhabitants of the continental U.S. crossed from Asia sometime before 13,000 B.C. and rapidly colonized all of North and South America. The arrival of humans in the region was probably linked to the movements of the Pleistocene glaciers. During the Paleoindian period, the last of these glacial advances and retreats, called Great Lakes Stadial (after 9,900 B.C.), occurred. Although the glaciers never actually extended south of the Ohio River, the climatic effects were felt. A cooler, moister climate affected the composition and distribution of floral and faunal communities (Delcourt and Delcourt 1982; Klippel and Parmalee 1982).

Clovis projectile points are the hallmarks of the early part of the Paleoindian period. The hafted bifaces are distinctively lanceolate-shaped and often fluted. In addition to the Clovis point, unifacially and bifacially chipped tools such as knives, scrapers, spokeshaves, end scrapers with spurs, drills, and gravers have also been recovered. Archaeologists infer that artifacts and tools of wood, bone, and shell were used, although rarely preserved in the archaeological record. A number of these tools were manufactured for the killing and butchering of extinct fauna, including megafauna. For instance, at the Adams Mastodon site in Harrison County, Kentucky, the remains of a single mastodon were found in association with large limestone slabs and cut marks on the bones. The configuration of the skeletal remains, in addition to the above evidence, has been interpreted as possible human butchering (Duffield and Boisvert 1983; Walters 1988).

The Paleoindian period is poorly understood in Kentucky and in the Southeast as a whole. Much of the information concerning Paleoindian subsistence, settlement patterns, and chronology comes from information outside of Kentucky because dated Paleoindian material in the Bluegrass is limited. Seventy-one Paleoindian sites have been recorded for the Bluegrass Management Area. Eleven sites have been recorded in the Northern Bluegrass Section and none in Trimble County (Maggard and Stackelbeck 2008).

For example, archaeological research in various parts of the U.S. has documented large numbers of surface finds of fluted points diagnostic of this period. Far fewer Paleoindian sites with subsurface cultural materials have been documented. In a recent survey of Paleoindian sites in the U.S., Anderson (1990) reports very few sites in the Southeast. Of these, slightly more than 50 sites are known to retain more than surface scatters of lithic materials. Although few sites have been thoroughly excavated and reported, some information on Paleoindian lifeways is available. Recent analysis of Paleoindian tool assemblages has established chronologically significant tool types to identify three temporal subdivisions of the Paleoindian time period (Anderson 1990; Sanders 1983, 1988; Tankersley and Isaac 1990).

Despite a refinement of the chronology, the temporal range and spatial distribution of these point types is poorly understood. Some inferences may be drawn, however, from the frequent isolated finds and paucity of large Paleoindian sites in the Southeast. Meltzer (1988, cited in Anderson 1990) has suggested two models of Paleoindian settlement patterns, one appropriate to the Northern Tundra-Spruce Parkland zone, and one to the Southern Boreal-Deciduous Forest zone. Meltzer's model of Southeastern Paleoindians, cited in Anderson (1990), suggests they were generalized foragers, exploiting the diverse plant and animal resources of the Boreal-Deciduous forests. As a result of this foraging strategy, the dense accumulation of animal bone and lithic materials that characterize sites in the Western plains (e.g., Olson-Chubbuck, Colby), and some of the Northeastern sites (e.g., Delbert, Vail, Bull Brook), is absent. According to Anderson, under Meltzer's model, southeastern Paleoindian occupations are characterized by light lithic scatters, with some functional diversity in the tool assemblage. Although Meltzer's model of Paleoindian period settlement is reasonable, several large Paleoindian sites or site clusters have been documented in the Southeast (e.g., Adams site, Big Bone Lick, Pine Tree, Quad, Thunderbird, Well Creek Crater), although none has yet been intensively excavated (Anderson 1990; Sanders 1983, 1988; Tankersley and Isaac 1990). Current excavation at the Thunderbird site in Virginia may provide more detailed information on Paleoindian lifeways in the Boreal-Deciduous Forest zone.

3.1.2 Archaic Period

The Archaic period includes a long span of time during which important cultural changes took place. Because of the growing evidence for the existence of transitional cultural manifestations, it is agreed generally that Archaic cultures evolved from late Paleoindian expressions of the Southeast and Midwest (Funk 1978:19). These manifestations probably occurred in response to environmental changes that took place at the close of the Pleistocene. The Archaic period is customarily divided into three sub-periods: Early (8,000-6,000 B.C.); Middle (6,000-4,000 B.C.); and Late (4,000-1,000 B.C.). As of 2008, 923 Archaic period sites had been identified in the Bluegrass Management Area (Jefferies 2008:214).

3.1.2.1 The Early Archaic Period

During the Early Archaic, the last glaciers retreated, and the arctic-like boreal forest began developing into the eastern deciduous forest. By the Middle Archaic, the environment was warmer and drier than it is today. In response to the changing environment, with its associated changes in plant and animal life, Late Archaic peoples developed a more diversified subsistence strategy based on local choices from a variety of subsistence options including hunting, plant food gathering, fishing, and in some areas, the beginnings of plant domestication in a planned seasonal round exploitation strategy. Caldwell (1958:6-18) has called this Archaic subsistence approach "primary forest efficiency." This strategy appears to have continued well into the Woodland period.

The limited amount of Early Archaic material found at most sites and the general absence of middens, features, and burials, suggests that most occupations were of short duration. Early Archaic social units were small, probably consisting of bands comprised of related individuals. The relatively high percentage of projectile points in Early Archaic assemblages made from non-local cherts suggests that social groups were highly mobile. Items manufactured from non-local chert would have been incorporated into tool kits when groups traveled near the source areas. Some tools manufactured from certain kinds of high quality chert were used and curated for an extended period of time and later discarded far from the source area (Binford 1979; Jefferies 1990:151).

Except for the adoption of new projectile point styles, Early Archaic tool kits are nearly identical to those of the Paleoindians. The fact that projectile point styles are found over a very large area suggests that little regional subsistence diversity occurred during the Early Archaic. Rather, subsistence strategies are believed to have been similar to those employed by Paleoindian peoples, although a greater variety of game was hunted. The scarcity of tools associated with the preparation of plant foods and fishing in the early part of the Archaic indicates that hunting was probably still the major subsistence activity (Dragoo 1976:II). Archaeological investigations at a number of deeply buried sites in the Southeast like the Longworth-Gick Site near Louisville, Kentucky (Collins 1979) have provided important information on Archaic lifeways and their changes through time.

3.1.2.2 The Middle Archaic Period

The environment during the Middle Archaic sub-period was dryer and warmer than modern conditions. By the beginning of the Middle Archaic period, environmental remnants of the Pleistocene had disappeared and animal and plant communities more closely resembled those present at the time of European-American contact. Pollen records from some parts of the region indicate that drier climatic conditions associated with the Hypsithermal interval reached their maximum around 6,500 B.P. (King and Allen 1977). The subsequent reduction of arboreal communities and the influx of grass and herb communities appear to have affected Middle Archaic settlement and population distributions (Conaty 1985; Janzen 1977; Jefferies 1983; Nance 1985).

Increasing regionalization of artifact inventories and the addition of new artifact classes and projectile point styles implies the development of extensive exploitation strategies. The Middle Archaic is marked by the introduction of groundstone artifacts manufactured through pecking, grinding, and polishing. A number of these groundstone tools, such as manos, mortars and pestles, and nutting stones, are interpreted as plant food processing artifacts, indicating an increasing utilization of plant food resources during the Middle Archaic.

New projectile point styles appeared during this sub-period. Stemmed and comer notched points appear. A variety of bone tools, including antler projectile points, fishhooks, and gouges, suggests an improved efficiency in exploiting local resources. Middle Archaic sites tend to contain larger accumulations of materials than those of earlier periods, suggesting an increased group size and/or longer periods of occupation (Cohen 1977:191). Chapman (1975) has suggested that projectile points were probably used in conjunction with the atlatl, a device that increases the distance and accuracy of a thrown spear. The recovery of bone and groundstone objects (banner-stones) in Middle Archaic contexts that are interpreted as atlatl weights tends to support his suggestion (cf. Neuman 1967:36-53). Certain classes of chipped stone tool artifacts, such as scrapers, unifaces, drills, and gouges, indicate a continuation of their importance from the Paleoindian period.

In the middle Ohio Valley there appears to be at least two Middle Archaic horizons, although the second is not particularly well documented. The first is the North Carolina sequence, first defined by Coe (1964). The second Middle Archaic manifestation is represented by corner- notched and side-notched Brewerton-like points, which are typically thought of as Late Archaic points, but they may well have first appeared during the Middle Archaic (Hemmings 1977, 1985; Wilkins 1978).

3.1.2.3 The Late Archaic Period

The Late Archaic was a time of continued cultural expansion and growing complexity. Dragoo (1976:12-15) has discussed several Late Archaic traditions for the Eastern Woodlands. Their distinctiveness stems from varied regional responses reflected in material culture. Straight-stemmed, basal-notched, or contracted-base projectile point types characterize the Late Archaic. Judging from the greater number of sites that have been recorded, an increase in population can be postulated. Evidence of longer and more intensive site occupation suggests, in some cases, extended habitation within an area.

Aside from hickory nuts, a variety of other nuts, fruits, and seeds were exploited. The increased dietary significance of certain starchy seeds, such as goosefoot, marshelder, and knotweed, has been noted in the Eastern Woodlands (Cowan 1985:229-230). These seasonally available food resources were exploited at appropriate times during the social group's annual settlement/subsistence cycle. Group organization and movement were structured to efficiently accomplish these tasks. The occasional presence of native and tropical cultigens at some sites suggests that some Late Archaic groups were experimenting with horticulture (Chomko and Crawford 1978; Cowan et al. 1981; Watson 1985).

A series of related Late Archaic sites that serve to define the Skidmore phase in eastern Kentucky have been investigated in Rowan and Powell counties, adjacent to the Bluegrass. These include the Bluestone site complex (15RO35-36) (Brooks et al. 1979), and the Skidmore (15PO17) and Zilpo sites (Rolingson and Rodeffer 1968). Diagnostic projectile points of the phase have been referred to in a variety of ways, but these are generally broad-bladed with stubby, contracting stems. Turnbow and Jobe (1981) suggest a maximum age range of 2,400 to 1,650 B.C. for the Skidmore phase.

The Grayson site covered about 6 hectares (15 acres) of a broad second terrace overlooking the Little Sandy River near Grayson, Kentucky. Machine stripping and block excavation revealed a relatively discrete Maple Creek base camp that was occupied during the fall and winter. The site was far less substantial than the Maple Creek site described by Vickery (1976) for the Ohio River near Cincinnati. Diagnostic artifacts recovered included small Merom-Trimble points and absolute dates spanning the period from 1,700 to 1,250 B.P. Two rectangular pit houses with rounded corners were excavated. These ranged from six meters x seven meters to 10 meters x 11 meters (20 feet x 23 feet to 33 feet x 36 feet) in size, and were constructed with unevenly spaced posts around an open area. A single large pit containing a small central hearth was found in each structure. The houses were surrounded by medium – to large – sized pits. Similar structures occur at Late Archaic sites (9WR4 and 9WRl1) in Warren County, Georgia (Ledbetter 1991).

Population increase and, in some parts of Kentucky, an inferred increase in mortuary ceremonialism, have led some to suggest that a more complex social organization was developing in some areas of the eastern United States. Along the Green River in west-central Kentucky, large shell mound sites such as Chiggerville (Webb and Haag 1939), Indian Knoll (Webb 1946), and Carlson Annis (Webb 1950) contain hundreds of human burials and evidence of complex mortuary practices and rich ceremonial life. The development of inter-regional trading networks is indicated by the recovery of copper, marine shell, and other non-local artifacts from Late Archaic burials (Winters 1968) which testify to the growing complexity of burial ritual and the interaction of many groups (Dragoo 1976:17).

The appearance of cultigens in Late Archaic contexts has been interpreted as evidence of early plant domestication and use of these plants as subsistence resources. Evidence of early cultigens has been documented at such sites as Koster in central Illinois (Brown 1977:168), at the Carlson Annis and Bowles sites along the Green River in west-central Kentucky (Marquardt and Watson 1976:17), and at Cloudsplitter shelter in Menifee County (Cowan et al. 1981).

Struever and Vickery (1973) have defined two plant complexes domesticated at the close of the Archaic, which continued in use into the Woodland period. One consisted of non-native plants such as gourd and squash, occurring sporadically but early, and corn, which did not become important in the Ohio Valley until circa A.D. 1000. The other was a group of native plants, such as Chenopodium, marsh elder, and sunflower. Recent research in Missouri, Kentucky, and Tennessee suggests that squash was under cultivation in the mid-south by the late third millennium B.C. (Adovasio and Johnson 1981:74), and that by the second half of the second millennium B.C., evidence from Illinois, Kentucky, and Tennessee demonstrates that squash, gourd, and sunflower were well established (Adovasio and Johnson 1981:74), although some view these plants as two different groups of cultigens: the East Mexican Agricultural complex and the Eastern United States Agricultural complex. The latter includes sunflower (Helianthus annuus), sumpweed (Iva annua), chenopod (Chenopodium sp.), may grass (Phalaris sp.), and knotweed (Polygonum sp.). The East Mexican Agricultural complex includes squash (Curcurbita pepo), bottle gourd (Lagenaria siceraria), and maize (Zea mays). Watson (1976), like Struever and Vickery (1973), suggests that corn, squash, and bottle gourd were domesticated in Mexico and imported into the eastern United States by way of the Gulf of Mexico and then up the Mississippi River and its tributaries. The native cultigens consist of local species whose seeds recovered from archaeological contexts are much larger than those which grow in a natural state; hence, cultivation is inferred.

Plant domestication was an important factor in Late Archaic cultural development. Recent research at Cloudsplitter shelter has documented early plant domestication. Desiccated squash rind was found in

a Late Archaic deposit associated with a radiocarbon date of 3728 +/- 80 B.P. (1778+/- 80 B.C.)(UCA 2313- K) (Cowan et al. 1981:71). Seeds of the Eastern Agricultural complex (sunflower, sumpweed, may grass, and erect knotweed) are sparse in the Late Archaic levels in the site, but after 3000 B.P. (1050 B.C.), all members of the Eastern Agricultural complex underwent a sudden and dramatic increase in the rate at which they were being deposited in the site, perhaps indicative of a wholesale introduction of the complex into the region at this time. The Late Archaic and Early Woodland inhabitants of Cloudsplitter seem to have followed a similar trajectory in cultivated plant usage experienced in several other river drainages in the East (Cowan et al. 1981:71).

The data from Cloudsplitter suggest that squash may not have diffused into the East or Southwest from Mexico as previously postulated by Struever and Vickery (1973), but that it may have evolved in situ from North American stock (Cowan et al. 1981:71). This interpretation seems to be substantiated by more recent investigations conducted throughout the southeastern and Midwestern United States.

There are a number of projectile point styles, considered to be terminal Late Archaic, that extend into the Early Woodland period, i.e., from about 2000-1500 B.C. to about 500 B.C. (see below). On the whole, they have been found in contexts without Woodland pottery, a situation that leads archaeologists to place them in the Late Archaic rather than Early Woodland. This may not be the case.

3.1.3 Woodland Period

Although initially there was very little difference between Late Archaic and Woodland period settlement, over the two millennia of the period, Woodland cultures in the Ohio Valley diverged sharply from their Archaic beginning. The Kentucky Bluegrass and the adjacent Knobs region shared in this development that produced burial mounds and earthwork enclosures, some of the more notable prehistoric monuments in the Ohio Valley of Kentucky. These went along with intensification in the earlier efforts at plant domestication present in the Archaic period, the development of fired clay ceramic containers (first used as ceremonial containers, later used more widely), and the intensification of trade with distant regions of the Midwest in materials used specifically as burial offerings.

The Woodland period is customarily divided into Early (1000 B.C. – 300 B.C.), Middle (300 B.C. – A.D. 400), and Late (A.D. 400 – A.D. 1000) sub-periods. Of these, the Early Woodland is the least known, but reflects its Archaic origins. During the Middle Woodland, the Bluegrass was characterized by large burial mounds and earthwork complexes that are termed “Adena” and have counterparts north of the Ohio River.

Towards the end of this sub-period, a few sites reflect the Hopewellian cultural fluorescence, best known again from Ohio in the major earthworks of the Scioto valley. During the Late Woodland, a distinctive cultural adaptation developed with similar variants throughout the Middle Ohio River valley. As of 2008, 659 Woodland period sites had been recorded for the Bluegrass Management Area (Applegate 2008:453).

3.1.3.1 Early Woodland

Some of the earliest known Early Woodland sites in the Bluegrass and in the adjoining Ohio Valley to the north include Peter Village in Fayette County (Clay 1984, 1985, 1987) and the West Runway site in Boone County (Duerksen et al. 1995). Quite different sites, Peter Village was an enclosure first surrounded by a post stockade, later by a ditch and internal bank, while the West Runway site was a

campsite with multiple hearths, suggesting a series of short-term occupations. Radiocarbon dates place the occupation of West Runway possibly as early as 600 B.C. and Peter Village at about 350-400 B.C. While West Runway, in the types of features and their clustering in this upland location, is not that different from a Late Archaic site, the Peter Village enclosure marks a sharp break with Archaic settlement systems.

At both sites, that hallmark of the Woodland period occurs: thick and relatively crude ceramics representing quite large containers. First called Fayette Thick pottery from its occurrence at the Peter Village site (Griffin 1943), the pottery occurs widely, though sparsely, across the Bluegrass (cf. Clay 1980) with some variation suggesting different pottery – making groups. The type even occurs in small and early burial mounds, for example the Hartman mound in Boone County (Webb 1943) where it may date around 400 B.C. At the Peter Village enclosure, it is hypothesized by Clay (1987) that groups gathered to mine a source of barite and galena that was then fashioned into pigments and objects for personal use and for trading with other groups. The large ceramic vessels represented at the site may have been "feast containers" made to serve large work crews on the spot. The occurrence of thick pottery at the Hartman burial mound suggests also that the pots may have been made to serve funeral parties during the course of burial ceremonies, the first indication of customs that would become common in the Middle Woodland.

Outside of the few sites that have been excavated, artifacts belonging to the Early Woodland occur widely in the Bluegrass. Chipped chert bifaces are large and of a type known as Adena Stemmed. Polished, ungrooved stone axes were widely used. Finally, the existence of worked weights made from barite/galena suggests atlatl or throwing stick weights.

3.1.3.2 Middle Woodland

The Middle Woodland in the Bluegrass is marked notably by the construction of burial mounds that have been called Adena after a site in southern Ohio (Webb and Snow 1945; Webb and Baby 1957). Major mound excavations in the region of Fischer, Drake, Mt. Horeb, Morgan Stone, Wright, Ricketts, Camargo, and many others, have given archaeologists a detailed picture of burial customs during this time period (Clay 1986). Excavations at the small Auvergne mound in Bourbon County (Clay 1983) suggest that Native Americans from a larger area came together at the time of a death to feast at graveside.

Some of the large mounds, containing multiple burials, suggest that these groups often returned to the same mound to add more burials to the structure. At times the burial mound could, like the Wright mound in Montgomery County (Webb 1940), grow to imposing size.

Although we have considerable excavated evidence for burial customs, the total settlement system is not well understood (Clay 1998:13-19). Those responsible for the burial mounds may have lived widely dispersed throughout the Bluegrass in relatively small groups. Seen in this light, the elaborate burial sites (mounds) offered essential foci for scattered groups where they could meet and interact. There were also small, circular enclosures called ceremonial circles of which the Mount Horeb site in Fayette County (Webb 1941) is an excavated example. Late in the Middle Woodland, hilltop enclosures were constructed, such as Indian Fort Hill near Berea, Madison County, Kentucky. Still, daily domestic sites are very poorly understood, although examples dating to the time period have been found to the south on the Cumberland Plateau (Kerr and Creasman 1995). While hunting was always important, during the Middle Woodland, finds from rockshelters in the Knobs region adjoining the Bluegrass suggest the manipulation of native plants. Despite this, the additional food supply did not make significant changes in the way people lived.

3.1.3.3 Late Woodland

Defining the temporal parameters of the Late Woodland has not been an easy task, since clear boundaries have not been identified in the archaeological record, and diagnostic ceramic and lithic attributes, although widespread, show little temporal variability within this period. As a result, the transition from Middle to Late Woodland traditions was a gradual process and not an abrupt one, since no dramatic shifts in cultural practice or in styles of tools or ceramics occurs (Pollack and Henderson 2000). Changes that occurred between the Middle and Late Woodland are probably linked to changes in plant subsistence strategies, hunting technologies, long-distance trade networks, and the degree of ritual expression (Pollack and Henderson 2000:615).

While Pollack and Henderson's study demonstrates continuity in material culture, analysis of some site data suggests that population increase or at least localized aggregation occurred, which over time may have led to a smaller number of larger settlements, or increased inter-community violence. In other words, population cycles may have impacted lifeways and contributed to some changes in subsistence, settlement organization, and the duration of a particular settlement. A recent survey of available radiocarbon-dated sites in Kentucky and adjacent parts of West Virginia reveals some trends during the Middle and Late Woodland that support (in part) a population increase, and possibly some subsequent population declines.

The above discussion has highlighted the fact that a large number of sites are assigned to the Late Woodland period, and that many have been dated. These dated sites suggest that the Late Woodland period, as Pollack and Henderson (2000) among others have suggested, can be subdivided into at least two sub-periods. This apparent division may reflect some cyclicity in population expansion, changes in subsistence, settlement re-organization, or the introduction or incorporation of new technologies such as corn agricultural and the bow and arrow into pre-existing cultural complexes. While these data provide a substantive framework that identifies some temporal parameters, recent syntheses, along with earlier studies of the Late Woodland period, suggest that within the region of southern Ohio, northern and central Kentucky, and extreme southern Indiana, a single cultural complex or phase was present: the Newtown tradition. In the following paragraphs, the culture history of this region between about A.D. 400 and A.D. 800 is examined to build a case for the interpretation of the cultural complex at Dreaming Creek as an early Late Woodland Newtown component. Griffin (1956:187), working on artifacts from the Turpin site in Ohio, recognized a previously undocumented cultural complex which he named "Newtown," and which he considered to post-date the Middle Woodland Hopewell tradition and to pre-date the Fort Ancient tradition in the Middle Ohio Valley. Although he could not discern the length of the period during which this Late Woodland culture flourished, he did suggest that little cultural progress was made during this period (Griffin 1952). Owing to the paucity of Late Woodland archaeological data, Griffin was unable to characterize the Newtown culture or ascertain if distinctive regional variations existed (1952, 1956).

More archaeological data has been gathered since Griffin's groundbreaking research, but considerable debate on the temporal and geographic extent of Newtown and other Late Woodland cultures still exists (e.g., Clay and Creasman 1999; Davis et al. 1997). Site assemblages throughout the region are linked by the occurrence of the ceramic complex known as Newtown Cordmarked, a type described by McMichael (1968) in the 1960s and characterized by large jars with thickened, angular shoulders. More recent research (e.g., Pollack and Henderson 2000; Seeman and Dancey 2000) indicates that while a thickened, angular shoulder may be a characteristic of some Newtown vessels, some site assemblages are considered Newtown even though they lack ceramic vessels with this particular characteristic.

Recent archaeological investigations at several sites in the region have revealed additional traits about Newtown phase assemblages (e.g., Ahler 1988; Dancey 1988, 1991, 1992; Henderson and Pollack 1985; Kreinbrink 1992; Railey 1984, 1990). Typically, Newtown lithic assemblages are characterized by Steuben, Lowe, or Chesser notched variety projectile points (see Justice 1987), thick stone bifaces, and small, triangular, shaped celts. The ceramic assemblage includes ceramic jars with incurvate to direct rims, flattened lips, and vertical cordmarking on their outer surfaces. Personal adornment, highly developed in the preceding Middle Woodland period, was apparently limited in the Late Woodland, as Newtown assemblages are distinguished by a lack of decorative and personal ornaments. Seeman and Dancey report "...Late Woodland societies created virtually nothing that can be considered artistic..." (2000:598). The few documented artifacts showing artistic style include some stone and bone gorgets, bone pins, small mica sheets, limestone elbow pipes, and stone and shell beads.

Pollack and Henderson's recent review of the Late Woodland period in Kentucky offers current data on what the term "the Newtown phase/complex/tradition" (2000:625) means in Kentucky, while Seeman and Dancey's review of southern Ohio Late Woodland traditions incorporates discussion of some northern Kentucky sites (2000:595). Pollack and Henderson focus their study on either side of the Falls of the Ohio, which serves to demarcate two regions of Kentucky that appear to differ culturally, and which may have maintained distinct cultural traditions for a long period of time. Seeman and Dancey use the Ohio River and its tributaries as an organizing principal. In this review, Pollack and Henderson's geographic model is used, although mention is also made of Seeman and Dancey's findings where appropriate.

One of Pollack and Henderson's sub-regions is downstream of the Falls of the Ohio, and occupies the western portion of the state; the second sub-region, and the one which is more the focus of this review, is upstream of the Falls and is in the eastern portion of the state. This eastern region encompasses the Middle Ohio River valley, the Central and Inner Bluegrass region, and the Knobs and mountains of Eastern Kentucky. Major rivers in the region include the Ohio, as well as its Kentucky tributaries (Kentucky, Licking, and Big Sandy), all of which are deeply entrenched with narrow flood plains. Within this region, only one cultural complex is well documented for the early Late Woodland subperiod: the "Newtown phase/complex/tradition" (Pollack and Henderson 2000:625). Components associated with this phase are noted at several important Kentucky sites such as the Dreaming Creek site in Madison County, Hansen and Bentley sites in Greenup County, and the Pyles site in Mason County, as well as numerous smaller sites in the Bluegrass (e.g., Shelby Lake, Froman, and sites in the Cumberland Plateau such as Rock Bridge and Haystack rock shelters). Other Late Woodland cultural traditions (e.g., Beal's Run) in this region are only now being examined, since this period has typically been understudied (e.g., Pollack and Henderson 2000), so additional variation may be present that is only recently being documented.

3.1.4 Late Prehistoric Period

The Late Prehistoric archaeological complex of the middle Ohio Valley is Fort Ancient, which spans the time period from approximately A.D. 1000 to about A.D. 1700. Geographically, Fort Ancient extends from western West Virginia to southeastern Indiana and from south-central Ohio to north-central and northeastern Kentucky (Griffin 1978:551). In the Bluegrass, Fort Ancient is divided into the early Osborne Phase (circa A.D. 950 – A.D. 1200), Middle Fort Ancient (A.D. 1200 – A.D. 1400) and Madisonville Horizon (A.D. 1400 – A.D. 1700). The Osborne Phase is known in the Bluegrass from the Muir and Dry Run sites (Sharp 1984) in Jessamine and Scott counties. Middle Fort Ancient sites include Buckner, Gilfoil, and Florence (Fassler 1987).

The development of Fort Ancient and its relationship to Late Woodland cultures has been a debated issue. Two hypotheses have been offered in explanation for the relationship between Fort Ancient and Late Woodland cultures. One hypothesis suggests that Fort Ancient represents the fluorescence of an indigenous Late Woodland culture (Graybill 1980:55-56; Rafferty 1974). Others (e.g., Essenpreis 1978:154-155) suggest that Fort Ancient represents an influx of Mississippian peoples from the lower Ohio River Valley. Although the question has yet to be resolved, it is entirely possible that each of these hypotheses may be correct, depending upon the data set and region employed to address the problem. Essenpreis (1978), for example, has suggested that these two hypotheses are appropriate for explaining Fort Ancient manifestations at different times during the Late Prehistoric. In this scenario, Fort Ancient is viewed as a fluorescence of Mississippian-influenced Late Woodland culture during the early phases (Baum, Anderson, and Feurt) and as an influx of Mississippian peoples during the later Madisonville phase (Essenpreis 1978:164).

Fort Ancient reflects an elaboration of Late Woodland subsistence activities and social organization. Settlements were much more nucleated, as evidenced by large village sites (Mayer-Oakes 1955). Village sites tend to be situated in valley bottoms along the main stems of the region's larger drainage (Graybill 1978, 1979). On the other hand, smaller sites tend to be located throughout tributary drainage and are thought to represent seasonal camps and resource procurement activity stations. A number of sites along the Ohio River, or close to it, were fortified; and many have central courtyards or plaza areas (Griffin 1978:552).

Fort Ancient subsistence is characterized for the first time by a reliance on the cultivation of maize, coupled with beans and squash. Despite the increased importance of horticulture, hunting provided an important source of food. Deer was the main meat source; at some sites it made up to 80 percent of the game consumed (Griffin 1978:552). The cultural material assemblage included elaborate ceramic styles (usually tempered with crushed mussel shell, although limestone and grit-tempered ceramics also occurred), triangular arrow points, mussel shell tools (e.g., knives, scrapers, and hoes), and bone tools (e.g., bone reamers), which also serve to distinguish Fort Ancient cultures from Late Woodland occupations.

Although Fort Ancient subsistence, like that of Mississippian populations, was based on the cultivation of corn and other cultigens, other aspects of Fort Ancient clearly distinguish it from the contemporary Mississippian occupations: Fort Ancient sites lack large ceremonial centers and earthworks, although Early and Middle Fort Ancient sites (through circa A.D. 1250) exhibited burial mounds. For example the Rowena Site, flooded by Lake Cumberland, was described as a small Mississippian regional center, possibly occupied from A.D. 1300-1400 (Weinland 1980: 133). The artifact assemblage indicated the site was influenced strongly by eastern Tennessee cultures throughout most of its history, especially the Dallas cultures (Weinland 1980:131). Other Mississippian sites along the Cumberland, like Crowley-Evans (Jefferies 1995; Jefferies and Flood 1996), were built around low platform mounds on which the house of a local chief was constructed. However, the complex settlement hierarchy found in the Mississippian, some sites having mounds, others with none, does not occur in Fort Ancient. Villages and hunting camps have been the only Fort Ancient site types defined thus far.

There were 523 Fort Ancient site in the Bluegrass Management Area. Ninety-one percent of the sites are open habitations without mounds. Ninety-two Fort Ancient sites were recorded in the Northern Bluegrass Area (Henderson 2008:808).

3.2 Historic Period

3.2.1 Exploration and Early Settlement (ca. 17th Century-1820)

It is not exactly known when the first Europeans entered Kentucky, but early explorers like Marquette and Jolliet certainly witnessed the western portion of Kentucky as they traveled the Mississippi and it's possible that La Salle may have visited the Ohio Valley. British exploration of the New and Holston rivers and stories from Native Americans led them across the mountains (Alvord 1920). What is known is that the Native American tribe that was first contacted by Europeans in Kentucky was probably the Shawnee. It has been traditionally and historically maintained that the earliest routes into Kentucky followed buffalo and game trails frequented by Native Americans (Boisvert 1984:46-49, Brown 1929:4). It was quickly discovered by European Americans that these early trails were easy to follow and that they invariably led to salt and water.

The region in which the study area lays, the Outer Bluegrass, is a large and diverse cultural landscape, encompassing varying soil types, minerals, navigable rivers, and overall terrain. The land was suitable for homesteaders and farmers eager to start a new life in the trans-Appalachian West. The Native Americans of Kentucky and Tennessee were important to Europeans mainly because of Europe's insatiable desire for animal skins and furs. White traders became a common sight along Kentucky and Tennessee's Indian trails after 1673 (Bergeron 1999). French traders operated from posts along the Mississippi and may have ventured into the Ohio Valley, although no posts or forts are documented during this early period. The Ohio Valley during the time of the French in the Mississippi Valley was mostly abandoned of large Native American settlements. The first English traders were from the Virginia colonies, but overall, Kentucky and Tennessee were explored by traders, surveyors, and explorers from both Virginia and North Carolina (Bergeron 1999). By the late 1720s, groups like the Shawnee and Delaware returned to the valley and traded fur with the British and Iroquois. By the mid-eighteenth century, British traders were located at Lower Shawneetown and Pennsylvanian traders and trading houses were present in the larger Indian villages. Traders George Croghan and William Trent established one trading house on the Kentucky side of the Ohio River (McBride and McBride 2008:906-907).

The exploration of Kentucky began in 1750 when Dr. Thomas Walker explored some of eastern Kentucky. His party reached the confluence of the Red and Kentucky rivers. He was followed in rapid succession by a number of other Englishmen: Christopher Gist in 1751 and John Finley in 1752. Walker was a surveyor and employed by the Loyal Company to locate tracts of land for settlement in eastern Kentucky, as well as southwestern Virginia. Working for the Ohio Company, Gist journeyed down the Ohio River as far as the Kentucky River where he was warned about proceeding further on to the Falls of the Ohio because of the threat of the Indians who grew increasingly allied with the French (Rice 1975:9-11).

With the conflict between France and Britain leading to the French and Indian War, the Shawnee and most other Indians in the valley sided with the French. The Pennsylvania traders were forced to abandon the valley as the French entered into the Forks of the Ohio area and in 1757 established a fort (Fort Ascension, later Massac) in Illinois on the north side of the river. Although there was little conflict in Kentucky during this war, the French controlled all trade in the Ohio Valley at this time. However, this was short lived when the fall of a strategic fort (Fort Duquesne), located in western Pennsylvania, greatly lessened French dominance in the upper valley. Before the Treaty of Paris in 1863, most of the French abandoned the upper and much of the central valley (McBride and McBride 2008:908-909).

With the French gone, exploration of Kentucky by the British began in earnest. Land speculators and settlers wasted no time in moving into the area, but were temporarily halted by the Proclamation of 1763 and Pontiac's Uprising of 1763-1765. This did not stop the "Long Hunters", however, who had already entered into Kentucky during the mid-eighteenth century. These hunters came from the eastern United States via the Cumberland Gap and traveled in hunting groups of three to four, collecting elk and buffalo hides (Rice 1975:21-22). In 1769, the most famous Long Hunter, Daniel Boone, first entered Kentucky (Rice 1975:24).

With pressure on British and Colonial officials to shift the Proclamation line further west, a new treaty (Treaty of Lochaber in 1770) and acceptance of an error which shifted the Donelson Line further west in 1771, the new western boundary limiting settlement became the Kentucky River. Surveyor John Donelson had originally thought he had marked the new line on the Big Sandy, but the error was obscured by the inaccurate maps of the day. When the error was eventually revealed, it was too late because of the overwhelming pressure of the speculators and settlers (Rice 1975:34). In 1772, all of Kentucky and the parts of Virginia south of the New and Kanawha rivers became part of a new county, Fincastle. The formation of Fincastle County foreshadowed the inevitable advance into Kentucky (Rice 1975:47).

Both the overland and water routes were considered dangerous during the eighteenth century due to intermittent Indian attacks. Daniel Boone, negotiating with the Cherokee, built the Wilderness Road, which became the primary overland route through Kentucky from 1775 to 1818 (Ison et al. 1991:11). Settlers from North Carolina and southwestern Virginia generally chose this route. Those entering Kentucky via the Ohio River were from Pennsylvania, Maryland, and western Virginia. Travelers' accounts of seeing Kentucky for the first time spoke of great canebreaks with stalks often twelve feet high on the Kentucky side of the river. Further west was vast grassland, mostly cleared by the Indians, and referred to as the "Barrens." It was more expensive to travel by river and few people could afford the price; however, river travel was faster (Rice 1975:19; McBride and McBride 2008:911). Most of these early settlers were heading for the Bluegrass of Kentucky.

The first permanent settlements in Kentucky were in central Kentucky and included Harrodstown (now Harrodsburg, county seat of Mercer County) and Boonesborough. Boone established Boonesborough in what is now Madison County, and most of its settlers came through the Cumberland Gap. Harrodstown was settled by people who came down the Ohio River, however. It predates Boonesborough by one month, having been established by James Harrod on June 16, 1774 (McBride and McBride 2008:911). Elias Tolin was an early settler of the county and made improvements on land on Slate Creek (Kleber 1992).

By 1780, there were three clusters of settlements in Kentucky. These included one at the Falls of the Ohio and Beargrass Creek where George Rogers Clark established Fort Nelson, one northeast of the Kentucky River including Lexington and Bryan's Station, and a third located south of the Kentucky River which included the areas of Harrodstown, Danville, and Logan's Fort. This rapid growth of population combined with threat of Indian attacks led the settlers to demand more county division. Virginia granted their request and Kentucky was divided into three counties: Fayette, Jefferson, and Lincoln. All of these settlements were located around forts and stations which varied from a single fortified cabin or blockhouse to what was almost a fortified town with numerous cabins surrounded by stockade (i.e. Bryan, Ruddles, or Strode stations) (McBride and McBride 2008:911).

Unfortunately for the first settlers, the Revolutionary War was beginning and most of the Ohio Valley Indians were allied with the British. The Shawnee in particular were given incentive to attack any new

American settlement. The result for many of these new settlements was their abandonment temporarily and settlement only progressed slowly throughout the war until its end in 1783. After 1783, however, this changed and the rush for new lands, particularly of central Kentucky, once again commenced (McBride and McBride 2008:911-12). Most of these settlers came from the piedmont and valley of Virginia, but some also from Maryland and North Carolina. They were not restricted to the lower or middle classes, as some gentry were settlers too. These gentry brought with them their slaves, establishing large plantations in the Bluegrass with slave labor and ideas of social hierarchies practiced back in Virginia where they were considered the social elite.

In 1792, Kentucky finally became a state. Statehood brought state-funded transportation improvements. Besides road developments, improvements and regulation in river transportation included the first passenger boats in 1799 and ferry crossings on rivers or larger creeks.

The area that would become Bath County was first settled as early as 1775. Elias Tolin settled in the Slate Creek area and other settlers followed, possibly attracted by the large iron ore deposits in the area (Kleber 1992). The Old State iron furnace was constructed in 1790, and the county provided iron to Kentucky and other nearby regions throughout the late eighteenth and early nineteenth centuries (Kleber 1992). Bath County was formed in 1811 out of part of Montgomery County and named for the many medicinal springs within the county. Olympia Springs was one of Kentucky's more famous resorts during the nineteenth century and was the first stage coach line destination out of Lexington. Owingsville was named the county seat, although prior to 1811 the county seat was Catlett's Flat (Kleber 1992). Figure 3-1 illustrates Kentucky and Virginia in 1794.

Figure 3-1. Kentucky & Virginia in 1794 (Lewis).

3.2.2 Antebellum (1820-1861)

From the 1780s and into the early nineteenth century, an agricultural surplus of tobacco, corn, and whiskey in Kentucky served as important commercial commodities. Shipment of these products was tied to the rivers of Kentucky.

Connecting to these waterways, several networks of state turnpikes and county roads linked the communities of central and northern Kentucky with the international market in New Orleans (Dunaway 1996). The Ohio River was the main corridor of trade in the early settlement period, linking settlements on both sides of the river, and carrying livestock droves and trade goods to distant markets. It was in the 1830's that the Limestone-Lexington Turnpike became macadamized, to support the volume of traffic on that important route.

The first two decades of the nineteenth century in Kentucky underwent significant changes in settlements, agriculture, social and economic structure, and political organization. Growth and speculation occurred and an economic boom in the 1810s led to an increase in commercialization of farming and growth in slave plantations. An increase in industrialization led to river improvements and the arrival of the steamboat in 1815 opened the Ohio River on a new level and led to a dramatic increase in the already thriving river trade (McBride and McBride 2008:918).

By the mid-1820s, Kentucky and most of the country was recovering from the depression. River steamboat traffic was increasing on the Ohio River and cultural and economic ties between Kentucky and the rest of the country were greatly improved. According to McBride and McBride (2008:922), this time was "truly the age of the river town, or city, in Kentucky."

During the Antebellum period the industries associated with small towns were agriculturally based and included flour and grist mills, tobacco factories, hemp factories, leather shops, woolen mills and distilleries (McBride and McBride 2008:927). (Kleber 1992:93). Figure 3-2 shows Bath County in 1856.

Figure 3-2. Location of Bath County in 1856 (Colton).

The three largest factors in the deterioration of Kentucky's agriculture and industry during this time were the loss of the labor force, the loss of the market at New Orleans, and the major drought across the region that lasted from 1860 to 1863. About 100,000 Kentucky men entered the Union Army and up to 40,000 entered the Confederate Army (McBride and McBride 1990:610). Almost one third of those enlisted died. With the help of individuals like Delia Webster, slaves escaped across the Ohio River in the early years of the war. In 1864, the U.S. Government granted freedom to any slave that enlisted in the U.S. Army. The male slaves also brought their families to the encampments (McBride et al. 2003).

Bath County suffered like the rest of the state during the war. In October of 1863, at Olympia Springs, the 1st Kentucky Federal Cavalry met about 250 rebel troops and both sides claimed victory (Kleber 1992). In March of 1864, the county courthouse was destroyed during a skirmish between Federal troops and Confederate troops (Kleber 1992). Figure 3-3 illustrates Bath County in 1863.

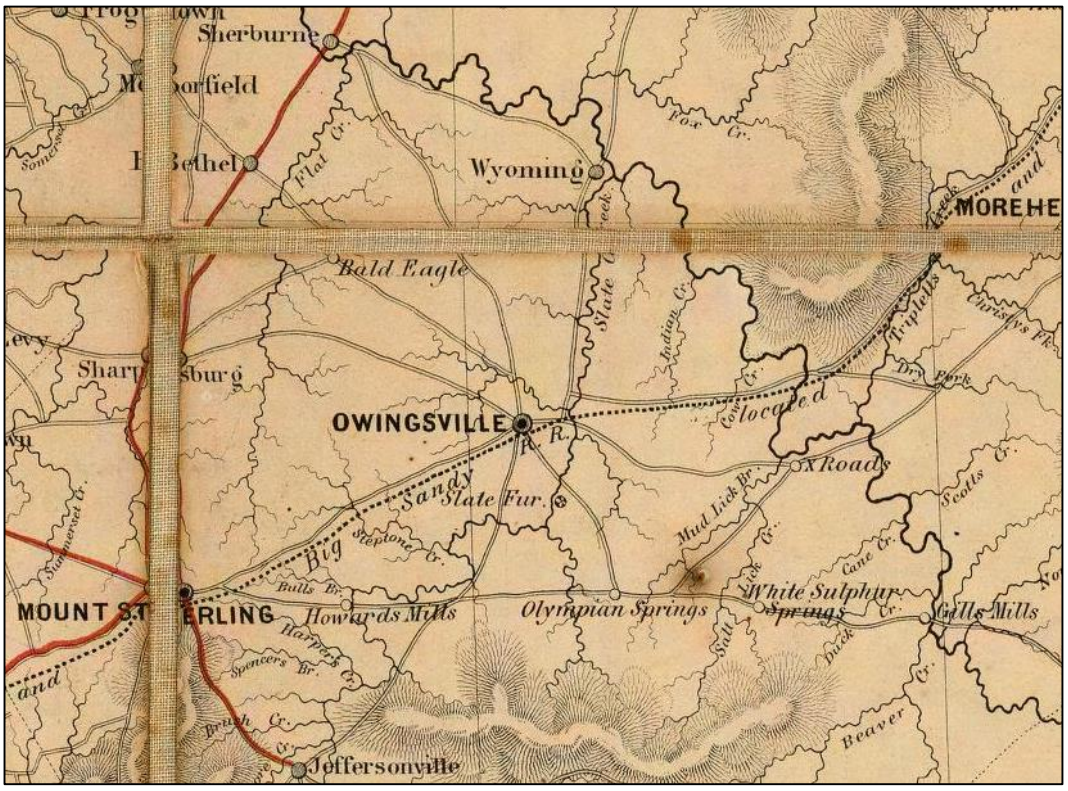

Figure 3-3. Bath County in 1863 (Swann).

3.2.3 Postbellum Industrialization (1865-1914)

Changes in social and economic systems greatly affected Kentucky during the Postbellum period (McBride and McBride 1990:615). During this period the state began to deal with the emancipation of African-Americans and their role in the society. The agricultural system began to change with the introduction of white burley tobacco (McBride and McBride 1990:615). There were significant developments in communication and transportation, growth in industry and commerce and increased urbanization (McBride and McBride 1990:615).

After the war, agriculture and manufacturing recovered and expanded. Former slaves took agricultural or industrial jobs for pay. Many hamlets grew up around farms and also in urban areas

that were populated by the recently freed African-Americans. Markets in the south opened up again. The hemp industry revived after the war and again became a major crop and industry (Hopkins 1998). However, the production of tobacco gradually increased and would eventually overtake hemp as the most important cash crop in Kentucky.

Despite all these hardships, by 1870, Kentucky was first in hemp production, third in the production of mules, fifth in the production of swine, and eight in the production of corn, wheat, and flax (Axton 1975; Tapp and Klotter 1977). Tobacco production increased more than 70% from 1870 to 1900 in Kentucky (Tapp and Klotter 1977). Kentucky benefited from the fact that less damage occurred within the state in comparison to other states during the Civil War.

Mass production and a growing desire for consumer goods stimulated retail trade and the growth of most cities and towns throughout Kentucky during this period. The availability of mass-produced goods led to a general decline in local manufacturing and the consolidation of small manufacturing operations. The decline in local industries also may have resulted in the rural to urban migration (McBride and McBride 2008:948).

In Bath County, the arrival of railroads opened the county up to markets in the rest of the state as well as markets along the east coast. In 1880, the Elizabethtown, Lexington & Big Sandy Railroad extended from Mt. Sterling into the county and by 1882, this line was connected to the Chesapeake & Ohio Railroad (Kleber 1992). The Chesapeake & Ohio Railroad maintained this line in Bath County into the 1980s (Kleber 1992). Figure 3-4 shows Breathitt County in 1891.

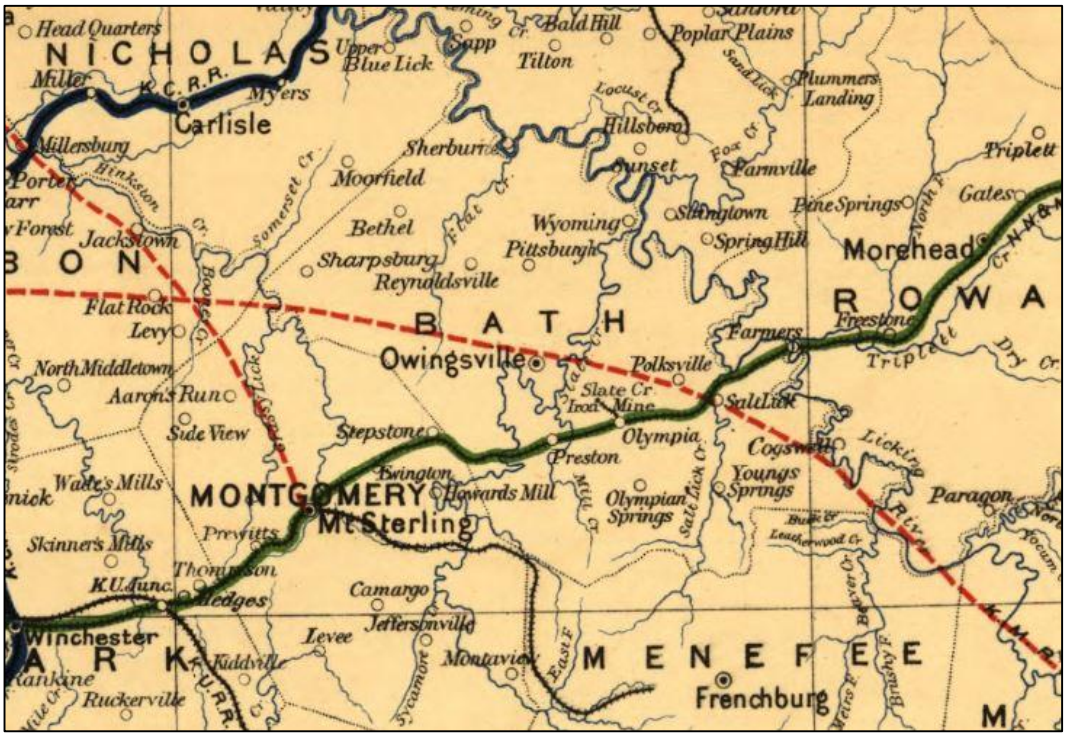

Figure 3-4. Breathitt County in 1891 (Hoeing).

3.2.4 Twentieth Century

The beginning of this period was very similar to the previous period. Kentucky was still a leader among the southern states in agricultural products and a continued production pattern in industrialization and manufacturing also occurred.

The Great Depression and World War II were two of the most important events of the Twentieth Century. For many, the onslaught of the Depression was not apparent until the stock market crashed in October 1929. For farmers, however, hard times began much earlier. Agricultural prices had been depressed for nearly a decade before the crash and remained so until World War II.

The Great Depression affected every facet of American life, sapping energy from the economy and draining the citizenry's ability to build. Although no unemployment figures were kept, it is generally thought that the jobless rate hovered around 12 percent in Kentucky.

New Deal programs put together by the Roosevelt administration in the 1930s changed the face of Kentucky. Born of economic desperation of the Great Depression, the New Deal implemented work programs that provided paying jobs for the unemployed. The Civilian Conservation Corps (CCC), Works Progress Administration (WPA), Public Works Administration (PWA), Civil Works Administration (CWA), and Resettlement Administration put to work many of the Kentucky unemployed.

Mechanization of agriculture and the general decline in farming as a way of life, continued urbanization, major improvements in roads, and a decline in river traffic all occurred at this time. There were also increases in stores and access to consumer goods (McBride and McBride 2008:967). Kentucky's population increased during the period, but at a slower rate than the rest of the Southeast (McBride and McBride 2008:967).

Bath County has remained mostly agricultural throughout the twentieth century and into today. Although, the economy also relies on some service and retail trade. The population experienced a steady increase towards the conclusion of the twentieth century, increasing from 9,692 in 1990 to 11,591 in 2010 (Figure 3-5).

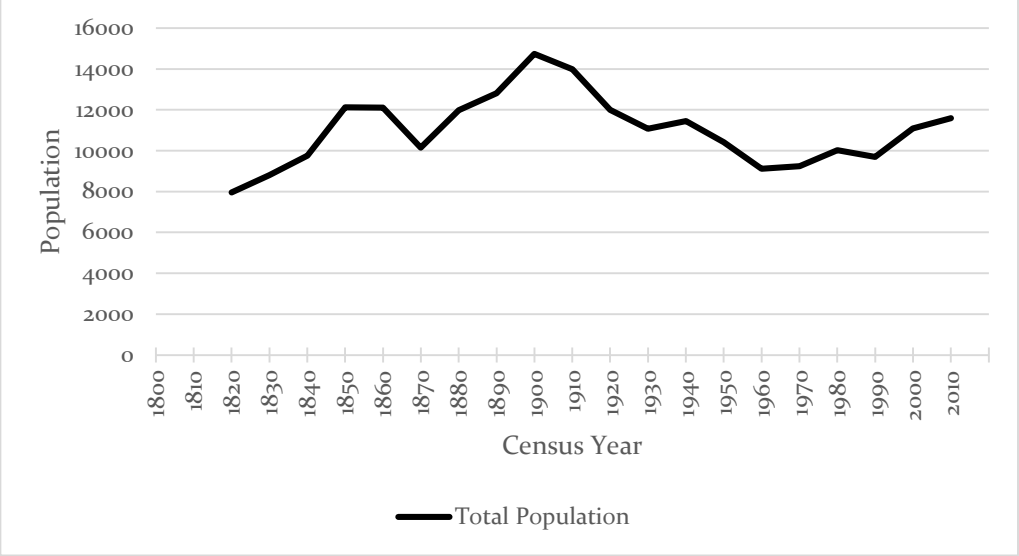

Figure 3-5. Population Fluctuation from 1820 to 2010 for Bath County, Kentucky (USCB 2015).

3.3 Historic Map Research

USGS maps available were the 1953 and 1970 (photo-inspected 1975) 7.5 minute topographic maps for the Colfax, KY quadrangle and the 1929 and 1934 15 minute topographic maps for the Salt Lick, KY quadrangle. Also available were a 1937 *Highway and Transportation Map of Bath County, Kentucky* and the 1954 *Rural Highway Series of Bath County, Kentucky* (Kentucky Department of Highways 1937, 1954).

3.4 Previous Archaeological Research

The survey report files at the Office of State Archaeology (OSA) were consulted on November 16th, 2015, and two prior archaeological surveys were recorded within a 2 km radius of the archaeological APE (Figure 3-6).

In 1988, archaeologists from Cultural Resource Analysts, Inc. conducted a .06 acre Phase I archaeological survey in Bath County, Kentucky. The survey was completed at the request of the Bath County Water District prior to the construction of one pumping station and three tank locations. Survey methods consisted of intensive pedestrian survey and shovel testing, resulting in the location of one previously unrecorded archaeological site, 15Bh155. Also known as the Estill site, it was documented as an indeterminate prehistoric site that was mostly destroyed by logging and deemed ineligible for the NHRP. No further work was recommended (Niquette and Walters 1988).

In 1994, archaeologists from Cultural Horizons, Inc. completed a two acre Phase I and II archaeological survey in Bath County, Kentucky. The survey was conducted at the request of East Kentucky Power Cooperative, Inc., prior to the construction of an electric substation. Survey methods consisted of pedestrian survey, shovel testing, piece plotting of artifacts, and plow zone removal in four areas. In the Phase I portion of the survey, shovel testing identified Site 15Bh194, an open prehistoric lithic scatter. Although artifact density was not particularly high, the size of the scatter led archaeologists to recommend a Phase II survey in order to determine eligibility for the NHRP. The grassy field was plowed, artifacts on the surface were piece plotted, and the plow zone was removed in four areas by a backhoe. None of these four areas contained intact subsurface deposits, and the site was determined to be ineligible for the NHRP. No further work was recommended (Stallings and Ross-Stallings 1994).

3.5 Known Archaeological Sites

The site files at the OSA were consulted on November 16th, 2014. No previously recorded archaeological sites were documented within the project area, but sixteen sites had previously been recorded within a two-kilometer radius of the APE. These sites are described below.

15Bh8 is identified only as a mound originally recorded by J. B. Hoeing. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh8).

15Bh9 is identified only as a mound originally recorded by J. B. Hoeing. It is located in close proximity to Site 15Bh8. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh9).

15Bh54 is a prehistoric Adena camp site or workshop first recorded by John J Coyle. It was identified by three Adena contracting stem projectile points and a variety of flakes discovered in an agricultural field. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh54).

Figure 3-6. Locations of Previous Archaeological Investigations.

15Bh77 is an unaffiliated prehistoric lithic scatter located within an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh77).

15Bh78 is an unaffiliated prehistoric lithic scatter located within an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh78).

15Bh79 is an unaffiliated prehistoric lithic scatter located in an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh79).

15Bh81 is an unaffiliated prehistoric lithic scatter located in an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh81).

15Bh82 is documented as a Paleo Indian lithic scatter first recorded by D. R. Maynard with the Kentucky Heritage Council. It was identified by chipped stone found by the landowner, Harley Ellington. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh82).

15Bh83 is an unaffiliated prehistoric lithic scatter located in an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is located at 860 ft. AMSL on a hill overlooking a creek and measures about 2,500 m^2 in size. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh83).

15Bh84 is an unaffiliated prehistoric lithic scatter located within an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is located at 680 ft. AMSL and measures roughly 7850 m^2. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh84).

15Bh85 is documented as an Archaic and Woodland lithic scatter located within an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. It is located at 680 ft. AMSL and measures about 30,000 m^2 in size. Diagnostic material included a Dalton Point. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh85).

15Bh86 is an unaffiliated prehistoric lithic scatter first recorded by D. R. Maynard with the Kentucky Heritage Council. It is located within an agricultural field at the time of survey along a floodplain at about 680 ft. AMSL. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh86).

15Bh87 is an unaffiliated prehistoric lithic scatter first recorded by D. R. Maynard with the Kentucky Heritage Council. At the time of survey, it was located within an agricultural field along a terraced floodplain at about 700 ft. AMSL, and was initially identified by the landowner, Bill Maud, who discovered an unfinished bannerstone. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh87).

15Bh88 is documented as an Archaic and Woodland lithic scatter located in an agricultural field and first recorded by D. R. Maynard with the Kentucky Heritage Council. The site is situated at about 710

ft. AMSL. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh88).

15Bh90 is a Paleo Indian lithic scatter first recorded by D. R. Maynard with the Kentucky Heritage Council. It was identified by a Clovis point found by the landowner, Phil Foley. It is not indicated whether the site was surveyed or evaluated for the NRHP (Site Form for 15Bh90).

Site 15Bh194 is multi-component site first documented by Richard Stallings in 1994 as part of a Cultural Horizons, Inc., survey prior to the construction of a substation by East Kentucky Power Cooperative, Inc. The site includes an indeterminate prehistoric component and a late 19th to early 20th historic component. The site is located in an open field at 860 ft. AMSL and measures about 7,000 m^2. The Phase I survey included thirty-one shovel probes that yielded ten Boyle chert flakes, including one utilized flake. Although no diagnostic material was recovered, the size and spread of the site indicated that it may be more than a short-term occupation, and further testing was recommended. In the subsequent Phase II testing, the field was plowed and a piece plot was made of the surface collected artifacts. Two concentrations of chipped stone tools, including two bifaces and five cores, were identified in the eastern half of the project area. Scattered throughout the project area were flakes, a Late Archaic point, two bifaces, and a core. Two historic clusters were also identified, likely associated with a late 19th to early 20th residence illustrated in the vicinity on historic maps. None of the areas stripped of plow zone appeared to contain any subsurface deposits and do not appear to have any future research potential. No further work was recommended for the site (Site Form for 15Bh194; Stallings and Ross-Stallings 1994).

Section 4 -

Methodology

In this chapter, the methods employed during the course of this study are described. These methods include the fieldwork activities, their application in different portions of the archaeological APE reflecting conditions encountered, and an evaluation of their effectiveness in conducting initial National Register evaluation of the archaeological site. Laboratory methods are discussed in the following section (Section Five) along with the site assemblage and a discussion of the associated contexts of recovery and interpretation. This section also presents an overview of the requirement for nomination to the National Register of Historical Places and concludes.

4.1 Implemented Field Methods

The field methods implemented for the Phase I investigations conform to the Kentucky Heritage Council's specifications for conducting a Phase I survey (Sanders 2006). The field methods included systematic shovel probes and visual inspection. Systematic shovel test probes (STPs) were excavated where possible. All soil excavated from the STPs was screened through ¼ inch mesh screens with the intention that any and all artifacts retained in the screen would be collected and bagged according to provenience. Areas of 15 percent or greater slope were visually inspected for surface remains.

Areas that were under concrete, gravel, or asphalt, such as roadways and driveways, were not excavated, but were visually inspected. A total of one hundred (100) STPs were excavated, which included all radials. The location of all the shovel probes are shown USGS quadrangle maps and aerial photographs are shown in Figure 4-1 through Figure 4-6.

4.1.1 Field Conditions

The entire APE was subjected to visual inspection. Shovel probing was conducted across the entire APE. Approximately 100 percent of the shovel tested portions of the APE were completely grown over in pasture grasses or mowed lawns that offered zero ground surface visibility (Figure 4-7 through Figure 4-10).

4.1.2 Evaluation of Field Methods Used

Shovel testing and visual inspection were used to identify and define approximate site limits within the survey area. The methods were successful in identifying site location, delineating site boundaries, and obtaining a sample of cultural materials from the site.

4.2 National Register Evaluation of Archaeological Sites

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their undertakings on properties listed or eligible for listing in the National Register and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment. While it does not require the preservation of such properties, it does require that their historic or prehistoric values be considered in weighing the benefits and costs of federal undertakings to determine what is in the public interest. Section 106 is invoked when “any project, activity, or program that can result in changes in the character or use of historic properties” (36 CFR Part 800) whether federal agency jurisdiction is direct or indirect.

Figure 4-1. Location of STPs on USGS Topographical Map, Page 1.

Figure 4-2. Location of STPs on USGS Topographical Map, Page 2.

Figure 4-3. Location of STPs on USGS Topographical Map, Page 3.

Figure 4-4. Location of STPs on Aerial Photograph, Page 1.

Figure 4-5. Location of STPs on Aerial Photograph, Page 2.

Figure 4-6. Location of STPs on Aerial Photograph, Page 3.

Figure 4-7. General View of the Project Area, Looking West.

Figure 4-8. General View of the Project Area, Looking South Southwest.

Figure 4-9. General View of the Project Area, Looking South Southwest.

Figure 4-10. General View of the Project Area near the Western Terminus, Looking East.

Pursuant to the October 1992 Amendments to the National Historic Preservation Act (Section 110 of NHPA 1980, amended 1992) an "undertaking" means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including (A) those carried out by or on behalf of the agency; (B) those carried out with federal financial assistance; (C) those requiring a federal permit, license, or approval; and (D) those subject to state or local regulation administered pursuant to a delegation or approval by a federal agency.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- that are associated with events that have made a significant contribution to the broad patterns of our history; or
- that are associated with the lives of persons significant in our past; or
- that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- that have yielded, or may be likely to yield, information important in prehistory or history.

Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A-the property's specific association must be considered important as well. Often, a comparative framework is necessary to determine if a site is considered an important example of an event or pattern of events.

In order to qualify under Criterion B, the persons associated with the property must be individually significant within a historic context. As with all Criterion B properties, the individual associated with the property must have made some specific important contribution to history.

To be eligible under Criterion C, a property must meet at least one of the following requirements: the property must embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction.

Criterion D requires that a property "has yielded, or may be likely to yield, information important in prehistory or history." Most properties listed under Criterion D are archaeological sites and districts, although extant structures and buildings may be significant for their information potential under this criterion. To qualify under Criterion D, a property must meet two basic requirements:

- The property must have, or have had, information that can contribute to our understanding of human history of any time period;
- The information must be considered important.

The use of Criteria A, B, and C for archaeological sites are appropriate in limited circumstances and have never been supported as a universal application of the criteria. However, it is important to consider the applicability of criteria other than D when evaluating archaeological properties. It is important to note that under Criteria A, B, and C the archaeological property must have demonstrated

its ability to convey its significance, as opposed to sites eligible under Criterion D, where only the potential to yield information is required.

Section 5 -

Materials Recovered

In this section the laboratory procedures and analytic methods are discussed and the materials recovered are presented. The analytic methods involve the use of an artifact classification scheme that creates useful analytic categories for evaluating National Register eligibility. The artifact assemblages are also discussed with the site descriptions and results in Section Six.

5.1 Laboratory Methods

Artifacts recovered during field investigations were brought to the CDM Smith archaeology laboratory in Lexington, Kentucky, for washing, cataloging, and initial analysis. Materials were washed and sorted by general material type (e g., historic vs. prehistoric). All prehistoric specimens are classifiable into one class based on stage of reduction, tool form, and portion represented. A series of attributes and metric data were then collected for specific prehistoric artifact classes including size of debitage, cortex presence and absence, thermal alteration, and raw material type. Prehistoric lithic specimens were identified by J. David McBride.

In the following discussion, each of the major categories of prehistoric artifacts is defined.

5.1.1 Prehistoric Artifact Assemblages

5.1.1.1 Prehistoric Lithics

The analyses included tool analysis, raw material analysis, and mass analysis. These different techniques provide complementary data and permit the extrapolation of stronger inferences about the organization of lithic technology at the four sites. One hundred percent of all surface-collected and excavated materials were subjected to these, except where noted below.

All debitage was macroscopically examined for evidence of retouch and/or utilization. Those artifacts displaying retouch and/or utilization were then separated from non-utilized debitage. Additionally, all chipped stone artifacts were analyzed for presence of primary geologic or secondary incipient cone cortex and macroscopic evidence of thermal alteration. A typology of specimens was developed using standard techniques and definitions employed throughout eastern North America (e.g., Callahan 1979; Crabtree 1982; and Odell 1996).

5.1.1.1.1 Lithic Debitage

One of the most ubiquitous artifact categories on prehistoric sites is lithic debitage, which is considered to include all the material produced from the initial reduction stage to the use/reworking stage. Debitage is produced during all stages of reduction, but the representation of each class as compared to the other classes provides insight into the types of lithic use that occurred at a specific location. All flakes, blades, chunks/shatter were analyzed according to platform facet and dorsal scar counts, presence of cortex, and macroscopic evidence of thermal alteration and/or utilization.

Flakes are pieces of debitage with two faces, a dorsal and a ventral. The dorsal surface can be partly or totally covered by cortex, but normally shows the scars from removals that were made before the flake was removed from the core. The ventral surface contains only the features related to the detachment of the particular flake.

Flake debitage produced in bifacial and unifacial technologies is divided into three major categories including primary flakes, secondary flakes, and tertiary flakes, and several subcategories based on specific morphological attributes. These lithic reduction categories follow classification stages proposed by Collins (1974), Flenniken (1978), Boisvert et al. (1979), Magne and Pokotylo (1981), Magne (1985), Ebright (1987), and Bradbury and Carr (1995) with some modifications. A brief description of each debitage category is provided.

Primary flakes (primary and secondary decortication flakes) are those produced during the earliest stages of lithic reduction and result from the removal of cortex from the raw material. *Primary decortication flakes* are usually large and cortex is present on over 50 percent of the dorsal surface. *Secondary decortication flakes* contain cortex on less than 50 percent of the dorsal surface.

Secondary flakes (interior and thinning flakes) result from the reduction and shaping of the initial biface. Secondary flakes characteristically display a well-developed bulb of percussion, one or more flake scars on the dorsal surface, and may exhibit platform preparation. *Interior flakes* generally have large, double faceted platforms perpendicular to the orientation of the flake. *Thinning flakes* may have multi-faceted platforms at an acute or obtuse angle to the flake's orientation and may show signs of crushing or battering in preparation for flake removal from the parent material.

Tertiary flakes (late stage percussion and pressure flakes) result from the sharpening and/or reworking of tools or points. These flakes are generally very small with small striking platforms, often multifaceted and steeply angled. Tertiary flakes are usually underrepresented in artifact assemblages recovered with standard ¼ inch hardware mesh screens, as these flakes are frequently smaller than ¼ inch and pass through the screens.

Flakes struck from flake cores for further unifacial modification are generally indistinguishable from those produced in bifacial reduction. However, a formal, specialized unifacial technology is blade manufacture, which produces morphologically distinct artifacts.

Blades are specialized flakes with more or less parallel or sub-parallel lateral edges which, when complete, are at least twice as long as wide (Owen 1982: 2). Blades contain at least one dorsal crest but may contain two or more dorsal crests. Blades are associated with prepared cores and blade technique and are not produced randomly (Crabtree 1982: 16).

Debitage displaying some flake characteristics are classified as *undetermined flakes* if they are too fragmentary to determine flaking stage.

Chunks/shatter are pieces of usable raw material with at least one freshly broken surface. Blocky and angular fragments are usually produced in the initial stages of flintknapping as a result of removing unstable areas of material from the core or blank. Chunks/shatter are distinguished from cores by the absence of negative flake scars and striking platforms. Natural processes may produce a small proportion of chunk/shatter.

5.1.1.1.2 Raw Material Analysis

The determination of raw material type was accomplished with the aid of written descriptions (DeRegnaucourt and Georgiady 1998, Gatus 1980, 1982). All debitage and tools in the assemblage were macroscopically inspected to determine raw material type and compared with existing

descriptions. Examining raw material procurement trends can yield data on settlement patterns, resource procurement strategies, and trade and exchange networks.

5.1.1.1.3 Mass Analysis

Mass analysis focuses on the variables of size, shape, and presence of cortex on aggregate batches of debitage as a means of distinguishing various forms and characteristics of reduction within a lithic artifact assemblage. Because there are several disadvantages in using reduction stage classification exclusively to analyze flaking debris, data obtained from mass analysis can be used to compare with those gained from reduction stage classification to provide more solid interpretations of the lithic artifact assemblage (Ahler and Christensen 1983, Ahler 1989, Bradbury and Franklin 2000). Two general theoretical observations regarding flintknapping underlie mass analysis and are relevant to the current study:

Flintknapping is fundamentally a reductive technology, and the nature of this technology places predictable and repetitive size constraints on the byproducts (and products) produced. Most flakes produced early in reduction should be larger, and most flakes produced late in reduction should be smaller. Similarly, the frequency of flakes with cortex should be highest in early reduction and lowest in late reduction.

Variation in load application in the flintknapping procedure produces corresponding variations in both size and flake shape. Experimental data shows that percussion flaking, on the whole, is capable of producing flakes much larger in size than any produced by pressure flaking. Size grade distribution data provides a fairly direct measure of load application variation (Ahler 1989: 89-91).

For this project, all non-utilized debitage (flakes, flake fragments) were passed through a series of nested laboratory hardware cloth screens to sort by size. Size grades follow Stahle and Dunn (1982, 1984). The size grades are as follows:

Grade 0 includes specimens smaller than ¼ inch

Grade 1 includes specimens smaller than ½ inch but larger than ¼ inch

Grade 2 includes specimens smaller than 1 inch but larger than ½ inch

Grade 3 includes specimens smaller than 2 inches but larger than 1 inch

Grade 4 includes specimens larger than 2 inches

Flake debris from each provenience in each grade was weighed as an aggregate to the nearest tenth of a gram and then counted. One attribute, thermal alteration, was also recorded for the reduction debris. Thermal alteration is often intentional within the culture in order to change the properties of the chert in order to make the raw material more adept to tool production.

The presence of primary geologic cortex may indicate that the raw material was procured from outcrops, whereas secondary incipient cone cortex on the core surface suggests that raw material was procured from a stream context. Research has shown that reduction analysis insufficiently provides data on the stage during which a flake was removed. However, by comparing frequency of occurrence of cortex on flakes, research indicates that a higher percentage of flakes during the initial stages of lithic reduction will have cortex and a lower percentage will have cortex during the final stages of lithic reduction. In addition, the amount of the flake covered in cortex is also an indicator of the stage

during which the flake was removed, again more coverage indicates removal during the initial stages, and less coverage indicates later removal. Thus flakes with cortex were evaluated according to the following criteria:

Grade 1 includes specimens with primary geologic cortex over greater than 50% surface

Grade 2 includes specimens with primary geologic cortex over less than 50% surface

Grade 3 includes specimens with secondary conical cortex over greater than 50% surface

Grade 4 includes specimens with secondary conical cortex over less than 50% surface

All of these methods compose mass analysis. When taken together, they can provide extensive data on the methods of tool production.

5.1.1.1.4 Materials Recovered

Thirty pieces of lithic debitage (Table 5-1) were recovered from Phase I investigations. The debitage consisted of early stage manufacture (n=3), middle stage manufacture (n=11), indeterminate flakes (n=8), and chunk/shatter (n=8). The debitage was made from Boyle chert (n=21), Brassfield chert (n=1), and unidentified chert (n=8).

Table 5-1. Prehistoric Lithic Debitage.

Raw Material	Debitage Type	SG 0	SG 1	SG 2	SG 3	Total
Boyle	Chunk/Shatter		1	1	1	3
	Indeterminate Flake	1	3	2		6
	Interior Flake			1		1
	Primary Decordication			1		1
	Secondary Decordication			1		1
	Thinning Flakes		7	2		9
Brassfield	Secondary Decordication			1		1
Unidentified	Chunk/Shatter		3	2		5
	Indeterminate Flake		2			2
	Interior Flake			1		1
Total						**30**

5.1.1.1.5 Lithic Tools

5.1.1.1.5.1 Unifacial Flake Tools

Unifacially flaked stone tools are made on flakes and retain the unmodified smooth ventral flake surface. Flakes these tools may be either debitage from bifacial reduction or may have been struck from cores with the intention of further modification. Blade cores, blades, multifacial flake cores, and

the resultant unifacial tools are direct evidences of a unifacial tool manufacturing industry. Formal tools in this category include unifacial scrapers, burins, denticulates, and gravers. Also included are informal tools which are debitage that has been utilized and/or minimally retouched for use on an expedient basis and then discarded.

Four retouched flakes were recovered during Phase I investigations. All were made from Boyle chert.

5.1.1.1.5.2 Cores

A core consists of any piece of raw material from which flakes, blades, or bladelets have been intentionally removed. Cores can be embryonic, such as a piece of natural unprepared raw material with scars, reflecting the detachment of one or more flakes (Crabtree 1982: 30). Cores must exhibit at least one negative flake scar and a striking platform. Cortex may be retained over some of the surface, although this depends on the number of flakes or blades removed. The presence of primary geologic cortex may indicate that the raw material was procured from outcrops, whereas secondary incipient cone cortex on the core surface could suggest that raw material was procured from a stream context. Exhausted cores, (i.e., those too small for further reduction) may have been discarded at a site after use; cores still fit for reduction may also have been stored at a site for later use. The simplest forms of cores are described by the number of core platforms and whether the negative removals indicate blade or flake production.

One core, made from Boyle chert, was recovered during Phase I investigations.

5.1.1.1.5.3 Bifacial Tools

Bifaces are generalized bifacially flaked artifacts which may be blanks or preforms for morphologically distinct bifacial tools, or finished tools in their own right. Types of bifaces are based on technological attributes including flake scar patterns, edge sinuosity, width/thickness ratio, and edge angles. Callahan's biface production stages (1 through 5) are followed in this analysis (1979). Nondiagnostic bifacial tools were measured and described in as much detail as possible. Lacking chronological attributes, these specimens can only be assigned to function, and where possible by association with datable strata.

One bifacial tool fragment was recovered. It was made of Boyle chert, but lacked chronological and functional attributes.

5.1.1.1.5.4 Ground Stone

Ground stone tools have not been studied as systematically as chipped stones tools. For ground stone artifacts, the raw material was selected in roughly the desired shape, then pecked with a hammerstone and ground on an abrasive surface to form the final shape (Cook 1976; Dowd 1989). Nutting stones have circular depressions for processing nuts and other plant foods.

One sandstone nutting stone was recovered from the Phase I investigations.

5.1.1.2 Faunal

One faunal specimen was recovered from the Phase I investigations. Since it was recovered during Phase I survey in the plow zone no specialists were consulted. The specimen was a mussel shell fragment. Neither genus nor species was determined.

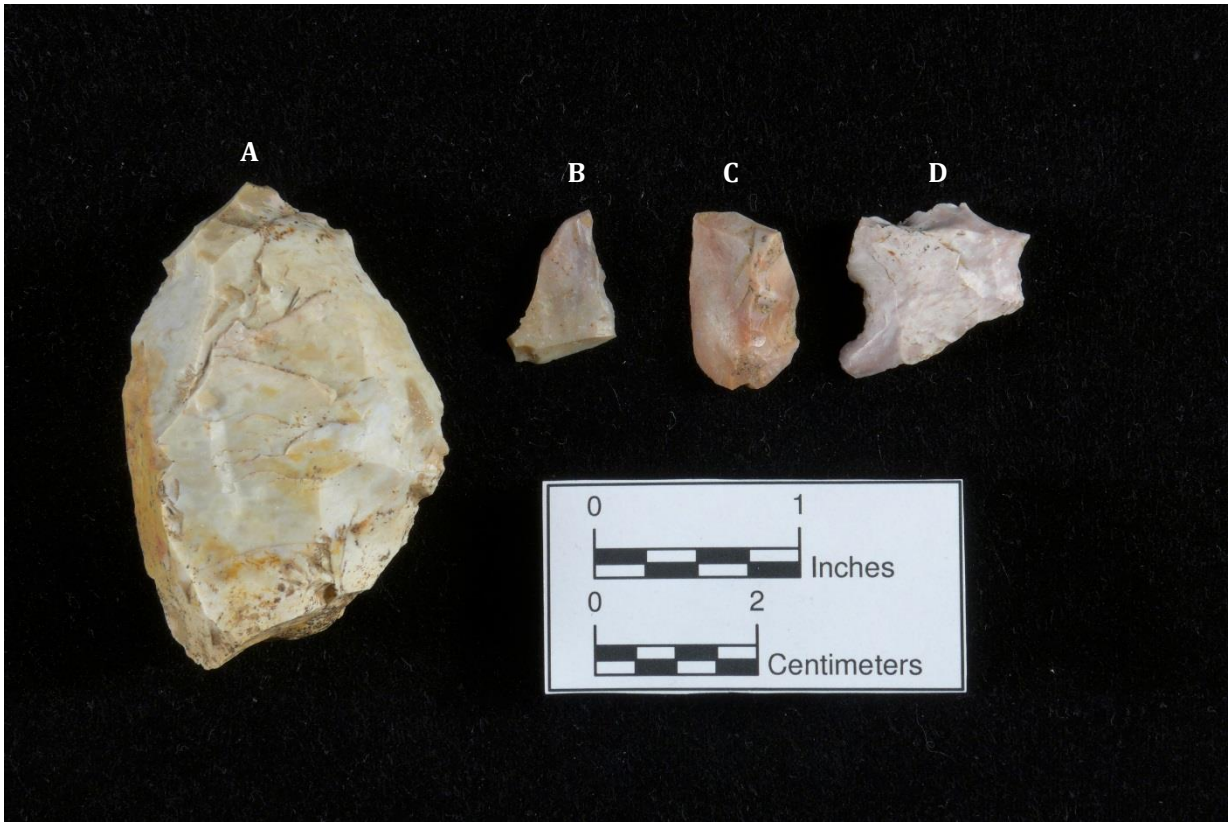

Figure 5-1. Artifacts Recovered: A) Core; B-C) Retouched Flakes; D) Biface Fragments.

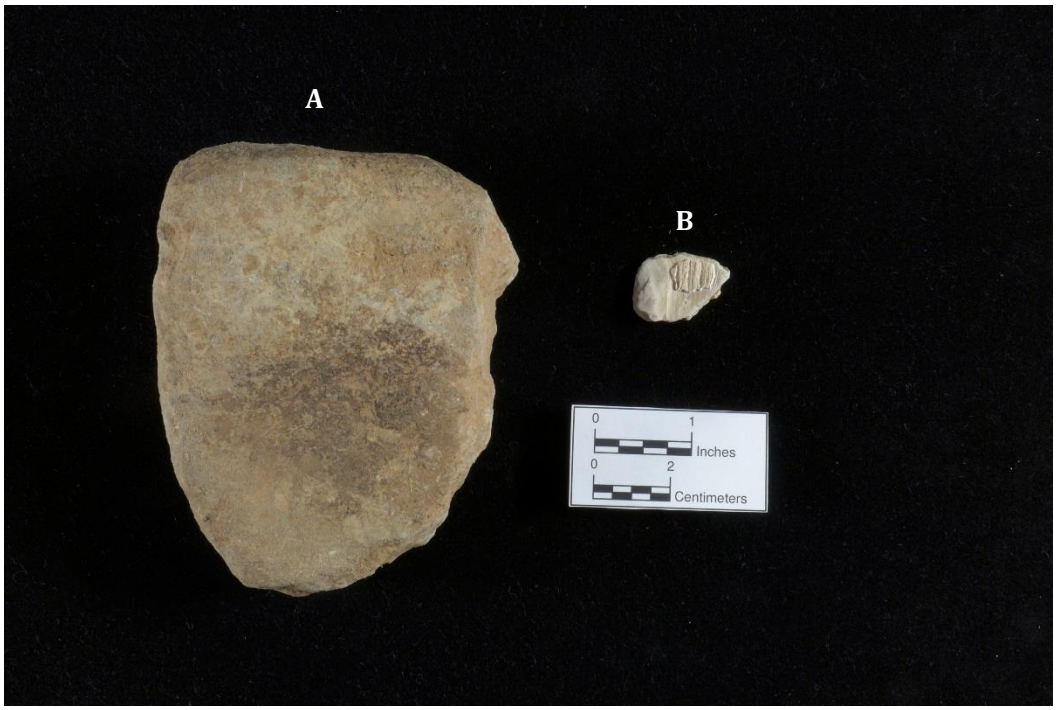

Figure 5-2. Artifacts Recovered: A) Nutting Stone; B) Mussel Shell Fragment.

Section 6 -

Results

Three archaeological sites (15Bh293, 15Bh294, and 15Bh295) were located within the APE. The following is a description of the remaining findings. Their location is shown in Figure 6-1 and Figure 6-2. The following is a description of the findings. Artifacts were found in STP 19, but determined to be secondary deposit from colluvial activity. The artifacts from STP 19 consisted of three SG 1 Boyle thinning flakes and one SG 2 Brassfield secondary decordication flake.

6.1 Site 15Bh293

Site 15Bh293 consists of a small indeterminate, prehistoric component that likely extend outside the APE boundaries to the north. Fourteen lithic artifacts were recovered, but none were diagnostic.

6.1.1 Location

Site 15Bh293 can be found on the USGS Colfax, Kentucky, 7.5' quadrangle map (Figure 6-3 and Figure 6-4). The UTM coordinates (Zone 17 NAD 27) for the center of the site are REDACTED. The site area is 0.167 acres (0.07 hectares), and sits approximately 825 m west northwest of the confluence of Prickly Ash Creek and Washington Branch. The confluence of Prickly Ash Creek and Slate Creek lies about 928 m east northeast of the site. The closest water source is Slate Creek at a distance of about 156 m south. The site's location is shown on KYTC design sheets for the KY 111 proposed reconstruction in Figure 6-5.

6.1.2 Site Description

The site is located on a ridge north of KY 111 and Slate Creek at about 742 ft. AMSL within a pasture. A barn is located to the northeast of the site. At the time of the survey, ground surface visibility was low, less than 10% visibility. The known site extent is bound to the north by the APE limits and to the east, west, and south by negative shovel probes. It is likely that the site extends north of the survey boundary. Figure 6-6 though Figure 6-7 shows the site area.

Shovel test probes (STPs) were excavated across this portion of the project area at 20 m intervals along two transects. When the site was identified, interval distance was reduced to 10 m between positives and negatives in order to refine the site boundary definitions. No buried cultural deposits were identified and a total of four positive STPs were excavated.

6.1.3 Artifacts Recovered

Fourteen artifacts were recovered from the four positive STPs (Table 6-1). Twelve of the artifacts were lithic debitage and two of the artifacts were retouched flakes (Figure 6-8). The debitage consisted of nine Boyle chert flakes and three unidentified flakes. The two retouched flakes were also made from Boyle chert.

6.1.4 Stratigraphy

Four positive STPs were excavated during the Phase I investigations. The soil for the site consists of Elk silt loam, 2 to 6% slopes, rarely flooded (ErB). A stratigraphic profile of STP 30 is illustrated in Figure 6-9. It is representative of the stratigraphy found throughout the site and is described below.

Figure 6-1. Location of Newly Recorded Archaeological Sites on USGS Topography Map.

Figure 6-2. Location of Newly Recorded Archaeological Sites on Aerial Photograph.

Figure 6-3. Location of Archaeological Site 15Bh293 on USGS Topography Map.

Figure 6-4. Location of Archaeological Site 15Bh293 on Aerial Photograph.

Figure 6-5. Location of Archaeological Site 15Bh293 and 15Bh294 on Design Sheet.

Figure 6-6. General View of 15Bh293 Looking Northeast.

Figure 6-7. General View of 15Bh293 Looking Northwest.

Table 6-1. Site 15Bh293 Prehistoric Artifacts

Type	Chert Type	STP 30	STP 35	STP 36	STP 33	Total
Lithic Chunk	Unidentified	1			1	2
Thinning Flakes	Boyle	1			3	4
Retouched Flake	Boyle	1	1			2
Lithic Chunk	Boyle		1		1	2
Indeterminate Flake	Boyle		1	1	1	3
Indeterminate Flake	Unidentified				1	1
Total		**3**	**3**	**1**	**7**	**14**

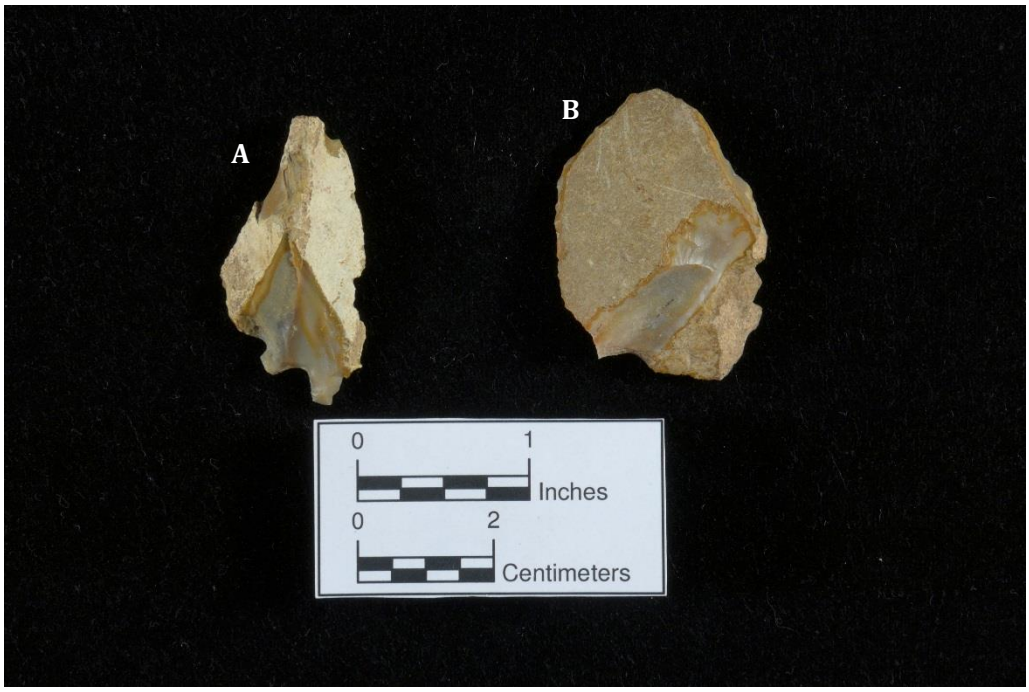

Figure 6-8. Artifacts from Site 15Bh293. A-B) Retouched Flakes.

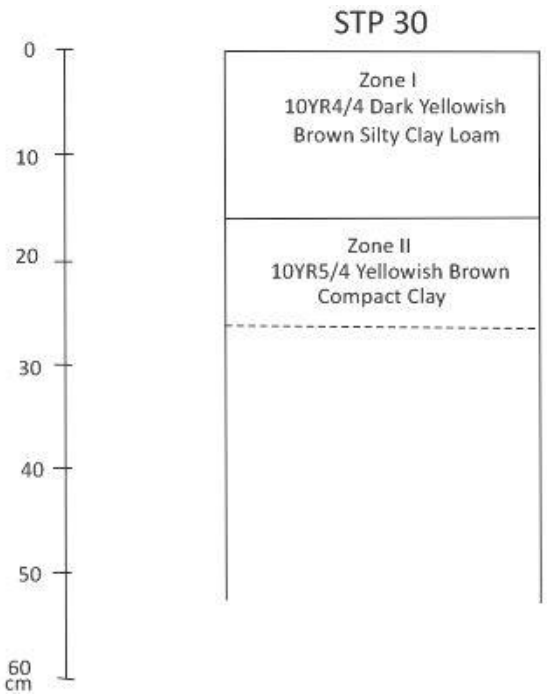

Figure 6-9. Shovel Test Probe from Site 15Bh293.

6.1.4.1 STP 30

STP 30 was located at the western part of the site in the side yard (Figure 6-3, Figure 6-4, and Figure 6-5). The shovel probe consisted of two zones extending from the surface to 26 cmbs. Zone I consisted of a 10YR4/4 dark yellowish brown silty clay loam and extended from surface to 16 cmbs. Zone II consisted of a 10YR5/4 compact clay and extended from 16 to 26 cmbs. The material recovered from the STP consisted of two pieces of debitage and one retouched flake all from Zone I.

6.1.5 Features

No features were located during the Phase I archaeological investigations.

6.1.6 Prehistoric Discussion

The prehistoric component consists of twelve pieces of debitage and two retouched flakes recovered from four positive shovel probes. None of the debitage or flake tools were diagnostic of any cultural or temporal period. Based on the limited amount of material, the prehistoric component is unlikely to provide important information and is of limited research potential. No features or midden were located in any of the shovel probes, suggesting there is limited integrity for the prehistoric component.

6.1.7 National Register Eligibility

Site 15Bh293 consists of a small indeterminate, prehistoric component that produced twelve pieces of debitage and two retouched flakes. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

6.1.8 Recommendations

No additional work is recommended for this site.

6.2 Site 15Bh294

Site 15Bh294 consists of an indeterminate, prehistoric component consisting of 13 artifacts recovered from five positive shovel probes.

6.2.1 Location

Site 15Bh294 can be found on the USGS Colfax, Kentucky, 7.5' quadrangle map (Figure 6-10 and Figure 6-11). The UTM coordinates (Zone 17 NAD 27) for the center of the site are REDACTED. The site is located along KY111 north of Slate Creek and measures 0.197 acres (0.08 hectares).

The site sits approximately 705 m northwest of the confluence of Prickly Ash Creek and Washington Branch, and the confluence of Prickly Ash Creek and Slate Creek lies about 1.13 km east northeast. The closest water source is Slate Creek at a distance of about 314 m southeast. The site's location is shown on KYTC design sheets for the KY 111 proposed reconstruction in Figure 6-5.

6.2.2 Site Description

The site is situated in a pasture within a relatively flat area east of a slope and along an intermittent stream flowing from a spring at about 755 ft. AMSL, and was delineated through five positive shovel probes. The site ends at the slope and does not extend to the south side of the stream bed. At the time of the survey, ground surface visibility was low, less than 10% visibility. The known site extent is bound in all directions by negative shovel probes and is unlikely to extend outside this boundary. Figure 6-12 shows the site area.

Shovel test probes (STPs) were excavated across this portion of the project area at 20 m intervals along three transects. When the site was identified, interval distance was reduced to 10 m between positives and negatives in order to refine the site boundary definitions. No buried cultural deposits were identified and a total of four positive STPs were excavated.

6.2.3 Artifacts Recovered

Thirteen artifacts were recovered from five positive shovel test probes (Table 6-2). The material recovered included nine pieces of lithic debitage, two retouched flakes, one core, and one biface fragment (Figure 6-13). The debitage consisted of seven Boyle chert fragments and two unidentified fragments. The two retouched flakes were made from Boyle chert. The core and biface fragment were also derived from Boyle chert.

6.2.4 Stratigraphy

Five positive shovel test probes were excavated while delineating Site 15Bh294. The soil for the site is Elk silt loam, 12 to 20% slopes, eroded (EID2). A stratigraphic profile of STP 45 is illustrated in Figure 6-14. It is representative of the stratigraphy found throughout the site and is described below.

6.2.4.1 STP 45

Shovel test probe 45 consisted of two zones. Zone I extended from surface to 29 cmbs and consisted of a 10YR4/4 dark yellowish brown silty clay. Zone II extended from 29 to 35 cmbs and consisted of a 10YR4/6 dark yellowish brown silty clay. Artifacts recovered consisted of one core, one piece of debitage and one retouched flake all from Zone I.

6.2.5 Features

No features were located during the Phase I archaeological investigations.

Figure 6-10. Location of Archaeological Site 15Bh294 on USGS Topography Map.

Figure 6-11. Location of Archaeological Site 15Bh294 on Aerial Photograph.

Figure 6-12. General View of 15Bh294, Looking Northeast.

Table 6-2. Site 15Bh294 Prehistoric Artifacts.

Type	Chert Type	STP 46	STP 48	STP 49	STP 45	STP 45 R10W	Total
Indeterminate Flake	Boyle		1	1			2
Interior Flake	Boyle			1			1
Interior Flake	Unidentified		1				1
Biface Fragment	Boyle	1					1
Retouched Flake	Boyle	1			1		2
Primary Decordication Flake	Boyle	1					1
Secondary Decordication Flake	Boyle	1					1
Lithic Chunk	Unidentified					1	1
Thinning Flakes	Boyle				1	1	2
Core	Boyle				1		1
Total		**4**	**2**	**2**	**3**	**2**	**13**

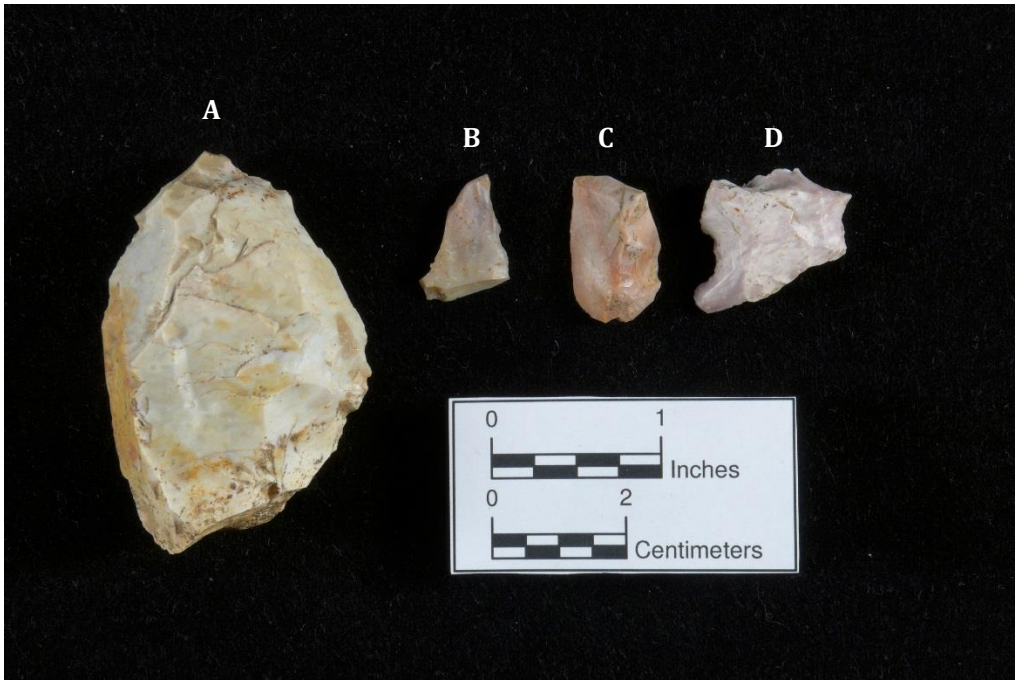

Figure 6-13. Artifacts from Site 15Bh294. A) Core; B-C) Retouched Flakes; D) Biface Fragment.

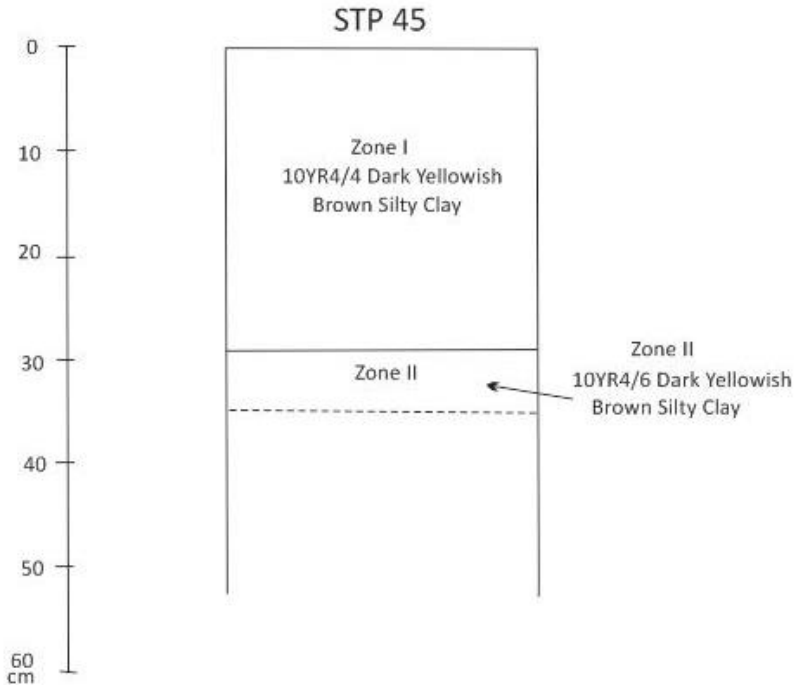

Figure 6-14. Shovel Test Probe from Site 15Bh294.

6.2.6 Prehistoric Discussion

The prehistoric component consists of nine pieces of debitage, one core, one biface fragment, and two retouched flakes recovered from five positive shovel probes. None of the debitage or flake tools were diagnostic of any cultural or temporal period. Based on the limited amount of material, the prehistoric component is unlikely to provide important information and is of limited research potential. No features

or midden were located in any of the shovel probes, suggesting there is limited integrity for the prehistoric component.

6.2.7 National Register Eligibility

Site 15Bh294 consists of an indeterminate, prehistoric component that produced nine pieces of debitage, two retouched flakes, one core, and one biface fragment. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

6.2.8 Recommendations

No further archaeological work is recommended for Site 15Bh294.

6.3 Site 15Bh295

Site 15Bh295 consists of an indeterminate, prehistoric component consisting of seven artifacts recovered from three positive shovel probes.

6.3.1 Location

Site 15Bh295 can be found on the USGS Colfax, Kentucky, 7.5' quadrangle map (Figure 6-15 and Figure 6-16). The UTM coordinates (Zone 17 NAD 27) for the center of the site are REDACTED. The site is located along KY111 north of Slate Creek and measures 0.066 acres (0.03 hectares). The site's location is shown on KYTC design sheets for the KY 111 proposed reconstruction in Figure 6-17.

6.3.2 Site Description

The site is situated within an agricultural field on the floodplain north of Slate Creek and south of KY 111 at about 693 ft. AMSL, and consists of three positive shovel probes. The site is along a farm road and to the north of a barn. At the time of the survey, ground surface visibility was low, less than 10% visibility. The known site extent is bound in all directions by negative shovel probes. It is unlikely that the site extends outside of the survey boundary. Figure 6-18 shows the site area.

Shovel test probes (STPs) were excavated across this portion of the project area at 20 m intervals along one transect. When the site was identified, interval distance was reduced to 10 m between positives and negatives in order to refine the site boundary definitions. No buried cultural deposits were identified and a total of four positive STPs were excavated.

6.3.3 Artifacts Recovered

Seven artifacts were recovered from three positive shovel test probes (Table 6-3). The material recovered included five pieces of lithic debitage, one nutting stone, and one mussel shell fragment. (Figure 6-19). The debitage consisted of two chunks of unidentified chert, one flake of Boyle chert, one chunk of Boyle chert, and one flake of unidentified chert. The nutting stone is sandstone.

6.3.4 Stratigraphy

Three positive shovel test probes were excavated at 15Bh295. The soil for the site is Elk silt loam, 6 to 12% slopes (EkC). A stratigraphic profile of STP 56 is illustrated in Figure 6-20. It is representative of the stratigraphy found throughout the site and is described below.

6.3.4.1 STP 56

Shovel test probe 56 consisted of two zones. Zone I extended from surface to 29 cmbs and consisted of a 10YR4/4 dark yellowish brown silty clay. Zone II extended from 29 to 35 cmbs and consisted of a 10YR4/6 dark yellowish brown silty clay. Artifacts recovered consisted of three pieces of debitage all from Zone I.

6.3.5 Features

No features were located during the Phase I archaeological investigations.

Figure 6-15. Location of Archaeological Site 15Bh295 on USGS Topography Map.

Figure 6-16. Location of Archaeological Site 15Bh295 on Aerial Photograph.

Figure 6-17. Location of Archaeological Site 15Bh295 on Design Sheet.

Figure 6-18. General View of 15Bh295, Looking South Southwest.

Table 6-3. Site 15Bh295 Prehistoric Artifacts

Type	Chert Type	STP 56 R10W	STP 56	STP 56 R10E	Total
Indeterminate Flake	Unidentified	1			1
Mussel Shell Fragment		1			1
Indeterminate Flake	Boyle		1		1
Lithic Chunk	Unidentified		2		2
Lithic Chunk	Boyle			1	1
Nutting Stone				1	1
Total		**2**	**3**	**2**	**7**

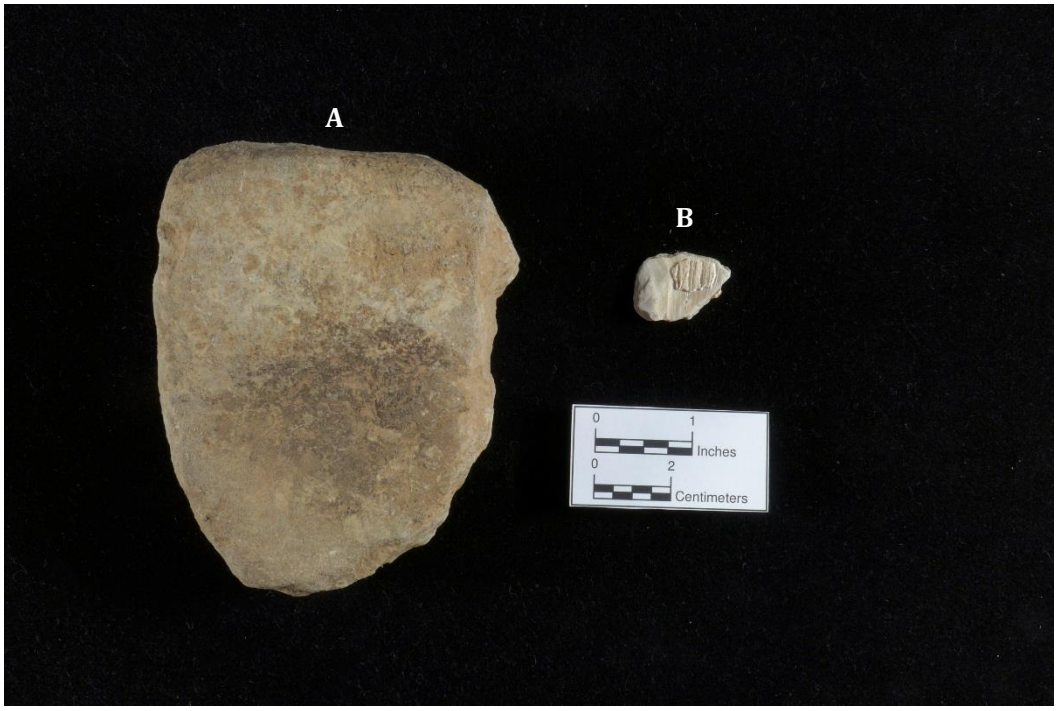

Figure 6-19. Artifacts from Site 15Bh295. A) Nutting Stone; B) Mussel Shell Fragment.

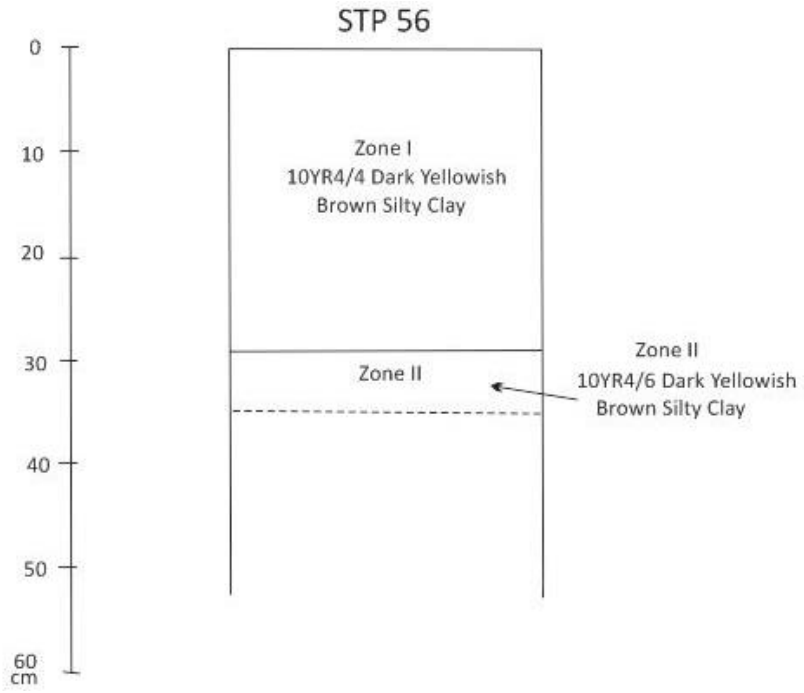

Figure 6-20. Shovel Test Probe from Site 15Bh295.

6.3.6 Prehistoric Discussion

The prehistoric component consists of five pieces of debitage, one nutting stone, and one mussel shell fragment recovered from three positive shovel probes. None of the debitage or stone tool was diagnostic of any cultural or temporal period. Based on the limited amount of material, the prehistoric component is unlikely to provide important information and is of limited research potential. No features or midden were located in any of the shovel probes, suggesting there is limited integrity for the prehistoric component.

6.3.7 National Register Eligibility

Site 15Bh295 consists of an indeterminate, prehistoric component that produced five pieces of debitage, one nutting stone, and one mussel shell fragment. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

6.3.8 Recommendations

No further archaeological work is recommended for Site 15Bh295.

Section 7 -

Recommendations and Summary

Recommendations

7.1 Site 15Bh293

Site 15Bh293 is a small, indeterminate prehistoric component, consisting of twelve pieces of lithic debitage and two retouched flakes. No features or midden were located within the site during the survey.

7.1.1 National Register Eligibility

The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential for the prehistoric component. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

7.1.2 Recommendations

No further archaeological work is recommended for Site 15Bh293.

7.2 Site 15Bh294

Site 15Bh294 is a small, indeterminate prehistoric component, consisting of nine pieces of lithic debitage two retouched flakes, one core, and one biface. No features or midden were located within the site during the survey.

7.2.1 National Register Eligibility

The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential for the prehistoric component. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

7.2.2 Recommendations

No further archaeological work is recommended for Site 15Bh294.

7.3 Site 15Bh295

Site 15Bh295 is a small, indeterminate prehistoric component, consisting of five pieces of lithic debitage one nutting stone, and one mussel shell fragment. No features or midden were located within the site during the survey.

7.3.1 National Register Eligibility

The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential for the prehistoric component. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D.

7.3.2 Recommendations

No further archaeological work is recommended for Site 15Bh295.

7.4 Summary

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from CDM Smith conducted a Phase I archaeological survey ahead of the proposed realignment of KY 111 in Bath County, Kentucky (Item Number 9-193.00). The area of potential effect (APE) consisted of 16 acres (6.5 ha) along KY 111. The APE was visited by a CDM Smith archaeology crew on November 24, 2015, at which time approximately 100 percent of the APE was either in pasture grasses or mowed lawns that offered zero ground surface visibility. The archaeological survey involved systematic shovel test excavation and visual inspection over the entire APE.

Three previously unrecorded, prehistoric archaeological sites, 15Bh293-15Bh295, were identified within the project bounds. Based on the lack of integrity and limited research potential for Sites 15Bh293, 15Bh294, and 15Bh295, it is determined that they are not eligible for nomination to the National Register under Criterion D. Therefore, no additional work will be undertaken at these sites.

Section 8 -

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Appendix A -

Artifact Inventory

Table A-1. Prehistoric Lithic Catalog.

Cat No.	Site #	CDMS #	Unit	Depth	Tool Type	Subtype 2	Deb SG	Deb Type	Raw Material	Cortex	HT	Weight	Number	Length	Width	Thickness
		CDMS 4	STP 19		Lithic	Debitage	1	Thinning Flakes	Boyle	0	N	0.9	3			
		CDMD 4	STP 19		Lithic	Debitage	2	Secondary Decordication	Brassifield	2	N	2.3	1			
1	15Bh293	CDMS 1	STP 30	0-30	Lithic	Debitage	2	Chunk	Unidentified	4	N	3.1	1			
1	15Bh293	CDMS 1	STP 30	0-30	Lithic	Debitage	2	Thinning Flakes	Boyle	0	N	1.2	1			
1	15Bh293	CDMS 1	STP 30	0-30	Lithic	Retouched Flake			Boyle	3	N	4.3	1	41.4	20.2	6.05
2	15Bh293	CDMS 1	STP 35	0-39	Lithic	Retouched Flake			Boyle	3	N	8.2	1	42.68	30.77	7.64
2	15Bh293	CDMS 1	STP 35	0-39	Lithic	Debitage	2	Chunk	Boyle	0	N	7.6	1			
2	15Bh293	CDMS 1	STP 35	0-39	Lithic	Debitage	2	Indeterminate Flake	Boyle	0	N	5.3	1			
3	15Bh293	CDMS 1	STP 36	0-39	Lithic	Debitage	1	Indeterminate Flake	Boyle	0	N	0.3	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	3	Chunk	Boyle	4	N	20.1	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	2	Thinning Flakes	Boyle	0	N	0.7	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	1	Thinning Flakes	Boyle	0	N	0.1	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	1	Thinning Flakes	Boyle	0	N	0.3	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	2	Chunk	Unidentified	0	Y	1.5	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	1	Indeterminate Flake	Boyle	0	N	0.3	1			
4	15Bh293	CDMS 1	STP 33	0-19	Lithic	Debitage	1	Indeterminate Flake	Unidentified	0	N	0.3	1			
1	15Bh294	CDMS 2	STP 46	0-18	Lithic	Debitage	2	Primary Decordication	Boyle	3	N	2.3	1			
1	15Bh294	CDMS 2	STP 46	0-18	Lithic	Debitage	2	Secondary Decordication	Boyle	4	N	1.4	1			
1	15Bh294	CDMS 2	STP 46	0-18	Lithic	Retouched Flake			Boyle	0	N	2.1	1	21.71	13.24	7.11
1	15Bh294	CDMS 2	STP 46	0-18	Lithic	Biface Fragment			Boyle	0	N	3.1	1	21.08	18.91	6.14
2	15Bh294	CDMS 2	STP 48	0-20	Lithic	Debitage	2	Indeterminate Flake	Boyle	0	N	1.4	1			
2	15Bh294	CDMS 2	STP 48	0-20	Lithic	Debitage	2	Interior Flake	Unidentified	0	N	1.4	1			
3	15Bh294	CDMS 2	STP 49	0-34	Lithic	Debitage	2	Interior Flake	Boyle	0	N	2.1	1			
3	15Bh294	CDMS 2	STP 49	0-34	Lithic	Debitage	1	Indeterminate Flake	Boyle	0	N	0.2	1			
4	15Bh294	CDMS 2	STP 45	0-25	Lithic	Debitage	1	Thinning Flakes	Boyle	0	N	0.5	1			
4	15Bh294	CDMS 2	STP 45	0-25	Lithic	Retouched Flake			Boyle	0	N	0.8	1	15.89	13.44	2.85
4	15Bh294	CDMS 2	STP 45	0-25	Lithic	Core			Boyle	4	N	45.1	1	56.69	37.42	21.4
4	15Bh294	CDMS 2	STP 45 R10W		Lithic	Debitage	1	Thinning Flakes	Boyle	0	N	0.3	1			
4	15Bh294	CDMS 2	STP 45 R10W		Lithic	Debitage	1	Chunk	Unidentified	0	N	0.5	1			
1	15Bh295	CDMS 3	STP 56 R10W	0-25	Lithic	Debitage	1	Indeterminate Flake	Unidentified	0	Y	0.3	1			
1	15Bh295	CDMS 3	STP 56 R10W	0-25	Faunal	Mussel Shell Fragment						3.5	1			
2	15Bh295	CDMS 3	STP 56		Lithic	Debitage	0	Indeterminate Flake	Boyle	0	N	0.1	1			
2	15Bh295	CDMS 3	STP 56		Lithic	Debitage	1	Chunk	Unidentified	0	N	1.7	2			
3	15Bh295	CDMS 3	STP 56 R10E		Lithic	Debitage	1	Chunk	Boyle	0	N	3.2	1			
3	15Bh295	CDMS 3	STP 56 R10E		Lithic	Nutting Stone			Sandstone	3	N	575.5	1	107.47	76.58	43.92

Appendix B -

Archaeological Site Forms

Page 2. Site No. 15Bh293

TEMPORAL–CULTURAL AFFILIATIONS

1. Cultural Periods Represented

45
32 34
35 38
39 41
42
43
44

__X__ Unassigned
_____ Paleo-Indian, undefined _____ Early _____ Late
_____ Archaic, undefined _____ Early _____ Middle _____ Late
_____ Woodland, undefined _____ Early _____ Middle
_____ Late Woodland/Mississippian
_____ Historic Indian
_____ Historic Non-Indian

2. Archaeological Cultures Represented

46 49
50 53
54 56

_____ Adena _____ Hopewell _____ Ft. Ancient _____ Stone Grave
_____ Mississippian _____ Cherokee _____ Pisgah _____ Lost River
_____ Caborn-Welborn _____ Yankeetown _____ Angel
OTHER *(describe)* N/A

3. How were cultural affiliation and age determined *(describe diagnostic artifacts, type names, and attach outline drawings)?*

N/A

Prehistoric materials collected: 14 total number of items

Type	Number		
ceramics		other scrapers	
projectile points/fragments		flakes/cores/chunks	14
hafted scrapers/drills		ground/pecked/battered stone	
other drills			
Bifaces/fragments		worked bone/shell	
unifaces		human bone/burials	
perforators/gravers		faunal materials	
spokeshaves			

Prehistoric materials observed but not collected *(describe)*

N/A

Page 3. Site No. 15Bh293

8 9 4. Approximate Historic Site Date Range

1	____	pre 1600	6	____	1701-1750	11	____ 1900-2000
2	____	1600-1700	7	____	1751-1800	12	____ 1901-1950
3	____	1601-1650	8	____	1801-1900	13	____ 1951-2000
4	____	1651-1700	9	____	1801-1950	14	____ 1851-1950
5	____	1701-1800	10	____	1851-1900	15	____ 1801-1950

Historic materials collected N/A

Historic materials observed but not collected N/A

PHYSICAL DESCRIPTION

10 11 1. Site Type

0	X	undetermined	10	____	non-mound earthwork
1	____	open habitation w / o mounds	11	____	workshop
2	____	isolated find	12	____	isolated burials
3	____	rockshelter	13	____	cemetery
4	____	cave	14	____	other special activity area
5	____	quarry	15	____	open habitation w/ mounds
6	____	stone mound	16	____	historic farm/residence
7	____	earth mound	17	____	industrial
8	____	mound complex	18	____	military
9	____	petroglyph/pictograph	OTHER:		

12 2. Midden

0 ____ unknown 1 ____ earth 2 ____ shell 3 X absent

13 3. Evidence of recent vandalism *(within the last month)*

1 X no 2 ____ yes

14 4. Site Condition

1	X	apparently undisturbed	5	____	76-99% disturbed
2	____	less than 25% disturbed	6	____	totally destroyed
3	____	26-50% disturbed	7	____	disturbed, % unknown
4	____	51-75% disturbed			

17 18 5. Major Land Use

1	___	cultivated	8	___	modern cemetery	16	___	14+15
2	X	pasture	9	___	mining	17	___	commercial
3	___	woods/forest	10	___	inundated	18	___	military
4	___	road/trail	11	___	industrial	19	___	logging/ logging related
5	___	ditch/dike/ borrow pit	12	___	residential			
			13	___	recreational	20	___	scrub/secondary growth
6	___	landfill	14	___	1+2+3			
7	___	modern	15	___	11+12+13	Other		

Page 4. Site No. 15Bh293

19

6. Amount of ground surface visible *(typically)*

1	X	less than 10%	5		poor
2		11-50%	6		fair
3		51-91%	7		good
4		91-100%	8		excellent

Describe visibility Zero visibility, entire site covered in short pasture grasses.

20

7. Physiographic Division

1		Inner Bluegrass	5		Mississippi Plateau
2	X	Outer Bluegrass	6		Western Coalfields
3		Knobs	7		Jackson Purchase
4		Cumberland Plateau			

21

Landform Type

1		floodplain	4		dissected uplands
2		terrace	5		undissected uplands
3	X	hillside	OTHER		

22

Locality Type

1		level	5		bluff base
2	X	knoll	6		ridge
3		closed	7		slope
4		bluff crest	OTHER		

23 25 26 28 29 31

8. Soil Association

Soil Series

Soil Type Elk silt loam, 2 to 6 % slopes, rarely flooded (ErB)

Vegetation *(describe)* Short pasture grass

32 35 36

9. Elevation 742

Slope of Locality

1	X	less than 5°, flat	4		26-50°
2		6-10°	5		greater than 51° bluff (rockshelter)
3		11-25°			

37

Slope Direction (Aspect)

1		Flat	4		E	7		SW
2		N	5	X	SE	8		W
3		NE	6		S	9		NW

38 45 46 47

10. Site Area (m^2) 675.8

Basis for site area estimate

1		taped	3		guessed	5		transit/alidade
2	X	paced	4		range	6		

Confident of site boundaries: may extend to the North

48

1 X no 2 Yes

Page 5. Site No. 15Bh293

49 50

11. Drainage

1	___ Mississippi	6	___ Green	11	___ Kentucky
2	___ Tennessee	7	___ Western Ohio	12	X Licking
3	___ Lower Cumberland	8	___ Central Ohio	13	___ Little Sandy
4	___ Upper Cumberland	9	___ Eastern Ohio	14	___ Big Sandy
5	___ Tradewater	10	___ Salt	15	___ Tygarts

51

Closest Water Source *(name)* Slate Creek

1	___ permanent stream	4	___ intermittent spring
2	X intermittent stream	5	___ lake/pond *(historic sites only)*
3	___ permanent spring	6	___ slough/oxbow lake
		7	___ well *(historic sites only)*

53

Rank order of stream nearest site 1

53 55

Distance to water from site 0.156 km

REPORTING INFORMATION

56

1. Site reported by
   - 1 X professional/student
   - 2 ___ amateur
   - 3 ___ other informant

57

2. Investigation type
   - 1 x reconnaissance (*surface survey, may include shovel tests*)
   - 2 ___ intensive (*surface survey and testing*)
   - 3 ___ excavated
   - 4 ___ volunteered

58 59

3. Institution/person filing report CDM Smith

   Site surveyed by J. David McBride, MA, RPA

60 62

   Date recorded November 24th, 2015

   Time of day Early afternoon Time spent at site 1.5 hrs

66 67

4. Artifact Repository *(name and address where artifacts are curated)*

   William S. Webb Museum of Anthropology, University of Kentucky

   1020 Export St., Lexington, Kentucky 40504

   Name of curator at repository

   Nancy O'Malley

5. Photos

   ___ black/white ___ no. of pictures

   X color 3 no. of pictures

   Name and address of institution where photos are filed

   Same as above

Page 6. Site No. 15Bh293

6. Name and address of local informants

N/A

7. Name and address of owners of other collections from site *(attach inventories of private collections.)*

N/A

8. Significance Status

69

1 ___ National Register property
2 ___ Eligible for National Register
3 ___ Nominated to National Register by SHPO
4 ___ Considered eligible but not nominated by SHPO
5 _X_ Inventory site (does not presently meet National Register criteria)
6 ___ National Register status not assessed

Discuss the potential significance of the site *(does it meet National Register criteria in your opinion? why or why not? upon what evidence have you based your decision?)*

Site CDMS 1 consists of an indeterminate, prehistoric component that produced 12 pieces of debitage and two retouched flakes. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential for the prehistoric component. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D. No additional work is recommended for the site

9. References

McBride et al.
2016 *Phase I Archaeological Survey Ahead of the Reconstruction of KY 111 – Wyoming Road, Bath County, Kentucky*. KYTC Item # 9-193.00. CDM Smith, Lexington, Kentucky.

70

10. Ownership

1 ___ federal 3 ___ local government 5 _X_ private
2 ___ state 4 ___ government 6 ___ joint state/federal

71

11. Special status (federal, state, county, etc.) N/A

1 ___ forest 5 ___ wildlife preserve
2 ___ park 6 ___ nature preserve
3 ___ wilderness 7 ___ military preserve
4 ___ wild river 8 ___

Page 8. Site No. 15Bh293

Discuss the relationship between this site and other known sites in the area in terms of location, physical characteristics, size, etc.

Within 2km of the project area, sixteen previously recorded sites were identified. Of the sixteen, fifteen are prehistoric sites and the other site has both a prehistoric and historic component. The prehistoric sites and component include two mounds, eight indeterminate, lithic scatters, one Adena camp site or workshop, one Late Archaic short-term occupation, two Archaic and Woodland lithic scatter, two Palioindian lithic scatters. During the survey, three other newly recorded prehistoric sites were documented, CDMS 2, CDMS 3, and CDMS 4, and all are small indeterminate, lithic scatters located along KY 111 near Slate Creek between 693 and 755 ft. AMSL. CDMS 3 differs from the other sites in that it produced a nutting stone and mussel shell fragment in addition to lithic material but did not produce any lithic tools. CDMS 2 produced one biface and two retouched flakes while CDMS 4 did not produce any tools. CDMS 1 produced two retouched flakes. CDMS 1 and CDMS 2 both had Boyle chert and unidentified chert while CDMS 3 was all unidentified chert. CDMS 4 had Boyle and Brassfield chert.

D A T E S

Absolute dates _____ Dating methods _____

_____ Laboratory _____

Relative dates _____ References _____

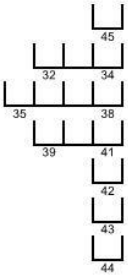
S K E T C H M A P O F S I T E

Include north arrow and scale. Also attach section of U.S.G.S. quad map with site location.

Page 2. Site No. 15Bh294

TEMPORAL–CULTURAL AFFILIATIONS

1. Cultural Periods Represented



X Unassigned

____ Paleo-Indian, undefined ____ Early ____ Late

____ Archaic, undefined ____ Early ____ Middle ____ Late

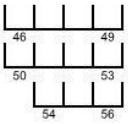
____ Woodland, undefined ____ Early ____ Middle

____ Late Woodland/Mississippian

____ Historic Indian

____ Historic Non-Indian

2. Archaeological Cultures Represented



____ Adena ____ Hopewell ____ Ft. Ancient ____ Stone Grave

____ Mississippian ____ Cherokee ____ Pisgah ____ Lost River

____ Caborn-Welborn ____ Yankeetown ____ Angel

OTHER *(describe)* N/A

3. How were cultural affiliation and age determined *(describe diagnostic artifacts, type names, and attach outline drawings)?*

N/A

Prehistoric materials collected: 13 total number of items

Type	Number		
ceramics		other scrapers	
projectile points/fragments		flakes/cores/chunks	12
hafted scrapers/drills		ground/pecked/battered stone	
other drills			
Bifaces/fragments	1	worked bone/shell	
unifaces		human bone/burials	
perforators/gravers		faunal materials	
spokeshaves			

Prehistoric materials observed but not collected *(describe)*

N/A

Page 3. Site No. 15Bh294

8 9 4. Approximate Historic Site Date Range

1 ____	pre 1600	6 ____	1701-1750	11 ____	1900-2000
2 ____	1600-1700	7 ____	1751-1800	12 ____	1901-1950
3 ____	1601-1650	8 ____	1801-1900	13 ____	1951-2000
4 ____	1651-1700	9 ____	1801-1950	14 ____	1851-1950
5 ____	1701-1800	10 ____	1851-1900	15 ____	1801-1950

Historic materials collected N/A

Historic materials observed but not collected N/A

PHYSICAL DESCRIPTION

10 11 1. Site Type

0 X	undetermined	10 ____	non-mound earthwork
1 ____	open habitation w / o mounds	11 ____	workshop
2 ____	isolated find	12 ____	isolated burials
3 ____	rockshelter	13 ____	cemetery
4 ____	cave	14 ____	other special activity area
5 ____	quarry	15 ____	open habitation w/ mounds
6 ____	stone mound	16 ____	historic farm/residence
7 ____	earth mound	17 ____	industrial
8 ____	mound complex	18 ____	military
9 ____	petroglyph/pictograph	OTHER:	

12 2. Midden

0 ____ unknown 1 ____ earth 2 ____ shell 3 X absent

13 3. Evidence of recent vandalism *(within the last month)*

1 X no 2 ____ yes

14 4. Site Condition

1 X	apparently undisturbed	5 ____	76-99% disturbed
2 ____	less than 25% disturbed	6 ____	totally destroyed
3 ____	26-50% disturbed	7 ____	disturbed, % unknown
4 ____	51-75% disturbed		

17 18 5. Major Land Use

1 ___	cultivated	8 ___	modern cemetery	16 ___	14+15
2 X	pasture	9 ___	mining	17 ___	commercial
3 ___	woods/forest	10 ___	inundated	18 ___	military
4 ___	road/trail	11 ___	industrial	19 ___	logging/ logging related
5 ___	ditch/dike/ borrow pit	12 ___	residential	20 ___	scrub/secondary growth
6 ___	landfill	13 ___	recreational		
7 ___	modern	14 ___	1+2+3	Other	
		15 ___	11+12+13		

Page 4. Site No. 15Bh294

6. Amount of ground surface visible *(typically)* [19]

1	X	less than 10%	5		poor
2		11-50%	6		fair
3		51-91%	7		good
4		91-100%	8		excellent

Describe visibility Zero visibility, entire site covered in short pasture grasses.

7. Physiographic Division [20]

1		Inner Bluegrass	5		Mississippi Plateau
2	X	Outer Bluegrass	6		Western Coalfields
3		Knobs	7		Jackson Purchase
4		Cumberland Plateau			

Landform Type [21]

1		floodplain	4	X	dissected uplands
2		terrace	5		undissected uplands
3		hillside	OTHER		

Locality Type [22]

1		level	5		bluff base
2		knoll	6	X	ridge
3		closed	7		slope
4		bluff crest	OTHER		

8. Soil Association [23-25]

Soil Series [26-28]

Soil Type Elk silt loam, 12 to 20 % slopes, eroded (EID2)

Vegetation *(describe)* Short pasture grass [29-31]

9. Elevation 755 [32-35]

Slope of Locality [36]

1	X	less than 5°, flat	4		26-50°
2		6-10°	5		greater than 51° bluff (rockshelter)
3		11-25°			

Slope Direction (Aspect) [37]

1	X	Flat	4		E	7		SW
2		N	5		SE	8		W
3		NE	6		S	9		NW

10. Site Area (m^2) 797.2 [38-45]

Basis for site area estimate [46-47]

1		taped	3		guessed	5		transit/alidade
2	X	paced	4		range	6		

Confident of site boundaries: [48]

1 ____ no 2 X yes

Page 5. Site No. 15Bh294

49 50

11. Drainage

1	___ Mississippi	6	___ Green	11	___ Kentucky
2	___ Tennessee	7	___ Western Ohio	12	X Licking
3	___ Lower Cumberland	8	___ Central Ohio	13	___ Little Sandy
4	___ Upper Cumberland	9	___ Eastern Ohio	14	___ Big Sandy
5	___ Tradewater	10	___ Salt	15	___ Tygarts

51

Closest Water Source *(name)* Slate Creek

1	___ permanent stream	4	___ intermittent spring
2	X intermittent stream	5	___ lake/pond *(historic sites only)*
3	___ permanent spring	6	___ slough/oxbow lake
		7	___ well *(historic sites only)*

53

53 55

Rank order of stream nearest site 1

Distance to water from site 314 m

REPORTING INFORMATION

56

1. Site reported by

1 X professional/student
2 ___ amateur
3 ___ other informant

57

2. Investigation type

1 x reconnaissance (*surface survey, may include shovel tests*)
2 ___ intensive (*surface survey and testing*)
3 ___ excavated
4 ___ volunteered

58 59

3. Institution/person filing report CDM Smith

Site surveyed by J. David McBride, MA, RPA

60 62

Date recorded November 24th, 2015

Time of day Early afternoon Time spent at site 1.5 hrs

66 67

4. Artifact Repository *(name and address where artifacts are curated)*

William S. Webb Museum of Anthropology, University of Kentucky

1020 Export St., Lexington, Kentucky 40504

Name of curator at repository

Nancy O'Malley

5. Photos

___ black/white ___ no. of pictures
X color 4 no. of pictures

Name and address of institution where photos are filed

Same as above

Page 6. Site No. 15Bh294

6. Name and address of local informants

N/A

7. Name and address of owners of other collections from site *(attach inventories of private collections.)*

N/A

8. Significance Status

69

1 ___ National Register property
2 ___ Eligible for National Register
3 ___ Nominated to National Register by SHPO
4 ___ Considered eligible but not nominated by SHPO
5 _X_ Inventory site (does not presently meet National Register criteria)
6 ___ National Register status not assessed

Discuss the potential significance of the site *(does it meet National Register criteria in your opinion? why or why not? upon what evidence have you based your decision?)*

Site CDMS 2 consists of a prehistoric component that produced nine pieces of debitage, two retouched flakes, one core, and one biface fragment. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D. No additional work is recommended for the site.

9. References

McBride et al.

2016 *Phase I Archaeological Survey Ahead of the Reconstruction of KY 111 – Wyoming Road,*

Bath County, Kentucky. KYTC Item # 9-193.00. CDM Smith, Lexington, Kentucky.

70

10. Ownership

1 ___ federal 3 ___ local government 5 _X_ private
2 ___ state 4 ___ government 6 ___ joint state/federal

71

11. Special status (federal, state, county, etc.) N/A

1 ___ forest 5 ___ wildlife preserve
2 ___ park 6 ___ nature preserve
3 ___ wilderness 7 ___ military preserve
4 ___ wild river 8 _____

Discuss the relationship between this site and other known sites in the area in terms of location, physical characteristics, size, etc.

Within 2km of the project area, sixteen previously recorded sites were identified. Of the sixteen, fifteen are prehistoric sites and the other site has both a prehistoric and historic component. The prehistoric sites and component include two mounds, eight indeterminate, lithic scatters, one Adena camp site or workshop, one Late Archaic short-term occupation, two Archaic and Woodland lithic scatter, two Palioindian lithic scatters. During the survey, three other newly recorded prehistoric sites were documented, CDMS 1, CDMS 3, and CDMS 4, and all are small indeterminate, lithic scatters located along KY 111 near Slate Creek between 693 and 755 ft. AMSL. CDMS 3 differs from the other sites in that it produced a nutting stone and mussel shell fragment in addition to lithic material but did not produce any lithic tools. CDMS 2 produced one biface and two retouched flakes while CDMS 4 did not produce any tools. CDMS 1 produced two retouched flakes. CDMS 1 and CDMS 2 both had Boyle chert and unidentified chert while CDMS 3 was all unidentified chert. CDMS 4 had Boyle and Brassfield chert.

D A T E S

Absolute dates _____ Dating methods _____

_____ Laboratory _____

Relative dates _____ References _____

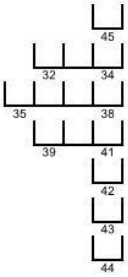
S K E T C H M A P O F S I T E

Include north arrow and scale. Also attach section of U.S.G.S. quad map with site location.

Page 2. Site No. 15Bh295

TEMPORAL–CULTURAL AFFILIATIONS

1. Cultural Periods Represented



__X__ Unassigned

_____ Paleo-Indian, undefined _____ Early _____ Late

_____ Archaic, undefined _____ Early _____ Middle _____ Late

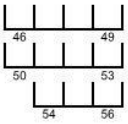
_____ Woodland, undefined _____ Early _____ Middle

_____ Late Woodland/Mississippian

_____ Historic Indian

_____ Historic Non-Indian

2. Archaeological Cultures Represented



_____ Adena _____ Hopewell _____ Ft. Ancient _____ Stone Grave

_____ Mississippian _____ Cherokee _____ Pisgah _____ Lost River

_____ Caborn-Welborn _____ Yankeetown _____ Angel

OTHER *(describe)* N/A

3. How were cultural affiliation and age determined *(describe diagnostic artifacts, type names, and attach outline drawings)?*

N/A

Prehistoric materials collected: 7 total number of items

Type	Number		
ceramics		other scrapers	
projectile points/fragments		flakes/cores/chunks	5
hafted scrapers/drills		ground/pecked/battered	
other drills		stone	1
Bifaces/fragments		worked bone/shell	
unifaces		human bone/burials	
perforators/gravers		faunal materials	1
spokeshaves			

Prehistoric materials observed but not collected *(describe)*

N/A

Page 3. Site No. 15Bh295

8 9

4. Approximate Historic Site Date Range

1	____	pre 1600	6	____	1701-1750	11	____ 1900-2000
2	____	1600-1700	7	____	1751-1800	12	____ 1901-1950
3	____	1601-1650	8	____	1801-1900	13	____ 1951-2000
4	____	1651-1700	9	____	1801-1950	14	____ 1851-1950
5	____	1701-1800	10	____	1851-1900	15	____ 1801-1950

Historic materials collected N/A

Historic materials observed but not collected N/A

PHYSICAL DESCRIPTION

10 11

1. Site Type

0	X	undetermined	10	____	non-mound earthwork
1	____	open habitation w / o mounds	11	____	workshop
2	____	isolated find	12	____	isolated burials
3	____	rockshelter	13	____	cemetery
4	____	cave	14	____	other special activity area
5	____	quarry	15	____	open habitation w/ mounds
6	____	stone mound	16	____	historic farm/residence
7	____	earth mound	17	____	industrial
8	____	mound complex	18	____	military
9	____	petroglyph/pictograph	OTHER:		

12

2. Midden

0 ____ unknown 1 ____ earth 2 ____ shell 3 X absent

13

3. Evidence of recent vandalism *(within the last month)*

1 X no 2 ____ yes

14

4. Site Condition

1	X	apparently undisturbed	5	____	76-99% disturbed
2	____	less than 25% disturbed	6	____	totally destroyed
3	____	26-50% disturbed	7	____	disturbed, % unknown
4	____	51-75% disturbed			

17 18

5. Major Land Use

1	___	cultivated	8	___	modern cemetery	16	___	14+15
2	X	pasture	9	___	mining	17	___	commercial
3	___	woods/forest	10	___	inundated	18	___	military
4	___	road/trail	11	___	industrial	19	___	logging/ logging related
5	___	ditch/dike/ borrow pit	12	___	residential			
			13	___	recreational	20	___	scrub/secondary growth
6	___	landfill	14	___	1+2+3			
7	___	modern	15	___	11+12+13	Other		

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6. Amount of ground surface visible *(typically)*

1	X	less than 10%	5		poor
2		11-50%	6		fair
3		51-91%	7		good
4		91-100%	8		excellent

Describe visibility Very little visibility, majority of site covered in short pasture grasses Except for where some tire trucks have damaged the sod

20

7. Physiographic Division

1		Inner Bluegrass	5		Mississippi Plateau
2	X	Outer Bluegrass	6		Western Coalfields
3		Knobs	7		Jackson Purchase
4		Cumberland Plateau			

21

Landform Type

1		floodplain	4		dissected uplands
2		terrace	5		undissected uplands
3	X	hillside	OTHER		

22

Locality Type

1	X	level	5		bluff base
2		knoll	6		ridge
3		closed	7		slope
4		bluff crest	OTHER		

23 25 26 28 29 31

8. Soil Association

Soil Series

Soil Type Elk silt loam, 6 to 12% slopes (EkC)

Vegetation *(describe)* Short pasture grass

32 35 36

9. Elevation 693

Slope of Locality

1	X	less than 5°, flat	4		26-50°
2		6-10°	5		greater than 51° bluff (rockshelter)
3		11-25°			

37

Slope Direction (Aspect)

1		Flat	4		E	7		SW
2		N	5		SE	8		W
3		NE	6		S	9	X	NW

38 45 46 47

10. Site Area (m^2) 267.09

Basis for site area estimate

1		taped	3		guessed	5		transit/alidade
2	X	paced	4		range	6		

Confident of site boundaries:

48

1 ____ no 2 X yes

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49 50

11. Drainage

1 ___	Mississippi	6 ___	Green	11 ___	Kentucky
2 ___	Tennessee	7 ___	Western Ohio	12 X	Licking
3 ___	Lower Cumberland	8 ___	Central Ohio	13 ___	Little Sandy
4 ___	Upper Cumberland	9 ___	Eastern Ohio	14 ___	Big Sandy
5 ___	Tradewater	10 ___	Salt	15 ___	Tygarts

51

Closest Water Source *(name)* Slate Creek

1 ___	permanent stream	4 ___	intermittent spring
2 X	intermittent stream	5 ___	lake/pond *(historic sites only)*
3 ___	permanent spring	6 ___	slough/oxbow lake
		7 ___	well *(historic sites only)*

53

Rank order of stream nearest site 1

53 55

Distance to water from site 69 m

REPORTING INFORMATION

56

1. Site reported by

1 X professional/student
2 ___ amateur
3 ___ other informant

57

2. Investigation type

1 x reconnaissance (*surface survey, may include shovel tests*)
2 ___ intensive (*surface survey and testing*)
3 ___ excavated
4 ___ volunteered

58 59

3. Institution/person filing report CDM Smith

Site surveyed by J. David McBride, MA, RPA

60 62

Date recorded November 24th, 2015

Time of day Early afternoon Time spent at site 1.5 hrs

66 67

4. Artifact Repository *(name and address where artifacts are curated)*

William S. Webb Museum of Anthropology, University of Kentucky

1020 Export St., Lexington, Kentucky 40504

Name of curator at repository

Nancy O'Malley

5. Photos

___ black/white ___ no. of pictures
X color 3 no. of pictures

Name and address of institution where photos are filed

Same as above

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6. Name and address of local informants

N/A

7. Name and address of owners of other collections from site *(attach inventories of private collections.)*

N/A

8. Significance Status

69

1 ___ National Register property
2 ___ Eligible for National Register
3 ___ Nominated to National Register by SHPO
4 ___ Considered eligible but not nominated by SHPO
5 _X_ Inventory site (does not presently meet National Register criteria)
6 ___ National Register status not assessed

Discuss the potential significance of the site *(does it meet National Register criteria in your opinion? why or why not? upon what evidence have you based your decision?)*

Site CDMS 3 consists of a prehistoric component that produced five pieces of debitage, one nutting stone, and one mussel shell fragment. The limited amount of material and the lack of cultural and temporal affiliation indicate that there is limited research potential for the prehistoric component. Based on the lack of features or midden, the site has limited integrity. Therefore, the site does not qualify for nomination to the National Register under Criterion D. No additional work is recommended for the site.

9. References

McBride et al.

2016 *Phase I Archaeological Survey Ahead of the Reconstruction of KY 111 – Wyoming Road,*

Bath County, Kentucky. KYTC Item # 9-193.00. CDM Smith, Lexington, Kentucky.

70

10. Ownership

1 ___ federal 3 ___ local government 5 _X_ private
2 ___ state 4 ___ government 6 ___ joint state/federal

71

11. Special status (federal, state, county, etc.) N/A

1 ___ forest 5 ___ wildlife preserve
2 ___ park 6 ___ nature preserve
3 ___ wilderness 7 ___ military preserve
4 ___ wild river 8 _____

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Discuss the relationship between this site and other known sites in the area in terms of location, physical characteristics, size, etc.

Within 2km of the project area, sixteen previously recorded sites were identified. Of the sixteen, fifteen are prehistoric sites and the other site has both a prehistoric and historic component. The prehistoric sites and component include two mounds, eight indeterminate, lithic scatters, one Adena camp site or workshop, one Late Archaic short-term occupation, two Archaic and Woodland lithic scatter, two Palioindian lithic scatters. During the survey, three other newly recorded prehistoric sites were documented, CDMS 1, CDMS 2, and CDMS 4 and all are small indeterminate, lithic scatters located along KY 111 near Slate Creek between 693 and 755 ft. AMSL. CDMS 3 differs from the other sites in that it produced a nutting stone and mussel shell fragment in addition to lithic material but did not produce any lithic tools. CDMS 2 produced one biface and two retouched flakes while CDMS 4 did not produce any tools. CDMS 1 produced two retouched flakes. CDMS 1 and CDMS 2 both had Boyle chert and unidentified chert while CDMS 3 was all unidentified chert. CDMS 4 had Boyle and Brassfield chert.

D A T E S

Absolute dates _____ Dating methods _____

_____ Laboratory _____

Relative dates _____ References _____

S K E T C H M A P O F S I T E

Include north arrow and scale. Also attach section of U.S.G.S. quad map with site location.