PHASE I ARCHAEOLOGICAL SURVEY ASSOCIATED WITH THE WIDENING OF US 62 FROM LEITCHFIELD TO CLARKSON IN GRAYSON COUNTY, KENTUCKY

KYTC ITEM # 4-8502.00

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Kentucky Office of State Archaeology Project Number:

FY16-8710

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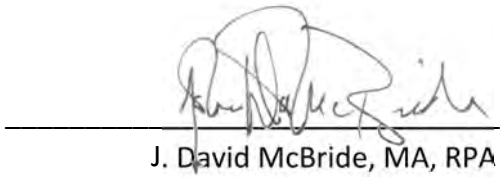
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Kentucky Office of State Archaeology
Archaeological Project Number: FY16-8710

Archaeology Report

March 2017

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Abstract

At the request of the Kentucky Transportation Cabinet, archaeologists from CDM Smith conducted a Phase I archaeological survey associated with the widening of US 62 from Leitchfield to Clarkson in Grayson County, Kentucky. The APE was visited by a CDM Smith archaeology crew between December 15, 2015 and December 17, 2015, at which time areas of the APE that were less than 15% slopes and undisturbed were systematically shovel tested and other areas were visually inspected. A total of two sites, 15Gy156 and 157, were located. In addition, two non-sites and one isolated find (IF 1) were recorded.

Site 15Gy156 consists of a small unassigned prehistoric lithic scatter. The low density of the artifacts recovered and the lack diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The southern, eastern, and western boundaries are known and the area to the north includes the highway right-of-way areas, and other areas outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy156 is not considered potentially eligible for nomination to the NRHP under Criterion D

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The low density of the artifacts recovered and the lack diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The eastern, and western boundaries are known but the site may extend to the north or south outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy157 is not considered potentially eligible for nomination to the NRHP under Criterion D.

Non-site 2 consisted of brick fragments and a piece of metal recovered from an agricultural field. No evidence of intact subsurface deposits were located. Non-site 3 consisted of a brick scatter along an intermittent stream bed in a wooded area. Isolated Find 1 consisted of two historic artifacts recovered from an STP in a wooded area. None of the non-sites or isolated find were considered potentially eligible for nomination to the NRHP under Criterion D. No additional work is recommended.

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Acknowledgements

The Principal Investigator for the archaeological survey was Mr. J. David McBride, MA, RPA. Field crew consisted of J. Howard Beverly, J. David McBride, Dona Daugherty, and Caroline Paulus. Howard Beverly generated maps and formatted the report. Robert Ball provided support in Lexington.

Section 1 -

Introduction

This report describes the field and laboratory method, and the results of a Phase I archaeological survey associated with the widening of portions of US 62 from Leitchfield to Clarkson in Grayson County, Kentucky (Item No. 4-8502), and conducted at the request of the Kentucky Transportation Cabinet (KYTC) by archaeologists from CDM Smith. Field work was conducted between December 15, 2015 and December 17, 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 for associated with the widening of portions of US 62 from Leitchfield to Clarkson in Grayson County, Kentucky (Item No. 4-8502).

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 between Leitchfield and Clarkson in Grayson County, within the Kentucky Department of Highways District 4 (Figure 1-1). The project area involves the widening of US 62 in Grayson County between milepost 23 and milepost 25.5. (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 18 acres (7.3 ha).

1.5 OSA Records Research

On December 12, 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.

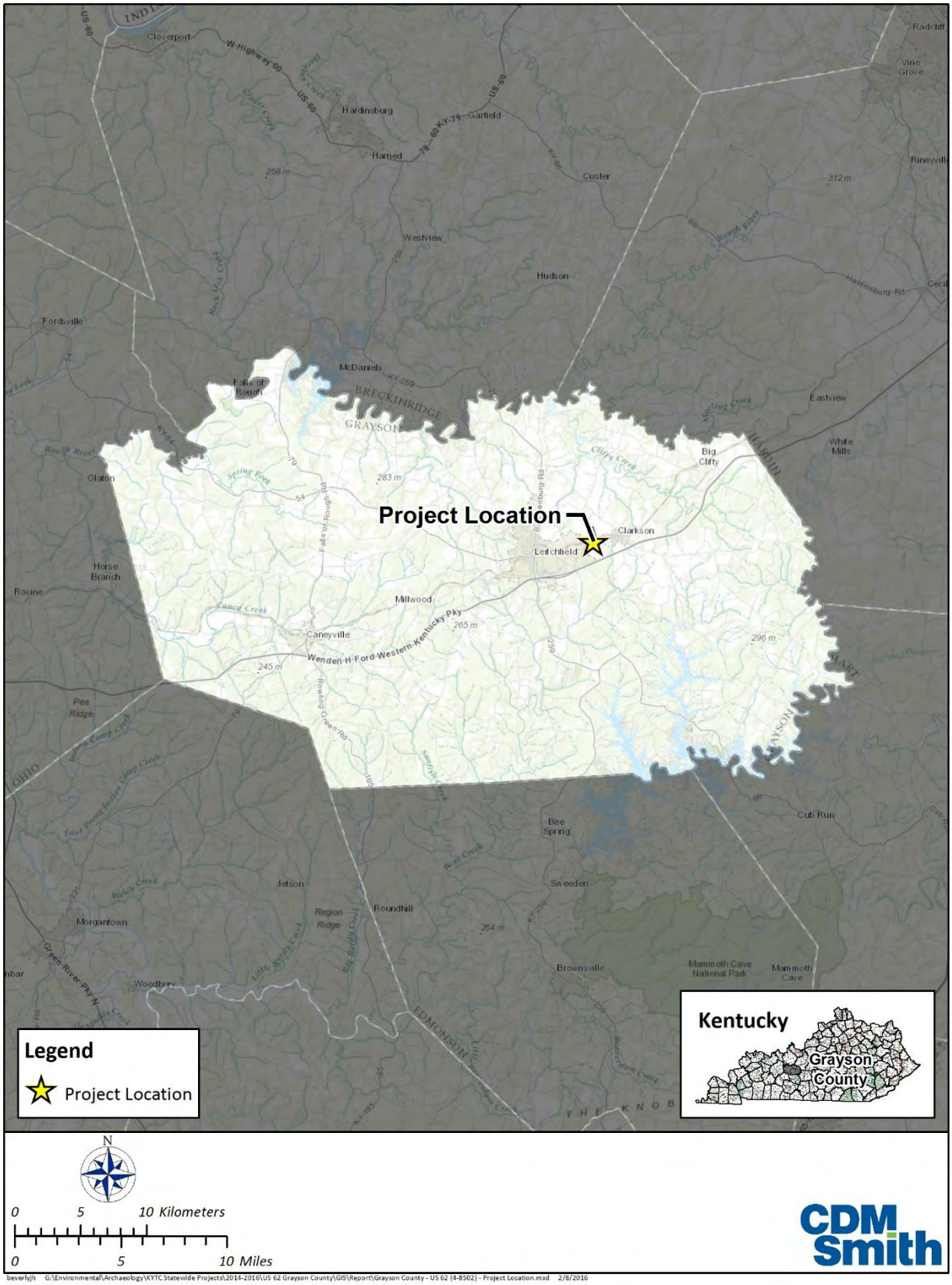


Figure 1-1. Project Location within Grayson County.

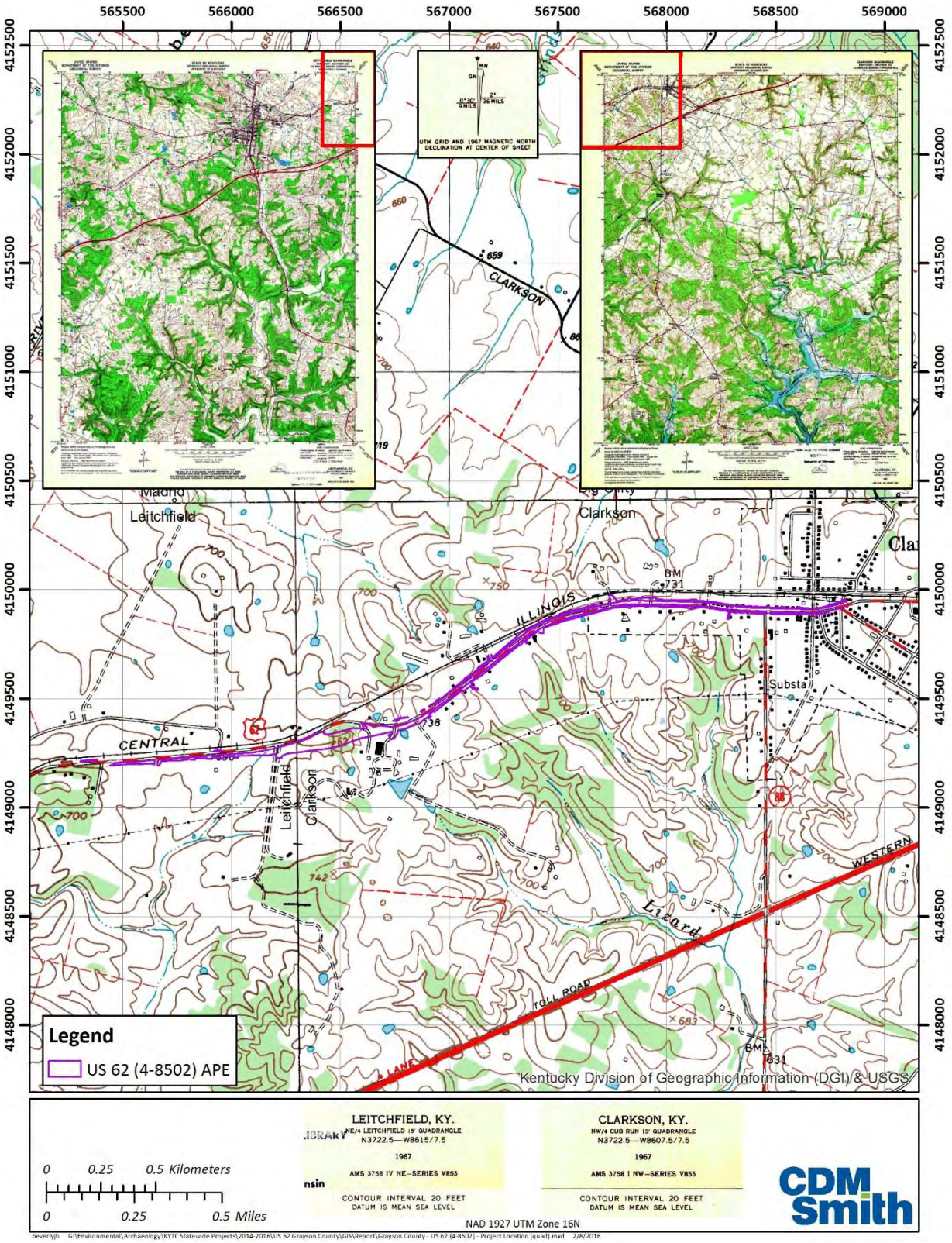


Figure 1-2. USGS Topographical Map showing Project Location.

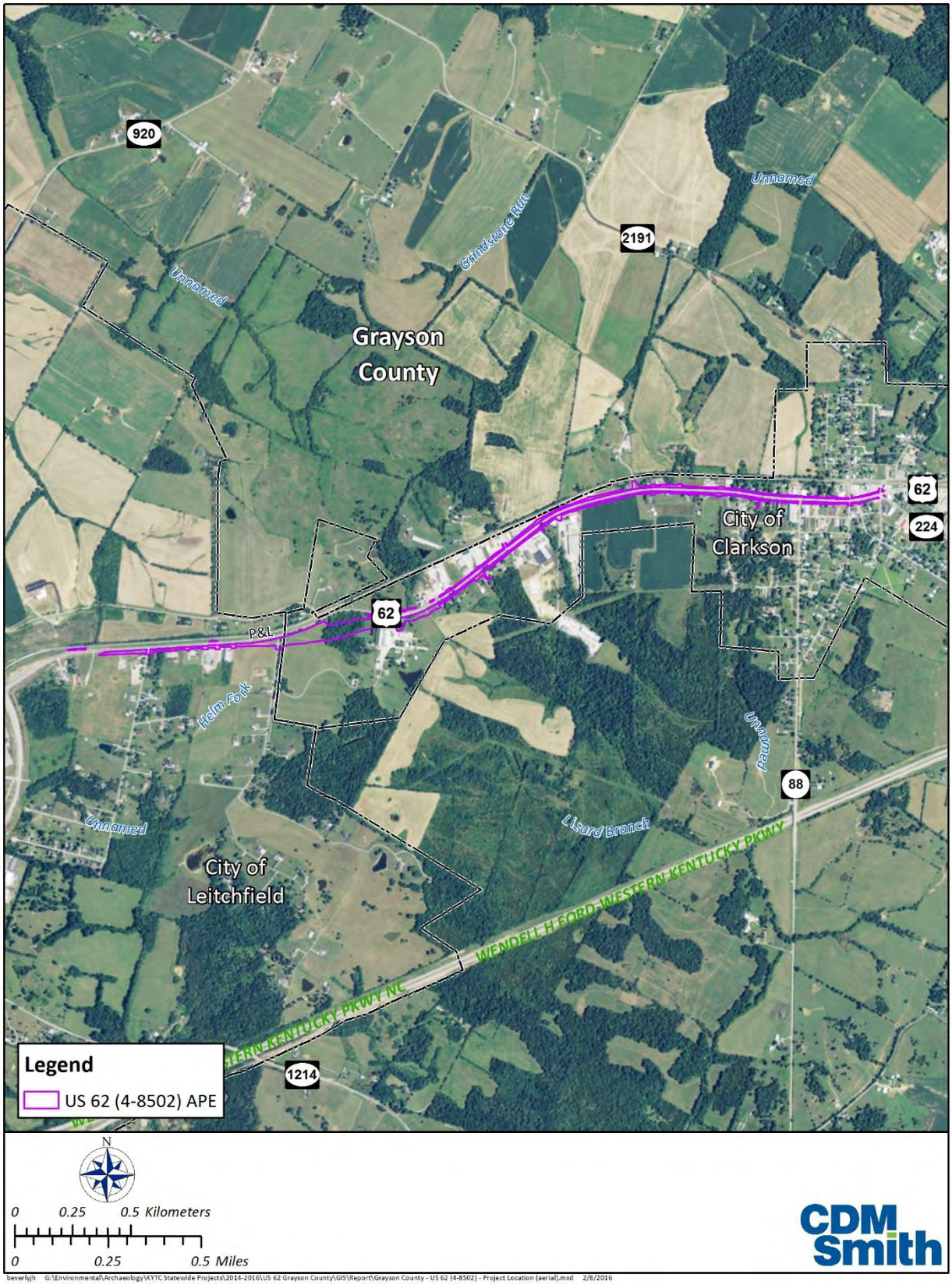


Figure 1-3. Aerial Map showing Project Location.

1.7 Field and Laboratory Crew

The field crew consisted of J. David McBride, J. Howard Beverly, Jr., Dona Daugherty, and Caroline Paulus. Mr. McBride served as the field director and planned, coordinated, and supervised all field activities. J. David McBride 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 Ann Wilkinson and J. David McBride.

1.7.1 Field Effort

The total number of hours expended during fieldwork was 96. Field work for the project was conducted between December 15 and December 17, 2015.

1.7.2 Laboratory Effort

The total number of hours expended to wash, catalog, analyze, and write up artifacts was 40 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

At the request of the KYTC, CDM Smith archaeologists conducted a Phase I archaeological survey associated with the widening of portions of US 62 from Leitchfield to Clarkson, Grayson County, Kentucky (Item No. 4-8502). The total APE measures 18 acres (7.3 ha). The survey identified two archaeological sites, three non-sites, and one isolated find. Neither of the sites nor the non-sites and isolated find were potentially eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D. No additional work is recommended.

Section 2 -

Environmental

Aspects of the natural environment often influence the development of prehistoric and historic communities. In this section, the environmental background of Grayson 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.

Grayson County lies within two physiographic areas of Kentucky (Figure 2-1), the Western Coal Fields and the Western Pennyroyal Physiographic Regions of central western Kentucky. The topography of the county area is wide-ranging with nearly level areas and very steep areas (Whitaker et al. 1972:1).

2.2 Geology

The rocks exposed in the Western Coalfield physiographic area is of Pennsylvanian age and the rocks exposed in the Pennyroyal physiographic area is of Mississippian age (Figure 2-2 and Figure 2-3). The geology underlying the project area consists of strata deriving from the Mississippian age. The Mississippian age rocks are composed of interbedded marine sedimentary rocks consisting of siltstone, sandstone, shale and limestone (McDowell 1984).

2.3 Hydrology

Grayson County is part of the Green River drainage. The project area is drains into Lizard Branch and Helm Fork, which both flow south into Bear Creek- a major regional creek that has its confluence with the Green River where Edmonson, Butler, and Warren Counties meet (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.

There are nine soil types found within the project area: Caneyville silty clay loam, 6 to 12 percent slopes (CcC), Mercer silt loam, 2 to 6 percent slopes (MtB), Rosine silt loam, 6 to 12 percent slopes, eroded (WoC), Sadler silt loam, 0 to 2 percent slopes (SaA), Sadler silt loam, 2 to 6 percent slopes (SaB), Stendal silt loam (St), Wellston silt loam, 6 to 12 percent slopes (WlC), Zanesville silt loam, 2 to 6 percent slopes (ZaB), and Zanesville silt loam, 6 to 12 percent slopes (ZaC) (Figure 2-5) (Whitaker et al. 1972; USDA NRCS 2015). In this location, these soils are part of the Sadler-Zanesville-Wellston and the Caneyville-Weikert-Zanesville Soil Associations. The various soil types are described below.

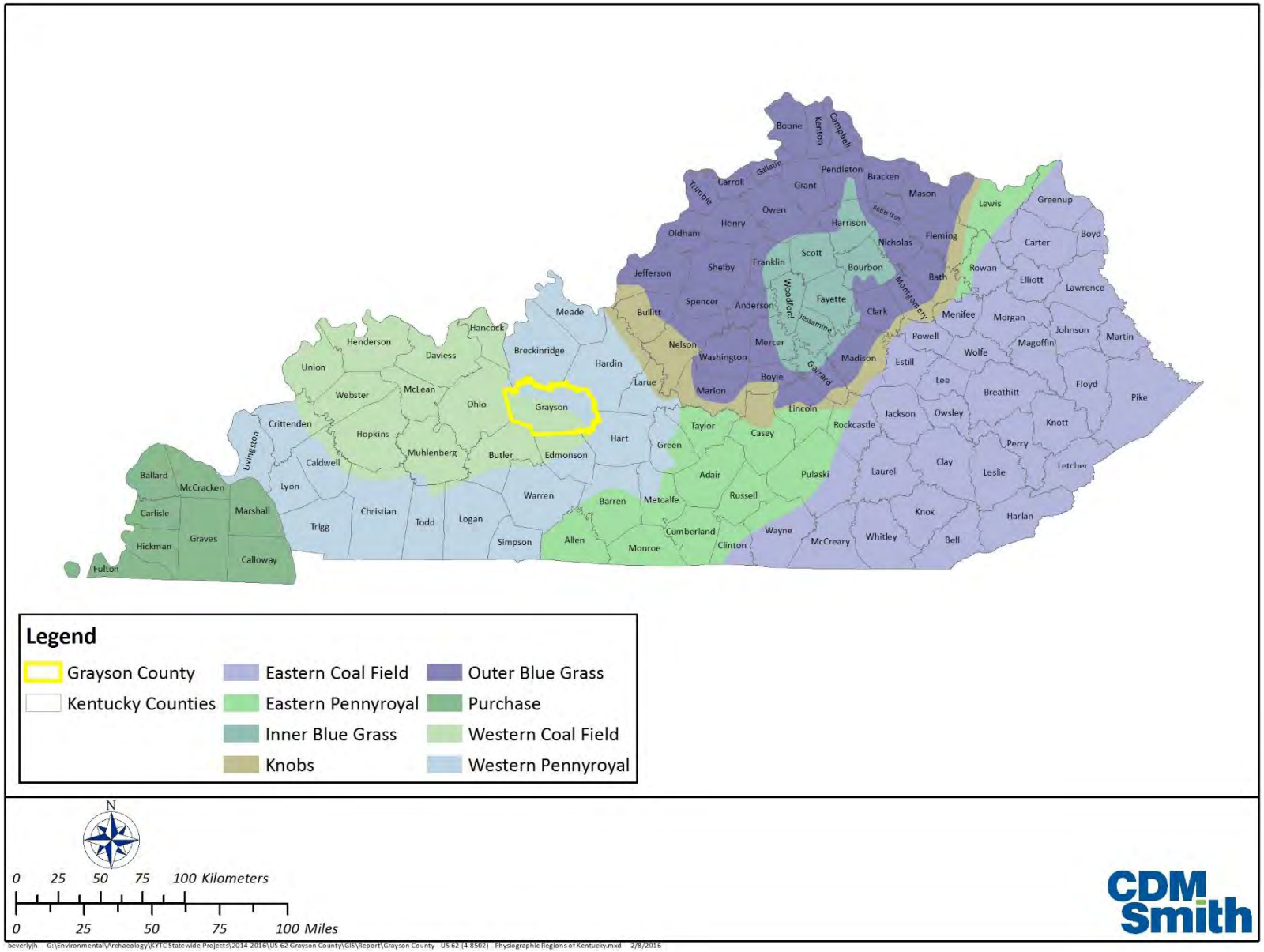


Figure 2-1. Physiographic Map of Kentucky.

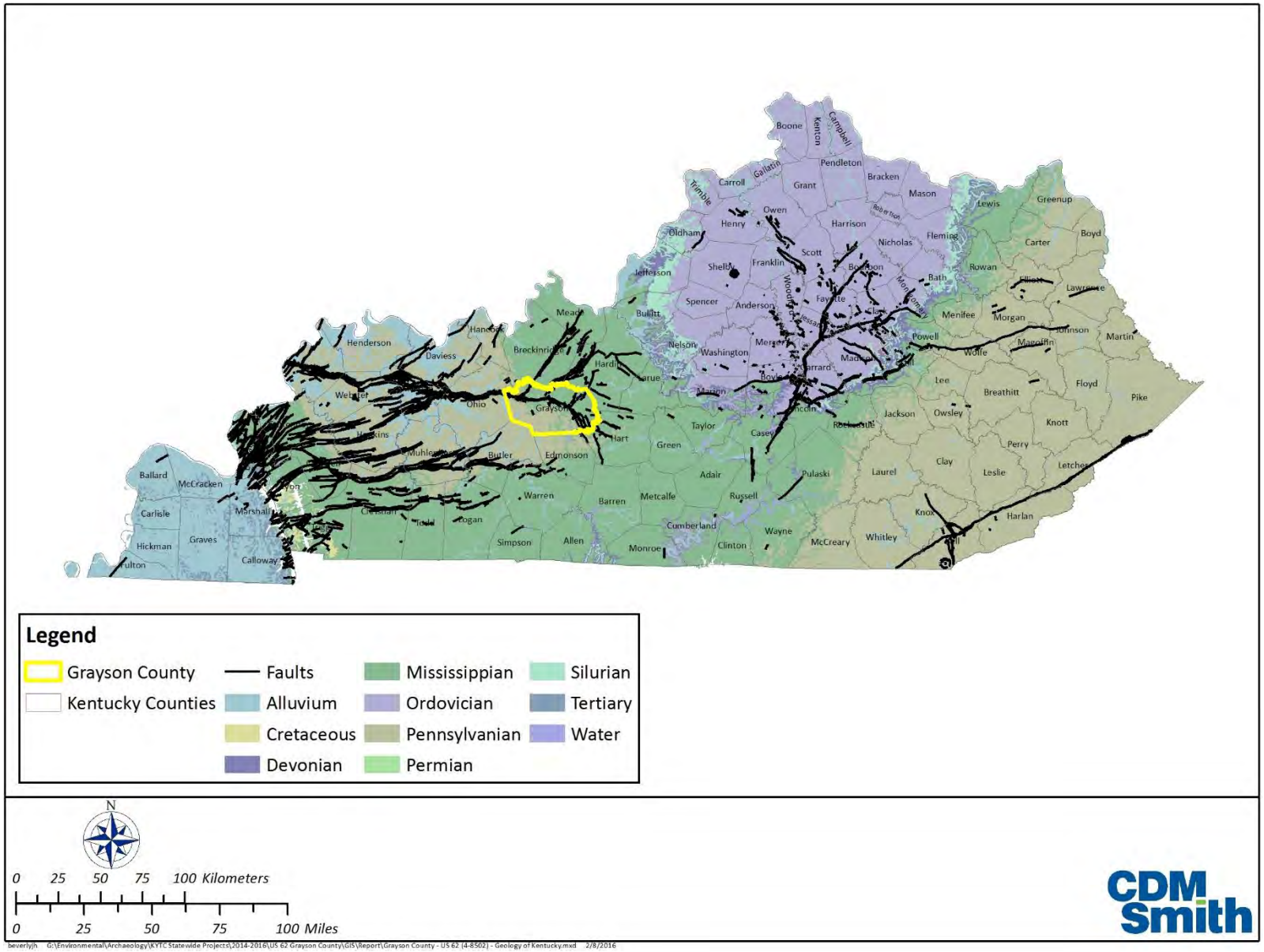


Figure 2-2. Geologic Map of Kentucky.

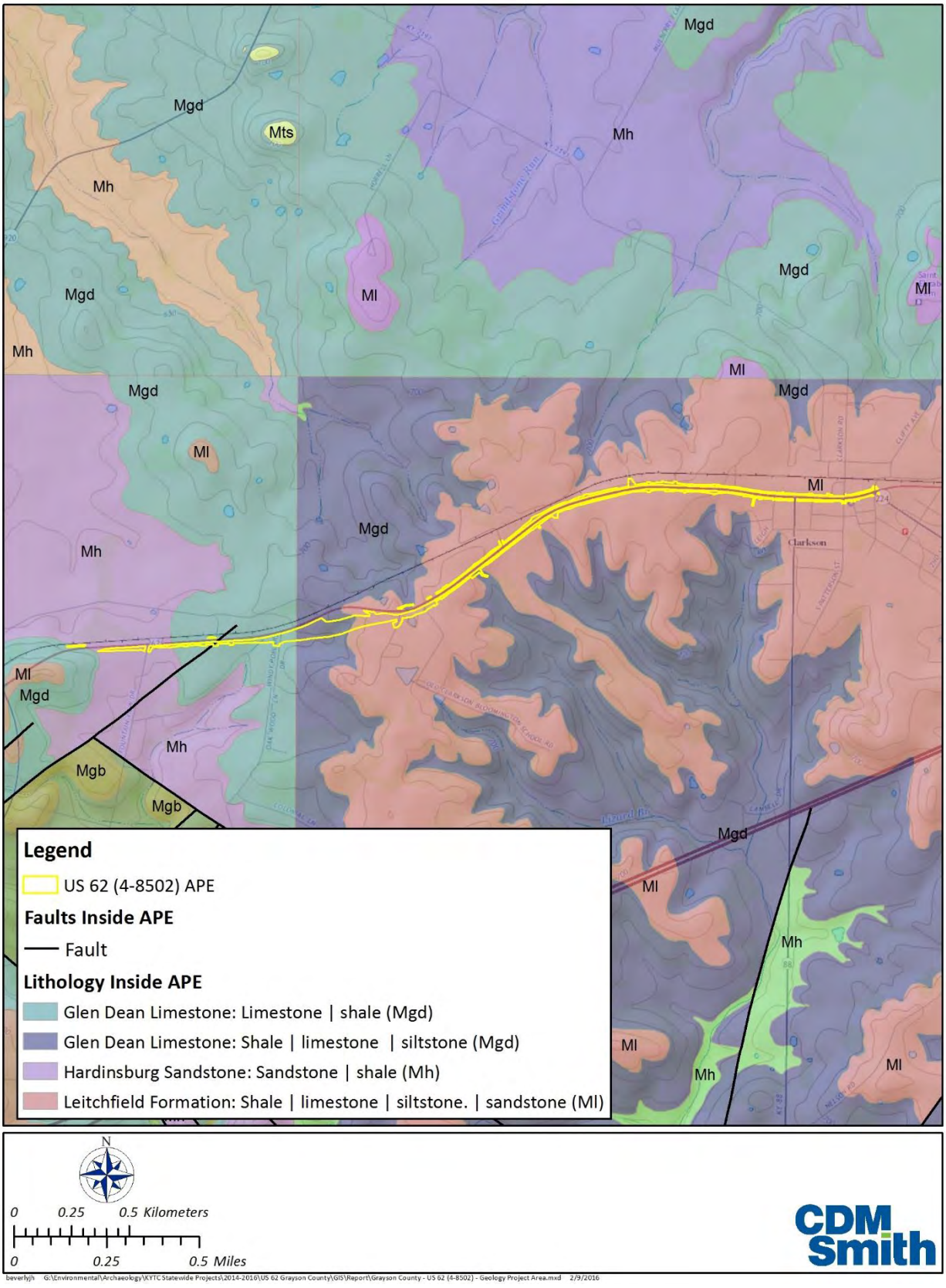


Figure 2-3. Geology of Project Area.

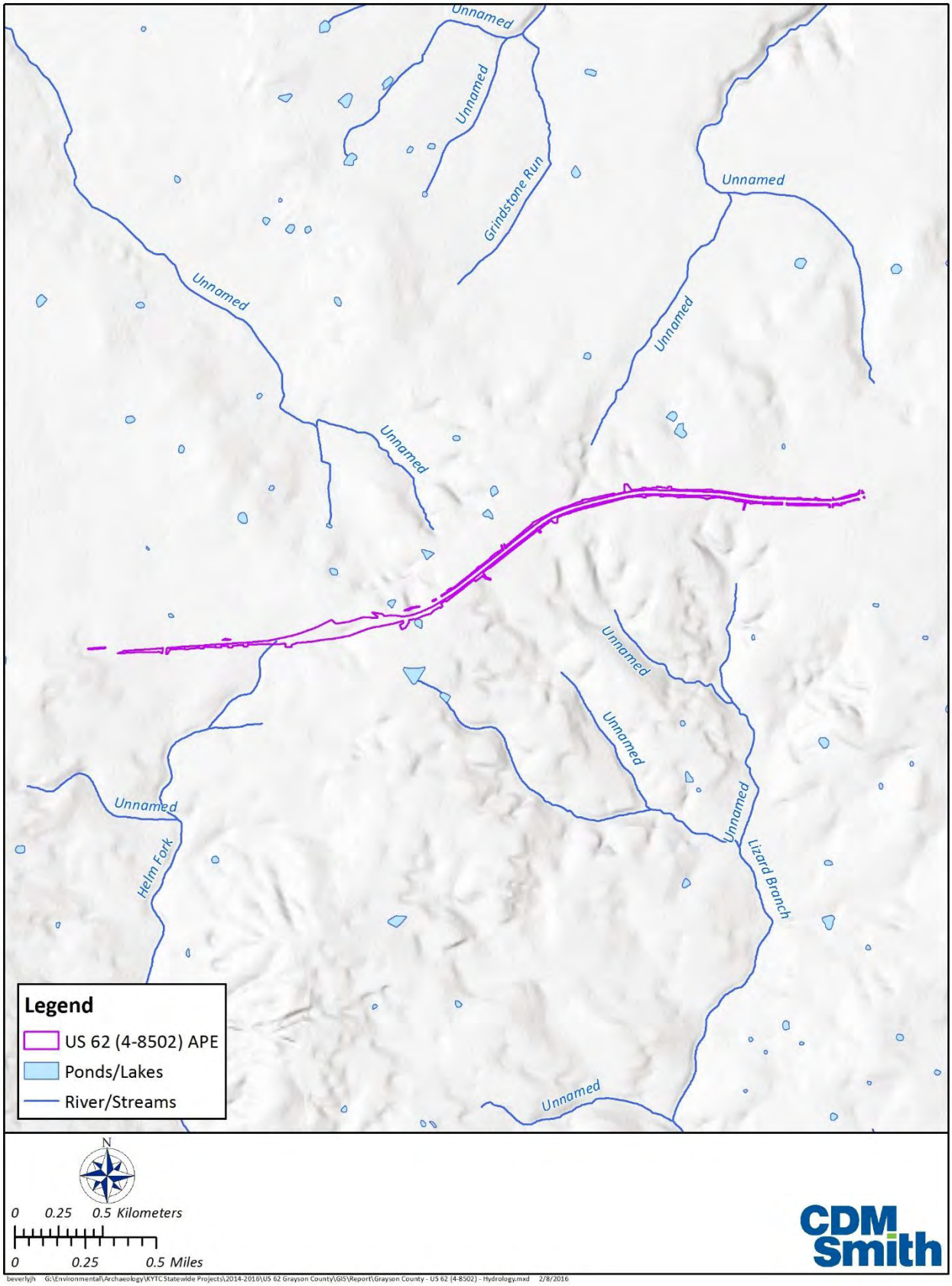


Figure 2-4. Hydrology.

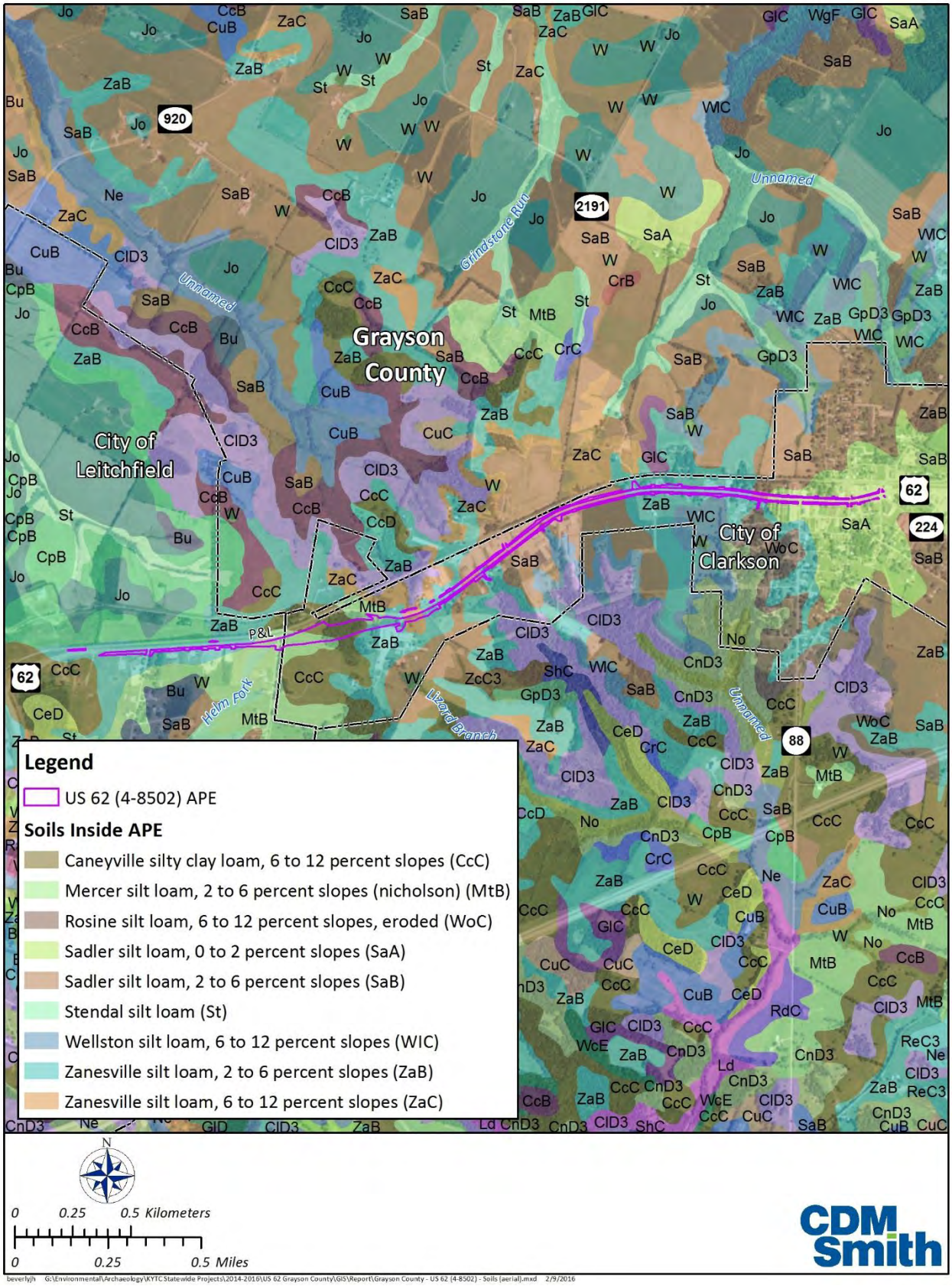


Figure 2-5. Soils in the Project Area.

Caneyville silty clay loam, 6 to 12 percent slopes (CcC) soil is well drained and is found on smooth side slopes and ridge tops. This Caneyville soil type has moderately high capacity for transmitting water, and the water table is more than 203 cm (80 in.) below the surface. Caneyville soils have an Ap topsoil that consists of a very dark grayish-brown (10YR 3/2) silty clay loam about 13 cm (5 in.) thick. The B21t subsoil extends to 23 cm (9 in.) and consists of a brown (7.5YR 4/4) silty clay. This overlays the B22t subsoil layer of yellowish-red (5YR4/6) silty clay which extends to 46 cm (18 in.). This soil formed from a parent material of clayey residuum weathered from limestone (Whitaker et al. 1972:9-10; USDA NRCS 2015). The CcC soils are best suited to pasture and hay crops, with a small acreage in row crops (Whitaker et al. 1972:10).

Mercer silt loam, 2 to 6 percent slopes (MtB) soil is moderately well drained and is found on ridge tops. This Mercer soil type has a moderately low to moderately high capacity for transmitting water, and the water table is between 46 cm (18 in.) and 61 cm (24 in.) below the surface. Mercer soils have an Ap topsoil that consists of a brown (10YR 4/3) silt loam about 15 cm (6 in.) thick. The B21t subsoil extends to 46 cm (18 in.) and consists of a yellowish-brown (10YR 5/6) silty clay loam. This overlays the B22t subsoil layer of yellowish-brown (10YR5/6) silty clay loam with distinct mottling of pale brown (10YR 6/3) and strong brown (7.5YR 5/6) which extends to 58 cm (23 in.). This soil formed from a parent material of thin fine-silty noncalcareous loess over residuum weathered from limestone, sandstone, and shale (Whitaker et al. 1972:19; USDA NRCS 2015). The MtB soils are suited to pasture, hay crops, and row crops (Whitaker et al. 1972:19).

Rosine silt loam, 6 to 12 percent slopes, eroded (WoC) soil is well drained and is found ridges on uplands. This Rosine soil type has a moderately high capacity for transmitting water, and the water table is at 152 cm (60 in.) below the surface. Rosine soils have an A topsoil that extends to 2.5 cm (1 in.) that consists of a very dark grayish brown (10YR3/2) silt loam. Below this is an E layer that extends to 10 cm (4 in.) brown (10YR5/3) brown silt loam. This overlays the Bt1 subsoil layer of strong brown (7.5YR5/6) strong brown silty clay loam which extends to 56 cm (22 in.). This soil formed from think fine-silty noncalcareous loess over clayey residuum weathered from shale and siltstone. Most of the WoC soils is forested (USDA NRCS 2015).

Sadler silt loam, 0 to 2 percent slopes (SaA) soil is moderately well drained and is found in broad upland areas. This Sadler soil type has a very low to moderately low capacity for transmitting water, and the water table is between 48 cm (19 in.) and 71 cm (28 in.) below the surface. The typical stratigraphic profile for Sadler soils is described in the previous paragraph. This soil formed from a parent material of thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and shale (Whitaker et al. 1972:23; USDA NRCS 2015). The SaA soils are suited to pasture, hay crops, and horticultural crops with some areas in woods (Whitaker et al. 1972:23).

Sadler silt loam, 2 to 6 percent slopes (SaB) soil is moderately well drained and is found on broad ridge tops. This Sadler soil type has a very low to moderately low capacity for transmitting water, and the water table is between 48 cm (19 in.) and 71 cm (28 in.) below the surface. Sadler soils have an Ap topsoil that consists of a brown (10YR 4/3) silt loam about 18 cm (7 in.) thick. The B1 subsoil extends to 33 cm (13 in.) and consists of a yellowish-brown (7.5YR 5/6) silt loam. This overlays the B2t subsoil layer of yellowish-brown (10YR5/6) silt loam which extends to 51 cm (20 in.). This soil formed from a parent material of thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and shale (Whitaker et al. 1972:22-23; USDA NRCS 2015). The SaB soils are suited to pasture, hay crops, and horticultural crops (Whitaker et al. 1972:23).

Stendal silt loam (St) is a well-drained soil found on broad ridges on uplands. This soil type has a moderately low capacity for transmitting water, and the water table is more than 152 cm (60 in.) below the surface. Stendal soils have an Ap topsoil that consists of a brown (10YR4/4) silt loam about 18 cm (7 in.) think. The B21 subsoil extends to 18 cm (46in.) and consists of a grayish-brown (10YR5/2) silt loam. Below this is a boB22g brownish-gray (2.5Y6/2) silt loam subsoil that extends to 81 cm (32 in.) below the surface. This overlays the Cg subsoil layer of light brownish-gray (2.5Y6/2) silt loam. This soil formed from thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and shale (Whitaker et al. 1972:25; USDA NRCS 2015). The St soil is best suited for row crops, hay, and pasture (Whitaker et al. 1972:29).

Wellston silt loam, 6 to 12 percent slopes (WlC) soil is a deep, well-drained soil found on upland ridgetops and smooth sideslopes. This soil type has a very low to moderately low capacity for transmitting water, and the water table is more than 203 cm (80 in.) below the surface. Wellston soils have an Ap topsoil that consists of a brown (7.5YR 4/4) silt loam about 20 cm (8 in.) thick. The B1t subsoil extends to 30 cm (12 in.) and consists of a brown (7.5YR 4/4) silty clay loam. This overlays the B21t subsoil layer of yellowish-red (5YR 4/6) silty clay loam with reddish-brown (5YR 5/4) inclusions which extends to 56 cm (22 in.). This soil formed from a parent material of thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and shale (Whitaker et al. 1972:28-29; USDA NRCS 2015). The WlC soil is best suited for pasture or wildlife forage/coverage (Whitaker et al. 1972:29).

Zanesville silt loam, 2 to 6 percent slopes (ZaB) soil is found on ridge tops and is well to moderately well drained. This Zanesville soil type has a moderately low to moderately high capacity for transmitting water, and the water table is between 53 cm (21 in.) and 76 cm (30 in.) below the surface. Zanesville soils have an Ap topsoil that consists of a brown (10YR 4/3) silt loam about 18 cm (7 in.) thick. The Bt subsoil extends to 28 cm (11 in.) and consists of a brown (7.5YR 4/4) silt loam. This overlays the Btx subsoil layer of strong-brown (7.5YR5/6) silty clay loam which extends to 48 cm (19 in.). This soil formed from a parent material of thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and shale (Whitaker et al. 1972:29-30; USDA NRCS 2015). The ZaB soils are suited to pasture, hay crops, and row crops as they are considered to be moderate in natural fertility (Whitaker et al. 1972:30).

Zanesville silt loam, 6 to 12 percent slopes (ZaC) soil is found on upland ridgetops and smooth sideslopes and is well to moderately well drained. This Zanesville soil type has a very low to moderately low capacity for transmitting water, and the water table is between 53 cm (21 in.) and 76 cm (30 in.) below the surface. The stratigraphy typical for soil types in the Zanesville soil series is described above (ZaB), and the ZaC type differs with a redder, more clayey topsoil while commonly it is the subsoil present at the surface due to erosion. This soil formed in thin fine-silty noncalcareous loess over loamy residuum weathered from sandstone and siltstone (Whitaker et al. 1972:30; USDA NRCS 2015). The soil is well suited pasture and hay crops (Whitaker et al. 1972:30).

2.5 Cherts

Chert is found in the Leitchfield formation of the Clarkson geological quadrangle (Glick 1963). Chert is also found in the Alluvium and the Leitchfield formation on the Leitchfield geological quadrangle (Gildersleeve 1978).

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

Grayson County has warm humid summers and moderately cold winters. The mean annual precipitation is 35 to 45 inches, and the mean annual temperature is about 52^0 F to 57^0 F. No distinct separation is evident between wet and dry seasons. Precipitation falls fairly evenly throughout the year. Thunderstorms occur on an average of about 50 days a year and are frequent from March through August. During winter, the average yearly snowfall is about 10 inches (Whitaker et al. 1972:75-76).

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 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.

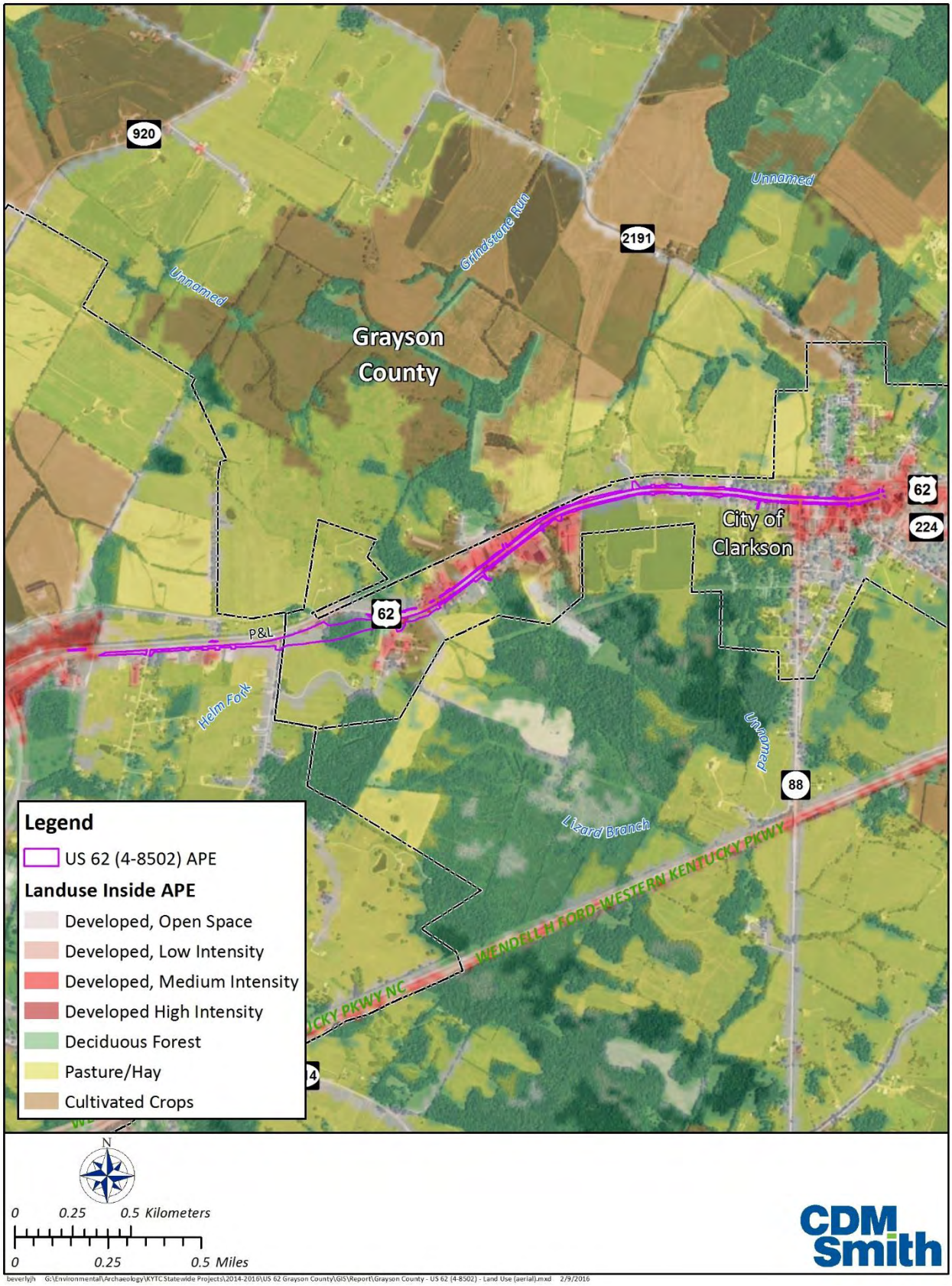


Figure 2-6. Existing Land Use, 2006.

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. An example is shown in Figure 2-7.

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. An example is shown in Figure 2-8.

Developed, medium intensity areas are areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units. An example is shown in Figure 2-9.

Developed high intensity areas are highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover. An example is shown in Figure 2-10.

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. An example is shown in Figure 2-11.

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. An example is shown in Figure 2-12.

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



Figure 2-8. Developed, Low Intensity inside the Project Area.



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



Figure 2-10. Developed High Intensity use areas inside the Project Area.



Figure 2-11. Deciduous Forest use areas inside the Project Area.



Figure 2-12. Pasture/Hay use area inside the Project Area.

Section 3 -

Cultural Context, Previous Investigation, and Summary of Known Sites

In this chapter, the culture history of Grayson 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 is limited. One hundred and thirty-three Paleoindian sites have been recorded for the Green River Management Area (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, 1,140 Archaic period sites had been identified in the Green River 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. The Watkins Mound A is one of the few Hopewellian mounds located in Kentucky and is found in the Green River Management Area. During the Late Woodland, a distinctive cultural adaptation developed with similar variants throughout the Middle Ohio River valley. As of 2008, 748 Woodland period sites had been recorded for the Green River Management Area (Applegate 2008).

3.1.3.1 Early Woodland

Variation exists in accepted beginning and ending dates for the Early Woodland subperiod throughout regions of Kentucky. In the Mississippi River, Northern Bluegrass, and Lower Big Sandy sections, Kreisa and Stout (1991), Duerksen et al. (1994, 1995), and O’Steen et al. (1991) determined that the subperiod dated between 1000-200 B.C. In the Ohio River II Section, deNeeve (2004) placed the dates at 1000-150 B.C. The Central Bluegrass was dated to 1000 B.C.-A.D. 1 (Schlarb 2005), and the Gorge

and Lower Big Sandy sections ranged between 800-200 B.C. (Gremillion 1993, 1998; Ison 1988; Applegate 2008; O'Steen et al. 1991; Railey 1991).

Pottery technology, the hallmark of the Early Woodland subperiod, surfaced at different times across Kentucky. In fact, some Early Woodland sites are without pottery while some Late Archaic sites do have pottery technology. The impact of pottery on cultural adaptations varied as well. In rugged terrains, such as portions of the Upper Green River Section, pottery would hinder travel while baskets and squash/gourd containers were a more practical option (Carstens 1996:10; Applegate 2008).

Another technological change during the Early Woodland subperiod included a shift from chipped stone end scrapers to bone beamers, and a shift from grooved axes to ungrooved celts (Applegate 2008). A celt requires less maintenance than a grooved axe which needs to be continuously relashed. The ungrooved celt and bone beamer remained in use until the Historic period.

Other groundstone tools utilized during the Early Woodland subperiod did not deviate from those used in previous periods. Pestles, nutting stones, atlatl weights, and hammerstones all continued to serve a purpose (Applegate 2008). Bone and shell also were used by Early Woodland groups as seen in bone awls, flakers, reamers, handles, bowls, shell spoons, scrapers, beads, and gorgets (Applegate 2008).

In Kentucky, the earliest textiles were recovered from Terminal Archaic to the Early Woodland sites. The textiles were located in caves and rockshelters in the Upper Green River and Gorge sections. A variety of clothing, foot wear, and bags were woven during this subperiod (Applegate 2008).

Trade networks had existed since the Late Archaic, but towards the end of the Early Woodland, an increase in the frequency of copper, mica, and exotic cherts was recorded.

Subsistence strategies did not differ much from previous periods, with hunting and gathering being the focus. Garden products also were a part of their diet, and an increase in cultivation of weedy plants and cucurbits developed. Deer, box turtle, small mammals, birds, fish, and mussels were all consumed.

Projectile points that mark this sub-period are dominated by notched and stemmed forms including Kramer, Wade, Savannah River, Adena, and Turkey-tail. While the majority of these point types date the early portion of the Early Woodland, the Adena point type is more common towards the end of the sub-period (Railey 1990:250).

Early Woodland populations tended to live in upland, ridge top, floodplain, rockshelters, and cave vestibules. Rockshelters were used in eastern and western Kentucky. Cave exploration and mineral mining, which began in the Late Archaic, intensified during the Early Woodland. As documented at Mammoth and Salts cave, gypsum, mirabilite, and epsomite were all mined from caves. Mining has been documented in the Upper Green River, Pennyroyal, and Lake Cumberland sections (Applegate 2008).

Some of the earliest known Early Woodland sites in Kentucky 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 central and eastern Kentucky (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 to ca. 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.

3.1.3.2 Middle Woodland

In most parts of the Southeast and Midwest, the development of Hopewell is a distinguishing difference between the Early and Middle Woodland sub periods. However, in Kentucky, Hopewell does not have a deep effect on Woodland populations, and as a result, considerable continuity exists between the Early and Middle sub periods (Applegate 2008). In addition, regions within Kentucky seem to differ with the beginning and ending dates for the Middle Woodland as did the Early Woodland. In the Mississippi River Section, Kreisa and Stout (1991) set the sub period at 200 B.C.-A.D. 400, and in the Ohio River II Section, deNeeve (2004) gives the sub period at 150 B.C.-A.D. 500. The Central Bluegrass Section has been given ranges of 400 B.C.-A.D. 400 and A.D. 1-500 (Richmond and Kerr 2005; Schlarb 2005). Gremillion (1993) gave the Middle Woodland sub period in the Gorge Section a range from 300 B.C.-A.D. 500.

In the Bluegrass, Upper Kentucky/Licking, and Big Sandy areas, ceramic vessels tend to have plain exterior surfaces during the early Middle Archaic. Cordmarked, cord-wrapped dowel-impressed, or fabric-impressed exterior surfaces are common in the Purchase, Green River, and Upper Cumberland areas (Applegate 2008). In the Salt River and Ohio River I Sections, sherds that exhibit Havana-like or Hopewellian decoration were documented, and southeastern stamped ceramics were found throughout the state but at low frequencies. Late Middle Woodland ceramic vessels tend to have subconoidal or subglobular jars, with outflaring, recurved, or direct rims. Jars usually have cordmarked or plain exterior surfaces, and small quantities of simple stamped or check stamped sherds are present. Complicated stamped, brushed, or rocker stamped sherds are also found in small quantities, but are often used as indicators for the late Middle Woodland sub period.

Robbins, Motley, Gary, and Adena Stemmed (cal 88 B.C.-A.D. 239 [Dowell 1981] points area all found in both the Early and Middle Woodland sub periods. Copena and Copena Triangular, which are Triangular/Lanceolate forms, are considered diagnostic of the Middle Woodland sub period along with corner-notched forms, such as Snyders (cal 1258 B.C.-A.D. 425 [Mocas 1992]) and Affins Snyders (Applegate 2008). Late Middle Woodland contexts demonstrate expanding stemmed and shallow side notched types, such as Steuben, Bakers Creek, Lowe, and Chesser (cal A.D. 268-887 [Crane and Griffin 1966]). In addition, chert bladelets are also considered diagnostic of the Middle Woodland sub period (Applegate 2008).

In mortuary-ritual deposits, exotic raw materials continued to be used, and seemed to peak in the early Middle Woodland, but then decline again during the late Middle Woodland. These exotic raw materials included copper bracelets and breastplates/gorgets, copper and mica head ornaments, marine shell beads, and Vanport chert bladelets (Applegate 2088).

Subsistence strategies did not differ much from the Early Woodland sub period. The Middle Woodland populations continued to rely on wild foods more than cultigens. Settlement patterns saw an increase in usage of floodplain zones. Activity areas are suggested by midden deposits and feature clusters. In western Kentucky, earthworks were sometimes associated with habitation areas, and in the Lower Big Sandy, Upper Big Sandy, and the Central and Eastern Bluegrass, postmold patterns have been discovered that suggest small, single- and double-post circular and square/rectangular houses (Applegate 2008). In the Gorge Section, rockshelter occupations appear to decline. Settlement hierarchies have been noted in the Mississippi River and Ohio River II Sections.

The Middle Woodland in Kentucky 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 an 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 Kentucky 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 1998).

Several Middle Woodland mortuary-ritual sites have been documented, such as the conical burial mounds. In the Bluegrass and Big Sandy areas, these conical burial mounds date to the early Middle Woodland, but in other areas, they date to the late Middle Woodland. Stone mounds date to the late Middle Woodland. Although rare, geometric earthworks and hilltop enclosures date to the late Middle Woodland (Applegate 2008).

3.1.3.3 Late Woodland

Defining the temporal parameters of the Late Woodland has not been an easy task. 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 did occur 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 agriculture 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.

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 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.

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, 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 sub period: 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 Eastern Coalfields 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.

Early and late Middle Woodland artifacts are very similar in most areas, but the late Middle Woodland tends to lack decorated ceramics. In Kentucky, early Late Woodland ceramics consist of subconoidal and subglobular cordmarked jars, and vessel rims are usually unmodified and lips are usually flattened and plain. Plain and cordmarked forms are common throughout Kentucky during the terminal Late Woodland sub period, but variation does exist. Pottery vessels with zones of incised geometric designs on the jar necks are found in the lower Ohio River valley. In far western Kentucky, during the terminal Late Woodland, pan-shaped vessels and red film surface treatment begins to appear although these types are diagnostic of the Mississippian period. In the Bluegrass Management Area, vessels with angular shoulders continue to be used (Applegate 2008).

In the terminal Late Woodland sub period, the 'true arrowheads' begin to appear in Kentucky (Applegate 2008). Point types found at Late Woodland sites, including several from dated contexts, are Jacks Reef (cal A.D. 442-776, cal A.D. 548-859 [Ahler 1987], and cal A.D. 675-938 [Ledbetter and O'Steen 1992]), Raccon (cal A.D. 663-1151 and cal A.D. 695-1223 [Ledbetter and O'Steen 1992]), Hamilton (cal A.D. 223-592 and cal A.D. 569-768 [Des Jean 2004]), and Levanna.

Wild animals and plants continued to be the mainstay of the subsistence strategy utilized during the early Late Woodland sub period. Cultivation of native plants continued and maize appears during the Middle and early Late Woodland contexts, but not as a significant source until the terminal Late Woodland (ca. A.D. 800) (Applegate 2008). In Kentucky, maize cultivation appeared mostly in the Purchase and Green River management areas.

Regional variability dictated settlement patterns within the Late Woodland sub period. In the Pennyroyal Section, domestic structures included rectangular and circular single-post forms and possible Late Woodland wall trench structure (Applegate 2008). Late Woodland sites in the Bluegrass Management Area concentrated on upland ridges, while other areas continued a focus on floodplain zones. Two- and three-tiered settlement hierarchies have been documented in the Purchase Management Area during the terminal Late Woodland sub period. In contrast, nucleated settlements are more common in the early Late Woodland in central and northeastern Kentucky.

By A.D. 500, the construction of large earthen or stone enclosures had ceased. In contrast, construction of stone mounds increased during the Late Woodland. In western, southern, and parts of northern Kentucky, stone box grave cemeteries became common.

3.1.4 Late Prehistoric Period

Both the Mississippian and Fort Ancient cultural manifestations are widespread in the Midwest and are characterized by distinctive settlement patterns. Mississippian society is characterized by a hierarchical social organization, in contrast with the non-hierarchical social organization evident in Fort Ancient society. Examination of site structure, settlement pattern and mortuary behaviors confirm these distinctions. Generally, Mississippian and Fort Ancient cultures were spatially discrete. Mississippian societies are documented in western Kentucky, Illinois, and states further south, whereas Fort Ancient societies are documented from western West Virginia to southeastern Indiana and from south-central Ohio to north-central and eastern Kentucky (Griffin 1978:551). More specifically within Kentucky, Fort Ancient is present within the Salt River, Bluegrass, Big Sandy, and Upper Kentucky/Licking River management areas (Sharp 1990:467)

The Late Prehistoric archaeological complex of the Green River Management Area is Mississippian, which spans the time period from approximately A.D. 1000 to about A.D. 1700. Geographically, Mississippian includes the Purchase, the Green River, the Upper Cumberland, and a portion of the Salt River Management Area within Kentucky (Pollack 2008). The Mississippian economy is based on hunting; cultivation of maize, squash, and native plants; and the gathering of wild plants. The Mississippian political organization is referred to as a chiefdom, consisting of a hierarchy of habitation sites, such as large villages, small villages, hamlets, farmsteads, cemeteries, and planned administrative centers (Green and Munson 1978; Muller 1978, 1986; Pollack 1998, 2004; Service 1971). These administrative centers feature plazas surrounded by substructure mounds.

Little is understood of the rise and fall of the Mississippian chiefdoms, but the rise is believe to be tied to the domestication of crops, especially maize. Elites are thought to hold more power and prestige than leaders in earlier periods, possibly from the belief they controlled the agricultural output and environmental factors, or that they maintained trade for nonlocal goods and outside information (Helms 1979; Milner 2006; Muller 1997, 1998, Pauketat 1994). The Mississippian period did not develop in isolation but likely its economy was linked with outer groups. These chiefdoms were likely quite unstable, most were occupied for only 50 to 150 years (Cobb 2003). By post AD 1400, many regional polities had collapsed. The abandonment of communities throughout western and southeastern Kentucky is referred to as the “Vacant Quarter” (Cobb and Butler 2002; Williams 1990). The reasons for this abandonment are debated. Some think it was environmentally related or due to agricultural degradation. Others suggest a loss of control of nonlocal trade goods by elites, and still others think it is related to an increase in household autonomy as subsistence risk was reduced.

The Green River Management Area had 605 Mississippian sites recorded as of 2008, and 77.5% of the sites are open habitations without mounds (Pollack 2008:677).

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. 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 (Turnbow 1980:17). 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.

Other important early routes into Kentucky went overland through the Cumberland Gap while a major water route proceeded down the Monongahela River, then the Ohio River. The exploration and the ultimate European American settlement of Kentucky began in earnest in 1750 when Dr. Thomas Walker explored some of eastern Kentucky. Dr. Thomas Walker led the first recorded expedition from Virginia into eastern Kentucky, and camped in present day Paintsville in 1750. According to Walker, French cabins were discovered at the mouth of Paint Creek at this time. 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, John Finley in 1752, and Daniel Boone in 1769. Working for the Ohio Company, Christopher 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; McBride and McBride 1990:587). 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). The Wilderness Road passed through the Cumberland Gap, down Yellow Creek, through the Little Log Mountain gap, on through Ferndale, up Moore's Branch, through the Big Log Mountain gap, through the "Narrows" south of Pineville, through Cumberland Ford in Pineville, the Cumberland River to Flat Lick, and finally on to Boonesborough (Fuson 1947). An earlier traveler's account described the land after passing through the Gap:

> *"From thence (from Cumberland Gap) until you pass Rockcastle River there is very little good road; this tract of country is very mountainous, and badly watered along the trace, especially for springs. There is some good land on the water-courses, and just on this side Cumberland River appears to be a good trace, and within a few years I expect to have a settlement on it. Some parts of the road is very miry in rainy weather. The fords of Cumberland and Rockcastle are both good unless the waters be too high." (William Brown in 1782, Fuson 1947:2).*

Settlers from North Carolina and southwestern Virginia generally chose the Wilderness Road 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).

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).

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. Figure 3-1 shows a section of Kentucky in 1794.



Figure 3-1. Map Showing Section of Kentucky in 1794 (Russell and Symonds).

The area that is now Grayson County began to be settled in the late 1700s, and one of these early landowners was George Washington, purchasing 5,000 acres on the southern shore of Rough River in 1788 (Nevils 1992a). Grayson County was established on January 25th of 1810 out of portions of western Hardin County and eastern Ohio County, and named for Colonel William Grayson. Grayson was an aide to George Washington. Leitchfield was established as the county seat (Nevils 1992a, 199b).

3.2.2 Antebellum (1820-1861)

River and railroad transportation routes opened up throughout parts of Kentucky, during the first part of the nineteenth century by steamboats and trains. According to McBride and McBride (2008:922), this time was "truly the age of the river town, or city, in Kentucky. 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.

However, these improvements in transportation did not come as quickly for Grayson County, located in west-central Kentucky, and little would change for the area until after the Civil War.

3.2.3 Civil War (1861-1865)

Kentucky's status as a border state not fully joining the Confederacy but yet still allowing slavery brought division within the population. The Union Army headquarters for Kentucky were at Louisville and Camp Nelson in Jessamine County which was a large quartermaster depot and African–American recruitment center that operated from 1863 to 1865. The fort employed over 2,000 civilian employees, and housed between 900 and 5,000 troops at any time (McBride et al. 2003).

The Battle of Perryville, the largest Civil War battle to occur in Kentucky, was fought near Perryville in Boyle County. On October 8, 1862, the battle ensued, involving 16,000 Confederate troops and 58,000 Union troops. The Confederate force was defeated and they retreated to Tennessee, and the three-month long Confederate effort to secure Kentucky was halted. (Kleber 1992).

Camp Nelson was established in Jessamine County in 1863 as a U.S. Army depot. It became a major supply depot, recruitment center, and hospital for Federal armies operating in Kentucky and East Tennessee (McBride et al. 2003). Eight United States Colored Troop regiments were founded at Camp Nelson. A refugee camp for the families of the African American troops was also established at the camp (McBride et al. 2003).

The economic effects of the Civil War were probably more significant to people in Kentucky than the physical devastation. Many farmers and merchants were hurt by the curtailment of trade with the south (McBride and McBride 1990:609). The hemp industry, which was already declining in the 1850's, lost its most significant domestic market, the southern cotton producers (Hopkins 1998:68). There were also transportation system disruptions due to war damage or to Union control.

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).

Although the area saw little fighting, Grayson County suffered along with the rest of the state during war. In 1864, the log courthouse in Leitchfield was burned by retreating Confederate troops hoping to slow down the Union forces in pursuit. Figure 3-2 illustrates Grayson County in 1862 (Lloyd).

3.2.4 Postbellum Industrialization (1865-1914)

The Postbellum period brought with it changes in social and economic systems that greatly affected Kentucky (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

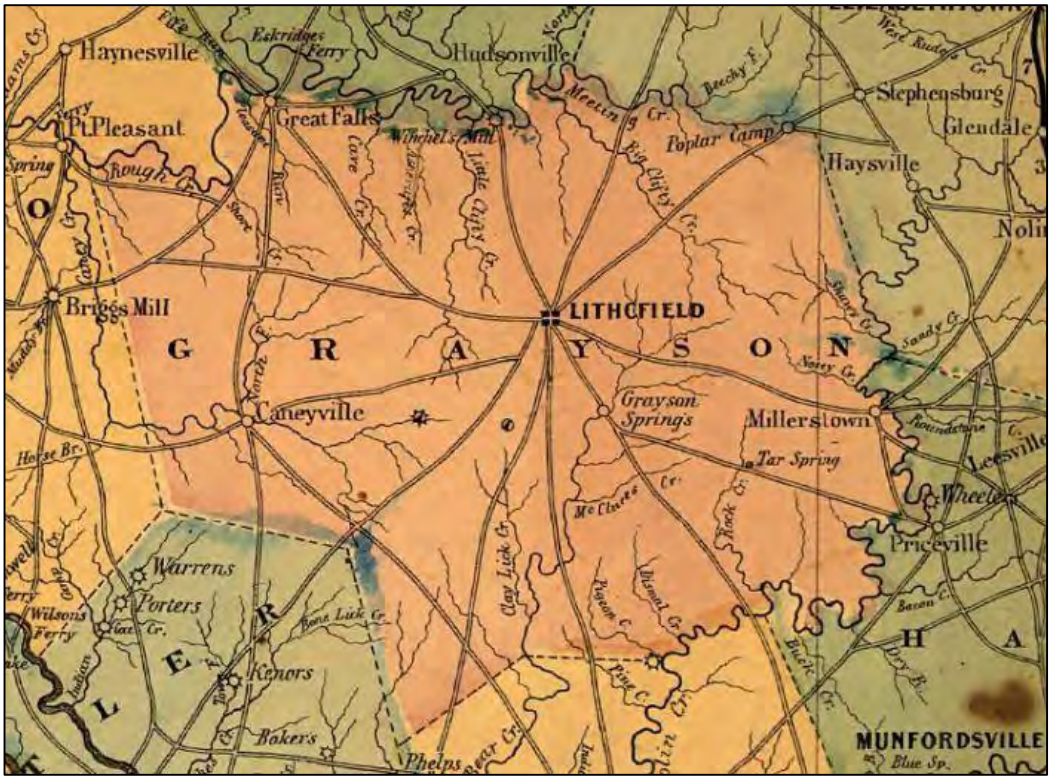


Figure 3-2. Map Showing Grayson County in 1862 (Lloyd).

significant developments in communication and transportation, growth in industry and commerce and increased urbanization (McBride and McBride 1990:615).

After the Civil War, Grayson County saw growth in industry, especially with the arrival of the Elizabethtown & Paducah Railroad (now the Paducah & Louisville Railroad) in the 1870s (Nevils 1992a). The railroad created agricultural markets and shipping points in the towns of Caneyville and Leitchfield (1992b). By 1900, several large lumber mills were established in Clarkson, and lumber soon became vital to the county's economy (Nevils 1992a). In addition, an asphalt plant was in operation in Big Clifty that shipped its products on a national level.

3.2.5 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.

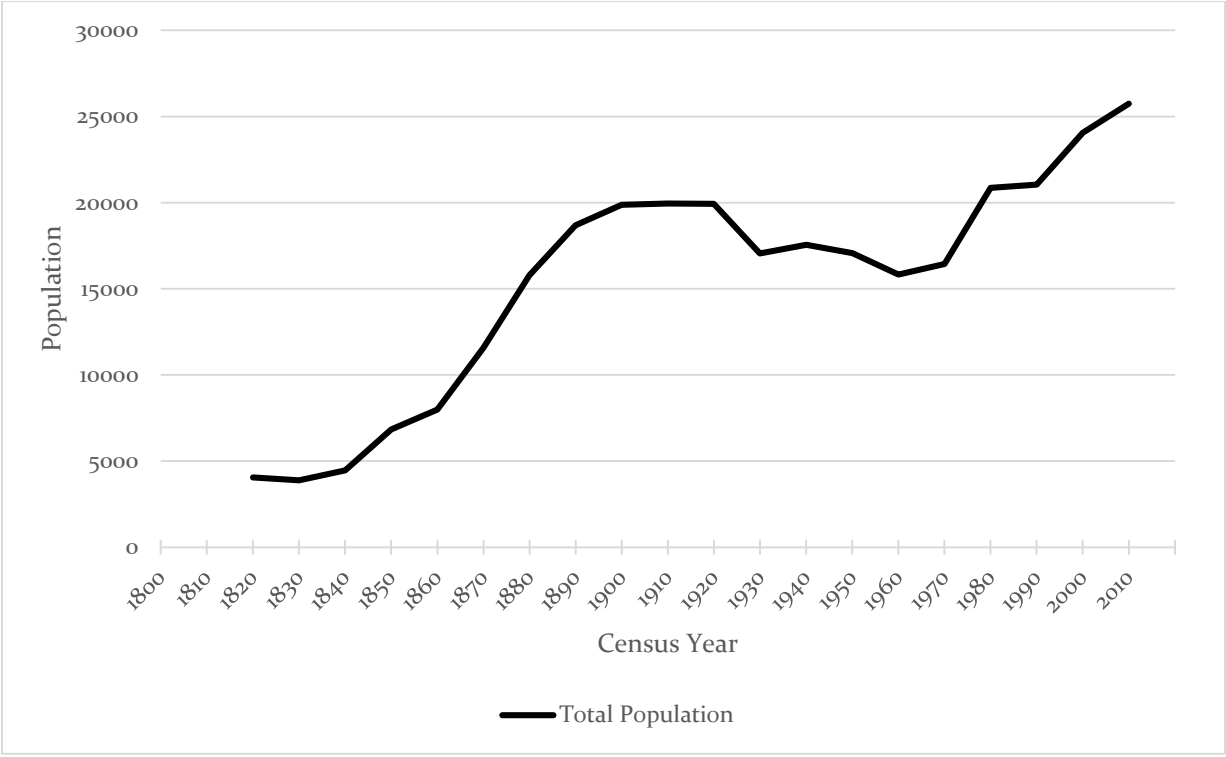
The Great Depression affected every facet of American life, sapping energy from the economy and draining the citizenry's ability to build. Although no unemployment figures were kept, it is generally thought that the jobless rate hovered around 12 percent in Kentucky.

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).

Throughout the twentieth century, Grayson County has remained mostly a rural and agricultural based area. Tobacco was the leading crop in the 1990s followed by corn, soybeans, hay, and wheat (Nevils 1992a). Coal was mined in the western part of the county and natural gas was found near Shrewsbury (Nevils 1992a). Timber remained important into the late twentieth century. Tourism started to contribute to the economy with the impoundments of Rough River Lake in 1959 and Nolin River Reservoir in 1963, which lead to the opening of the Rough River Dam State Resort Park (Nevils 1992a). In the 1960s, the Western Kentucky Parkway was completed through the county, improving connections to outside markets and easing travel for tourism (Nevils 1992a). The population in Grayson County has increased from 4,055 in 1820 to 25,746 in 2010, and has continued to grow steadily the last few decades (Table 3-1).

Table 3-1. Population Changes for Grayson County from 1820 to 2010, Kentucky.



3.3 Historic Map Research

USGS maps available were the 1954 and 1967 7.5 minute Clarkson, Kentucky topographic quadrangle, the 1954 and 1967 7.5 minute Leitchfield, Kentucky topographic quadrangle, the 1925 and 1925 (reprinted 1941) 15 minute Cub Run, Kentucky topographic quadrangle, and the 1925 and 1925 (reprinted 1941) 15 minute Leitchfield, Kentucky topographic quadrangle. Also available were a 1937 and 1955 *Highway and Transportation Map of Grayson County, Kentucky* (Kentucky Department of Highways 1937, 1955). As a result of the historic map research, it was determined there was a high potential for historic sites within the project area.

3.4 Previous Archaeological Research

A summary of recorded archaeological surveys within the APE and surrounding two kilometer buffer was requested from the Office of State Archaeology (OSA) and received on December 16, 2016. Four surveys had previously been recorded within the area, as reported by Schock (1990, 1994, 2004), and Allgood (2003) (Figure 3-3). The physical survey report files at the OSA were consulted on January 4th, 2016, and the four previous surveys are described below.

Arrow Enterprises conducted a Phase I survey in January of 1990 for the proposed Brentwood Apartments in Clarkson, Grayson County. The survey covered two acres (0.8 ha) of overgrown former barnyard. Four transects with four probes each were excavated across the property, including three probes placed within the floor/footprint of a barn or shed torn down the previous year. All probes proved negative for cultural resources, and no further work was recommended (Schock 1990).

A Phase I survey of 2.2 acres in Clarkson, Grayson County was surveyed on February 17, 1994, ahead of proposed construction of the Natcher Apartments. Arrow Enterprises found the property to be mostly a cultivated tobacco field with high ground surface visibility and pedestrian surface inspection was the survey method utilized. A twentieth century barn was the only structure within the project area. No historic or prehistoric cultural resources were encountered, and no further work was recommended (Schock 1990).

On August 30, 2002, Cultural Resource Analysts, Inc. utilized intensive pedestrian survey and shovel probing to survey 20.27 acres (8.2 ha) near Clarkson in Grayson County. The survey, conducted on behalf of the KYTC, crossed manicured residential lawns and commercially developed and quarried land along KY 224. No cultural resources were encountered, and no further work was recommended (Allgood 2003).

Three proposed water tank sites in Grayson County were surveyed by Arrow Enterprises on July 27th and 28th, 2004. Location 1 was adjacent to the county detention center and was found to have been graded and disturbed during construction of the center. Location 2 was in a pasture and the entire ½ acre was shovel probed. Location 3 consisted of a ½ acre on a ridge within an overgrazed pasture that offered ground surface visibility, and thus was subjected to both surface inspection and shovel probing. No cultural resources were identified within any of the three project areas, and no further work was recommended (Schock 2004).

3.5 Known Archaeological Sites

A summary of recorded archaeological sites within the APE and surrounding two kilometer buffer was requested from the OSA and received on December 16, 2016. Three sites had previously been

recorded within the area. The physical site files at the OSA were consulted on January 4th, 2016. The three sites, 15Gy1, 15Gy70, and 15Gy71, are described below.

Figure 3-3. Previous Archaeological Surveys within 2km of Project Area.

Site 15Gy1 is a rockshelter with a hominy hole approximately two miles east of Leitchfield. No other information except that the re-typed site card was filed in July of 1971 (KASF 15Gy1).

Site 15Gy70 was recorded in December of 1986 by archaeologists with the University of Illinois. The site was a prehistoric lithic scatter with diagnostic artifacts dating to the Early Archaic. The site was located in a ridge-top plowed field and pasture at 700-710 ft. AMSL in Grayson County. An intermittent stream ran 100 m from the east and another an equal distance west from the ridgetop. The site area encompassed the entire 120 x 80 m plowed area which was systematically surface collected. The archaeologist surmised that the site is likely to extend to the southwest along the remainder of the ridgetop, into the area which at the time of survey was untilled pasture with zero ground surface visibility and which was not surveyed. The recovered artifact assemblage consisted of six pieces of lithic debitage, one ground/pecked battered stone, and two projectile point/knives- a Big Sandy and a Cypress Creek. Since the site area dimensions were not confirmed, further work was recommended before the site is assessed against NRHP criteria (KASF 15Gy70).

Site 15Gy71 was recorded in December of 1986 by archaeologists with the University of Illinois. The site was a prehistoric lithic scatter with diagnostic artifacts dating to the Woodland periods. The site was located on a small rise adjacent to a channelized, intermittent creek at 660-680 ft. AMSL in Grayson County. The site area measured 20 x 20 m in a field recently plowed at the time of survey. The artifact assemblage consisted of five pieces of fire cracked rock (not collected) and one stemmed projectile point/knife. The light density of artifacts and the level of observed plowing disturbance led to the site being considered ineligible for nomination to the NRHP, and no further work was recommended (KASF 15Gy71).

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 or asphalt, such as commercial buildings and parking lots, were not excavated, but were visually inspected. Several other areas were disturbed by construction or other activities and were not excavated. Eight properties were not surveyed because entry permission was denied (P26, P28, P41, P51, P54, P55, P59, and P61). The properties are located on the project maps. Property 51 consisted of two structures. The property on the west is owned by the Smith's and permission was obtained and the property was surveyed. The property to the east is no longer owned by the Smith's and permission was not obtained.

One hundred and ninety-four STPs were excavated. The location of all the shovel probes on USGS quadrangle maps and aerial photographs are shown in Figure 4-1 through Figure 4-12.

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 4-13 through Figure 4-17).

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

Figure 4-1. Location STPs and Field Conditions on USGS Topographical Map, Page 1.

Figure 4-2. Location STPs and Field Conditions on USGS Topographical Map, Page 2.

Figure 4-3. Location STPs and Field Conditions on USGS Topographical Map, Page 3.

Figure 4-4. Location STPs and Field Conditions on USGS Topographical Map, Page 4.

Figure 4-5. Location STPs and Field Conditions on USGS Topographical Map, Page 5.

Figure 4-6. Location STPs and Field Conditions on USGS Topographical Map, Page 6.

Figure 4-7. Location STPs and Field Conditions on Modern Aerial Photograph, Page 1.

Figure 4-8. Location STPs and Field Conditions on Modern Aerial Photograph, Page 2.

Figure 4-9. Location STPs and Field Conditions on Modern Aerial Photograph, Page 3.

Figure 4-10. Location STPs and Field Conditions on Modern Aerial Photograph, Page 4.

Figure 4-11. Location STPs and Field Conditions on Modern Aerial Photograph, Page 5.

Figure 4-12. Location STPs and Field Conditions on Modern Aerial Photograph, Page 6.



Figure 4-13. Survey Area along KY 62, Looking East.



Figure 4-14. Wooded Area within Project Area, Looking East.



Figure 4-15. Agricultural Field within Project Area, Looking East.



Figure 4-16. Project Area along US 62 in Clarkson, Kentucky, Looking West.



Figure 4-17. Project Area along US 62, Looking East.

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.

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 Ann Wilkinson and J. David McBride. Historic artifacts were washed and sorted into major material categories. These were then cataloged according to the system of artifact-function association modified from South (1977). All artifacts were assigned to the functional groups (kitchen, architecture), then to a material class (e.g., ceramic, glass, metal), to a type (e.g., base of bottle, jar lip), and to a subtype (e.g., color, decoration type). Historic specimens were identified by Ann Wilkinson.

In the following discussion, each of the major categories of artifacts is defined. Prehistoric artifact types are discussed first, followed by the standard classifications of historic artifacts developed by South (1977).

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 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

One hundred and eighteen pieces of lithic debitage (Table 5-1) were recovered from Phase I investigations. The debitage consisted of 2 chunks, 80 interior flakes, 27 secondary decortication flakes, 4 primary decortication flakes, 2 tertiary flakes, and 3 retouched flakes (Figure 5-1). The debitage was derived from St. Genevieve chert (n=118).

Table 5-1. Prehistoric Lithic Debitage.

Tool Type	Raw Material	Subtype	Subtype 2	Debitage		Provenience															Grand Total
						Site STPs															
				Type	Size Grade	15Gy156		15Gy157													
						6	8	144	144 R10W	146	146 R10S	147	148	149	150	151	152	154	157	157 R10E	
Lithic	St. Genevieve	Debitage	Debitage	Chunk	1											1					1
					2								1								1
				Interior Flake	0		2						5	1	1	1					10
					1		1		1	9	3	7	23	5	5	4		1		1	60
					2					3	2	2	3								10
				Primary Decortication	2					2											2
					3									1		1					2
				Secondary Decortication	1	1	1	1		3		2	4		1						13
					2					1		3	5		2		1		1		13
					3						1										1
				Tertiary Flake	1					1											1
					2								1								1
				Retouched Flake									3								3
Grand Total						1	4	1	1	19	6	14	45	7	9	7	1	1	1	1	118

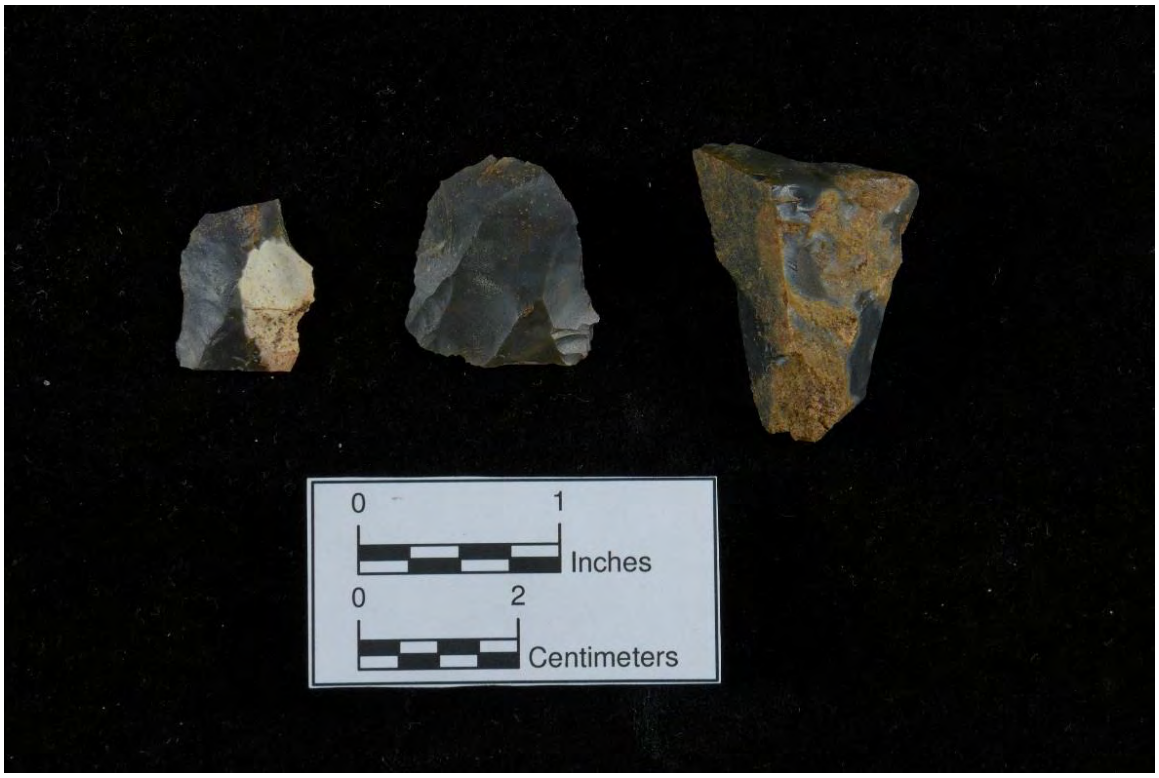


Figure 5-1. Retouched Flakes.

5.1.2 Historic Artifact Assemblages

In accordance with South (1977), artifacts are ascribed to functional groups reflecting their association with the dwelling (architecture); food preparation, serving, and preserving (kitchen); personal items; clothing items; furnishing; jobs/activities; arms; transportation; and finally fuel and miscellaneous categories.

Twenty-six historic artifacts were recovered from the Phase I investigations. All of the historic artifacts were recovered from non-sites. Table 5-2 shows the various groups or artifact classes recovered.

Table 5-2. Historic Artifacts Recovered.

Functional Group	Quantity
Architecture	18
Kitchen	5
Personal	2
Other	1
Total	**26**

5.1.2.1 Kitchen Group

This group consists of artifacts used in the preparation, consumption, and/or storage of foods and beverages. For the most part, this group comprises container glass and ceramics. As most of these are

manufactured, there is significant variation in decorative style and manufacturing techniques over time. This chronological variation forms the basis for the assignment of individual sites to historic time periods.

Five Kitchen Group related artifacts, consisting of glass and ceramic, were recovered (Table 5-3).

Table 5-3. Kitchen Artifacts.

Group	Type	Total
Kitchen	Bottle/Jar	4
	Whiteware	1
Total		**5**



Figure 5-2. Historic Artifacts: A) Metal Fragment; B-C) Brick; D) Wire Nail; E) 1950 Penny; F) Ring; G-H) Bottle Glass; I) Undecorated Whiteware Rim Fragment.

5.1.2.1.1 Container Glass

Container glass, like ceramic sherds, constitutes one of the most important components of a historic assemblage. Like domestic ceramics, these artifacts convey significant chronological, functional, and social information. Analysis offers an important source of data about the period of occupation of the site, the kinds of activities undertaken there, and potentially the social or ethnic status of the occupants. Studies of bottle glass have isolated the significant chronological characteristics of these vessels. Jars and other glass containers are discussed in a separate section.

5.1.2.1.2 Bottle Glass

European and American bottles were free blown and shaped to the vessel form, or were blown into simple dip molds. Dip molds are single component iron or wooden molds that give the body of the vessel its shape. These molds can only be square or cylindrical with the basal area being smaller or the same width as the shoulder area. Dip molds continued to be used as late as 1860 (Deiss 1981:12-18). Multipart molds having dip molded bodies (Rickett's molds) were produced into the 1920s (Jones and Sullivan 1985). To finish the neck of these early bottles, a glass-tipped rod (pontil) was attached to the bottle base to provide a means of holding it. Early types of finishing included fire-polished, flanged, folded, and applied string. All of these finishes persisted until the 1840s-1870s, when they were replaced by improved methods (Deiss 1981:18-24; Jones and Sullivan 1985; Jones 1971).

English bottle manufacturers used simple two-piece molds to make proprietary medicine bottles since the mid-1700s, and by 1800, American bottle makers were also using two-piece molds. These molds were hinged at the base or shoulder and may be referred to as open and shut molds. Bottles could be shaped in any form, such as square, round, or multi-sided. Consequently, polygonal bottle forms were very popular in the mid-nineteenth century (Deiss 1981:62). These molds enabled embossed lettering to be put on the fronts, backs, sides, and shoulders of the bottles (Jones and Sullivan 1985) and Gothic-style lettering was the most common style used until circa 1850 (Deiss 1981:48-49). Liquor flasks made in two-piece molds were introduced circa 1810 and were very popular by 1830. Embellished with a wide variety of molded or pictorial images, flasks remained popular until after the mid-1800s (Deiss 1981:62-65). Removable plates or panels that could be inserted into the mold were patented in 1867 (Jones and Sullivan 1985). These panels or plates were often embossed with the manufacturer name, product name, and city of manufacture, and could be used to personalize large shipments of bottles. This became popularly used on pharmaceutical and bitters bottles.

Two-piece molds were eventually eclipsed by multipart open and shut molds by 1850. These molds are similar to two-piece molds, but have a separate base plate. During the period 1840 to 1860, the two-piece and multi-part open and shut molds were the most popular mold types (Jones and Sullivan 1985). Vessel finishes (lip and necks) could still be hand formed by applying additional glass to the vessel and hand shaping a lip. By the 1820s, lipping shears were being used to shape the inside of the bottle, producing a standardized form known as an applied-tooled finish, which was most common from about 1840 to 1870.

Open and shut molds, dip molds, and multipart dip molds were all popularly used molds during the nineteenth century. Another mold, the turn-mold or turn-paste mold was developed and used in France on wine bottles as early as 1860 (Jones and Sullivan 1985). This mold type leaves no mold seams. In America, this mold type was most frequently used for wine and other beverages from 1870 to the 1920s (Jones and Sullivan 1985).

Even though molds are the most often used method to establish the manufacturing date of glass vessels, changes in the glass formula and innovations in overall glass vessel manufacture can aid in establishing chronology. For example, although the soda-lime formula was in use to make moderately clear glass for many centuries, a modified form of the soda-lime formula was developed in 1864 that revolutionized the glass industry in that it was less brittle and could be molded, cut, and engraved easily (Jones and Sullivan 1985). Because of this new formula, decorated and highly colored glass became cheaper and easier to produce, allowing it to be affordable and subsequently popular after the 1870s (Jones and Sullivan 1985; Innes 1976). By 1880, manganese oxide was used in molten glass as a decolorizer. Glass containers made with manganese oxide turn purple or amethyst when exposed to

sunlight. Selenium began replacing manganese oxide as a decolorizer by 1915, and the replacement was complete by 1918 (Deiss 1981:78-83). Selenium glass when exposed to ultraviolet rays becomes a straw yellow color.

Another turning point in the glass industry occurred between 1850 and 1860, with the development of a device called the snap case. This implement held the vessel while the neck and lip were finished. No longer was a pontil rod attached to the base of a glass vessel. Other innovations occurred to revolutionize glass production. By the 1870s, finishes incorporated in the mold had become common. This type, involving the reheating and tooling of the finish to eradicate mold seams on the lip, is referred to as the improved-tooled finish. Improvements in annealing ovens also helped to totally fuse the lip to the neck. Bottle lips were no longer distinctly separate bits of glass. Molds with incorporated finishes predominated until the early twentieth century, when automated glass vessel manufacture replaced less efficient processes (Deiss 1981:54-59).

By circa 1884 to 1892, semi-automatic manufacture of wide and small mouth containers was possible. The only difference between semi-automatic manufacture and automatic manufacture is the way that the melted glass is passed to the machine. In semi-automatic manufacture, the glass is introduced by laborers and in automatic manufacture; the glass is introduced mechanically to the machine. It was not until the perfection of the Owen's machine in 1903 that fully automatic bottle manufacture was possible. This machine leaves a distinct mark on the base of the vessel. By 1917, 50 percent of glass containers were made using this machine (Miller and Sullivan 1984). Vessels made using the Owen's machine are not found in archaeological contexts after 1970 (Miller and Sullivan 1984). Also, during the late nineteenth and early twentieth centuries, semi-automatic machines continued to be used and modified for automatic manufacture through the development of glass feeding devices like the Peeler Paddle Gob Feeder (Miller and Sullivan 1984). Vessels made by semi-automatic machines are indistinguishable from vessels made on other machines (except the Owen's machine). The precision of automatic manufacturing enabled the standardization of continuous thread finishes, and screw caps replaced other forms of non-pressurized sealing.

Kitchen glass recovered from the Phase I investigations consisted of two fragments of bottle/jar glass, and one jar lid liner, and one serving dish handle (Table 5-3 and Figure 5-2). The lid liner was machine made and bottle fragment was press molded.

5.1.2.1.3 Ceramics

Domestic ceramics are one of the most important chronologically diagnostic artifact categories from archaeological sites. In addition, these materials offer important clues to functional and social status variation among sites and cultural or ethnic components. For this reason, the ceramics are described in detail in the following chapter. Typically, ceramics are divided into two major groups: refined and unrefined earthenware. Refined earthenware was primarily used as serving vessels, such as dinner and tea services, or toiletry items. Refined wares treated here included delft or Tin-enameled ware, porcelain, creamware, pearlware, whiteware, and ironstone. Unrefined earthenware was used for storage and food preparation, such as mixing bowls, churns, and milk pans.

5.1.2.1.3.1 Whiteware

Whitewares are non-vitreous and semi-vitreous, white-paste earthenwares usually having a clear, colorless glaze. Whitewares were first manufactured in England circa 1800, had become popular by 1820, remained common throughout the 1800s, and are still being manufactured today. The period of greatest popularity of whiteware was 1830 to 1890 (Majewski and O'Brien 1987:119-125; Miller

1980:16-17; Noel-Hume 1969:130-131; Price 1982). Whiteware occurs in virtually every decorative type that was available in the nineteenth century, and decoration type and style can be used as relative temporal indicators.

One whiteware sherd were recovered during the Phase I investigations (Table 5-3 and Figure 5-2).

5.1.2.2 Architecture Group

Artifacts assigned to this group include all items associated with construction and hardware furnishings. Specimens include bricks, mortar, cement, window glass, doorknobs, faucet parts, and various nails. The major categories of this group are described below.

Eighteen architectural artifacts were recovered during this survey. Table 5-4 shows all architectural artifacts recovered and a representative sample are illustrated in Figure 5-2.

Table 5-4. Architectural Artifacts.

Group	Type	Total
Architectural	Wire Nails	1
	Unid Nails	1
	Brick	16
	Total	**18**

5.1.2.2.1 Nails

Nails form one of the most widespread categories of artifacts recovered from historic sites. As with many other materials, increasing industrialization has had a major impact on the manufacturing of nails and associated hardware. Archaeologists have devoted considerable attention to nails in order to identify their chronologically significant characteristics (Nelson 1968). These are identified by manufacturing process (wrought, cut, wire) and, when possible, by size.

All nails were assigned to one of these three major categories; unidentified fragments were assigned to a miscellaneous category. The presence of cut nails at a site suggests a mid-nineteenth century occupation rather than an early nineteenth century occupation; the presence of significant numbers of wire nails indicates that some portion of a site occupation postdates the 1880s and continues into the twentieth century.

Two nails were recovered from the survey (Table 5-2 and Figure 5-2). One unidentified nail was recovered, and one wire nail was recovered. The wire nail is an 8d.

5.1.2.2.2 Brick

Sixteen brick fragments were recovered from the Phase I investigations (Table 5-4 and Figure 5-2). The manufacturing of bricks changed from locally crafted, handmade varieties to machine-produced during the nineteenth century. With this chronological information in mind, bricks are classified according to method of manufacture (Gurke 1987). The nature of most brick fragments often precludes an accurate assessment of age. The bricks recovered were too fragmentary to determine the method of manufacture.

5.1.2.3 Personal Group

This category includes objects typically reserved for one person's exclusive use, which often could be carried in a pocket or purse, such as smoking pipes, watches, clasp knives, gaming pieces, toys, jewelry, combs, brushes, coins, etc. (Bradley 2000).

One coin and one ring were recovered during Phase I investigations (Figure 5-2).

5.1.2.4 Other Group

This category includes all materials that are not readily assignable to a major group or that are unidentifiable. Items in this category include, for example, unidentified rusted metal artifacts and fragments of synthetic materials such as plastic, etc.

One unidentified metal fragment was recovered during Phase I investigations.

Section 6 -

Results

Two previously unrecorded archaeological sites, two non-sites and one isolated find were identified within the APE. The site, non-site, and isolated find locations are shown in Figure 6-1 and Figure 6-2. The following is a description of the findings.

6.1 Site 15Gy156

Site 15Gy156 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. No diagnostic artifacts or evidence of intact subsurface deposits were recovered. No additional work is recommended.

6.1.1 Location

Site 15Gy156 can be found on the USGS Clarkson, Kentucky, 7.5' quadrangle map (Figure 6-3).

6.1.2 Site Description

6.1.3 Artifacts Recovered

A total of five artifacts were recovered from two positive shovel test probes (Table 6-1). The material recovered consisted of lithic debitage- secondary decortication flakes (n=2) and interior flakes (n=3) (Table 6-1).

Table 6-1. Site 15Gy156 Artifacts.

Type of Lithic Debitage	Provenience		Total
	STP		
	6	8	
Secondary Decortication Flake	1	1	**2**
Interior Flake		3	**3**
Totals	**1**	**4**	**5**

6.1.4 Stratigraphy

Site 15Gy156 consists of two positive shovel test probes within the designated APE. The mapped soil type within the site area is Zanesville silt loam, 2 to 6 percent slopes (ZaB) (Whitaker et al. 1972; USDA NRCS 2015). A representative shovel test probe is described in profile below.

Figure 6-1. Location of Archaeological Sites, Isolated Finds, and Non-Sites on USGS Topography Map.

Figure 6-2. Location of Archaeological Sites and Isolated Finds on Aerial Photograph.

Figure 6-3. Location of Archaeological Site 15Gy156 USGS Quadrangle Map.

Figure 6-4. Location of Archaeological Site 15Gy156 on Aerial Photograph.

Figure 6-5. Site 15Gy156 looking West.

6.1.4.1 STP 8

Shovel Test Probe 8 consisted of three zones (Figure 6-6). Zone I, an organic layer, extended from surface to 7 cm below surface (cmbs) (2.7 in.) and consisted of a 10YR2/2 very dark brown silt loam. Zone II extended to 17 cmbs (6.7 in.) and consisted of a 10YR5/2 grayish brown silt loam topsoil. Zone III extended past base of excavation at 34 cmbs (13.4 in.) and consisted of a 10YR5/6 yellowish brown clay loam subsoil. STP 8 demonstrates a representative stratigraphy found in all STPs, positive and negative, within and surrounding Site 15Gy156.

6.1.5 Features

Site 15Gy156 did not have any associated features, either surface or subsurface.

6.1.6 Interpretation

Site 15Gy156 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The artifacts recovered consisted of five pieces of lithic debitage that were recovered from two shovel probes. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was recovered. The low density of the artifacts recovered and the lack diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The site area is shown on a historic aerial photograph in Figure 6-7 and on a historic topo in Figure 6-8.

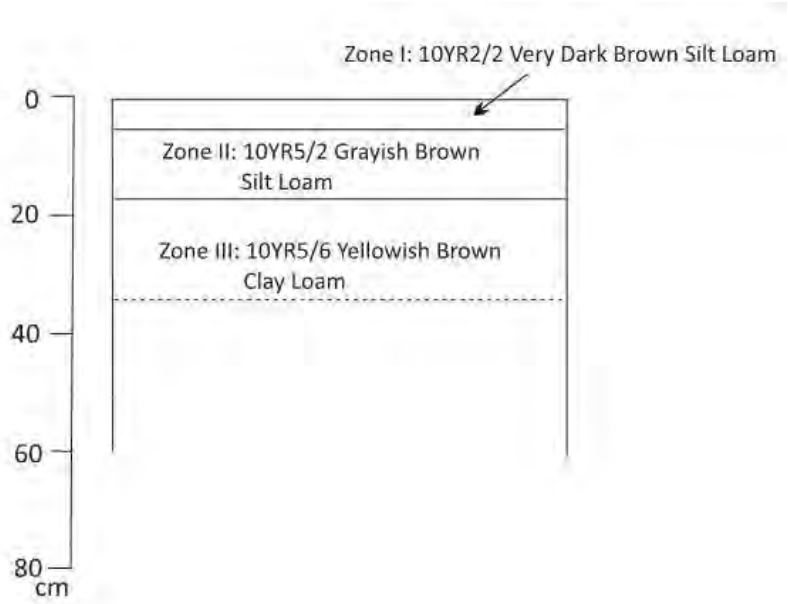


Figure 6-6. Profile of Shovel Test Probe 8 from Site 15Gy156.

Figure 6-7. Historic 1960 Aerial Photograph Showing Site 15Gy156.

Figure 6-8. Location of 15Gy156 on 1954 Clarkson 7.5' USGS Topographical Quadrangle.

6.1.7 National Register Eligibility

Site 15Gy156 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The artifacts recovered consisted of five pieces of lithic debitage that were recovered from two shovel probes. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was recovered. The low density of the artifacts recovered and the lack diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The southern, eastern, and western boundaries are known and the area to the north includes the highway right-of-way areas, and other areas outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy156 is not considered potentially eligible for nomination to the NRHP under Criterion D.

6.1.8 Recommendations

No further archaeological work is recommended for Site 15Gy156.

6.2 Site 15Gy157

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. No diagnostic artifacts or evidence of intact subsurface deposits were recovered. No additional work is recommended.

6.2.1 Location

Site 15Gy157 can be found on the USGS Clarkson, Kentucky, 7.5' quadrangle map (Figure 6-9).

6.2.2 Site Description

The site is located in the front yard of three commercial properties and one residential property. The APE is narrow in the area. The site is approximately 280 meters in length and consists of 13 positive shovel probes. Before the area was developed it was agricultural cropland according to local informants and early topographic maps (1954 and 1925 Leitchfield USGS quadrangle maps). There is a creek about 300 meters to the southeast of the site. Because of the nature of the APE, it was not possible to determine the limits of the site to the north or the south.

6.2.3 Artifacts Recovered

One hundred and thirteen artifacts were recovered from 13 positive shovel test probes (Table 6-2). The material recovered consisted of prehistoric lithic debitage. The debitage consisted of chunks (n=2), interior flakes (n=77), primary decortication flakes (n=4), secondary decortication flakes (n=25), tertiary flakes (n=2), and retouched flakes (n=3). All of the raw material for all of the specimens was St. Genevieve. Seventy-two flakes were Size Grade (SG) 1, twenty-seven were SG 2, three were SG 3, and eight were SG 0.

6.2.4 Stratigraphy

Site 15Gy157consists of 13 positive shovel test probes within the designated APE. The mapped soil type within the site area is Zanesville silt loam, 2 to 6 percent slopes (ZaB) (Whitaker et al. 1972; USDA NRCS 2015). Representative shovel test probes are described below.

6.2.4.1 STP 144

Shovel Test Probe 144 consisted of three zones (Figure 6-12). Zone I, the humic layer, extended from surface to 2 cmbs and consisted of a 10YR4/4 dark yellowish brown silt loam. Zone II extended from 2 cmbs to 27 cmbs, and consisted of a 5YR4/4 dark yellowish brown silt loam. Zone III extended from 27 cmbs to 35 cmbs and was the 7.5 YR4/4 brown silt loam subsoil.

6.2.4.2 STP 148

Shovel Test Probe 148 consisted of two zones (Figure 6-13). Zone I extended from surface to 30 cmbs and consisted of a 7.5YR5/6 strong brown silt loam. Zone II extended from 30 cmbs to 37 cmbs, and consisted of a 10YR5/4 yellowish brown silt loam subsoil.

6.2.5 Features

No features were identified.

Figure 6-9. Location of Archaeological Site 15Gy157 USGS Quadrangle Map.

Figure 6-10. Location of Archaeological Site 15Gy157 on Aerial Photograph.

Figure 6-11. Site 15Gy157 looking West.

Table 6-2. Site 15Gy157 Artifacts.

Tool Type	Raw Material	Subtype	Subtype 2	Debitage		Provence												Grand Total
						STP												
				Type	Size Grade	144	144 R10W	146	146 R10S	147	148	149	150	151	152	154	157	157 R10E	
Lithic	St. Genevieve	Debitage	Debitage	Chunk	1									1					1
					2						1								1
				Interior Flake	0						5	1	1	1					8
					1		1	9	3	7	23	5	5	4		1		1	59
					2			3	2	2	3								10
				Primary Decortication	2			2											2
					3							1		1					2
				Secondary Decortication	1	1		3		2	4		1						11
					2			1		3	5		2		1		1		13
					3				1										1
				Tertiary Flake	1			1											1
					2						1								1
			Retouched Flake								3								3
Grand Total						1	1	19	6	14	45	7	9	7	1	1	1	1	113

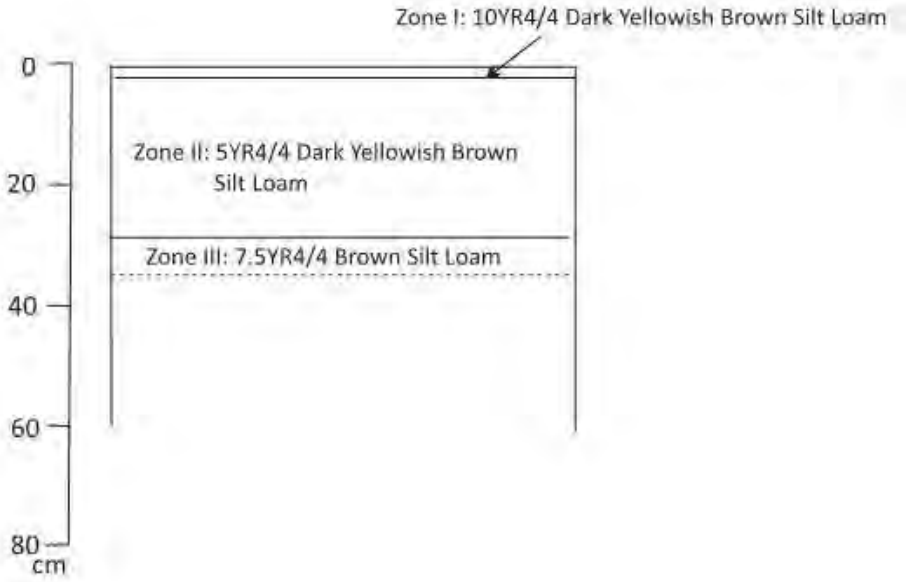


Figure 6-12. Profile of Shovel Test Probe 144 from Site 15Gy157.

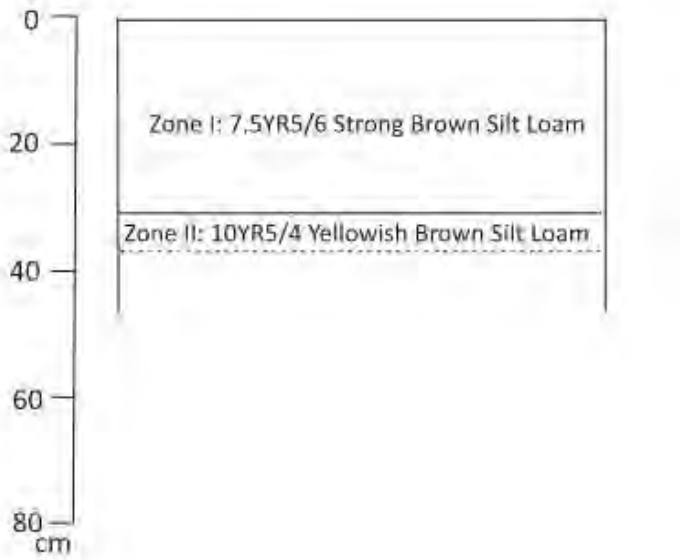


Figure 6-13. Profile of Shovel Test Probe 148 from Site 15Gy157.

6.2.6 Interpretation

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The artifacts recovered consisted of 113 pieces of lithic debitage that were recovered from 13 shovel probes. The site may extend outside of the APE to the north or the south. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was identified. The lack of diagnostic material indicates that the site probably would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The site area is shown on a historic aerial photograph in Figure 6-14 and on a historic topo in Figure 6-15. A higher concentration of artifacts was recovered from STP 146, 147, and 148 although no features or intact sub-surface deposits were identified, and the soil profile for the probes did not vary much from other shovel probes in the same vicinity, such as STP 150, 151, and 152. The artifacts recovered from these probes consisted of mostly interior flakes, suggesting a potential secondary flake reduction activity area. However, tertiary flakes are likely underrepresented throughout the site area due to their small size and the use of ¼ inch screens. In regards to the site as a whole, the artifacts suggest both early stages and late stages of lithic reduction activities occurring at the site. Unfortunately, the limited number of artifacts and lack of midden and features indicates a limited occupation period.

6.2.7 National Register Eligibility

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The artifacts recovered consisted of 113 pieces of lithic debitage that were recovered from 13 shovel probes. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was recovered. The low density of the artifacts recovered and the lack of diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The eastern, and western boundaries are known but the site may extend to the north or south outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy157 is not considered potentially eligible for nomination to the NRHP under Criterion D.

6.2.8 Recommendations

No further archaeological work is recommended for Site 15GY157.

Figure 6-14. Historic Aerial Photograph Showing Site 15Gy157.

Figure 6-15. Location of 15Gy157 on 1954 Leitchfield 7.5' USGS Topographical Quadrangle.

6.3 Non-Site 1

Non-Site 1 consists of seven artifacts recovered from the topsoil of STP 86 and 86 R10W in a maintained lawn in Clarkson along US 62.

6.3.1 Location

Non-site 1 is located on the Clarkson, Kentucky USGS 7.5' quadrangle map (Figure 6-16).

6.3.2 Description

Non-site 1 was located in STP 86 and 86 R10W in the front yard of a house on US 62. The soil profile here was not disturbed, but STP 85, in the same yard to the west, was disturbed. The yard was very narrow and a sidewalk was between the yard and US 62. The artifact assemblage consisted of a wire nail, a whiteware rim fragment, two bottle/jar fragments, a serving dish fragment, a 1950 penny, and a copper ring. With the exception of the penny, the artifacts were dated to anytime in the twentieth century.

6.4 Non-Site 2

Non-site 2 consists of 14 brick fragments and an unidentified metal fragment recovered from STP 107 and 107 R10W in an agricultural field.

6.4.1 Location

Non-site 2 is located on the Clarkson, Kentucky USGS 7.5' quadrangle map (Figure 6-18). T

6.4.2 Description

Non-site 2 is located in an agricultural field (Figure 6-20). There is an unoccupied house to the north across the railroad track and the ruins of a structure to the northwest in trees. The isolated find consists of 14 small brick fragments and an unidentified metal fragment.

6.5 Non-Site 3

Non-site 3 consists of bricks scatter along an intermittent stream bed in a wooded area on the south side of US 62.

6.5.1 Location

Non-site 3 is located on the Leitchfield, Kentucky, 7.5' USGS quadrangle map (Figure 6-21).

6.5.2 Description

Non-site 3 consists of a brick scatter along an intermittent stream in a wooded area (Figure 6-23). The scatter is about 15 meters long and four meters wide. No other artifacts were associated with the bricks. There was no evidence of a foundation related to the bricks. It is possible that non-site is a result of a

Figure 6-16. Location of Non-Site 1 on Quadrangle Map.

Figure 6-17. Location of Non-Site 1 on Aerial Photograph.

Figure 6-18. Location of Non-Site 2 on Quadrangle Map.

Figure 6-19. Location of Non-Site 2 on Aerial Photograph.

Figure 6-20. Non-Site 2, Looking East.

Figure 6-21. Location of Non-Site 3 on Quadrangle Map.

Figure 6-22. Location of Non-Site 3 on Aerial Photograph.



Figure 6-23. Non-Site 3, Looking West.

secondary deposition. The area is sloped. There is a possible spring house at the western end of the woods. The spring house is of cinderblock construction.

6.6 Isolated Find 1

Isolated Find #1 (IF 1) consists an unidentified nail and a milk glass lid liner. I was located south of US 62 in a wooded area.

6.6.1 Location

IF 1 is located on the Leitchfield, Kentucky, 7.5' USGS quadrangle map (Figure 6-24).

6.6.2 Description

IF 1 is in a wooded area south of US 62. It was approximately 50 meters from Non-site 3 and 75 meters from the spring house (Figure 6-26). Two artifacts were recovered from STP 31, an unidentified nail and a milk glass lid liner fragment. Due to the paucity of the artifacts, the material was deemed an isolated find.

Figure 6-24. Location of Isolated Find 1 on Quadrangle Map.

Figure 6-25. Location of Isolated Find 1 on Aerial Photograph.



Figure 6-26. IF 1, Looking Northwest.

Section 7 -

Recommendations and Summary

Recommendations

7.1 Site 15Gy156

Site 15Gy156 consists of a small unassigned prehistoric lithic scatter. The artifact assemblage consists of five artifacts, all flakes.

7.1.1 National Register Eligibility

Site 15Gy156 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. The artifacts recovered consisted of five pieces of lithic debitage that were recovered from two shovel probes. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was recovered. The low density of the artifacts recovered and the lack diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The southern, eastern, and western boundaries are known and the area to the north includes the highway right-of-way areas, and other areas outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy156 is not considered potentially eligible for nomination to the NRHP under Criterion D

7.1.2 Recommendations

No further archaeological work is recommended for 15Gy156.

7.2 Site 15Gy157

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds. One hundred and thirteen artifacts were recovered from thirteen positive shovel test probes. No diagnostic artifacts or evidence of intact subsurface deposits were recovered.

7.2.1 National Register Eligibility

Site 15Gy157 consists of an unassigned prehistoric lithic scatter/open habitation without mounds with evidence of both early and late stages of lithic reduction activities. The artifacts recovered consisted of 113 pieces of lithic debitage that were recovered from 13 shovel probes. No diagnostic artifacts were recovered and no evidence of intact sub-surface deposited was recovered. The low density of the artifacts recovered and the lack of diagnostic material indicates that the site would not yield information important to history. The lack of features and intact sub-surface deposits indicates limited integrity. The eastern, and western boundaries are known but the site may extend to the north or south outside the APE. Since the site boundaries are not fully understood, the National Register eligibility for the entire site cannot be assessed at this time. The significance and research potential for the surveyed portion of the site is considered low. Therefore, the surveyed portion of Site 15Gy157 is not considered potentially eligible for nomination to the NRHP under Criterion D.

7.2.2 Recommendations

No further archaeological work is recommended for Site 15Gy157.

7.3 Non-Sites and Isolated Finds

The survey identified three non-sites and one isolated find. Non-site 1 consisted of seven historic artifacts recovered from the front yard of a house. No evidence of intact subsurface deposits were located. Non-site 2 consisted of brick fragments and a piece of metal recovered from an agricultural field. No evidence of intact subsurface deposits were located. Non-site 3 consisted of a brick scatter along an intermittent stream bed in a wooded area. Isolated Find 1 consisted of two historic artifacts recovered from an STP in a wooded area. None of the non-sites or isolated find were considered potentially eligible for nomination to the NRHP under Criterion D. No additional work is recommended.

7.4 Summary

At the request of the KYTC, CDM Smith archaeologists conducted a Phase I archaeological survey associates with the widening of portions of US 62 from Leitchfield to Clarkson, Grayson County, Kentucky (Item No. 4-8502). The total APE measures 18 acres (7.3 ha). The survey identified two archaeological sites (15Gy156 and 15Gy157), three non-sites, and one Isolated Find. None of the sites, the non-sites or the isolated find, were potentially eligible for recommendation to the National Register of Historical Places (NRHP) under Criterion D. No additional work is recommended.

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Appendix A -

Artifact Inventory

Table A-1. Historic Artifact Catalog.

Site #	Catalog #	STP/Unit	Level	Functional Group	Material	Type	Subtype 1	Subtype 2	Subtype 3	Quantity	Thickness (mm)	Weight (g)	Comments
Non-site 1	1	86	0-24	Kitchen	Ceramic	Whiteware	Rim	Unidentifiable Vessel	Undecorated	1			
Non-site 1	1	86	0-24	Kitchen	Glass	Bottle/Jar	Body	Unidentified Manufacture	Light Blue	1			Bubbles in the glass.
Non-site 1	1	86	0-24	Kitchen	Glass	Bottle/Jar	Body	Press Molded	Manganese Solarized	1			
Non-site 1	1	86	0-24	Personal	Metal	Ring	Copper-Alloy	Machine Made	Embossed Dec	1			2.4 in. long, 0.1875 in. wide, very thin thickness; has a split; repeating wave pattern embossed ext., smooth interior.
Non-site 1	1	86	0-24	Personal	Metal	Coin	Copper-Alloy	USA	1950 Wheat	1			
Non-site 1	2	8 6R10W		Architecture	Metal	Nail	Wire	Complete	8d	1			
Non-site 1	2	86 R10W		Kitchen	Glass	Serving Dish	Handle	Machine Made	Clear	1			
Non-site 2	1	107		Architecture	Ceramic	Brick	Fragment	Handmade		6		10.8	One fragment has a glazed exterior.
Non-site 2	1	107		Other	Metal	Ferrous	Fragment	Unidentified, Scrap		1			
Non-site 2	2	107 R10W	8-30	Architecture	Ceramic	Brick	Fragment	Handmade		8		36.4	
IF 1	n/a	31	0-12	Architecture	Metal	Nail	Unidentifiable	Fragment	Medial	1			
IF 1	n/a	31	0-12	Kitchen	Glass	Jar Lid Liner	Body	Machine Made	Opaque White	1			
Non-site 3	n/a	63	Surface	Architecture	Ceramic	Brick	Bat	Handmade	Unidentified	2			SAMPLE. The site consisted of a surface scatter of bricks and brick fragments. 1: 4 in. wide, 2.25 in. thick; 1: 4 in. wide, 2.5 in. thick.

Table A-2. Prehistoric Artifact Catalog.

Site #	CDMS #	Unit	Depth	Tool Type	Subtype	Subtype 2	Deb SG	Deb Type	Raw Material	Cortex	HT	Weight	Quantity	Length	Width	Thickness	Comments
15Gy156	CDMS 1	STP 6	0-11	Lithic	Debitage	Debitage	1	Secondary Decortication		0	Y	0.1	1				
15Gy156	CDMS 1	STP 8	7-17	Lithic	Debitage	Debitage	0	Interior Flake		0	N	<0.1	1				
15Gy156	CDMS 1	STP 8	7-17	Lithic	Debitage	Debitage	0	Interior Flake		0	Y	<0.1	1				
15Gy156	CDMS 1	STP 8	7-17	Lithic	Debitage	Debitage	1	Interior Flake		0	Y	<0.1	1				
15Gy156	CDMS 1	STP 8	7-17	Lithic	Debitage	Debitage	1	Secondary Decortication		0	N	0.1	1				
15Gy157	CDMS 4	STP 144	2-27	Lithic	Debitage	Debitage	1	Secondary Decortication		4	N	0.4	1				
15Gy157	CDMS 4	STP 144R10W		Lithic	Debitage	Debitage	1	Interior Flake		0	N	0.1	1				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	Y	0.5	1				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	2	Primary Decortication	St. Genevieve	4	Y	1.5	2				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.5	4				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.1	1				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	Y	0.4	1				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	N	1.4	3				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	N	0.4	2				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Interior Flake	st. Genevieve	0	N	0.4	4				
15Gy157	CDMS 4	STP 146	0-35	Lithic	Debitage	Debitage	1	Tertiary Flake	St. Genevieve	0	N	<0.1	1				
15Gy157	CDMS 4	STP 146R10S		Lithic	Debitage	Debitage	3	Secondary Decortication	St. Genevieve	2	N	22.8	1				
15Gy157	CDMS 4	STP 146R10S		Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	Y	1	1				
15Gy157	CDMS 4	STP 146R10S		Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	N	0.5	1				
15Gy157	CDMS 4	STP 146R10S		Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	0.2	2				
15Gy157	CDMS 4	STP 146R10S		Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.2	1				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	3	N	0.5	1				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	N	1.4	2				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	Y	0.2	1				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	N	1.2	1				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	Y	0.2	2				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.2	2				
15Gy157	CDMS 4	STP 147	0-37	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	0.7	5				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Retouched Flake			St. Genevieve	4	N	11	1	38.37	27.46	14.02	
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	N	4.5	5				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Retouched Flake			St. Genevieve	4	N	1.7	1	20.99	16.36	5.82	
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	2	Chunk	St. Genevieve	0	N	1	1				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	2	Interior Flake	St. Genevieve	0	N	1.1	3				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Retouched Flake			St. Genevieve	0	N	2.7	1	25.59	22.6	4.01	
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	2	Tertiary Flake	St. Genevieve	0	N	0.1	1				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	3	Y	0.5	2				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	N	0.2	1				

Site #	CDMS #	Unit	Depth	Tool Type	Subtype	Subtype 2	Deb SG	Deb Type	Raw Material	Cortex	HT	Weight	Quantity	Length	Width	Thickness	Comments
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	Y	0.1	1				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	1	7				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	1.9	16				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	0	Interior Flake	St. Genevieve	0	Y	<0.1	1				
15Gy157	CDMS 4	STP 148	0-30	Lithic	Debitage	Debitage	0	Interior Flake	St. Genevieve	0	N	0.2	4				
15Gy157	CDMS 4	STP 149	0-33	Lithic	Debitage	Debitage	3	Primary Decortication	St. Genevieve	2	Y	12.4	1				
15Gy157	CDMS 4	STP 149	0-33	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.3	3				
15Gy157	CDMS 4	STP 149	0-33	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	0.2	2				
15Gy157	CDMS 4	STP 149	0-33	Lithic	Debitage	Debitage	0	Interior Flake	St. Genevieve	0	N	<0.1	1				
15Gy157	CDMS 4	STP 150	2-28	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	N	2.2	2				
15Gy157	CDMS 4	STP 150	2-28	Lithic	Debitage	Debitage	1	Secondary Decortication	St. Genevieve	4	N	0.1	1				
15Gy157	CDMS 4	STP 150	2-28	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.4	4				
15Gy157	CDMS 4	STP 150	2-28	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	<0.1	1				
15Gy157	CDMS 4	STP 150	2-28	Lithic	Debitage	Debitage	0	Interior Flake	St. Genevieve	0	N	<0.1	1				
15Gy157	CDMS 4	STP 151	0-30	Lithic	Debitage	Debitage	3	Primary Decortication	St. Genevieve	3	N	4.8	1				
15Gy157	CDMS 4	STP 151	0-30	Lithic	Debitage	Debitage	1	Chunk	St. Genevieve	4	Y	0.2	1				
15Gy157	CDMS 4	STP 151	0-30	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.1	1				
15Gy157	CDMS 4	STP 151	0-30	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	0.3	3				
15Gy157	CDMS 4	STP 151	0-30	Lithic	Debitage	Debitage	0	Interior Flake	St. Genevieve	0	N	<0.1	1				
15Gy157	CDMS 4	STP 152	0-20	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	Y	1.8	1				
15Gy157	CDMS 4	STP 154	0-34	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	Y	0.3	1				
15Gy157	CDMS 4	STP 157	0-16	Lithic	Debitage	Debitage	2	Secondary Decortication	St. Genevieve	4	N	0.7	1				
15Gy157	CDMS 4	STP 157R10E	0-10	Lithic	Debitage	Debitage	1	Interior Flake	St. Genevieve	0	N	0.1	1				

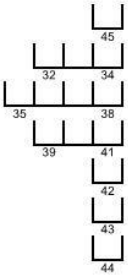
Appendix B -

Archaeological Site Form

Page 2. Site No. 15GY156

TEMPORAL–CULTURAL AFFILIATIONS

1. Cultural Periods Represented



__X__ Unassigned

_____ Paleo-Indian, undefined _____ Early _____ Late

_____ Archaic, undefined _____ Early _____ Middle _____ Late

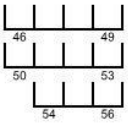
_____ Woodland, undefined _____ Early _____ Middle

_____ 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)* _____

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

Not determined, no diagnostic artifacts recovered

Prehistoric materials collected: 5 total number of items

Type	Number		
ceramics		other scrapers	
projectile points/fragments		flakes/cores/chunks	5
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)*

none

Page 3. Site No. 15GY156

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 none

Historic materials observed but not collected none

PHYSICAL DESCRIPTION

10 11

1. Site Type

0	____	undetermined	10	____	non-mound earthwork
1	X	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	____	apparently undisturbed	5	____	76-99% disturbed
2	X	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	___	pasture	9	___	mining	17	X	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			
			15	___	11+12+13	Other		

Page 4. Site No. 15GY156

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 ground surface visibility due to total coverage with lawn sod grass.

20

7. Physiographic Division

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

21

Landform Type

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

22

Locality Type

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

23 25 26 28 29 31

8. Soil Association Sadler-Zanesville-Wellston

Soil Series Zanesville

Soil Type Zanesville silt loam, 2 to 6 percent slopes (ZaB)

Vegetation *(describe)* Maintained lawn sod grass

32 35 36

9. Elevation 740 ft. AMSL

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

38 45 46 47

10. Site Area (m^2) 20

Basis for site area estimate

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

Confident of site boundaries:

1 X no 2 ____ yes

48

Page 6. Site No. 15GY156

6. Name and address of local informants

none

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

none

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 ___ Inventory site (does not presently meet National Register criteria)
6 X 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?)*

The potential significance of CDMS 1 cannot be assessed as the site boundaries are not fully understood at this time. The recorded portion of this site, though, does not contain significant deposits and is assessed to have no further research value. No further archaeology is recommended within the present project boundaries. The site could potentially extend to the north and/or south and, if project boundaries should widen in these directions, further archaeology would be recommended.

9. References

Beverly, J. Howard and Ann Shouse Wilkinson
2016 *Phase I Archaeological Survey for U.S. Army Corps of Engineers Permit Areas along Proposed Widening Areas of US 62 from Leitchfield to Clarkson in Grayson County, Kentucky. KYTC Item #4-8502.* CDM Smith. Lexington, Kentucky.

10. Ownership

70

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

11. Special status (federal, state, county, etc.)

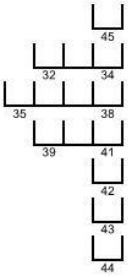
71

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

Page 2. Site No. 15GY157

TEMPORAL–CULTURAL AFFILIATIONS

1. Cultural Periods Represented



__X__ Unassigned

_____ Paleo-Indian, undefined _____ Early _____ Late

_____ Archaic, undefined _____ Early _____ Middle _____ Late

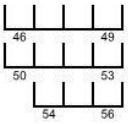
_____ Woodland, undefined _____ Early _____ Middle

_____ 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)* _____

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

Not determined, no diagnostic artifacts recovered

Prehistoric materials collected: 113 total number of items

Type	Number		
ceramics		other scrapers	
projectile points/fragments		flakes/cores/chunks	113
hafted scrapers/drills		ground/pecked/battered	
other drills		stone	
Bifaces/fragments		worked bone/shell	
unifaces		human bone/burials	
perforators/gravers		faunal materials	
spokeshaves			

Prehistoric materials observed but not collected *(describe)*

none

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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 none

Historic materials observed but not collected none

PHYSICAL DESCRIPTION

10 11

1. Site Type

0	____	undetermined	10	____	non-mound earthwork
1	X	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	____	apparently undisturbed	5	____	76-99% disturbed
2	X	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	___	pasture	9	___	mining	17	X	commercial
3	___	woods/forest	10	___	inundated	18	___	military
4	___	road/trail	11	___	industrial	19	___	logging/ logging related
5	___	ditch/dike/ borrow pit	12	X	residential	20	___	scrub/secondary growth
6	___	landfill	13	___	recreational			
7	___	modern	14	___	1+2+3			
			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

Zero ground surface visibility due to total coverage with lawn sod grass.

20

7. Physiographic Division

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

21

Landform Type

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

22

Locality Type

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

23 25 26 28 29 31

8. Soil Association Sadler-Zanesville-Wellston

Soil Series Zanesville

Soil Type Zanesville silt loam, 2 to 6 percent slopes (ZaB)

Vegetation *(describe)* Maintained lawn sod grass

32 35 36

9. Elevation 700 ft. AMSL

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

38 45 46 47

10. Site Area (m^2) 315

Basis for site area estimate

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

Confident of site boundaries:

1 X no 2 ____ yes

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6. Name and address of local informants

none

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

none

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 ___ Inventory site (does not presently meet National Register criteria)
6 X 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?)*

The potential significance of 15GY157 cannot be assessed as the site boundaries are not fully understood at this time. The recorded portion of this site, though, does not contain significant deposits and is assessed to have no further research value. No further archaeology is recommended within the present project boundaries. The site could potentially extend to the north and/or south and, if project boundaries should widen in these directions, further archaeology would be recommended.

9. References

Beverly, J. Howard and Ann Shouse Wilkinson
2016 *Phase I Archaeological Survey for U.S. Army Corps of Engineers Permit Areas along Proposed Widening Areas of US 62 from Leitchfield to Clarkson in Grayson County, Kentucky. KYTC Item #4-8502.* CDM Smith. Lexington, Kentucky.

10. Ownership

70

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

11. Special status (federal, state, county, etc.)

71

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

DESCRIPTION OF SITE

Give a physical description of the site and its settings, including dimensions, features (with measurements), nature and location of artifacts and concentrations, extent and location of disturbances, etc.

15Gy157 (CDMS 4), an unassigned prehistoric lithic scatter, was identified along a single transect of shovel probes excavated during a Phase I archaeological survey. In the area of this site the survey corridor was between eight and twenty-five meters wide between the existing US 62 ROW to the north and the project boundary to the south. Shovel probes were placed at 20 m intervals along this west-east transect, and when cultural material was identified within probes the interval distance was decreased to 10 meters at the edges to refine the known site extent. Negative shovel probes defined the western and eastern site extent. The project boundary limited the northern and the southern site extent, thus the site boundaries in these directions were not defined due to survey constraints. To the north, across E-W running US 62 and the Illinois Central Railroad from the known site area, is a 100 m-wide area of agricultural fields that sit at a slightly lower elevation as the ridge gradually slopes here to the north, down to the terrace and floodplain around Beaver Dam Creek. South of the survey area the terrain rises 10 to 20 ft.-higher in elevation for 100 m, and then gradually slopes down to terraces and floodplain surrounding Helm Fork.

The surveyed site area parallels the south side of US 62 which itself at this location parallels the south side of the Illinois Central Railroad. The road at this location was built between 1925 and 1954 (USGS 1925, 1954)*, as were several houses along it. The railroad was built prior to 1922 (USGS 1922)**. The structures in whose yards the current site area is located include one residence that could pre-date 1954, and four modern commercial structures.

Thirteen positive probes produced 113 non-diagnostic debitage artifacts and shared similar stratigraphic profiles with the surrounding negative probes: a 27 cm deep 10YR 4/4 dark yellowish-brown silt loam topsoil above a 5YR 4/6 yellowish-red silty clay subsoil. There was no sign of modern disturbance in any of the soil profiles. An artifact concentration centered around STP 148, which produced 45 flakes or 40% of the total assemblage. The concentration was heavier for 40 meters to the west of STP 148, where three probes produced 34% (n=39) of the assemblage, and moderate for 60 meters to the east wherein three probes produced another 20% (n=23) of the assemblage. The outer six probes (two at the western end and four at the eastern end) each produced a single flake.

The large area distribution of artifacts, the apparently undisturbed front-yard context of the site, and the nature of the surrounding terrain speak for the high probability that the site could extend south and/or north of the project area.

*(USGS 1925 Leitchfield, KY 15' Quadrangle map, USGS 1954 Leitchfield, KY 7.5' Quadrangle map)

**(USGS 1922 Leitchfield, KY 15' Quadrangle map)

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

Within a two-kilometer radius of the entire project area (including the known extent of Site CDMS4) were three sites professionally recorded prior to this survey: 15Gy1, 70, and 71. All three sites are prehistoric—one a rockshelter with a hominy hole, one a lithic scatter on a ridge-top dating to the Early Archaic, and one a Woodland lithic scatter on a small rise on a floodplain, respectively. The artifact assemblages for these sites are much, much lower density than for 15Gy157, a ridgetop lithic scatter with no diagnostic artifacts.