

PHASE I

ARCHAEOLOGICAL SURVEY FOR A BRIDGE REPLACEMENT AND APPROACHES ON KY 474 OVER SMITH CREEK, CARTER COUNTY, KENTUCKY (KYTC ITEM # 9-1081.00)

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**Kentucky Office of State
Archaeology Project**

Number:

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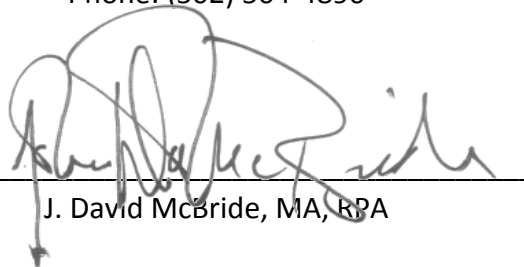
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Smith Creek, Carter County, Kentucky (KYTC Item # 9-1081.00)**

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Kentucky Office of State Archaeology
Archaeological Project Number: FY15-8166

Archaeology Report

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Abstract

In accordance with the Kentucky Heritage Council's *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment* (Sanders 2006), this is an abbreviated technical report describing a no-find resulting from a Phase I archaeological survey conducted on July 7, 2014, and the results of that survey.

CDM Smith was asked by the Kentucky Transportation Cabinet (KYTC), to conduct a Phase I archaeological survey for the bridge (Bridge ID # 022B00123N) on KY 474 (MP 5.06 - 5.1) over Smith Creek at the intersection with Nunn Rd. in Carter County, Kentucky (KYTC Item Number 9-1081.00). The proposed right-of-way (ROW) extension and temporary construction easement to be surveyed totaled approximately 1.60 acre (0.65 ha).

The archaeological survey involved a visual inspection of the entire APE, surface inspection where ground surface visibility was greater than 50 percent, and shovel probing in areas of less than 15 percent slope. Disturbances were recorded in about 80% of the APE. These disturbances were due to road construction, residential construction, and reconstruction to Smith Creek prior to the survey. Two shovel probes were excavated and one section was surface collected, but no archaeological material was recovered.

No further archaeological work is recommended.

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Acknowledgements

The Principal Investigator for the archaeological survey was Mr. J. David McBride, MA, RPA. Ann Wilkinson served as Field Director and was assisted in the field by Adam Newell. Howard Beverly generated maps and formatted the report. Robert Ball provided support in Lexington.

Section 1 -

Introduction

In accordance with the Kentucky Heritage Council's *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment* (Sanders 2006), this is an abbreviated technical report describing a no-find Phase I archaeological survey.

CDM Smith was asked by the Kentucky Transportation Cabinet (KYTC), to conduct a Phase I archaeological survey for the bridge replacement (Bridge ID # 022B00123N) along KY 474 (MP 5.06 - 5.1) over Smith Creek at the intersection with Nunn Rd. in Carter County, Kentucky (KYTC Item Number 9-1081.00). The proposed right-of-way (ROW) extension and temporary construction easement to be surveyed totaled approximately 1.60 acre (0.65 ha).

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, Protection and Enhancement of the Cultural Environment (16 U.S.C. 470; supp. 1, 1971).

1.2 Purpose and Scope of Work

KY 474 is a local road that serves residents of the Carter and Poplar communities. This route connects to KY 2 which later connects with the AA Highway. KY 474 is a narrow two lane roadway with little to no shoulders. The bridge is considered functionally obsolete. The purpose of the project is to replace a functionally obsolete bridge in order to allow continued usage of the roadway for residents of the Carter and Poplar area by accommodating current vehicle sizes, weights, and traffic volumes.

The area of potential effect (APE) is defined as the ROW extension (1.41 acre, 0.57 ha) and temporary construction easement (0.19 acre, 0.08 ha) comprising of approximately 1.60 acre (0.65 ha).

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

1.3 Project Area Description

The project location is in Carter County, Kentucky (Figure 1-1), and can be found on the Wesleyville, KY, USGS. 7.5' topographical map (Figure 1-2). It is located along KY 474 at the bridge over Smith Creek where Nunn Rd. intersects KY 474 (Figure 1-3).

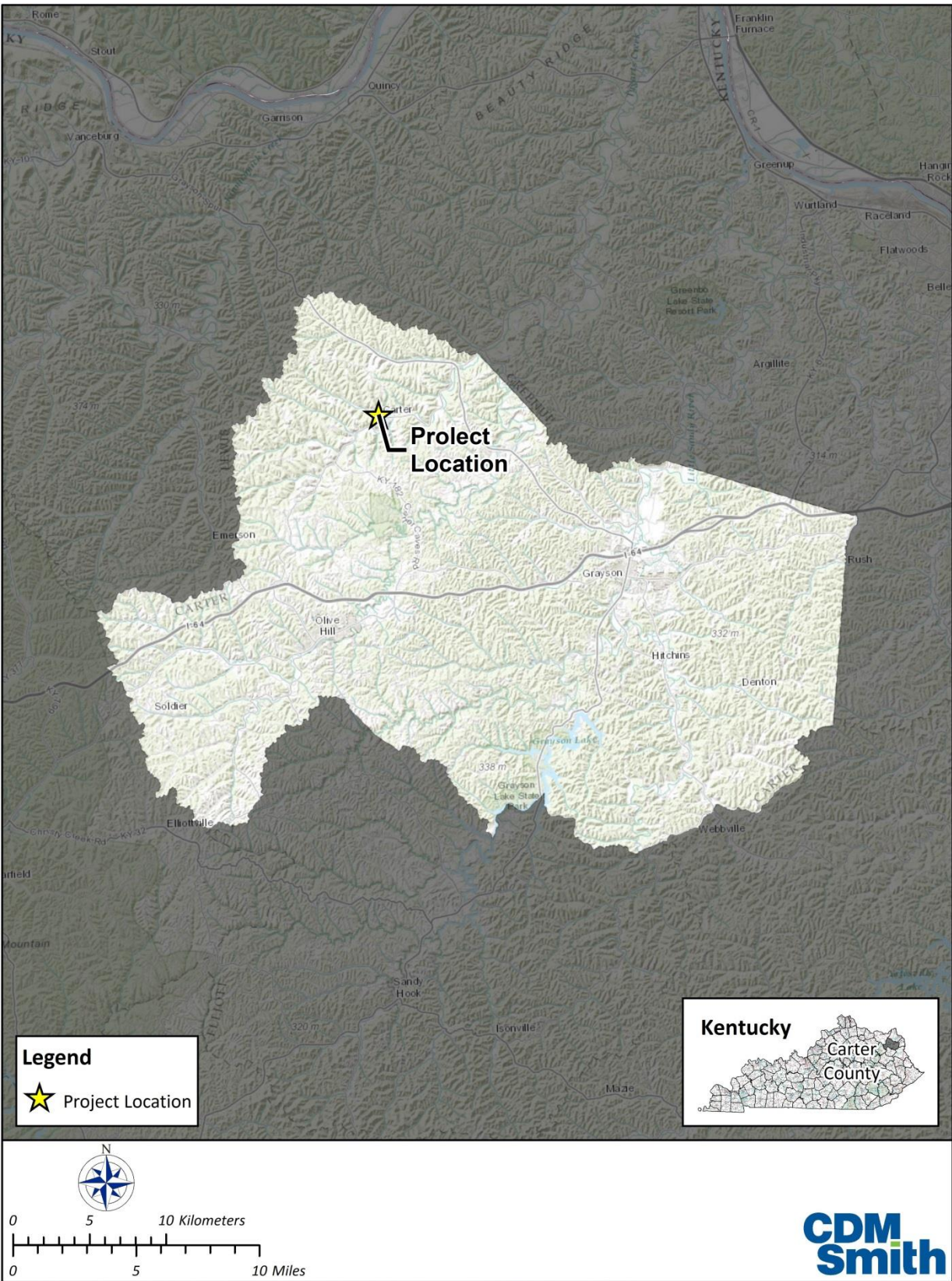


Figure 1-1. Project Location within Carter County.

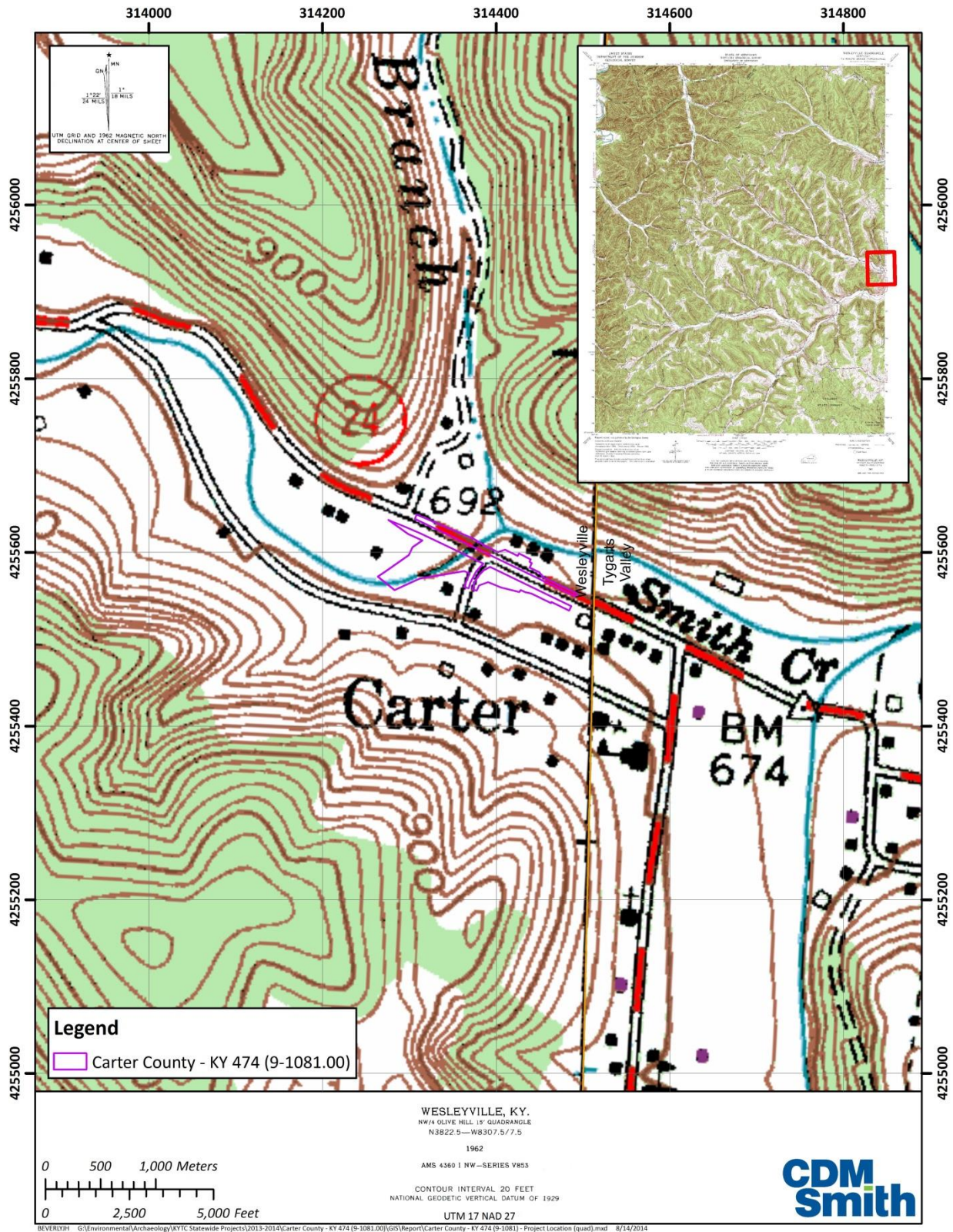


Figure 1-2. USGS Topographical Map showing Project Location.

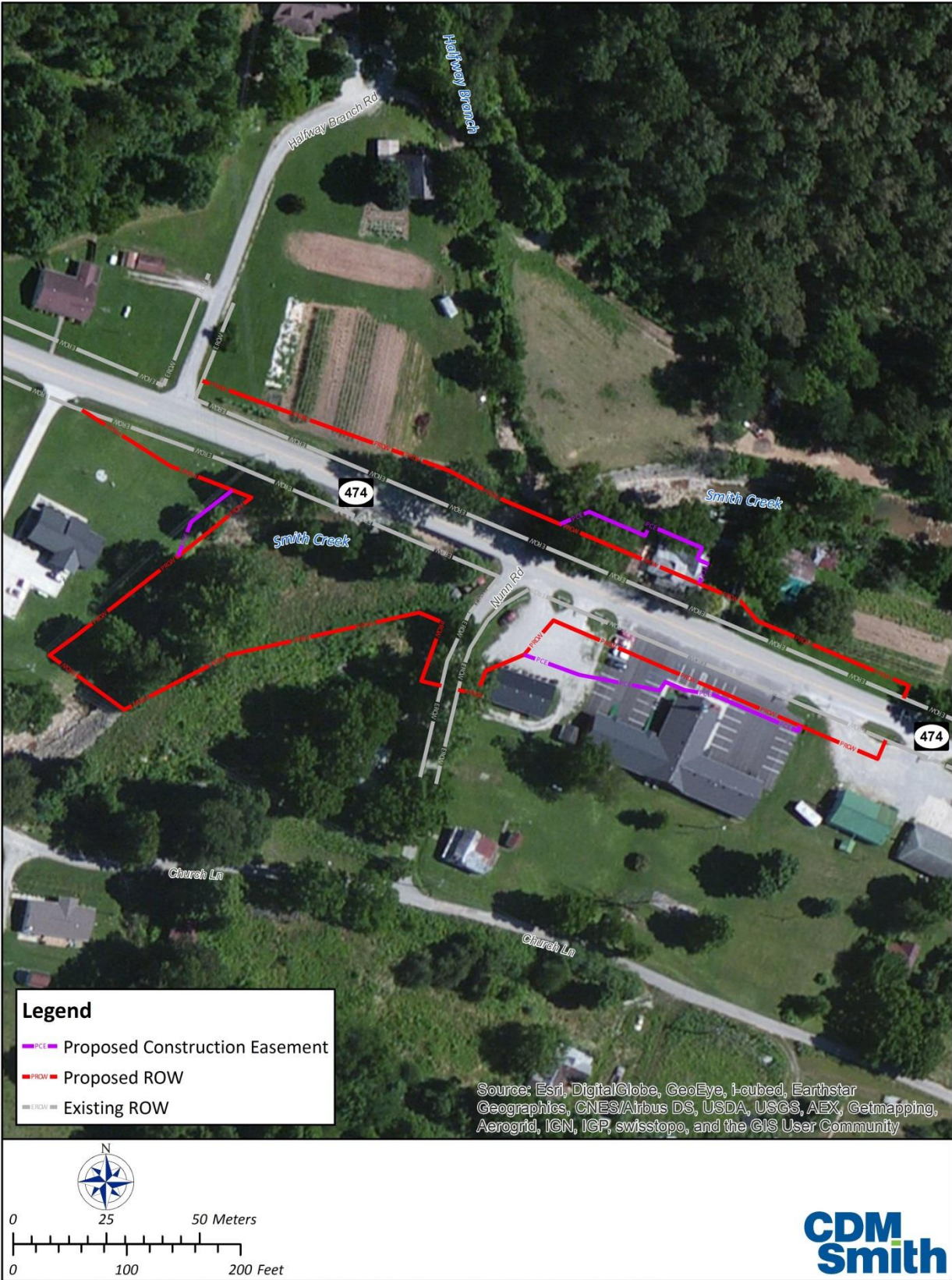


Figure 1-3. Aerial Map showing Project Location.

The APE can be reached by traveling approximately 5.4 miles south along KY 2 from the AA Highway, and then where KY 2 intersects with KY 474 continuing west on KY 474 for about 0.2 miles where Nunn Rd. intersects KY 474. The bridge to be replaced is located at the intersection of KY 474 and Nunn Rd., at the confluence of Smith Creek with Halfway Branch.

The project area is located in the foothills of the Eastern Coal Field physiographic region of Kentucky. The area is situated from 679 to 694 ft. above mean sea level at the confluence of Smith Creek (east flowing) with Halfway Branch (south flowing) Vegetation within the APE consisted of residential lawn; plowed gardens; moderately dense secondary growth scrub, vines, grasses, and briars; and some secondary growth trees (Figure 1-4 and Figure 1-6).

1.4 OSA Records Research

On July 25, 2014, the site files and survey records at the Office of State Archaeology (OSA) were accessed and researched.

1.5 Principal Investigator

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

1.6 Field and Laboratory Crew

The field crew consisted of Ann Wilkinson and Adam Newell. Howard Beverly prepared the final maps and formatted the report. The fieldwork took approximately 4 person hours to complete.

1.7 Curation

A copy of this report will be curated at the William S. Webb Museum of Anthropology, University of Kentucky, in Lexington.

1.8 Summary of Investigations

At the request of the Kentucky Transportation Cabinet, archaeologists from CDM Smith conducted a Phase I archaeological survey for the bridge replacement (Bridge ID # 022B00123N) on KY 474 (MP 5.06 - 5.1) over Smith Creek just west of the intersection with Nunn Rd. in Carter County, Kentucky (KYTC Item Number 9-1081.00). The archaeological survey involved a visual inspection of the entire APE, shovel probing in areas of less than 15 percent slope, and systematic surface collection in areas with high visibility. The APE consisted of the ROW extension (1.41 acre, 0.57 ha) and temporary construction easement (0.19 acre, 0.08 ha) comprising of approximately 1.60 acre (0.65 ha).

The majority of the project area was found to be disturbed due to the reconstruction of Smith Creek prior to the survey along with residential and road construction disturbance. In addition, a small section of the APE along the north and south sides of KY 474 were found to be more than 15 percent slope. These areas are also likely associated with the disturbance from the creek reconstruction. One shovel probe was excavated within the disturbed section south of KY 474 and west of Nunn Rd., which verified the disturbance.

Two sections within the APE appeared undisturbed. A small section located in the northwest portion of the APE had high surface visibility at the time of the survey, and was systematically surface collected. No archaeological material was recovered. A second section located north of KY 474 and



Figure 1-4. General project area, south side of KY 474, looking south, showing secondary growth scrub and trees in foreground, plowed garden in background.



Figure 1-5. General project area, south side of KY 474, looking east southeast.



Figure 1-6. General project area, north side of KY 474, looking east by south.

east of the bridge had low surface visibility, and one shovel probe was excavated. Again, no archaeological material was recovered.

Two shovel probes were excavated in total. Visual inspection ruled out the possibility of rockshelters. Archaeological resources were absent from the APE. No further archaeological work is necessary within the APE.

Section 2 -

Previous Investigations and Summary of Known Sites

In this chapter a summary is provided of all previous archaeological investigations in the area and all previously recorded archaeological sites are described. The research methodology involved archival research at the Office of State Archaeology and research of previous studies of archaeological sites.

2.1 Historical Documentation

A review of historic maps was conducted online and at the University of Kentucky's Geological Sciences Library and Map Collection. Available were the 1937 Highway and Transportation Map of Carter County, Kentucky; the 1954 Rural Highway Series, Carter County, Kentucky; and the 1950 and 1962 7.5-minute Wesleyville, KY, USGS topographical maps. No indication of historic property use, other than roadway, was indicated by these historical resources within or adjacent to the APE, such as structures and industry. Thus, the potential for encountering historic surface or archaeological remains was considered low.

2.2 Previous Archaeological Investigations

The survey reports at the Office of State Archaeology were consulted on July 25, 2014. Within a two kilometer buffer of the current survey area, four previously conducted surveys were identified: Stallings and Ross-Stallings (1993a), Stallings and Ross-Stallings (1993b), Stallings and Ross-Stallings (1994), and Zink (2013) (Figure 2-1).

In 1993, at the request of East Kentucky Power Cooperative, Inc., Cultural Horizons, Inc. conducted a Phase I cultural resource survey of two acres for a proposed electric substation in Carter County, Kentucky. The survey identified one site, Site 15CR122, which was shovel tested. The shovel testing did not indicate the presence of intact midden and no diagnostic material was recovered, but a portion of the site was not excavated due to lack of landowner permission. The material collected from the site indicated early stage lithic reduction and the high density of artifacts suggested a long occupation, which made intact deposits highly possible. Therefore, the site was deemed potentially eligible for listing in the National Register of Historic Places and Phase II testing recommended if the site could not be avoided (Stallings and Ross-Stallings 1993a).

In 1993, at the request of East Kentucky Power Cooperative, Inc., Cultural Horizons, Inc. conducted a Phase II testing of a portion of Site 15CR122 in Carter City in Carter County, Kentucky. The excavation wanted to determine whether any intact cultural deposits remained at the site prior to the construction of an electric substation. The survey excavated five hand-dug units and six broad area scrapes, producing prehistoric lithic material and a low density of historic artifacts. The lithic material indicated early stage stone tool reduction and the production of expedient flakes from amorphous cores. No diagnostic material was recovered and no intact prehistoric features identified. The historic material dated to the early or mid-twentieth century, and the material suggested a chicken coop was once in the area. Three historic features were identified, but the historic component was deemed not culturally significant. No additional work was recommended, and clearance for the project was recommended (Stallings and Ross-Stallings 1993b).

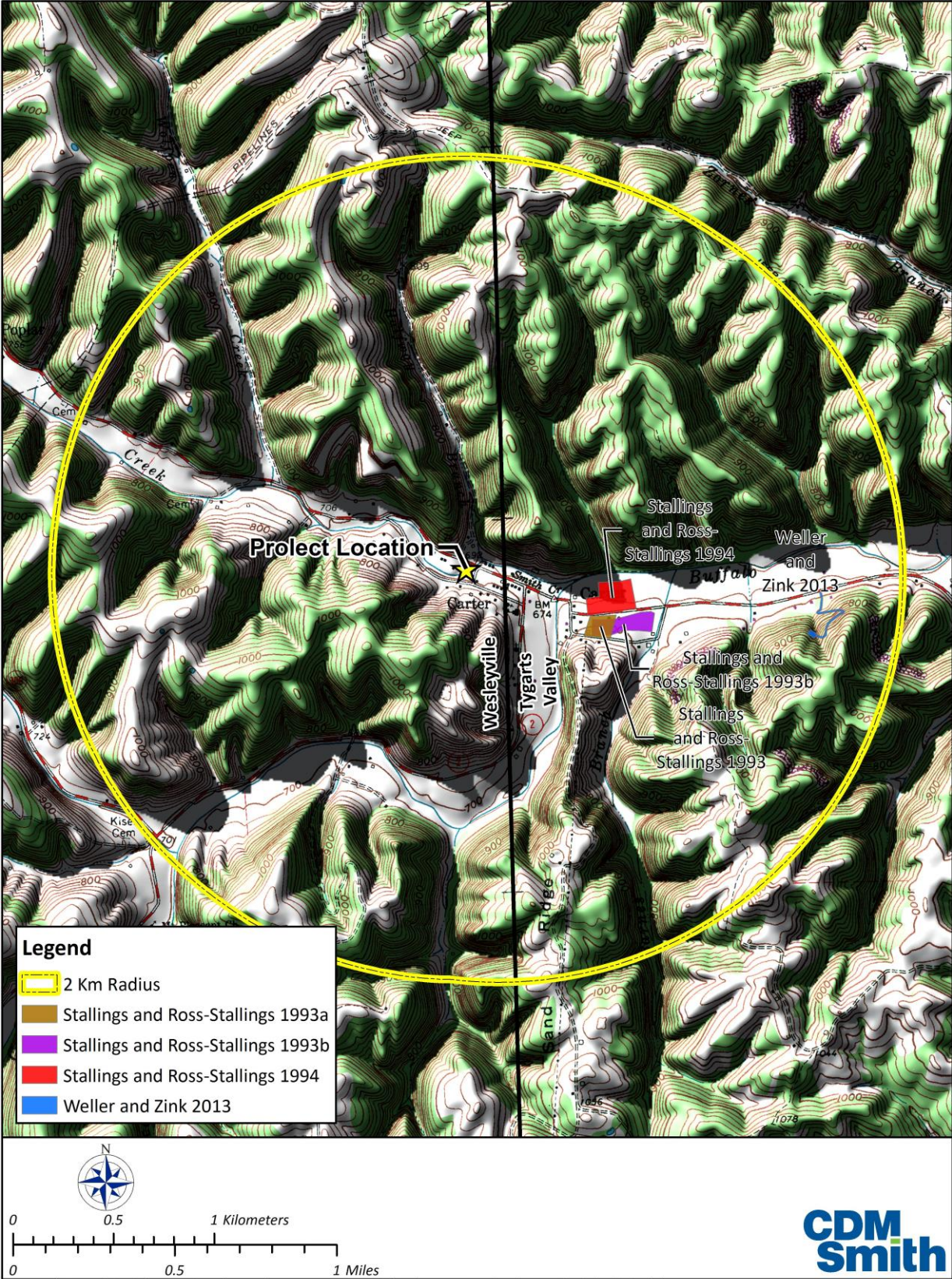


Figure 2-1. Previous Archaeological Surveys within 2km of Project Area.

In 1993, at the request of East Kentucky Power Cooperative, Inc., Cultural Horizons, Inc. conducted for an eight acre electric substation and an additional survey at Site 15CR122 in the community of Carter in Carter County, Kentucky. The survey identified the prehistoric site, Site 15CR129, during pedestrian survey, and deep shovel testing along the floodplain north of Site 15CR129 indicated the potential for deeply buried deposits in this area. In addition, Site 15CR122 was pedestrian surveyed and shovel tested, which resulted in the determination that the site was much larger than previously recorded (Stallings and Ross-Stallings 1993a). Material collected from Site 15CR129 indicated an early stage lithic reduction site and diagnostic material suggested a Late Archaic to Middle Woodland period. The site produced a high density of material, suggesting a long or repeat occupation. Site 15CR129 is likely to have intact deposits and was recommended as potentially eligible for listing in the National Register of Historic Places. The survey of 15CR122 focused on an area east of the portion reported on in Stallings and Ross-Stallings (1993a), which was not surveyed prior due to lack of landowner permission. The survey discovered that the site extended much further to the east and that the site was associated with the Late Archaic and Early Woodland period. The eastern portion of Site 15CR122 was deemed potentially eligible for listing in the National Register of Historic Places. As a result of the survey, East Kentucky Power chose an alternate location for their substation where Site 15CR 129 and eastern portion of 15CR122 would no longer be impacted. The remaining portion of 15CR122 would still be impacted, but had been previously surveyed and tested in Stallings and Ross-Stallings (1993a and 1993b) (Stallings and Ross-Stallings 1994).

In 2013, at the request of Mead & Hunt and on behalf of AT&T Mobility, Weller & Associates conducted a Phase I abbreviated report for the proposed WV220A wireless cellular tower in Carter County, Kentucky. The survey utilized visual inspection supplemented with subsurface testing. No cultural material was recovered during the survey, and no further work was recommended (Weller and Zink 2013).

2.3 Known Archaeological Sites

The archaeological site files at the Office of State Archaeology were consulted on July 25, 2014. At the time of research, seven archaeological sites had been previously recorded within a two-kilometer buffer of the current project area and are described below. No previously recorded sites are located within the current project boundaries.

15CR49 is a prehistoric camp site recorded in 1977 and located in a baseball field near an elementary school in Carter County at the time of the survey. Material collected included some flakes found on the surface.

15CR122 is a Late Archaic and Early Woodland prehistoric site. At the time of the survey, seventy-two shovel tests were excavated and two areas with good surface visibility were examined. Of the seventy-two shovel tests, only nineteen were negative. The site produced a total of 799 prehistoric artifacts, including 700 pieces of debitage, 50 amorphous cores, 26 bifaces, 22 unifaces, and 1 hammerstone. All the artifacts were made from Newman chert except one piece, a single utilized flake, which was constructed of Upper Mercer chert. This chert type is found in central and southeastern Ohio. It was concluded that the site was mostly used for the production of flakes for expedient use or the reduction of very early stage bifaces. The only diagnostic artifact was the proximal portion of a Motley Cluster point. The site was thought to have a long or repeat occupation from the high density of prehistoric material collected. Site 15CR22 was recommended for further work at the end of the survey and Phase II testing was recommended. A portion of the site was subjected to Phase II testing in the fall of 1993, but the only features identified were historic and likely the remains of a chicken coop (Stallings and

Ross-Stallings 1993a and 1993b). The site was revisited again in 1993 to examine a portion of the site that was not surveyed prior due to lack of landowner permission. This survey extended the site boundaries much further east. At the end of the survey, the eastern portion of Site 15CR122 was deemed potentially eligible for listing in the National Register of Historic Places. However, the remaining portion of 15CR122 was cleared for a project to construct an electric substation for East Kentucky Power Cooperative, Inc. in the area since it had already undergone Phase II testing (Stallings and Ross-Stallings 1993a and 1993b; 1994).

15CR129 is a prehistoric site dating to the Late Archaic and Middle Woodland period. When delineating the site, six shovel tests were excavated within the site and sixteen deep shovel tests were excavated in the floodplain north of the site. Prehistoric and Historic material was recovered from a depth greater than 30 cm, indicating the potential for buried deposits. The survey produced a total of 270 prehistoric artifacts, including 206 flakes, 29 amorphous cores, 17 bifaces, 8 utilized flakes, and 10 pieces of shatter. The prehistoric material suggested the site was an early stage lithic reduction site. The only diagnostic artifact was a Gary Contracting Stem point, suggesting the Late Archaic through Middle Woodland periods. The site was deemed potentially eligible for listing in the National Register of Historic Places.

15CR230 is a short term/sporadic prehistoric site, which was likely used as a camp when obtaining raw material. Sixty lithic artifacts were recovered from the site and most were flakes. Some of the flakes had been used as scrapers. The majority of the debitage was of a gray Upper Newman chert, which is found natural in the area. The site was surveyed in 2005 by Mathew P. Maley. The National Register status was not assessed.

15CR245, the H.M.-Carter (City) Site, is an Archaic open habitation site without mounds with a historic component. Twenty-two prehistoric artifacts were recovered during the survey, including twenty-one pieces of debitage and one groundstone. Historic material recovered included ceramic, glass, a zinc jar lid fragment, a medicine vial, and three unidentified metal fragments. Historic material observed but no collected included considerable ceramic items, metal items, and modern plastic. The site was located in a cultivated field at the time of the survey. The site was report in April of 2007 by Matt Maley. The National Register status was not assessed. The site likely extends outside the boundaries (Site Form for 15CR245).

15CR254, also known as the Brian Ainsley Farm Site, is an indeterminate prehistoric site with a historic component. The site is an open habitation without mounds. Prehistoric material collected consisted of twenty-seven artifacts, including four scrapers, twenty-two pieces of debitage, and one worked bone/shell. However, debitage material was scattered about a wide are in the fields and was not all collected. The historic component consisted of scattered ceramic fragments that were not collected. The site was reported in July of 2009 by Matt Maley. The National Register status was not assessed.

15CR258, also known as C-11-3 Elwood Burge Cave Site, is a prehistoric site located in a rockshelter/cave area. A spring flowed to the cave/rockshelter at the time of the survey, and had once been used as a water supply for several homes and school in the area. It was still used by the elementary school near the site at the time of the survey. The shelter faces east and has a moderate size occupation area. The distance from the shelter's wall to the drip line varies from approximately 1 meter to 3.5 meters. The eight varies from approximately 2 meters to 4 meters. The site was previously looted in the 1950s. The site was recorded in April of 1993 by Matt. P. Maley. The National Register status was not assessed (Site Form for 15CR258).

Section 3 -

Field Methods

In this section, the field methods employed during the course of this study is described. These methods include the fieldwork activities, their application in different portions of the project area reflecting conditions encountered, and an evaluation of their effectiveness.

3.1 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). Systematic shovel test probes (STPs) were to be excavated where possible and areas of 15 percent or greater slope were visually inspected for surface remains and potential rock shelters. Systematic surface collection was utilized in areas with a high surface visibility.

The APE consists of the proposed 1.60 acre (0.65 ha) ROW extensions and temporary construction easement for the proposed bridge replacement along KY 474 over Smith Creek, and is located on a floodplain of that creek from 679 to 694 ft. AMSL (Figure 3-1 and Figure 3-2). The physical setting of the APE is shown in Figure 3-3 through Figure 3-14.

3.1.1 Investigations

Upon visual inspection, it was observed that a large portion of the APE was previously disturbed due to road and residential construction, especially along the south side of KY 474 east of Nunn Rd. Other disturbances included areas where Smith Creek was previously reconstructed on the south side of US 68. According to a local landowner, Ronnie Burge, the creek was re-routed or reconstructed on the south side of US 68 sometime between the mid 60's and mid 70's (Ronnie Burge, personal communication 2014). Historic maps and aerials did not indicate any significant re-channeling, but the alterations are visible in-person. The current bridge was constructed in 1975 (Commonwealth of Kentucky 2010). On the north side of US 68, a large section of soil has been washed out by the creek, especially in the area behind the houses. One shovel probe, STP 1, was excavated within the alleged creek reconstruction disturbed section south of US 68 inside an agricultural field (Figure 3-1; Figure 3-5). The shovel probe revealed a disturbed soil mottled with 40-50% medium to large creek cobbles. The area was also subjected to surface collecting as the surface visibility was high. No archaeological material was recovered from STP 1 or from the surface.

Areas with more than 15% slope were also identified during the visual inspection (Figure 3-2; Figure 3-6; Figure 3-7). Two sections were noted on both sides of US 68 near the location of the bridge. These sections were also associated with disturbed areas.

Two sections within the APE appeared undisturbed (Figure 3-2). A small section located in the northwest portion of the APE in an agricultural field had high surface visibility at the time of the survey, and was systematically surface collected (Figure 3-8). No archaeological material was recovered. A second section located north of KY 474 and east of the bridge had low surface visibility, and one shovel probe, STP 2, was excavated (Figure 3-13). STP 2 revealed 30 cmbs of a 10YR4/4 dark yellowish brown, very silty loam clay over a 7.5YR4/4 brown loam clay mottled with degraded rock subsoil. Again, no archaeological material was recovered.

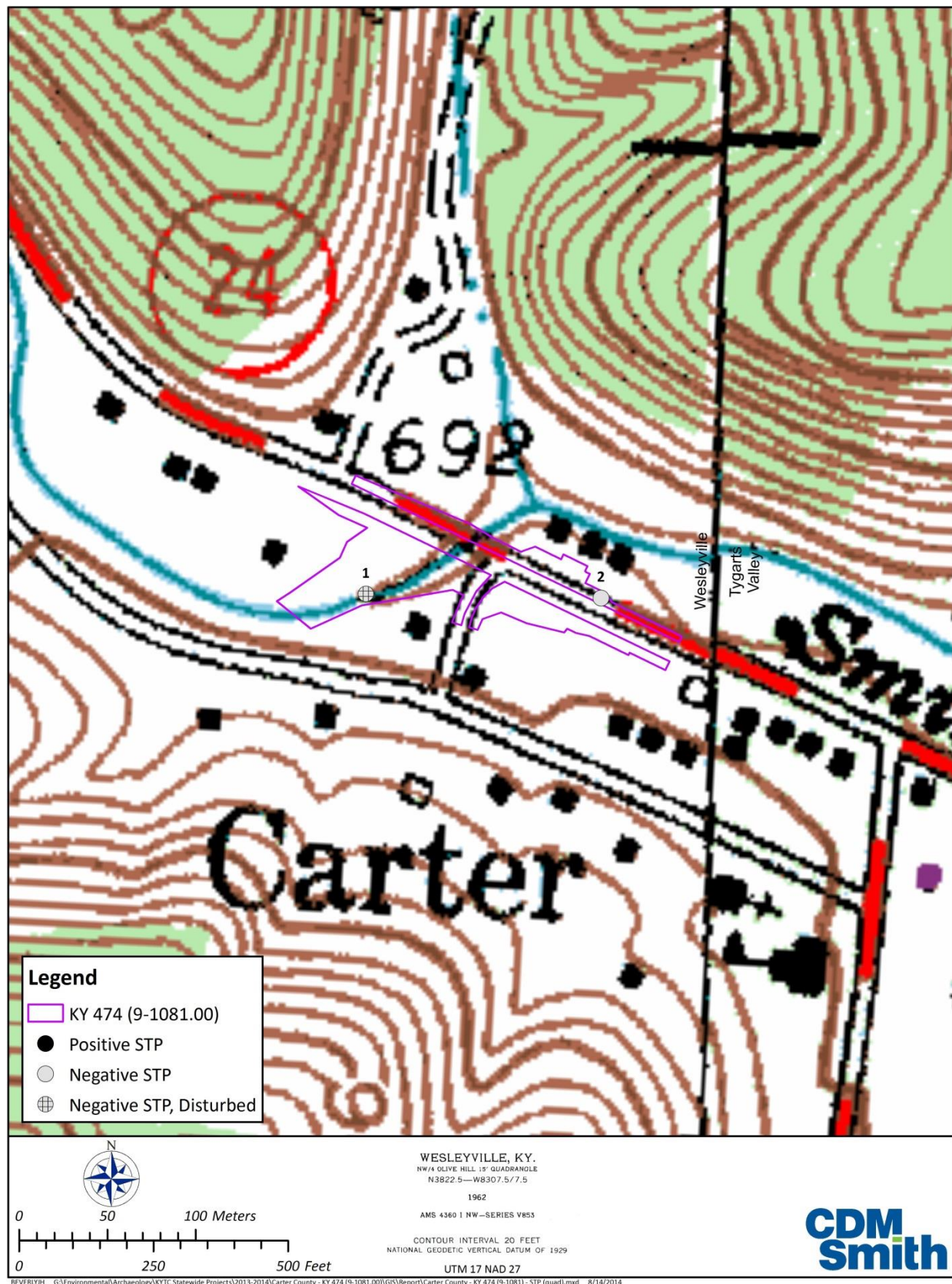


Figure 3-1. Location of APE and Shovel Probes on USGS Topographical Map.

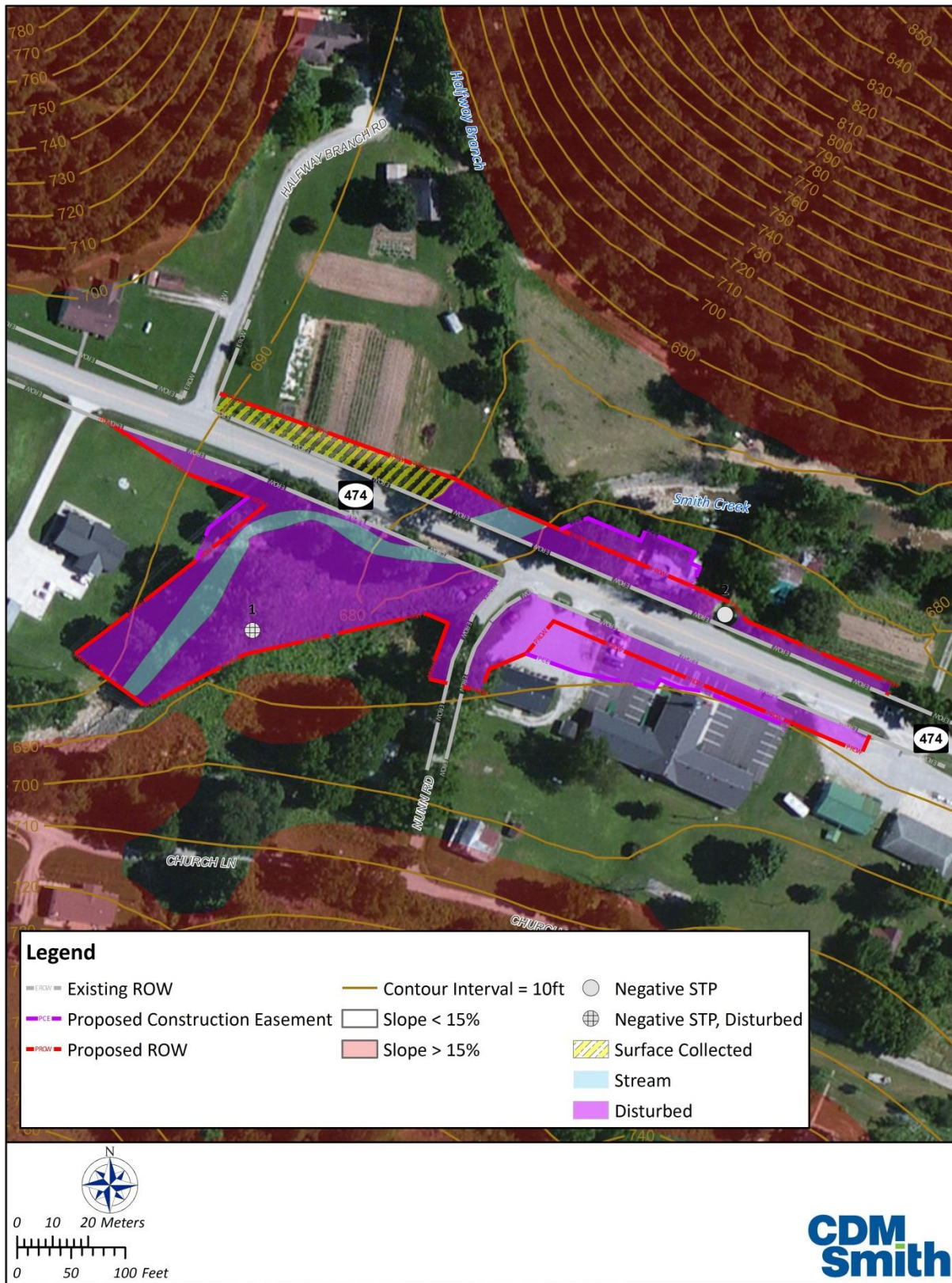


Figure 3-2. Location of Shovel Probes, Surface Collected Area, Disturbed Areas, and Slope on Aerial Photograph.



Figure 3-3. Western terminus of APE, south side of KY 474, disturbances from creek relocation, road ditching, and utility line placement, looking west northwest.



Figure 3-4. APE around Smith Creek, south of KY 474, disturbed by erosion and re-channeling efforts, looking southwest.



Figure 3-5. View of creek re-channeling disturbed area, showing location of STP 1, looking south southeast.



Figure 3-6. View of APE south side of KY 474, sloped and disturbed with ditch, road, and creek improvements, looking east southeast.



Figure 3-7. View of APE, south side of KY 474, along Smith Creek. Sloped and disturbed by erosion and shoring-up/graveling for road/bridge reinforcements.



Figure 3-8. Looking east southeast at surface inspected plowed garden, north side of KY 474, east of Halfway Branch.



Figure 3-9. APE along Nunn Road, disturbed with road and ditch construction, looking south southwest.



Figure 3-10. Eastern terminus of project area, south side of KY 474, looking east southeast.



Figure 3-11. Eastern end of project area disturbed by ditching, north side KY 474, looking east southeast.



Figure 3-12. View within proposed temporary construction easement, north side of KY 474, modern residential disturbances and creek wash-out, erosional disturbances, looking northeast.



Figure 3-13. Location of STP 2, looking northwest.



Figure 3-14. APE north side KY 474 and east of Smith Creek, two houses without testable yards, looking east northeast.

3.2 Evaluation of Field Methods

Visual inspection successfully ruled out the possibility of rockshelters within the APE. Disturbances were recorded for about 80% of the APE. The remaining portions of the APE were delineated using systematic surface collection and shovel probing, which did not identify any intact prehistoric or historic cultural deposits. No archaeological material was recovered during the survey. No further work is recommended.

Section 4 -

Summary and Recommendations

4.1 Summary

At the request of the Kentucky Transportation Cabinet, archaeologists from CDM Smith conducted a Phase I archaeological survey for the bridge replacement (Bridge ID # 022B00123N) along KY 474 (MP 5.06 - 5.1) over Smith Creek at the intersection with Nunn Rd. in Carter County, Kentucky (KYTC Item Number 9-1081.00). The area of potential effect (APE) is defined as the ROW extension (1.41 acre, 0.57 ha) and temporary construction easement (0.19 acre, 0.08 ha) comprising of approximately 1.60 acre (0.65 ha).

The archaeological survey involved a visual inspection of the entire APE, surface inspection where ground surface visibility was greater than 50 percent, and shovel probing in areas of less than 15 percent slope. Disturbances were recorded in about 80% of the APE. These disturbances were due to road construction, residential construction, and reconstruction to Smith Creek prior to the survey. Two shovel probes were excavated and one section was surface collected, but no archaeological material was recovered.

4.2 Recommendation

No further archaeological work is recommended.

Section 5 -

References

Commonwealth of Kentucky

2010 KYTC Bridge Data Miner. Electronic document, <http://maps.kytc.ky.gov/bridge/>, accessed August 14, 2014.

Kentucky Department of Highways (KYTC)

1937 Highway and Transportation Map, Carter County, Kentucky.

1954 Rural Highway Series, Carter County, Kentucky.

Sanders, Thomas N.

2006 *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*. Edition 2.5. Kentucky Heritage Council, Frankfort.

Site Forms

15CR49, 15CR122, 15CR129, 15CR230, 15CR245, 15CR254, 15CR258

Stallings, Richard and Nancy Ross-Stallings

1993a *A Phase I Cultural Resource Survey of a Two Acre Electric Substation Located at Carter, Carter County, Kentucky*. Cultural Horizons, Inc. Harrodsburg, KY.

1993b *Phase II Testing of a Portion of Site 15CR122, Carter City, Carter County, Kentucky*. Cultural Horizons, Inc. Harrodsburg, KY.

1994 *A Phase I Cultural Resource Survey of an Eight Acre Electric Substation and Additional Survey at 15CR122, Carter, Carter County, Kentucky*. Cultural Horizons, Inc. Harrodsburg, KY.

United States Geological Survey (USGS)

1950 Wesleyville, Kentucky, 7.5 minute series topographic quadrangle map.

1962 Wesleyville, Kentucky, 7.5 minute series topographic quadrangle map.

Weller, Ryan and Justin Zink

2013 *Phase I Abbreviated Report for the Proposed WV220A Wireless Cellular Tower in Carter County, Kentucky*. Weller & Associates, Inc. Columbus, Ohio.