

## **Appendix N**

# ARCHAEOLOGICAL RECORDS REVIEW

**Mantle Rock Solar LLC**

Livingston County, Kentucky

# **AN ARCHAEOLOGICAL RECORDS REVIEW FOR THE MANTLE ROCK SOLAR PROJECT IN LIVINGSTON COUNTY, KENTUCKY**

*Prepared by*

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## **Project Description**

On April 26, 2023, Cultural Resource Analysts, Inc. (CRA), personnel completed an archaeological records review for the proposed Mantle Rock Solar Project in Livingston County, Kentucky. The review was requested by Marty Marchaterre of Copperhead Environmental Consulting, Inc. The study area encompassed approximately 277 ha (562 acres) and was located around the intersection of KY 135 and KY 1608, between the Communities of Hampton and Joy, Kentucky (Figure 1). The elevations ranged from 155 to 200 m above mean sea level within the study area.

## **Records Review**

A search of records maintained by the National Register of Historic Places (NRHP) and the Office of State Archaeology (OSA) (P123823) was conducted to: 1) determine if the study area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the study area; 3) provide information concerning what archaeological resources could be expected within the study area; and 4) provide a context for any archaeological resources that may be identified within the study area.

OSA Geographic Information Systems (GIS) data requested by CRA on April 12, 2023, were returned on April 14, 2023. According to current OSA information, no archaeological surveys have been conducted, and no archaeological sites have been recorded, directly within or within 30 m of the study area. A search of the NRHP records indicated that no archaeological sites listed in the NRHP were situated within or near the study area (United States Department of the Interior, National Park Service 2023).

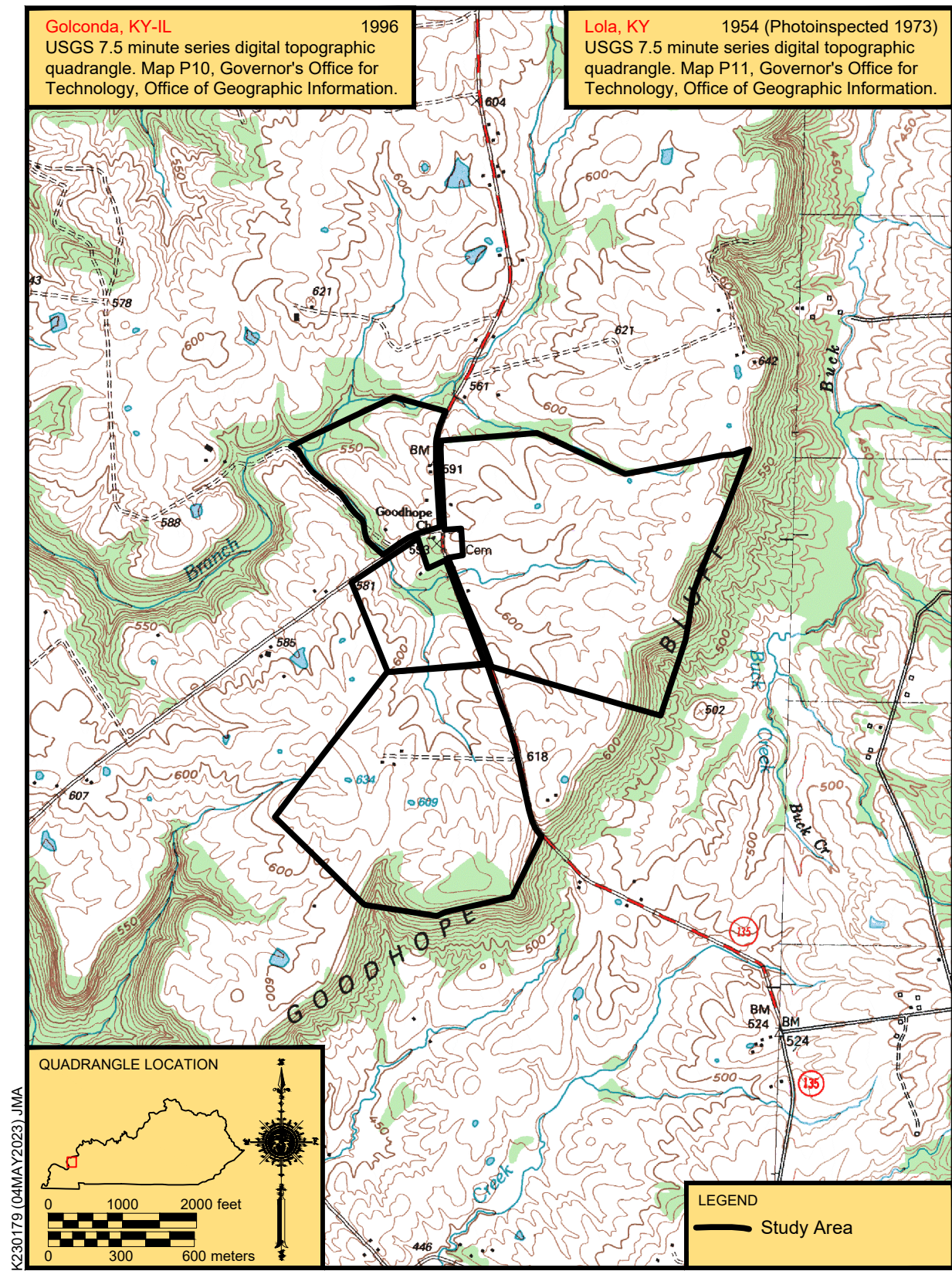


Figure 1. Golconda and Lola, Kentucky, 7.5-minute series topographic quadrangles depicting the study area (United States Geological Survey [USGS] 1954 [Photoinspected (PI) 1973], 1996).

# Archaeological Site Data

## Livingston County

According to available data, 263 archaeological sites have been recorded in Livingston County (Table 1). The site data indicate that the majority of archaeological sites recorded in Livingston County consist of prehistoric open habitations without mounds (n = 126; 47.91 percent). Other site types in the county consist of undetermined (n = 56; 21.29 percent), historic farms/residences (n = 23; 8.75 percent), rockshelters (n = 16; 6.08 percent), cemeteries (n = 14; 5.32 percent), earth mounds (n = 5; 1.90 percent), workshops (n = 4; 1.52 percent), other (n = 4; 1.52 percent), industrial (n = 3; 1.14 percent), stone mounds (n = 3; 1.14 percent), mound complexes (n = 2; 0.76 percent), other special activity areas (n = 2; 0.76 percent), an isolated find (n = 1; 0.38 percent), a military site (n = 1; 0.38 percent), an open habitation with mounds (n = 1; 0.38 percent), a petroglyph/pictograph (n = 1; 0.38 percent), and a quarry (n = 1; 0.38 percent).

These sites are located on a variety of landforms, including floodplains (n = 91; 34.60 percent), terraces (n = 72; 27.38 percent), dissected uplands (n = 69; 26.24 percent), hillsides (n = 26; 9.89 percent), undissected uplands (n = 4; 1.52 percent), and unspecified (n = 1; 0.38 percent). These sites cover a variety of time periods, including Paleoindian (n = 1; 0.27 percent), Archaic (n = 65; 17.38 percent), Woodland (n = 45; 12.03 percent), Late Prehistoric (n = 53; 14.17 percent), Indeterminate Prehistoric (n = 135; 36.10 percent), Historic (n = 52; 13.9 percent), and unspecified (n = 22; 5.88 percent).

**Table 1. Summary of Selected Information for Previously Recorded Archaeological Sites in Livingston County, Kentucky. Data Obtained from OSA and May Contain Coding Errors.**

Site Type:	N	%
Cemetery	14	5.32
Earth Mound	5	1.90
Historic Farm/Residence	23	8.75
Industrial	3	1.14
Isolated Find	1	0.38
Military	1	0.38
Mound Complex	2	0.76
Open Habitation w/ Mounds	1	0.38
Open Habitation w/o Mounds	126	47.91
Other Special Activity Area	2	0.76
Petroglyph/Pictograph	1	0.38
Quarry	1	0.38
Rockshelter	16	6.08
Stone Mound	3	1.14
Workshop	4	1.52
Other	4	1.52
Undetermined	56	21.29
<b>Total</b>	<b>263</b>	<b>100.00</b>
Time Periods Represented	N	%
Paleoindian	1	0.27
Archaic	65	17.38
Woodland	45	12.03
Late Prehistoric	53	14.17
Protohistoric	1	0.27
Indeterminate Prehistoric	135	36.10
Historic	52	13.9
Unspecified	22	5.88
<b>Total</b>	<b>374*</b>	<b>100.00</b>
Landform	N	%
Dissected Uplands	69	26.24
Floodplain	91	34.60
Hillside	26	9.89
Terrace	72	27.38
Undissected Uplands	4	1.52
Unspecified	1	0.38
<b>Total</b>	<b>263</b>	<b>100.00</b>

*\*One site may represent more than one time period.*

## Map Data

In addition to the file search, a review of available historic maps was conducted to help identify potential historic properties (structures) or historic archaeological site locations within the study area. The following maps were reviewed:

1921 Golconda, Kentucky-Illinois, 15-minute series topographic quadrangle (USGS 1921)

1926 Map of the Areal and Structural Geology (Fault Pattern) of Livingston County, Kentucky (Weller et al. 1926)

1937 Highway and Transportation Map, Livingston County, Kentucky (Kentucky Department of Highways [KDOH] 1937)

1950 General Highway Map, Livingston County, Kentucky (Kentucky State Highway Department [KSHD] 1950)

1954 Golconda, Kentucky-Illinois, 7.5-minute series topographic quadrangle (USGS 1954)

1957 General Highway Map, Livingston County, Kentucky (KDOH 1957)

1959 Golconda, Kentucky-Illinois, 15-minute series topographic quadrangle (USGS 1959)

The historic maps showed 13 map structures (MS 1–13) in the study area. Because of their small scale, the general highway maps dating to the 1930s and 1950s (KDOH 1937, 1957; KSHD 1950) are difficult to correlate to generally more accurate USGS topographic quadrangles. As such, these maps were only briefly consulted and are not illustrated in this overview.

MS 1–7 are first depicted on the 1921 topographic quadrangle (USGS 1921; Figure 2). MS 2 is depicted and labeled as Goodhope School, while MS 4 is depicted as a church. All seven map structures are also depicted on the 1926 map (Weller et al. 1926), and MS 1, 2, 4, 5, and 7 are also depicted on the 1954 and 1959 topographic quadrangles (USGS 1954, 1959). Along with MS 1, 2, 4, 5, and 7, MS 8–13 and a cemetery are depicted on the 1954 topographic quadrangle (USGS 1954; Figure 3). MS 4 is labeled as Goodhope Church. The cemetery and MS 11 are also depicted on the 1959 topographic quadrangle (USGS 1959). If the study area was archaeologically surveyed, cultural deposits found in association with any of these historic structures might be considered archaeological sites, and some of these might be potentially significant. Additionally, if the area of the cemetery was archaeologically surveyed, the cemetery would be recorded as an archaeological site because the cemetery is over 50 years of age.

## Soil Review

The soils mapped within the study area were also reviewed to define areas that may contain buried cultural deposits. There are two soil series (Hosmer and Zanesville) and one soil complex (Wellston-Frondorf) within the study area (Soil Survey Staff 2023). A soil complex is when two or more individual soil series are mixed geographically in such a way that the scale of the map makes it impractical to show each one separately. The soils are classified by the amount of time it has taken them to form and the landscape position on which they are found (Birkeland 1984; Soil Survey Staff 1999). This information can provide a relative age of the soils, and can express the potential for buried archaeological deposits within them (Stafford 2004). The soil order and group classifications for each soil series are used to assist with determining this potential. All the soil series in the study area are classified as Alfisols, which means archaeological deposits would only be found on or very near the ground surface for these soils. There is little to no chance for deeply buried archaeological deposits in the study area.



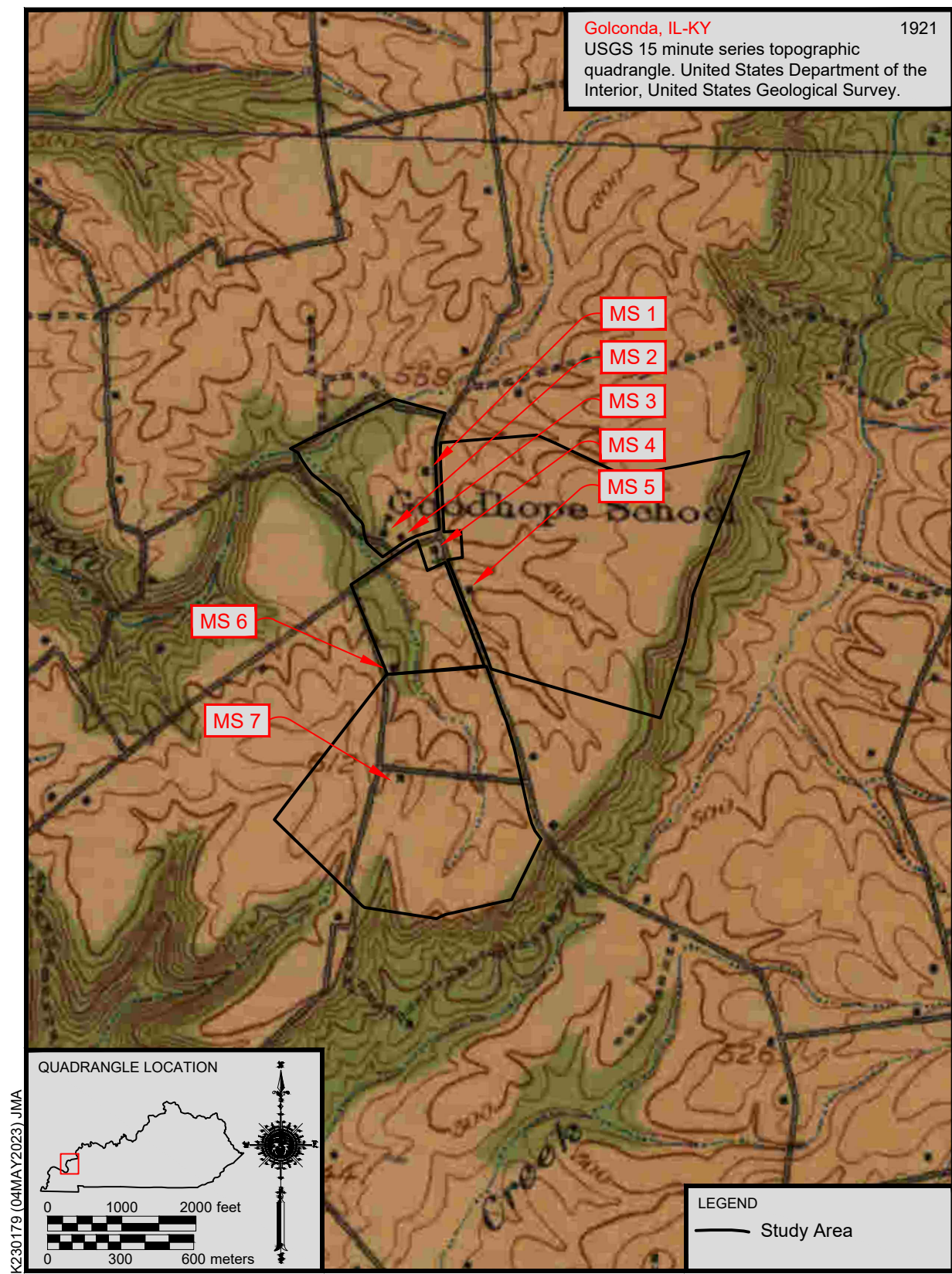


Figure 2. 1921 topographic quadrangle depicting MS 1–7 (USGS 1921).



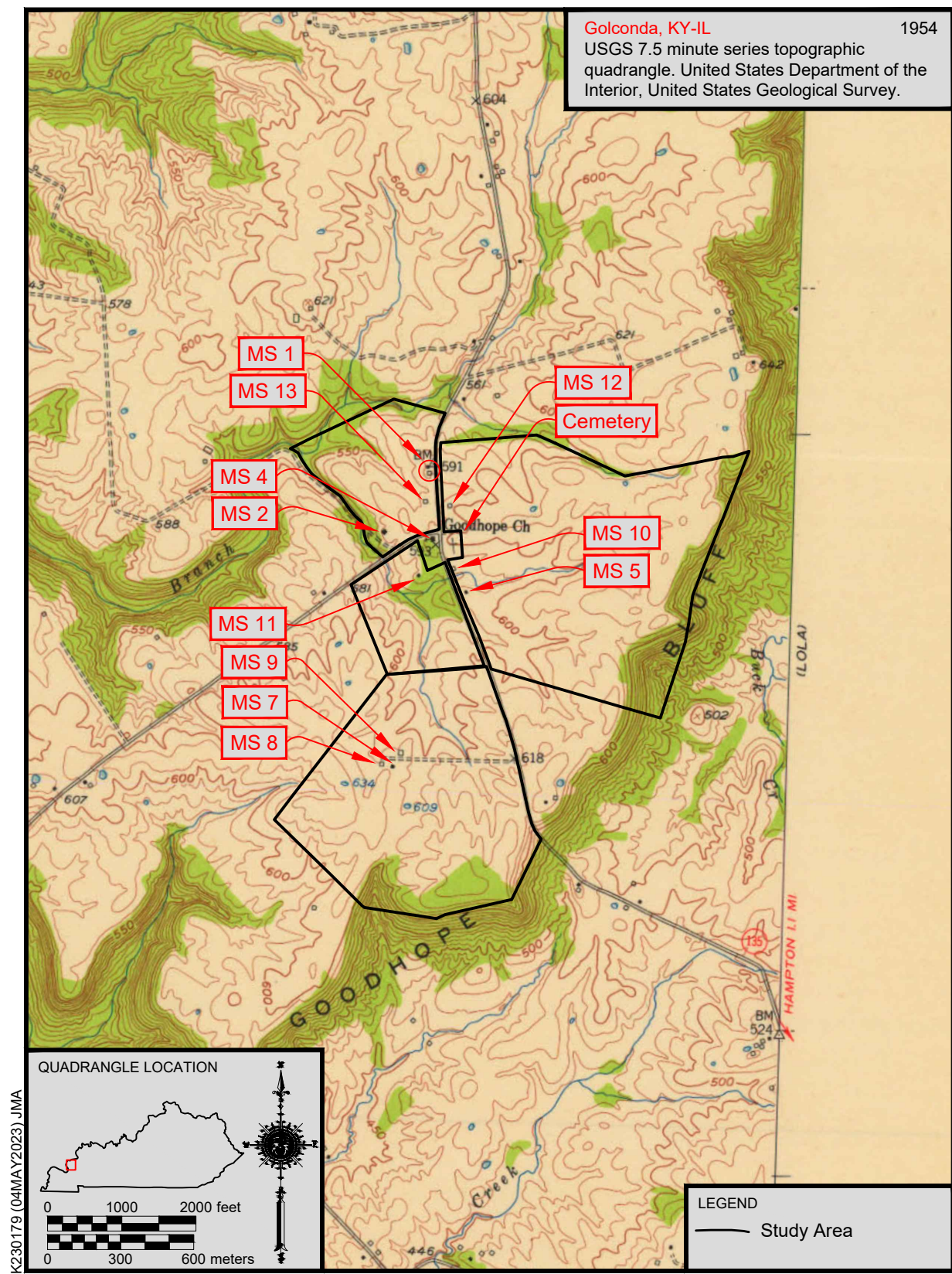


Figure 3. 1954 topographic quadrangle depicting MS 1, 2, 4, 5, 7–13, and a cemetery (USGS 1954).

## Summary

The OSA data reveal that no previous archaeological survey areas or sites are located within or adjacent to the study area. A review of historic maps shows that the study area contains a historic cemetery and at least 13 potentially historic structures that are over 50 years of age. The soil data show that only Alfisol soils are present within the study area, and these have little to no potential to contain deeply buried archaeological deposits.

## REFERENCES CITED

Birkeland, Peter W.

1984 *Soils and Geomorphology*. Oxford University Press, New York.

Kentucky Department of Highways

1937 Highway and Transportation map, Livingston County, Kentucky. Prepared by the Kentucky Department of Highways, in cooperation with the United States Department of Agriculture, Bureau of Public Roads.

1957 General Highway Map, Livingston County, Kentucky. Prepared by the Kentucky Department of Highways, Division of Planning, in cooperation with the United States Department of Commerce, Bureau of Public Roads.

Kentucky State Highway Department

1950 General Highway Map, Livingston County, Kentucky. Prepared by the Kentucky State Highway Department, State-Wide Highway Planning Survey, in cooperation with the United States Department of Commerce, Bureau of Public Roads.

Soil Survey Staff

1999 *Soil Taxonomy, A Basic System of Soil Classification for Making and Interpreting Soil Surveys*. 2nd ed. Agricultural Handbook Number 436. United States Department of Agriculture, Natural Resource Conservation Service, Soil Survey Division, Washington, DC.

2023 National Resources Conservation Service. United States Department of Agriculture, available online at <http://websoilsurvey.sc.egov.usda.gov/App?HomePage.html>. Accessed April 26, 2023.

Stafford, C. Russell

2004 Modeling Soil-Geomorphic Associations and Archaic Stratigraphic Sequences in the Lower Ohio River Valley. *Journal of Archaeological Science* 31:1053–1067.

United States Department of the Interior, National Park Service

2023 National Register of Historic Places Database and Research. Electronic document, <https://www.nps.gov/subjects/nationalregister/database-research.htm>, accessed April 26, 2023.

United States Geological Survey

1921 Golconda, Kentucky-Illinois, 15-minute series topographic quadrangle. United States Geological Survey, Washington, DC.

1954 Golconda, Kentucky-Illinois, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, DC.

1954 (Photinspected 1973) Lola, Kentucky, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, DC.

1959 Golconda, Kentucky-Illinois, 15-minute series topographic quadrangle. United States Geological Survey, Washington, DC.

1996 Golconda, Kentucky-Illinois, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, DC.



Weller, Stewart, J.K. Roberts, and S.M. Mayfield

1926 Map of the Areal and Structural Geology (Fault Pattern) of Livingston County, Kentucky.  
Kentucky Geological Survey, Frankfort, Kentucky.