

December 15, 2019
Revised March 27, 2020



**CORN ISLAND
ARCHAEOLOGY**

**PHASE I ARCHAEOLOGICAL SURVEY OF 16.73 HECTARES FOR
PLANNED IMPROVEMENTS TO KY-979 IN GRETHEL,
FLOYD COUNTY, KENTUCKY (ITEM NO. 12-195.00)**

PROJECT NO. PR19020 • CULTURAL RESOURCES REPORT TR19100

Submitted To:

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REVISED
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IMPROVEMENTS TO KY-979 IN GRETHEL, FLOYD COUNTY, KENTUCKY
(ITEM NO. 12-195.00)**

OSA Project Registration No. FY20-10425
OSA Kentucky Antiquities Act Permit No. 2019-39

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Project No. PR19020
Cultural Resources Report No. TR19100



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ABSTRACT

On November 6 and 7, 2019, February 13 and 14, 2020, and again on March 26, 2020, Corn Island Archaeology LLC completed an intensive Phase I archaeological survey of 16.73 hectares (41.35 acres) in Floyd County for planned improvements along KY-979, from just south of Frasure Branch Road north to just beyond the intersection of Tackett Branch Road and KY-979, in the unincorporated community of Grethel. The survey was requested by H.W. Lochner, Inc., in support of the Kentucky Transportation Cabinet (Item No. 12-195.00). The project area includes an existing roadway, areas of steep slope, a floodplain, level grassy fields, a logging road, and a quarry cut. Two houses over 50 years old and several outbuildings are present within the project area.

Historical maps show several residences and outbuildings within the project area of potential effect, two of which are still standing. Shovel testing around these buildings produced no evidence of intact deposits.

A records search at the Kentucky Office of State Archaeology revealed no previously documented sites recorded within the property boundaries. The archaeological assessment of the project area involved a combination of pedestrian surface survey, shovel test probes, and a single bucket auger excavation. One historic period cemetery has been identified within two kilometers (1.24 miles) of the project area.

The project recorded one isolated find of a cut nail recovered from disturbed contexts. No archaeological sites were recorded in the course of these investigations. The proposed construction activities will not affect any archaeological sites eligible for listing in the National Register of Historic Places and, as such, no further archaeological investigations are recommended.

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ABBREVIATIONS AND ACRONYMS

bs	Below surface
C	Celsius
ca.	Circa
cm	Centimeter(s)
cm bs	Centimeter(s) below surface
e.g.	Example
F	Fahrenheit
FR	Federal Regulation
ft	Foot (feet)
GIS	Geographic Information System
GPS	Global Positioning System
M	Meter(s)
NAIP	National Agriculture Imagery Program
NHPA	National Historic Preservation Act of 1966
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSA	Office of State Archaeology
ROW	Right-of-way
RPA	Registered Professional Archaeologist
SHPO	State Historic Preservation Office
STP(s)	Shovel test probe(s)
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UTM	Universal Transverse Mercator

1

INTRODUCTION

On November 6 and 7, 2019 and, at the request of the Kentucky State Historic Preservation Office (SHPO) on February 13 and 14, and March 26, 2020, Corn Island Archaeology LLC (Corn Island) completed a Phase I archaeological survey for planned improvements to KY-979 in Floyd County, Kentucky (**Figure 1**). The project area of potential effect (APE) consisted of 16.73 hectares (ha) (41.35 acres). The project area is located within the small community of Grethel and encompasses an existing north-south stretch of KY-979 running from 46 meters (m) (152 feet [ft]) to the northwest of the KY-979 and Tackett Branch Road junction, and south to approximately 112 m (367 ft) south of the intersection of Frasure Branch Road Drive and KY-979 (**Figure 2** and **Figure 3**). The survey was requested by H.W. Lochner, Inc., of Lexington in support of the Kentucky Transportation Cabinet (KYTC). The survey (KYTC Item No. 12-195.00) is required to meet Section 106 compliance requirements of the National Historic Preservation Act (NHPA).

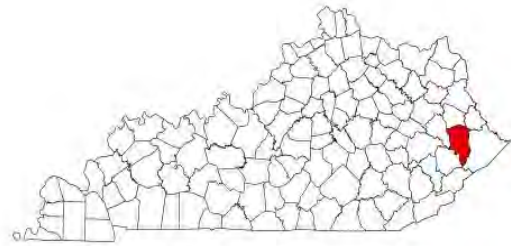


Figure 1. Location of Floyd County.

Project conditions varied throughout the corridor. For the sake of clarity, the project area has been divided into five discrete survey sections (**Figure 2**, **Figure 3** and **Figure 4**). Section 1 extends along the southern end of the project area, where it consists primarily of the KY-979 right-of-way (ROW) and extends into several residential yards and the edge of a school lot (**Figure 5** and **Figure 6**). The Grethel Post Office and fire department are located adjacent to this section of the project area. Section 2 extends into a heavily disturbed wetland area (**Figure 7** and **Figure 8**). Section 3 consists primarily of the KY-979 ROW and includes slopes on either side of the road (**Figure 9**). Section 4 includes a wide, level area with several standing residential buildings and a few outbuildings and has the greatest percentage of level ground within the project APE (**Figure 10**). Section 5 consists entirely of slope, a terrace area below a quarried highwall, and a logging road (**Figure 11** and **Figure 12**).

PROJECT DESCRIPTION

The proposed project entails spot improvements along KY-979 between Branham Creek and the John M. Stumbo School, with a linear distance of approximately 2.7 kilometers (km) (1.7 miles). These improvements will involve the demolition of several residential and non-residential buildings, landform modifications and grading. Field conditions within the project area include residential yards, wetlands with tall weeds, young stands of trees, a wooded slope, a quarry cut, and a logging road. The project area is drained by Mud Creek, a fourth-order tributary of Levisa Fork. Ground surface visibility within the project area was generally poor to non-existent. Field methods consisted of a pedestrian survey supplemented by shovel probing in level and undisturbed portions of the project area. Additionally, one deep auger was excavated.

COMPLIANCE REQUIREMENTS

This archaeological survey was required to meet compliance requirements relative to 36 CFR 800 and Section 106 of the NHPA (16 USC 470 f). The project complies with specifications for field surveys and investigations for the National Register of Historic Places (NRHP) assessment, as set forth in the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (Federal Register (FR), Vol. 48, No. 190, 1983). The Federal Highway Administration (FHWA) is the lead federal agency. The project is administered by the KYTC.

Conduct of this investigation adhered to specifications for field investigations and reporting standards for Phase I archaeological survey as detailed in *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (version 2.5, updated June 2017) prepared by the SHPO, seated in the Kentucky Heritage Council (KHC) in Frankfort, Kentucky (Sanders 2006).

Because the survey area included portions of state-owned highway ROW, a Kentucky Antiquities Act permit was obtained from the Office of State Archaeology (OSA). The OSA permit number is 2019-39.

PROJECT STATEMENT OF WORK

The archaeological investigation described herein entailed the following tasks:

- A routine background records search at the OSA in Lexington, Kentucky, to determine the level of existing documentation relevant to recorded archaeological sites and prior archaeological investigation(s), if any, at and near the site of the proposed undertaking;
- A review of archival documentation pertaining to the presence and location of potential historical archaeological resources within the project area;
- Ground surface inspection;
- Shovel test probing;
- Artifact analysis;
- Completion of OSA archaeological site forms; and
- Preparation of a professional technical report of findings per Secretary of the Interior and KHC/SHPO standards.

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky

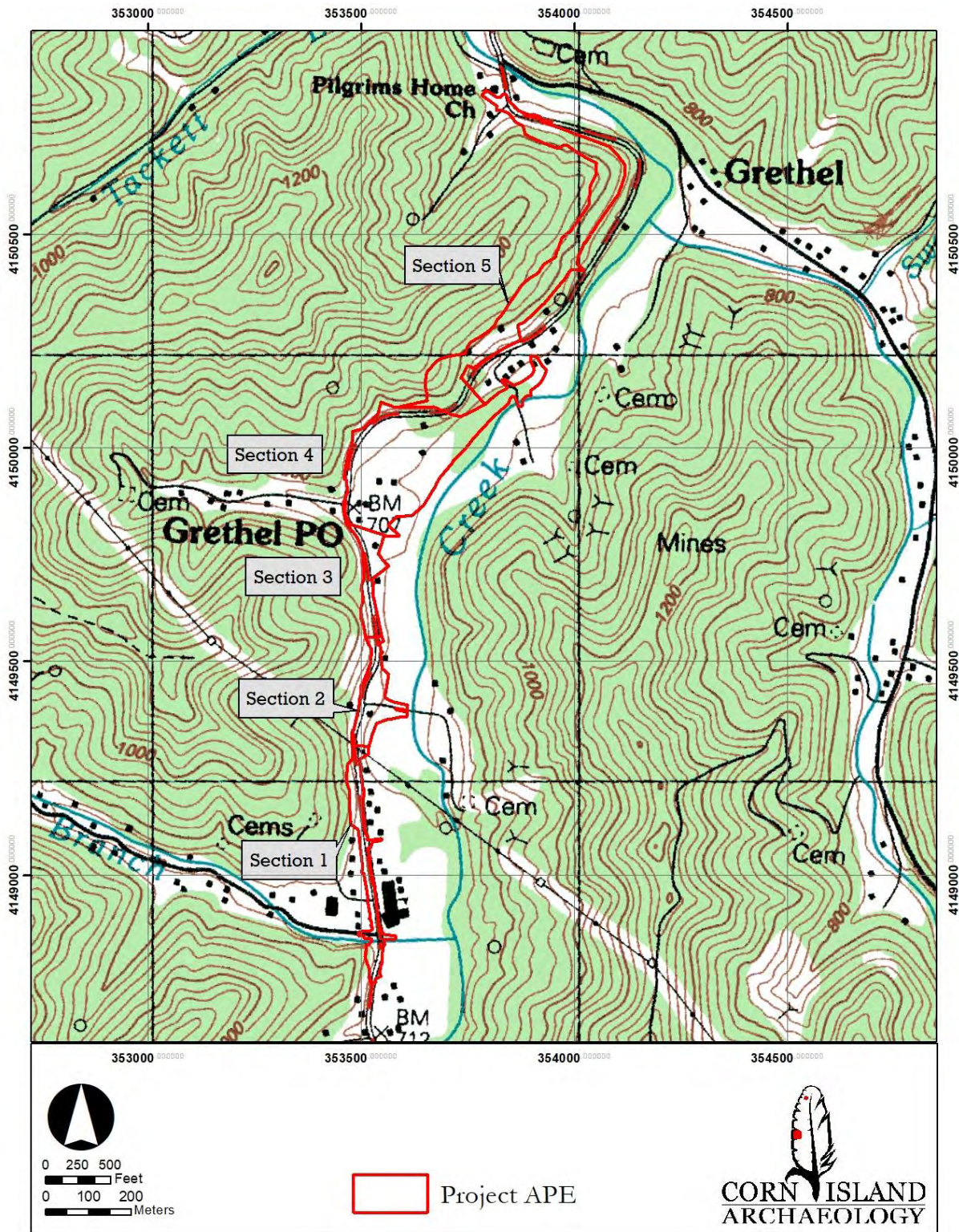


Figure 2. Survey sections on segment of 1992 McDowell, KY 7.5-minute topographic map (U. S. Geological Survey 1992).

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky

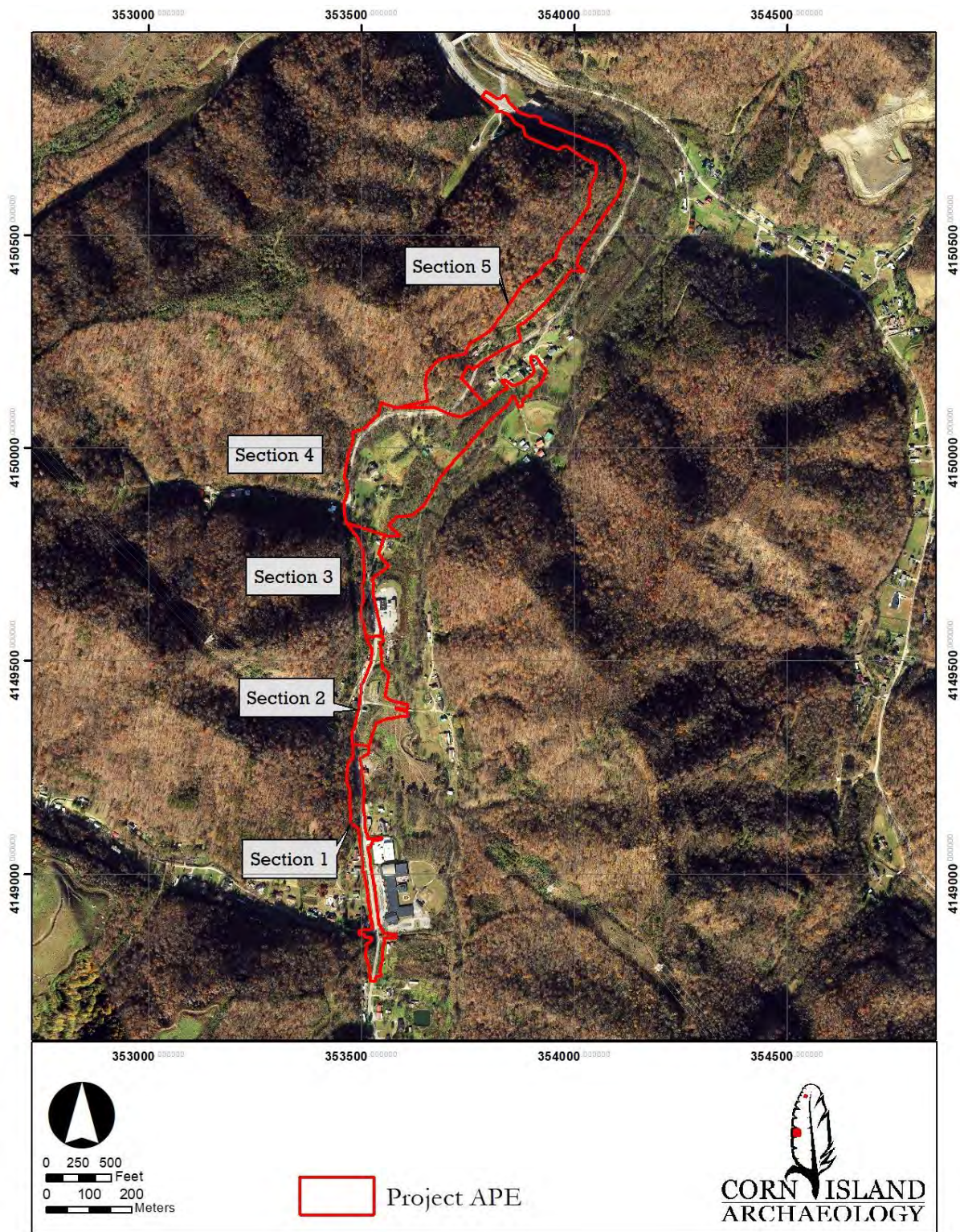


Figure 3. Survey sections on 2018 satellite imagery from National Agriculture Imagery Program (NAIP).

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky

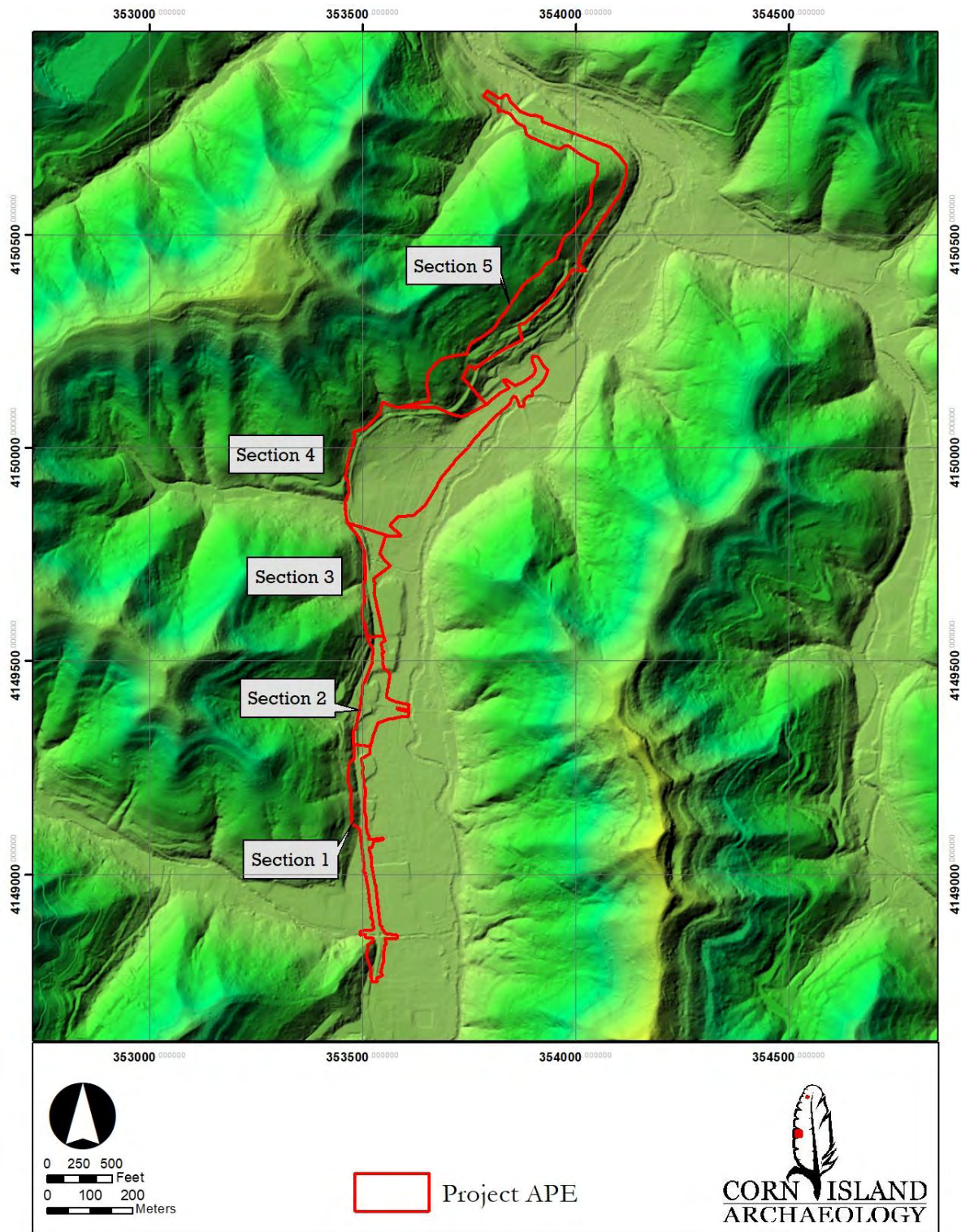


Figure 4. Survey sections on LiDAR imagery from Kentucky DGI.

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky



Figure 5. View to the south, southern part of survey Section 1.



Figure 6. View over northern part of survey Section 1, facing south.



Figure 7. View to east/southeast over survey Section 2 floodplain.



Figure 8. View to east over survey Section 2.



Figure 9. View to south over survey Section 3.



Figure 10. View to north over survey Section 4.



Figure 11. View to south over survey Section 5.



Figure 12. View to southeast over survey Section 5.

FINDINGS

The pedestrian inspection of survey Section 1 recorded no archaeological sites. Shovel probing was limited, but recorded evidence of disturbance from either the construction of KY-979 or of houses to the west of the STPs. Likewise, the pedestrian inspection of survey Section 2 recorded no sites. Evidence of disturbance throughout this area was observed in heavily rutted wetlands in the bottoms. Four shovel probes excavated in these bottoms recorded evidence of disturbed soils down to 50 centimeters (19.7 inches) below surface (cm bs). Survey Section 3 consisted of slope and areas disturbed by modern construction, plus one level area around a mobile home. This section was investigated with pedestrian reconnaissance and the excavation of five shovel tests. No evidence of archaeological materials was observed.

Section 4 was investigated with pedestrian survey and shovel probing. The northeastern area of Section 4 was a low, wet area with numerous push piles. Elsewhere in this survey section, shovel probing encountered modern trash, coal, and red dog (burned slate). Also observed were low frequencies of coal, slag, gravel, and fragmented brick. A single cut nail was recovered from a disturbed context. The current landowner reported that at some point he had brought in coal and red dog to shore up the driveway. The landowner further reported that his father had built four greenhouses in the 1970s between the two standing houses. No intact vestiges of these greenhouses were observed on the surface or during shovel probing. During the February 13 and 14 site investigation, four shovel tests were excavated in an area of 20 percent slope in the northwestern area of this section, including one in an area where a building is depicted on the 1914 Vergie USGS quadrangle. No archaeological deposits were recorded in the new STPs.

Survey Section 5 consisted primarily of slope and was investigated with pedestrian survey. In the southern part of this section there is a terrace cut-out with a house, which historical maps and aerial photos indicate was constructed between 1960 and 1975. This building is absent in the 1975 USGS aerial imagery (U. S. Geological Survey 1975) but is present in the 1979 edition (U. S. Geological Survey 1979). A quarry cut is also present within this area, where several concrete pads were noted. A power supply box was also noted, and it is evident that quarry-related buildings were present on the cut. The quarry cut is not visible on the 1975 aerial photo of this area. A logging road is present in the northeastern segment of survey Section 5, curving around the nose of the mountain. Directly outside of the project area, a small mine portal was recorded. No rockshelters or other cultural features were observed within the project area.

PROJECT SCHEDULING AND STAFFING

The field portion of the survey required 146 person hours to complete by a crew of four over two days, a crew of three over two days, and a day trip by the field director. The project staff meets the requirements for professional archaeologists as detailed in the Secretary of the Interior standards. Tim Sullivan, Ph.D., served as principal investigator for the project. He was assisted in the field by Mr. Jonas Yates, B.A., Ms. Sara Deurell, B.A., and Mr. Julian Schagene, M.A. Dr. Sullivan prepared the technical report of findings as well as the report graphics and mapping.

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ENVIRONMENTAL AND CULTURAL CONTEXTS

The study of prehistoric and historic cultures extends beyond the study of a society's actual material remains. It must also consider ways in which that society interacted with its environment. Throughout time, the natural landscape has influenced human use and was, in turn, affected by that use. This interrelationship is reflected in both the natural and cultural resources of the area. These cultural resources may include standing buildings, structures, cemeteries, archaeological sites, and traditional cultural properties.

The cultural-landscape approach provides a framework for understanding the entire land use history of a property. It is the foundation for establishing a broader context for evaluating the significance of cultural resources, because the significance of any given cultural resource is not determined in isolation. Rather, it is achieved by examining the entire context of the landscape and interrelationships among its constituent components. The cultural-landscape approach attempts to identify linkages between cultural and natural resources. It is based on the analysis of spatial relationships between natural and human features on the landscape. By looking at the distribution of cultural resources and their correlation with environmental factors, such as landform, vegetation, and drainage, patterns in the location of these resources can sometimes be defined. These patterns can then provide for more efficient management of cultural resources by better predicting where they are likely to occur.

ENVIRONMENTAL CONTEXT

The physical environment is one of many factors that influence an area's cultural development. An awareness of the natural setting and an area's available resources allows informed interpretations of cultural issues such as settlement patterns and sedentism, as well as resource utilization and exploitation. The following environmental context provides data on regional ecological patterns, such as floral distributions and communities, regional geomorphology, soils, and hydrology. An understanding of an area's natural setting allows informed interpretation of cultural issues such as prehistoric/historic settlement patterns, resource availability and exploitation, and more. The following discussion is aimed at identifying those aspects of the natural environment that may have influenced the cultural development of the project corridor.

Physiography

Floyd County is located in the Eastern Coalfield Physiographic province (**Figure 13**). The landscape physiography within, and immediate to, the project area is characterized by dissected uplands. Elevations within the project area range from 219.4 to 244 m (720 to 800 ft) above mean sea level (AMSL) and rise from west to east.

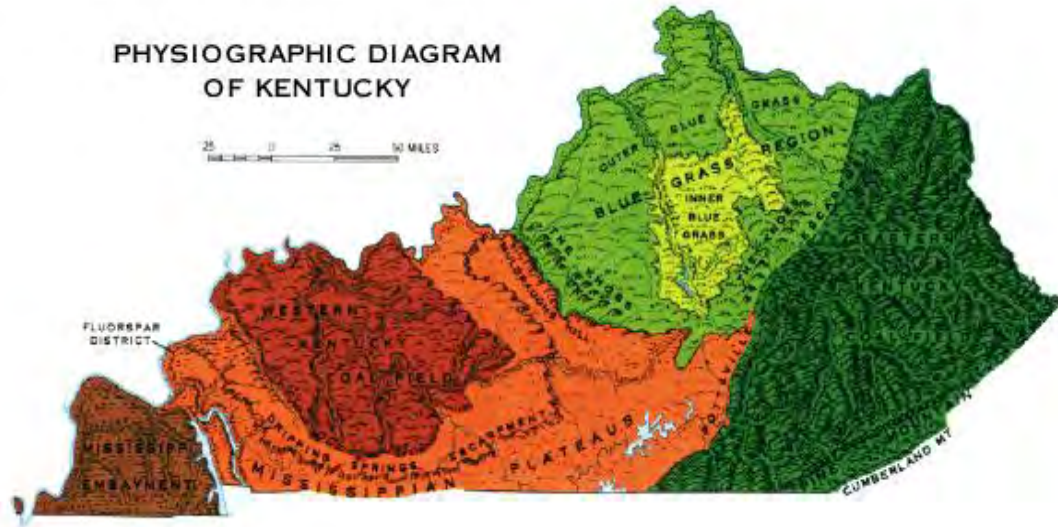


Figure 13. Physiographic regions of Kentucky (University of Kentucky 2014).

Soils

A custom soil report was generated for the general project area via the United States Department of Agriculture - Natural Resource Conservation Service (USDA-NRCS) Web Soil Survey (websoilsurvey.nrcs.usda.gov). Soils mapped in the project area developed predominantly from shale, siltstone and sandstone (Table 1, Figure 14, and Figure 15).

Table 1. Soils Mapped for Project Area.

Map Unit Symbol	Map Unit Name	Parent Material	Acres in APE	Percent of APE
AeB	Allegheny loam, 2 to 6 percent slopes, occasionally flooded	Loamy alluvium derived from sedimentary rock	4.7	11.4%
Gr	Grigsby fine sandy loam, 0 to 3 percent slopes, frequently flooded	Coarse-loamy alluvium derived from sedimentary rocks	3.0	7.3%
Kn	Knowlton silt loam, rarely flooded	Fine-silty alluvium derived from sedimentary rock	.4	1.0%
SeC	Shelocta loam, 6 to 15 percent slopes	Loamy colluvium derived from shale and siltstone over residuum	5.9	14.4%
St	Stokly fine sandy loam, occasionally flooded	Coarse-loamy alluvium derived from sedimentary rock	11.1	26.8%
uCskF	Cloverlick-Shelocta-Kimper complex, 20 to 80 percent slopes, very stony	Loamy-skeletal colluvium from sandstone and shale	8.0	19.4%
uHfsF	Handshoe-Feds creek-Shelocta complex, 30 to 80 percent slopes, very stony	Loamy-skeletal colluvium from sandstone and shale	8.1	19.6%
Totals for APE			41.2	100.0%

Typical profiles for these soil series are provided below:

AeB

H1– 0 to 20 cm (0 to 8 inches): loam
H2– 20 to 106 cm (8 to 42 inches): loam
H3– 106 to 226 cm (42 to 89 inches): fine sandy loam

Gr

Ap – 0 to 25 cm (0 to 10 inches): fine sandy loam
Bw1 – 25 to 58 cm (10 to 23 inches): fine sandy loam
Bw2 – 58 to 96 cm (23 to 38 inches): fine sandy loam
Bw3 – 96 to 147 cm (38 to 58 inches): fine sandy loam
C – 147 to 203 cm (58 to 80 inches): loam

Kn

H1 – 0 to 20 cm (0 to 8 inches): silty loam
H2 – 20 to 127 cm (8 to 50 inches): silty clay loam
H3 – 127 to 180 cm (50 to 71 inches): silty clay loam

SeC

H1 – 0 to 17 cm (0 to 7 inches): loam
H2 – 17 to 119 cm (7 to 47 inches): loam
H3 – 119 to 157 cm (47 to 62 inches): very channery loam
R – 157 to 182 cm (62 to 72 inches): unweathered bedrock

St

H1 – 0 to 81 cm (0 to 32 inches): fine sandy loam
H2 – 81 to 157 cm (32 to 62 inches): fine sandy loam

uCskF Complex

Cloverlick, Very Stony

Oi – 0 to 5 cm (0 to 2 inches): channery slightly decomposed plant material
A – 5 to 20 cm (2 to 8 inches): channery loam
Bw1 – 20 to 60 cm (8 to 24 inches): channery loam
Bw2 – 60 to 109 cm (24 to 43 inches): very channery loam
BC – 109 to 203 cm (43 to 80 inches): very flaggy loam

Shelocta, Very Stony

Oi – 0 to 2 cm (0 to 1 inches): slightly decomposed plant material
A – 2 to 7 cm (1 to 3 inches): silt loam
BA – 7 to 17 cm (3 to 7 inches): loam
Bt1 – 17 to 58 cm (7 to 23 inches): channery silt loam
2Bt2 – 58 to 86 cm (23 to 34 inches): channery silt loam
2Bt3 – 86 to 114 cm (34 to 45 inches): very channery silt loam
2C – 114 to 149 cm (45 to 59 inches): very parachannery silt loam
2Cr – 146 to 175 cm (59 to 69 inches): bedrock

Kimper, Very Stony

Oi – 0 to 5 cm (0 to 2 inches): very channery slightly decomposed plant material
A – 5 to 20 cm (2 to 8 inches): very channery loam
BA – 20 to 33 cm (8 to 13 inches): channery loam
Bw1 – 33 to 68 cm (13 to 27 inches): channery loam
2Bw2 – 68 to 104 cm (27 to 41 inches): channery loam

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Grethel, Floyd County, Kentucky

2Bw3 – 104 to 132 cm (41 to 52 inches): very channery loam
C1 – 132 to 162 cm (52 to 64 inches): very channery fine sandy loam
C2 – 162 to 190 cm (64 to 75 inches): very channery loam
R – 190 to 215 cm (75 to 85 inches): bedrock

uHfsF Complex

Handshoe, Very Stony

Oi – 0 to 5 cm (0 to 2 inches): very channery slightly decomposed plant material
A – 5 to 22 cm (2 to 9 inches): very channery loam
E – 22 to 40 cm (9 to 16 inches): very channery loam
Bw1 – 40 to 86 cm (16 to 34 inches): very channery loam
Bw2 – 86 to 127 cm (34 to 50 inches): very channery sandy loam
Bw3 – 127 to 154 cm (50 to 61 inches): channery loam
BC – 154 to 203 cm (61 to 80 inches): very channery sandy loam

Feds creek, Very Stony

Oi – 0 to 2 cm (0 to 1 inches): channery slightly decomposed plant material
A – 2 to 10 cm (1 to 4 inches): channery loam
BA – 10 to 20 cm (4 to 8 inches): channery silt loam
Bw1 – 20 to 24303 cm (8 to 17 inches): channery loam
Bw2 – 43 to 76 cm (17 to 30 inches): channery loam
Bw3 – 76 to 99 cm (30 to 39 inches): channery loam
Bw4 – 99 to 121 cm (39 to 48 inches): channery loam
C1 – 121 to 152 cm (48 to 60 inches): very channery loam
C2 – 152 to 165 cm (60 to 65 inches): channery silt loam
R – 165 to 190 cm (65 to 75 inches): bedrock

Shelocla, Very Stony

Oi – 0 to 2 cm (0 to 1 inches): slightly decomposed plant material
A – 2 to 7 cm (1 to 3 inches): silt loam
BA – 7 to 17 cm (3 to 7 inches): loam
Bt1 – 17 to 58 cm (7 to 23 inches): channery silt loam
2Bt2 – 58 to 86 cm (23 to 34 inches): channery silt loam
2Bt3 – 86 to 114 cm (34 to 45 inches): very channery silt loam
2C – 114 to 149 cm (45 to 59 inches): very parachannery silt loam
2Cr – 149 to 175 cm (59 to 69 inches): bedrock

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky



Figure 14. Soils mapped in northern half of project area (Soil Survey Staff 2019).

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky



Figure 15. Soils mapped in southern half of project area (Soil Survey Staff 2019).

3

BACKGROUND RESEARCH

Results of the background research are presented below. Background research consisted of a records check, archival research, a map review, cemetery information, and a review of gray literature documenting previous cultural resource management investigations in the project vicinity. This background research aids in evaluating the potential for significant historic and prehistoric archaeological remains in the vicinity of the proposed project. It also contributes to the development of an expanded cultural context that will prove useful for interpreting the project area's historical significance.

MAP AND AERIAL REVIEW

Historic maps were examined with the objective of providing a historical perspective on the area and identifying locations of former buildings, structures, and activities that could contain associated archaeological deposits. These are summarized in **Table 2**. Changes in land use; the locations of roadways, churches, and schools; and names of property owners who resided in the area were noted as well. It should be pointed out that the maps presented below are for representative purposes only. The location of the project area and scale are approximations and are based upon the location of main thoroughfares and waterways on the historic maps. It was not always possible to exactly align these courses, either due to poor resolution or scaling of the historic maps. Historic aerial imagery was examined as well.

Table 2. Reviewed Historical Maps.

Reference	Map
(U. S. Geological Survey 1890)	<i>Topographic Map of the Whitesburg, KY 30-minute Quadrangle</i>
(U. S. Geological Survey 1914)	<i>Topographic Map of the Vergie, KY 15-minute Quadrangle</i>
(U. S. Geological Survey 1916)	<i>Topographic Map of the Pikeville, KY 15-minute Quadrangle (based on the same 1914 survey data as the Vergie quadrangle cited above)</i>
(U. S. Geological Survey 1952)	<i>USGS aerial photo</i>
(U. S. Geological Survey 1954)	<i>Topographic Map of the McDowell, KY 7.5-minute Quadrangle</i>
(U. S. Geological Survey 1959)	<i>USGS aerial photo</i>
(U. S. Geological Survey 1975)	<i>USGS aerial photo</i>
(U. S. Geological Survey 1979)	<i>Topographic Map of the McDowell, KY 7.5-minute Quadrangle</i>

The 1890 USGS 30-minute Whitesburg, KY quadrangle does not display buildings in general, but shows no settlements in the vicinity of the project area.

The 1914 USGS 15-minute quadrangle of the area displays no buildings in survey Section 1. One building is depicted in survey Section 2, and one building in survey Section 3. Two buildings are shown in survey Section 4, and none are located in survey Section 5 (**Figure 16**).

The 1916 USGS 15-minute quadrangle of the area is based on the same data set as the 1914 map and, correspondingly, shows no changes (**Figure 17**).

The 1954 USGS 7.5-minute quadrangle of the area displays no buildings in survey Section 1; a house and an outbuilding in survey Section 2; and no buildings in survey Section 3. Three outbuildings are present in survey Section 4. One is a house located across from Newman's Branch Road, while another house is on the northern spur of this survey section. One house is depicted within the northernmost part of survey Section 5 (**Figure 18**).

The 1952 USGS aerial photo displays the same information as the 1954 USGS quadrangle (**Figure 19**).

The 1960 USGS aerial photo indicates that the house opposite Newman's Branch Road in survey Section 4 was razed and a larger house built to its south. Some changes are also indicated in the configuration of outbuildings in this area (**Figure 20**).

The 1975 USGS aerial photo indicates that the configuration of houses and outbuildings in survey Section 4 remains the same as in the 1960 image, with the addition of a series of four greenhouses adjacent to the house opposite Newman's Branch (**Figure 21**).

The 1979 USGS 7.5-minute quadrangle of the area displays no buildings in survey Section 1; a house and an outbuilding in survey Section 2; no buildings in survey Section 3; four outbuildings (one of which is new) and two houses in survey Section 4; and one house within the northernmost part of survey Section 5, plus two new buildings (possibly outbuildings) in the area of the quarry cut (**Figure 22**).

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky

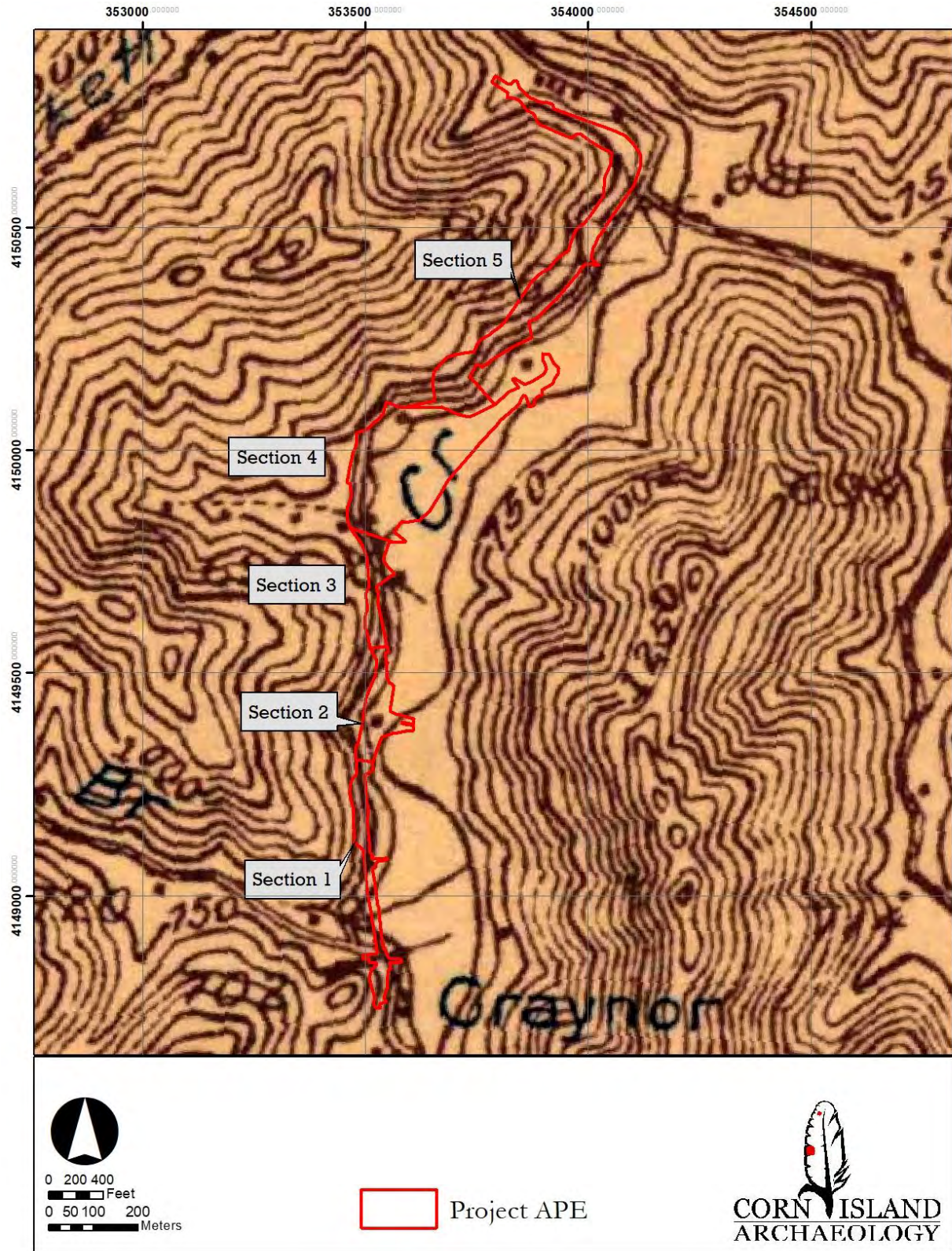


Figure 16. Project area on portion of 1914 USGS Vergie, KY (U. S. Geological Survey 1914).

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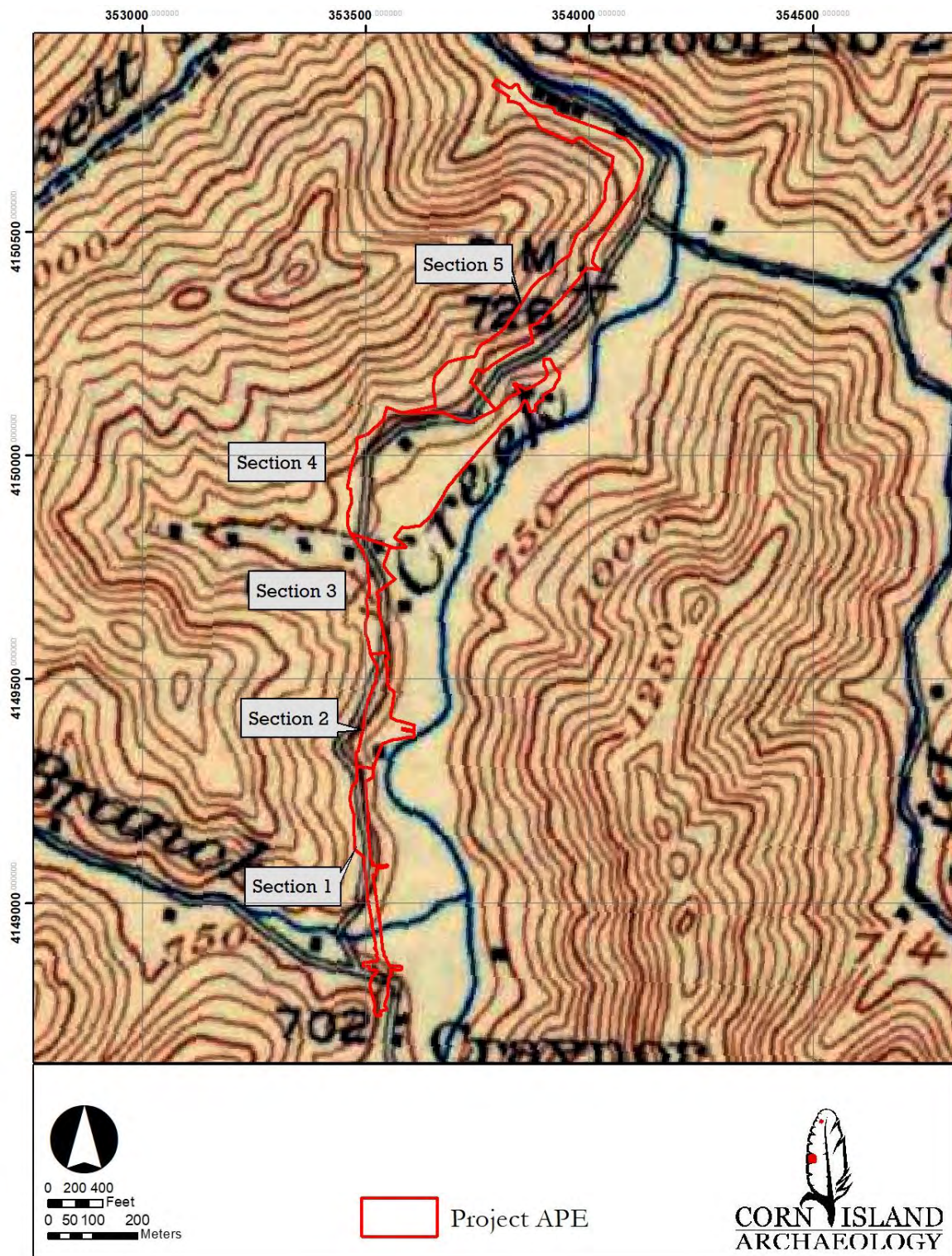


Figure 17. Project APE on 1916 Pikeville USGS 15-minute quadrangle (U.S. Geological Survey 1916).

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Figure 18. Project APE on 1954 McDowell, Kentucky USGS 7.5-minute quadrangle (USGS 1954).

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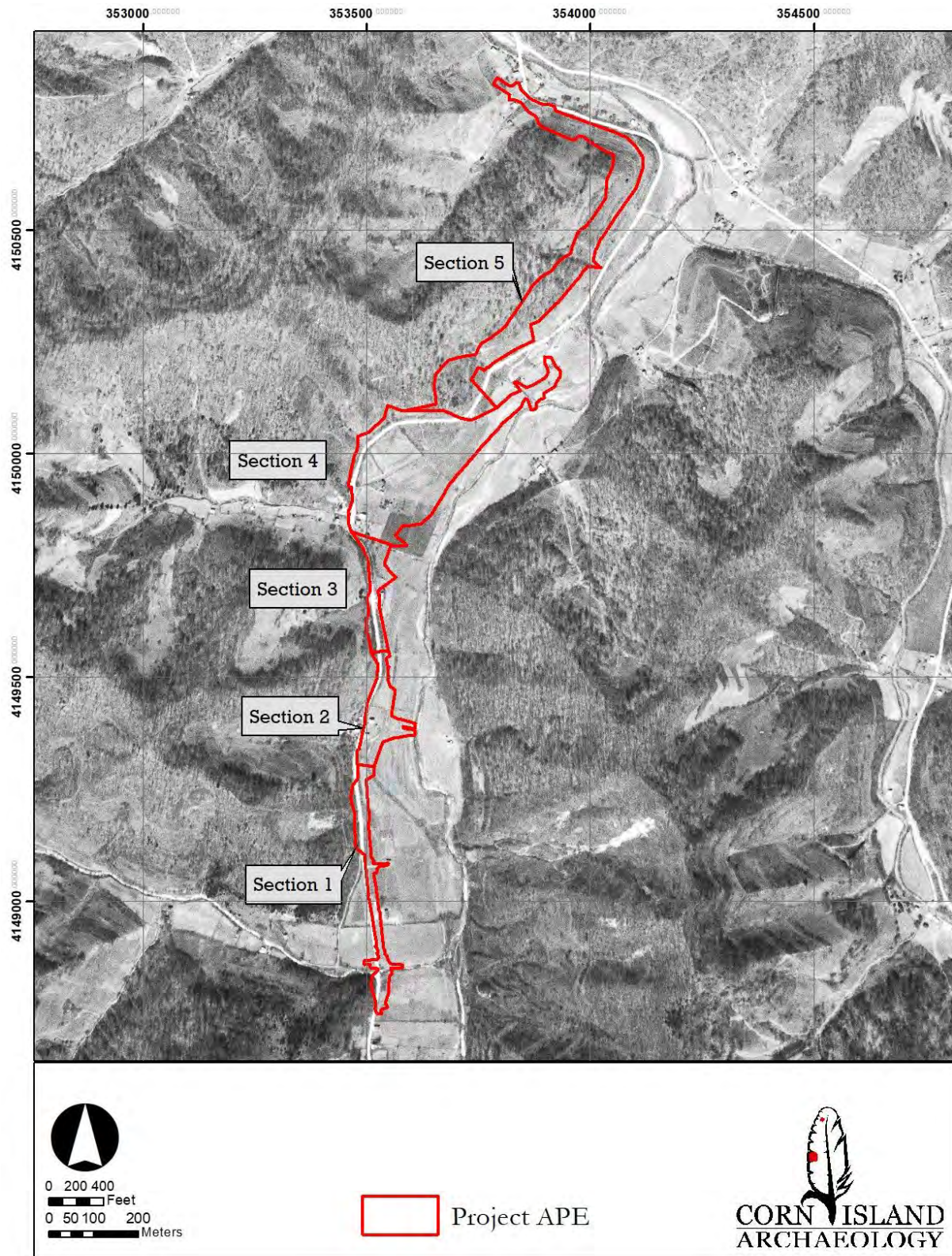


Figure 19. Project APE on 1952 USGS aerial photo.

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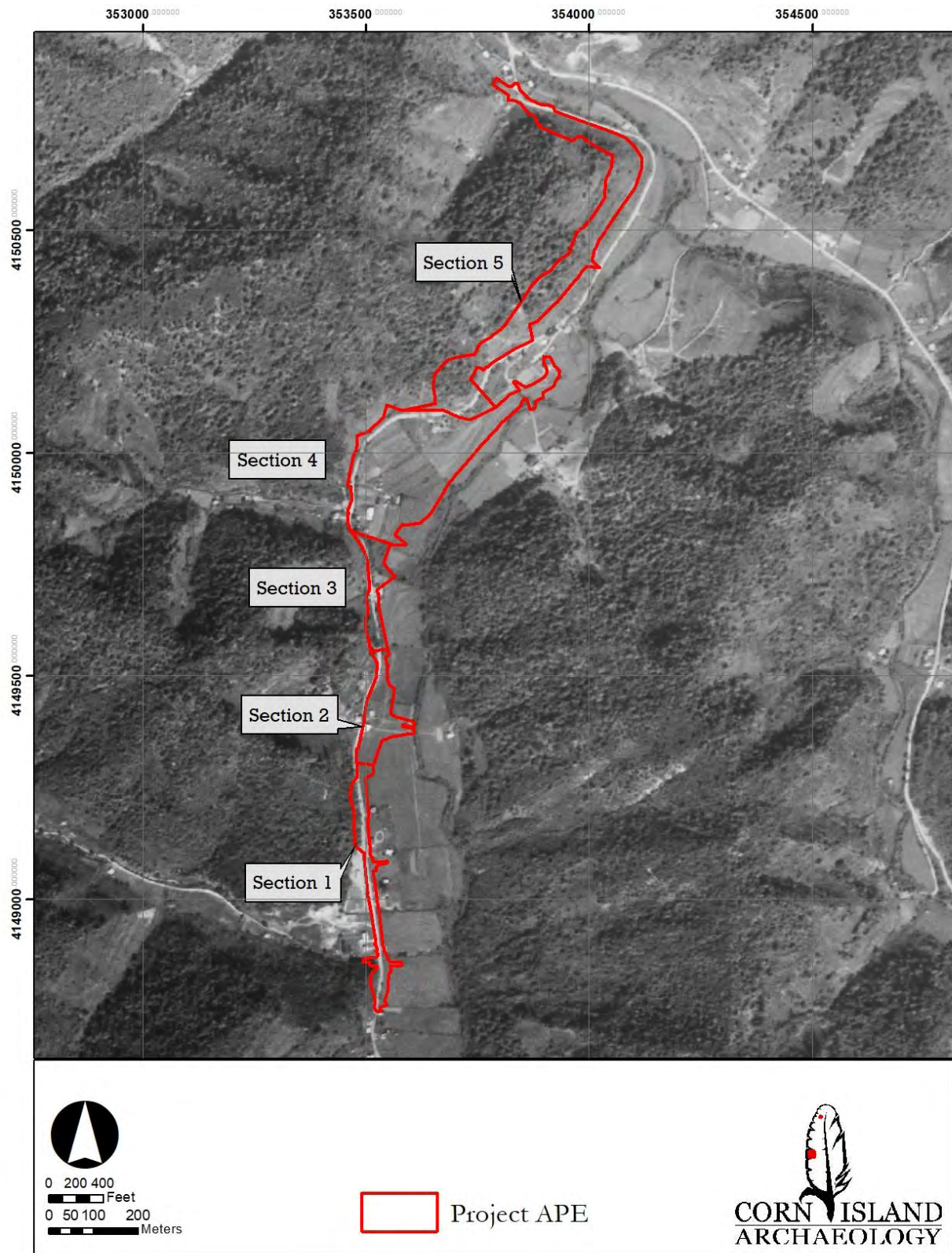


Figure 20. Project APE on 1960 USGS aerial photo.

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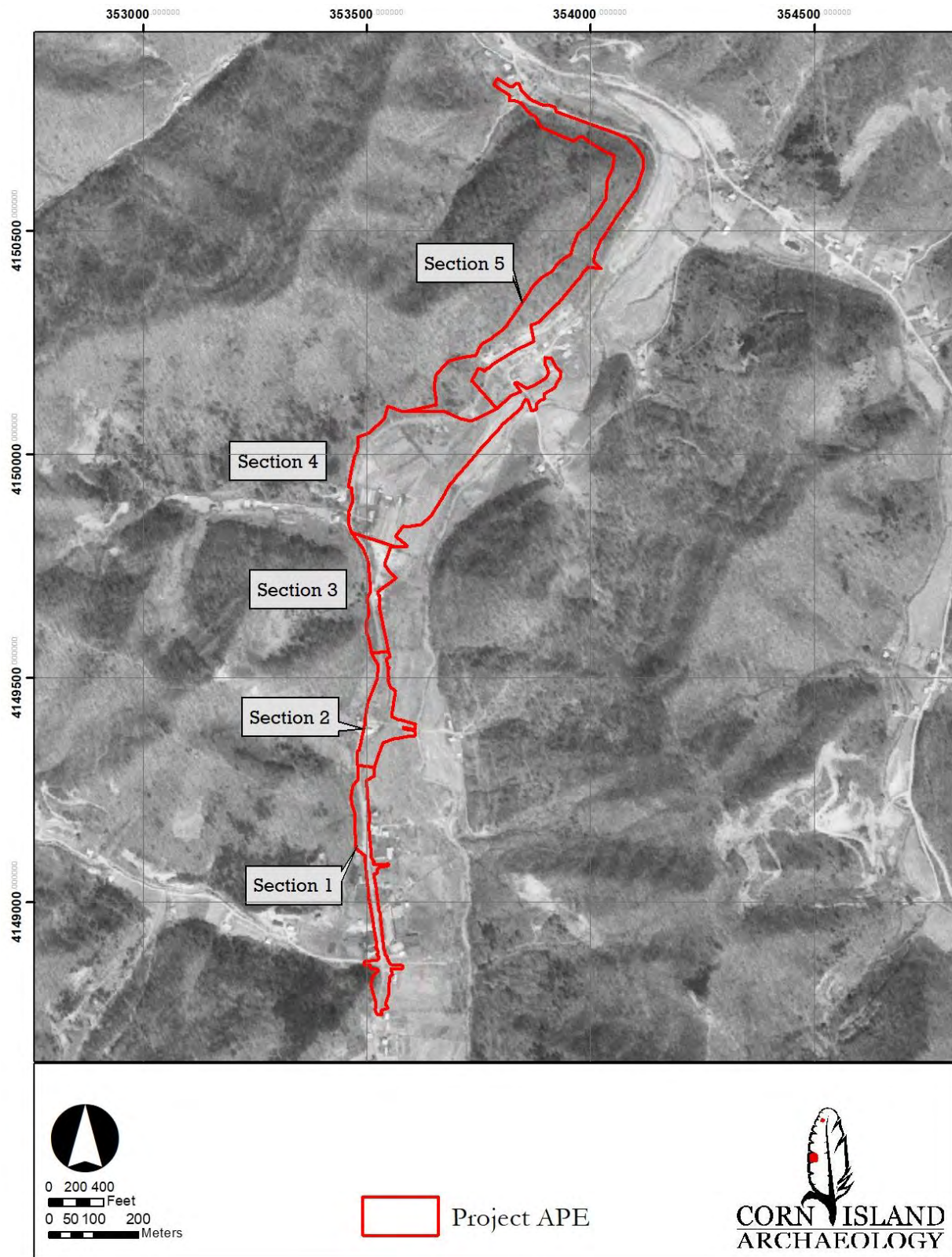


Figure 21. Project APE on 1975 USGS aerial photo.

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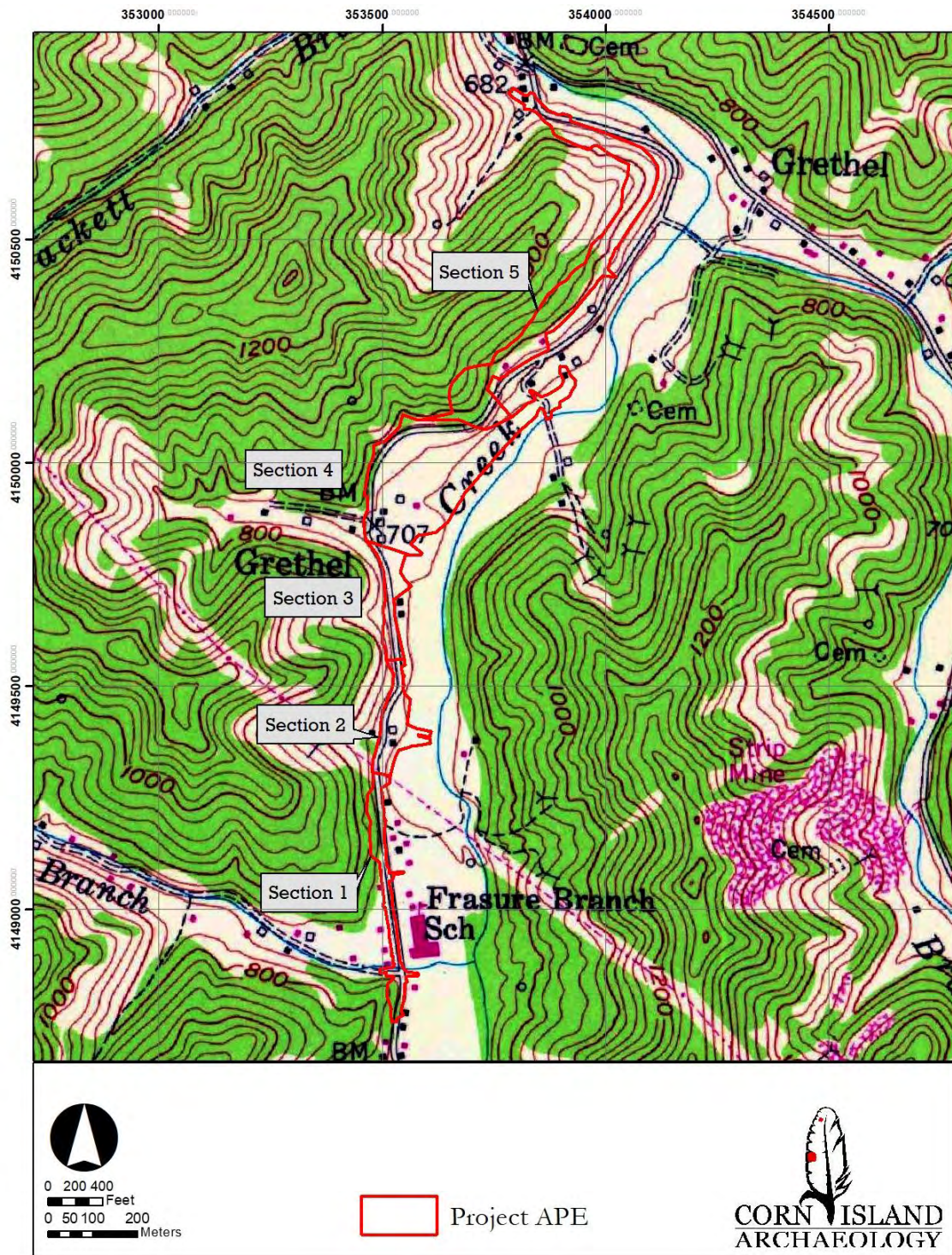


Figure 22. Project APE on 1979 update of 1954 McDowell, Kentucky USGS 7.5-minute quadrangle (U. S. Geological Survey 1979).

RECORDS CHECK AND LITERATURE REVIEW

The results of a records search request were received from the OSA on October 22, 2019. A literature review was then performed to determine the presence, density, and environmental settings of recorded archaeological sites in and near the current environmental study area, as well as archaeological surveys that have been conducted within a 2-km (1.24-mile) radius of the project APE. Of the 12 documented previous surveys, one overlaps a portion of the current project area (Anderson 2003), and one archaeological site is recorded within a 2-km (1.24-mile) buffer of the APE.

Previous Archaeological Investigations

A search of the OSA database recorded 12 previous archaeological and cultural resource surveys. These are presented in **Figure 23** and listed in **Table 3**.

In 1991, Cultural Resource Analysts, Inc. (CRAI) conducted an archaeological survey of 28 ha (69 acres) for a coal mine survey between Toler Creek and Branham Creek in Floyd County. This survey recorded no sites within a 2-km (1.24-mile) radius of the current project area (Sheldon 1991).

In 1992, CRAI conducted an archaeological survey of 24.5 ha (60.5 acres) for a proposed coal mine along Mud Creek in Floyd County. This survey recorded no sites within 2 km (1.24 miles) of the current survey area (Hand 1992).

In 2003, CRAI conducted an archaeological survey of 81 ha (199 acres) for Segment 3 of a new route between the townships of Minnie and Harold in Floyd County, Kentucky. This survey overlaps the northernmost part of the current survey area and recorded no archaeological sites within 2 km (1.24 miles) of the current survey area (Anderson 2003).

In 2003, CRAI conducted an archaeological survey of 65 ha (160 acres) for Segment 2 of a proposed new route from Minnie to Harold in Floyd County, Kentucky. No sites located within 2 km (1.24 miles) of the current survey area were recorded in the course of this survey (King 2003).

In 2005, CRAI conducted an archaeological survey of 33 ha (81 acres) of 10 proposed fill disposal areas for the KY-979 reconstruction project in Floyd County, Kentucky. No sites located within 2 km (1.24 miles) of the current survey area were recorded in the course of this survey (Haney and Spurlock 2005).

In 2007, Betty McGraw conducted a Phase I archaeological survey for the Miller Brothers Frasure Branch coal permit in Floyd County, Kentucky. This survey recorded one site within 2 km (1.24 miles) of the current survey area. This site, the Frasure Newsome Cemetery (15FD119), is a historic cemetery with evidence of 35 burials, 33 of which have markers. Of these graves, 28 had dates greater than 50 years old, dating to between 1903 and 1951. The cemetery was still being visited at the time of the study (McGraw 2007a).

McGraw conducted another survey of 124 ha (306 acres) for the Miller Brothers Frasure Branch East coal permit area in Floyd County, Kentucky. This survey recorded no sites within 2 km (1.24 miles) of the current survey area (McGraw 2007b).

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Grethel, Floyd County, Kentucky

Table 3. Previous Archaeological Investigations within 2 km (1.24 miles) of the Project APE.

SHPO ID	Authors	Title	Year
036-029	Sheldon, Gregory A.	A Coal Mine Survey between Toler Creek and Branham Creek in Floyd County, Kentucky	1991
036-080	Hand, Robert B.	A Coal Mine Survey Along Mud Creek, Floyd County, Kentucky	1992
036-089	Anderson, Jason M.	An Archaeological Survey of Segment Three of the Proposed New Route from Minnie to Harold in Floyd County, Kentucky	2003
036-096	King, Brian C.	Archaeological Survey of Segment Two of the Proposed New Route from Minnie to Harold in Floyd County, Kentucky	2003
036-103	Haney, Jennifer M. and Trent Spurlock	An Archaeological Survey of Ten Proposed Fill Disposal Areas for the KY 979 Reconstruction Project in Floyd County, Kentucky	2005
036-139	McGraw, Betty J.	Phase I Archeological Survey of the Miller Brothers Coal, LLC Frasure Branch Coal Permit Area, Floyd County, Kentucky	2007
036-160	McGraw, Betty J.	Phase I Archeological Survey of the Miller Brothers Coal, LLC Frasure Branch East Coal Permit Area, Floyd County, Kentucky	2009
036-134	Stephenson, David and Andrew Bradbury	A Cultural Resources Survey of the Proposed Raven Company, Inc., Coal Mine Operation Near Hamilton Branch in Floyd County, Kentucky	2007
036-178	Quick, Russell S.	A Cultural Resource Survey of a Proposed Amendment to the Laurel Mountain Resources, LLC, Coal Mine Operation Along Hamilton Branch in Floyd County, Kentucky (Permit Application Number 836-0400 Amendment 1)	2012
036-185	Peyton, Abby and Debora Trein	A Cultural Resources Survey of the Raven Coal Company PM-3 Relocation Project, Floyd County, Kentucky	2013
036-197	Flay, Jason	Phase I Cultural Resource Investigation of Proposed Tackett Branch Coal Mine, Floyd County, Kentucky	2014
036-203	Winterhoff, E. Quent and Hannah R. LeBon	A Phase I Archaeological Survey of the Proposed Metelectric Energy, LLC. Surface Mine Project Located in Floyd County, Kentucky	2017

In 2007, CRAI conducted a 45-ha (112-acre) survey for a Raven Company-proposed coal mine operation near Hamilton Branch in Floyd County, Kentucky. The survey recorded no sites within 2 km (1.24 miles) of the current survey area (Stephenson and Bradbury 2007).

CRAI conducted an archaeological survey in 2012 of 24 ha (58.4 acres) for a proposed amendment to the Laurel Mountain Resources, LLC, coal mine operation along Hamilton

Branch in Floyd County, Kentucky. This survey recorded no archaeological sites within 2 km (1.24 miles) of the current survey area (Quick 2012).

In 2013, SWCA Environmental Consultants surveyed 7 ha (16.9 acres) for a proposed mining permit for the Raven Coal Company PM-3 Relocation site (Peyton and Trein 2013).

In 2014, the Jackson Group conducted a Phase I archaeological survey of 94.3 ha (233 acres) of a proposed Tackett Branch coal mine for Laurel Mountain Resources, LLC. This investigation recorded no archaeological sites within 2 km (1.24 miles) of the current survey area (Flay 2014).

Apogee Environmental and Archaeological, Inc., conducted a survey of 28 ha (69 acres) of proposed surface mining area in Floyd County for Metelectric Energy, LLC, in 2017. This survey identified no archaeological or historical resources within 2 km (1.24 miles) of the current survey area (Winterhoff and LeBon 2017).

Previously Identified Sites within the 2-km (1.24-mile) Buffer

Data received from OSA records reported no previous archaeological sites within the project APE and one site, 15FD119, within the 2-km (1.24-mile) radius of the project area. Site 15FD119, the Frasure-Newsome Cemetery, is a historic period Euro-American cemetery dating from 1900 to 2000. This has been listed as an inventory site, not eligible for listing in the NRHP in the OSA database (McGraw 2007a). The cemetery is located 1,550 m (5,085 ft) to the west of the project area. It will not be affected by the project.

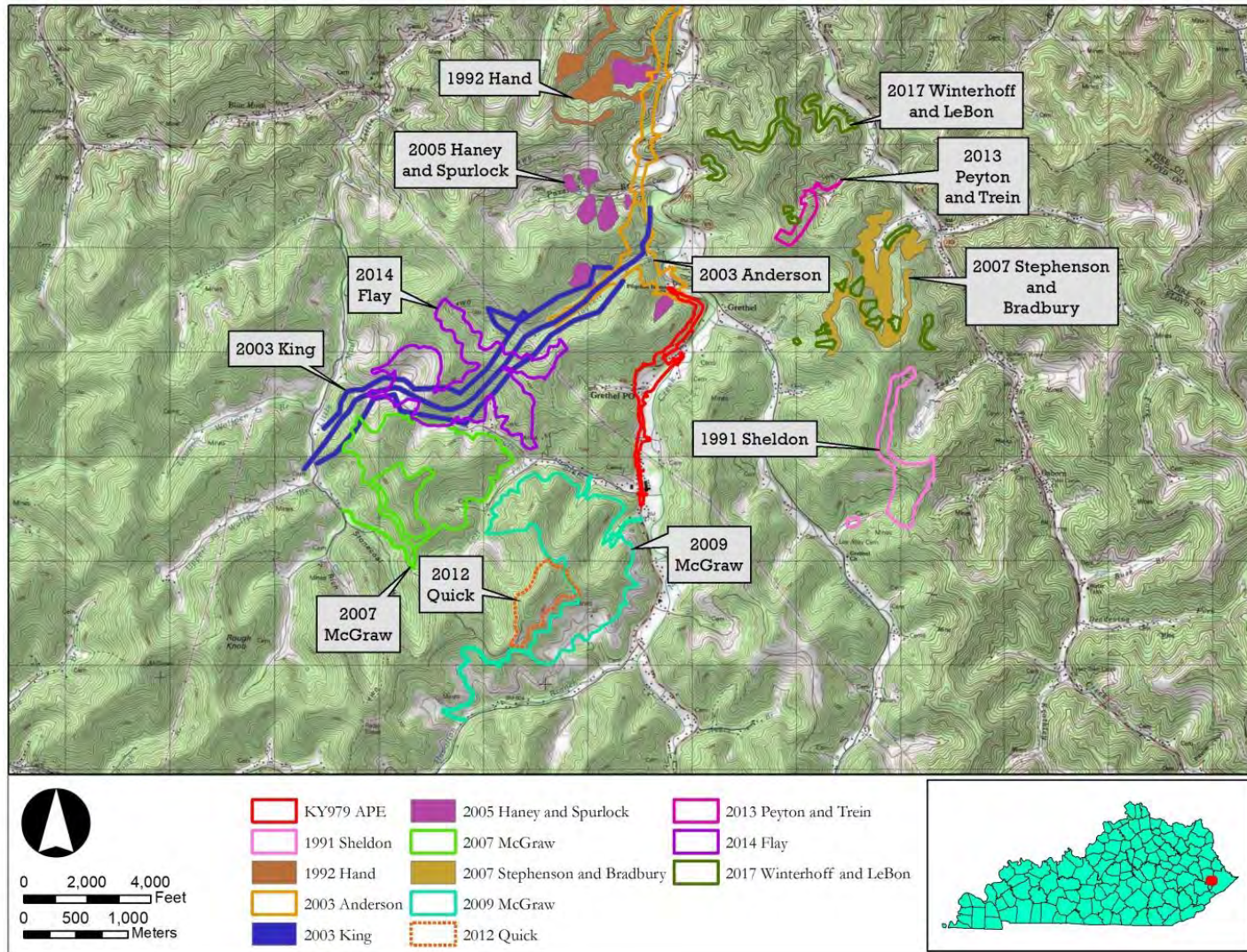


Figure 23. Previous archaeological surveys recorded within 2 km (1.24 miles) of the project APE.

4

FIELD METHODS

Field methods within the project area included a pedestrian survey and the excavation of shovel test probes (STPs). Pedestrian survey was conducted across the entire project APE. Portions of the project APE had ground surface visibility less than 50 percent, slope less than 15 percent and/or the ground was undisturbed. In these areas, shovel probing was conducted.

The pedestrian reconnaissance was conducted across the entire project area. The ground was examined along linear transects spaced no more than 20 m (65.61-ft) apart. The reconnaissance focused on locating potential aboveground evidence of archaeological sites such as artifact concentrations and features, including structural foundations, refuse dumps, wells and cisterns, gravestones, quarry pits, and earthen-and-stone mounds. If any of these were identified during the reconnaissance, then the interval between linear transects was collapsed to 10 m or less depending on the terrain. Field personnel also examined the project area for caves, quarries, benches, rock faces, and rock overhangs that may have been utilized by prehistoric or historic groups. Areas in which ground disturbances were readily apparent were visually inspected to determine and document the nature and level of disturbance. In areas where visibility exceeded 50 percent, visual inspection was the primary means of investigating possible intact subsurface deposits.

STPs were excavated at 20-m (65.61-ft) intervals and labeled alphanumerically along linear transects. Each measured approximately 30 cm (11.81 inches) in diameter and was excavated to a minimum depth of 30 cm (11.81 inches) bs, 10 cm (4 inches) into sterile subsoil, or until refusal on bedrock or gravel was encountered. The soil from each STP was screened through quarter-inch mesh hardware cloth. The wall of each STP was examined for artifacts as well as for soil color and texture changes that might indicate buried, intact cultural deposits. When the inspection was complete, the hole was filled and tamped and, where present, the sod was replaced.

One deep bucket auger was excavated to identify potentially deeply buried cultural deposits. An 18-x-9.5-cm (7.1-x-3.7-inch) bucket auger with a 140-cm (55-inch) extension was used. The auger excavation was placed in the base of an excavated shovel probe to test deposits at a maximum depth of approximately 140 cm (55.1 inches) bs.

MAPPING AND DOCUMENTATION

A *Garmin GPSMAP 66S* Global Positioning System unit was used to record the location of excavation units, surface features and archaeological sites, as appropriate. The project APE, including archaeological site locations, excavation units, and relevant features and anomalies, were photographed with a digital camera, while a project field log was used to document survey conditions and strategies. Sketch maps of the project area, including artifact locations, topographic conditions, and excavation units, were also made. Field notes and data are on file at the offices of Corn Island in Louisville, Kentucky.

5

RESULTS

Investigation of the project area consisted of a pedestrian survey and shovel testing. The project area runs north along the margins of KY-979 from south of the intersection of Frasure Branch Road, to just northwest of Pilgrims Home Church of Old Regular Baptists on the western side of Grethel, Kentucky. As noted above, for purposes of clarity, the survey area was divided into five survey sections.

Survey Section 1

Survey Section 1 was investigated with a pedestrian survey and the excavation of two STPs in residential yards on the north-central side of the project area (**Figure 24** and **Figure 25**). A comparison of historical USGS aerial photos from 1960 to modern aerial and satellite photos indicate that the southern portion of the roadside in this section has seen some disturbance. No rockshelters or cultural features beyond the extant road and modern landscaping were noted within the project area. Each excavated shovel test found soils disturbed by grading associated either with the initial construction of KY-979, or with houses to the west of the STPs. Typical soil profiles in this area consisted of a brown (Munsell 10YR 4/3) clay loam with 10 percent gravel from 0 to 22 cm (0-8.6 inches) bs, followed by a mottled dark yellowish brown (Munsell 10YR 4/4) and yellowish brown (Munsell 10YR 5/8) clay loam with 10 percent gravel from 22 to 30 cm (8.7 to 12 inches) bs. From 30 to 37 cm (12 to 14.6 inches) bs, the soil was a grayish brown (Munsell 10YR 5/2) clay loam (**Figure 26**).

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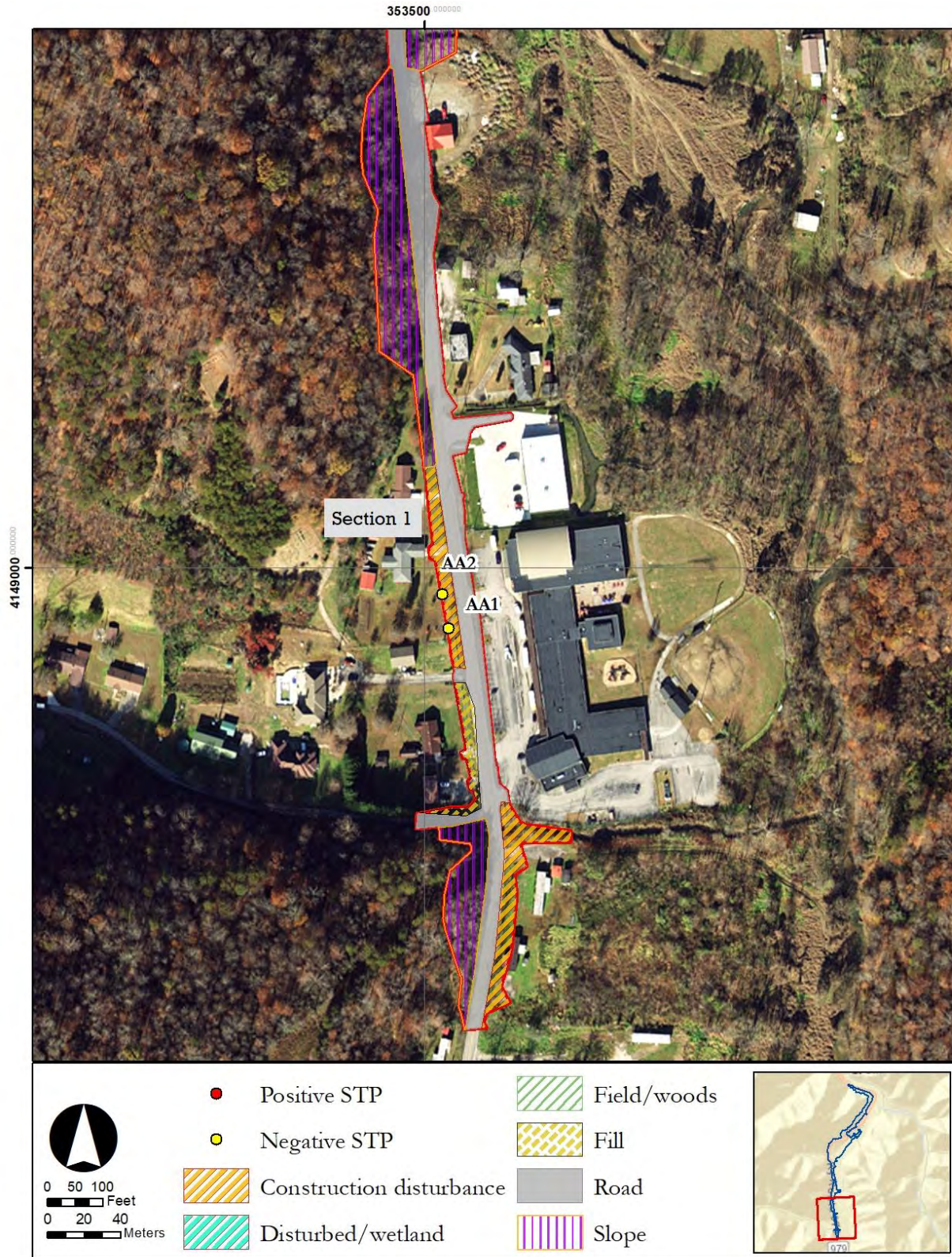


Figure 24. Overview of survey Section 1 on 2018 satellite imagery from NAIP.



Figure 25. View to south from center of survey Section 1.

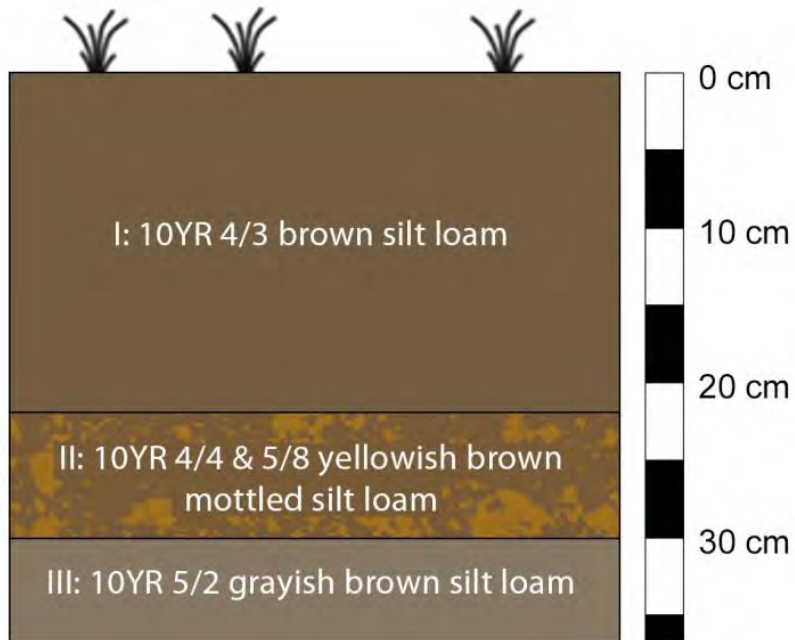


Figure 26. Schematic profile of STP AA1.

Survey Section 2

Survey Section 2 consists of an area with 15 percent slope eastward from KY-979 down to a wetland with a heavily rutted surface, indicating recent disturbance (**Figure 27**). The area was investigated with a pedestrian survey. On a return trip to this area, further pedestrian reconnaissance was conducted and four STPs excavated into the area (**Figure 42**). No above-ground evidence of cultural resources was observed. On March 26, 2020, a discussion was held with the owner of part of these bottoms, Joseph Tackett, who stated that his 83 year-old father had rechanneled Mud Creek in this area from a channel closer to the road to its current channel on the east side of the bottoms.

Three STP excavations in the bottoms revealed disturbed soils to depths of 50 cm (19.7 inches) bs and one, STP I10, encountered refusal on crushed limestone gravel at 10 cm (4 inches) bs. Typical soil profiles in this area consisted of a zone of brown (Munsell 10 YR 4/4) sandy loam from 0 to 40 cm (0-15.7 inches) bs, followed by a zone of brown (Munsell 10 YR 4/4) sandy clay with 20 percent sandstone cobbles and gravels. Fragments of modern plastic were recovered from both zones, indicating disturbance throughout the soils. No evidence of former historic house locations was identified in the field.

Cor Island returned to the area on March 26, 2020 to further examine a potentially residential site depicted as part of KHC resource FD-551 on the east side of KY-979. This building is depicted on the USGS quadrangles dating to 1954 and is present on historical aerial photos dating to 1960 and 1979. The front, side, and a rear view of the building and its setting are depicted in **Figure 29**, **Figure 30**, and **Figure 31**. Mr. Tackett claimed the building was constructed around 1936 and originally served as a store. Prior to the widening of KY-979, the building had a roofed front porch extending from the door.

Visual inspection of the building's setting indicated that this building is situated on an artificial terrace, which was likely constructed in association with modifications to KY-979. One STP (J1) excavated on the terrace supporting the building revealed fill of rock and fine sandy silt and refusal at 10 cmbs (**Figure 32** and **Figure 33**). The landowner, Joseph Tackett, noted that the rear of the building originally stood on piers approximately 7 ft (2.13 m) above a slope to the bottoms. Photos of the space beneath the building demonstrate some of the original grade, and the fill surrounding the piers (**Figure 34**, **Figure 35**, and **Figure 36**). The front of the building is on original grade, with fill increasing with distance to the rear of the building. The roadway and associated disturbance extend to the front of the building, leaving no space for the excavation of shovel tests. Mr. Tackett does not recall a privy associated with the building. Lidar data appears to support the evidence for fill in this area (**Figure 37**).

The rationale behind the construction of this, and other artificial terraces noted in the area between KY-979 and Mud Creek, situated to the east, was likely to create elevated spaces above the 100-year floodplain (**Figure 38**). A local inhabitant living below the next hollow to the north informed us that flash flooding out of the hollows was also a problem for houses situated in the bottoms.



Figure 27. View to southeast from center of survey Section 2.



Figure 28. View to south over disturbed area in survey Section 2.



Figure 29. South side of building associated with KHC resource FD-551, view to north.



Figure 30. West side of building associated with KHC resource FD-551, view to east.



Figure 31. East and northern side of building associated with KHC resource FD-551, view to west southwest.



Figure 32. Location of STP J1.



Figure 33. Fill encountered in STP J1.



Figure 34. Piers under building.



Figure 35. Original grade sloping upward to front of building.



Figure 36. Fill at rear of building.

Phase I Archaeological Survey of 16.73 Hectares for Planned improvements to KY-979 in Grethel, Floyd County, Kentucky

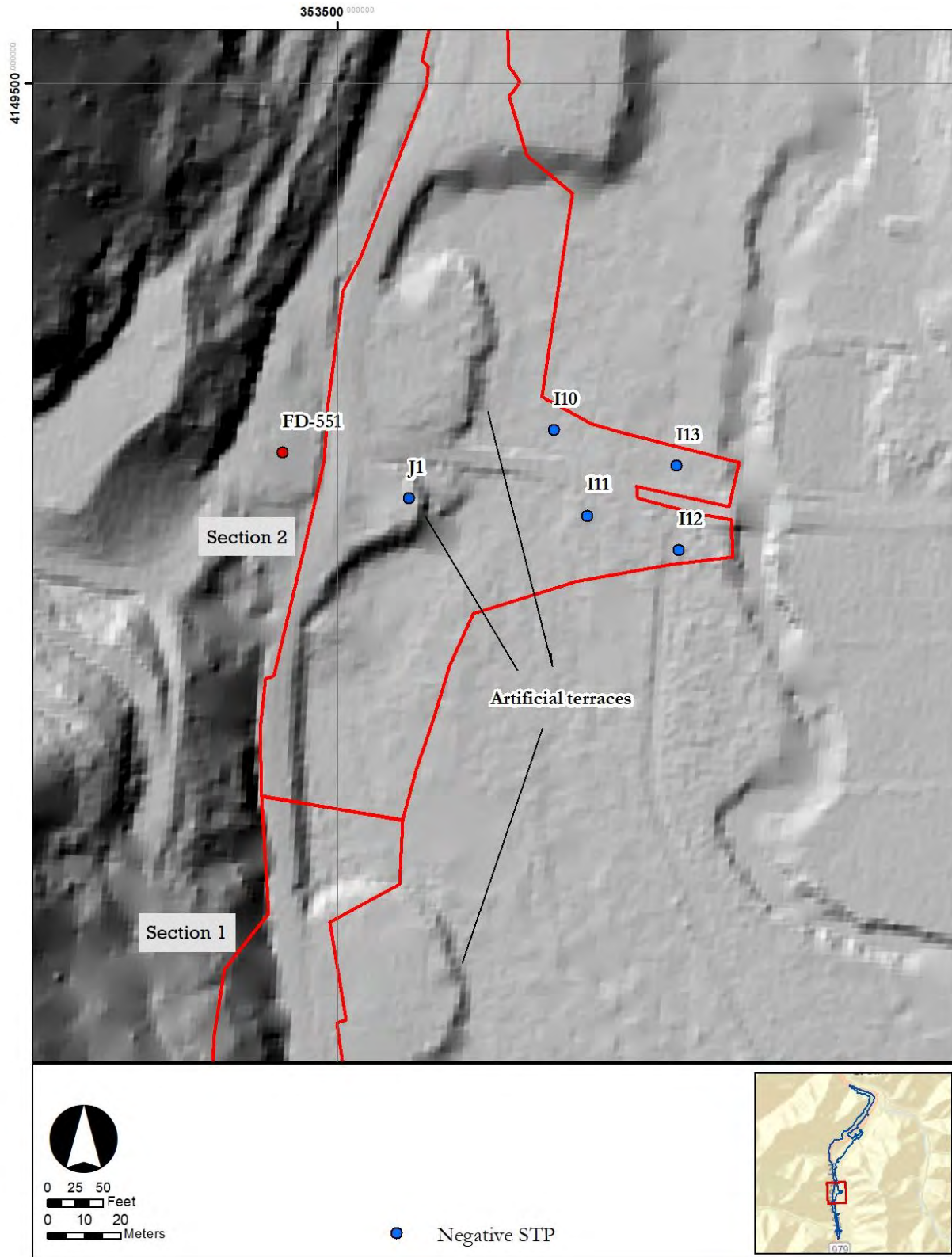


Figure 37. Detail of setting of building associated with FD-551 on Lidar map.

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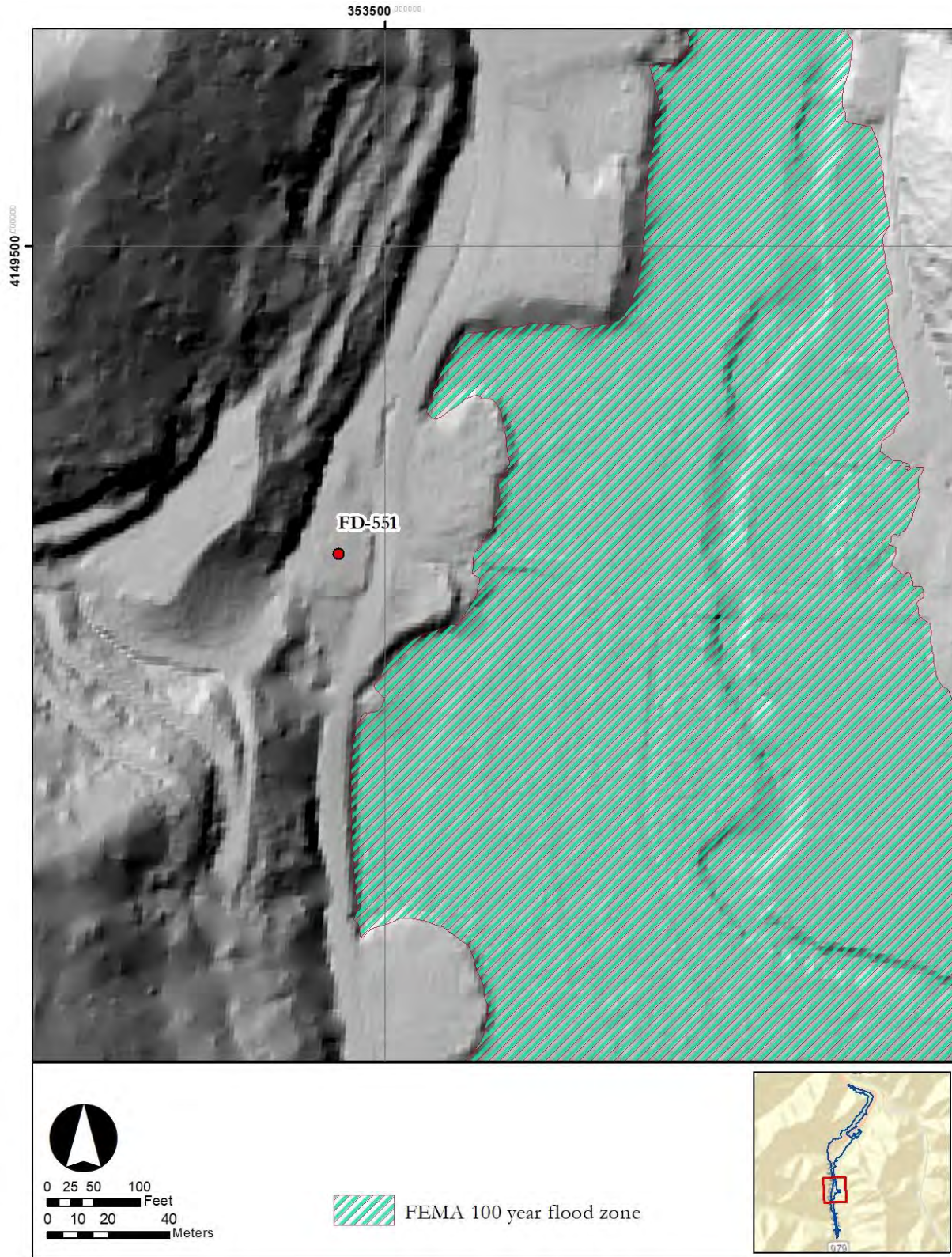


Figure 38. Lidar imagery of setting of building associated with FD-551 with 100-year floodplain data from FEMA (FEMA 2015)

Survey Section 3

Survey Section 3 (**Figure 39**, **Figure 42**, and **Figure 43**) consisted of slope greater than 15 percent (as confirmed on the re-visit), part of the paved surface of a gas station, a graveled area in front of a house directly to the east of KY-979, and a level area in the bottoms on a lot with a mobile home next to a canalized stream. Responding to concerns expressed by the KYTC that cultural resources might have been missed in this area, we returned to excavated further STPs. The mobile home resident informed us that prior to construction of an earthen berm canalizing the stream adjacent to the road, the property was frequently be flooded with water flowing from the hollow above it. This section was investigated with a pedestrian survey and excavation of five STPs.

Two STPs (I7 and I8) excavated in the level area in front of the house to the east of KY-979 encountered refusal at 5 cm (2 inches) bs on crushed limestone gravel. Shovel tests excavated in the mobile home lot in the bottoms (I4-I6) were characterized by a zone of brown (10 YR 4/3) sandy clay loam from 0 to 20 cm (0-8 inches) bs, over a dark yellowish brown (10 YR 4/6) sandy clay with 40 percent sandstone gravel from 20 to 40 cm (8 to 15.7 inches) bs. No artifacts were recorded and no cultural resources were identified in survey Section 3.



Figure 39. View to north from center of survey Section 3 (house is just outside of APE).



Figure 40. Level graveled area in front of house to east of KY-979 in survey Section 3.



Figure 41. STP excavation in level area of mobile home lot in survey Section 2. Canalized stream visible on the left.

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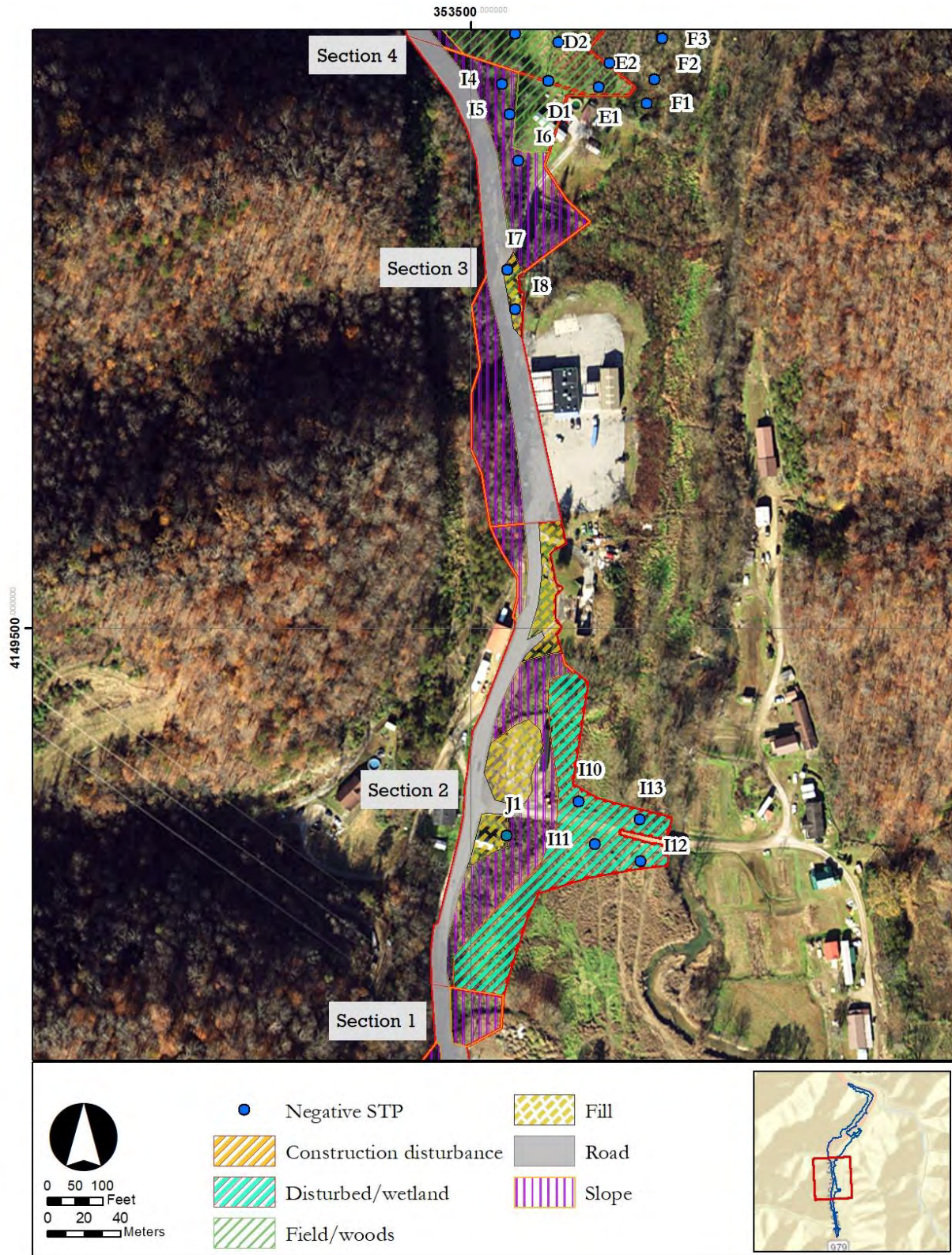


Figure 42. Overview of survey Sections 2 and 3 on 2018 satellite imagery from NAIP.

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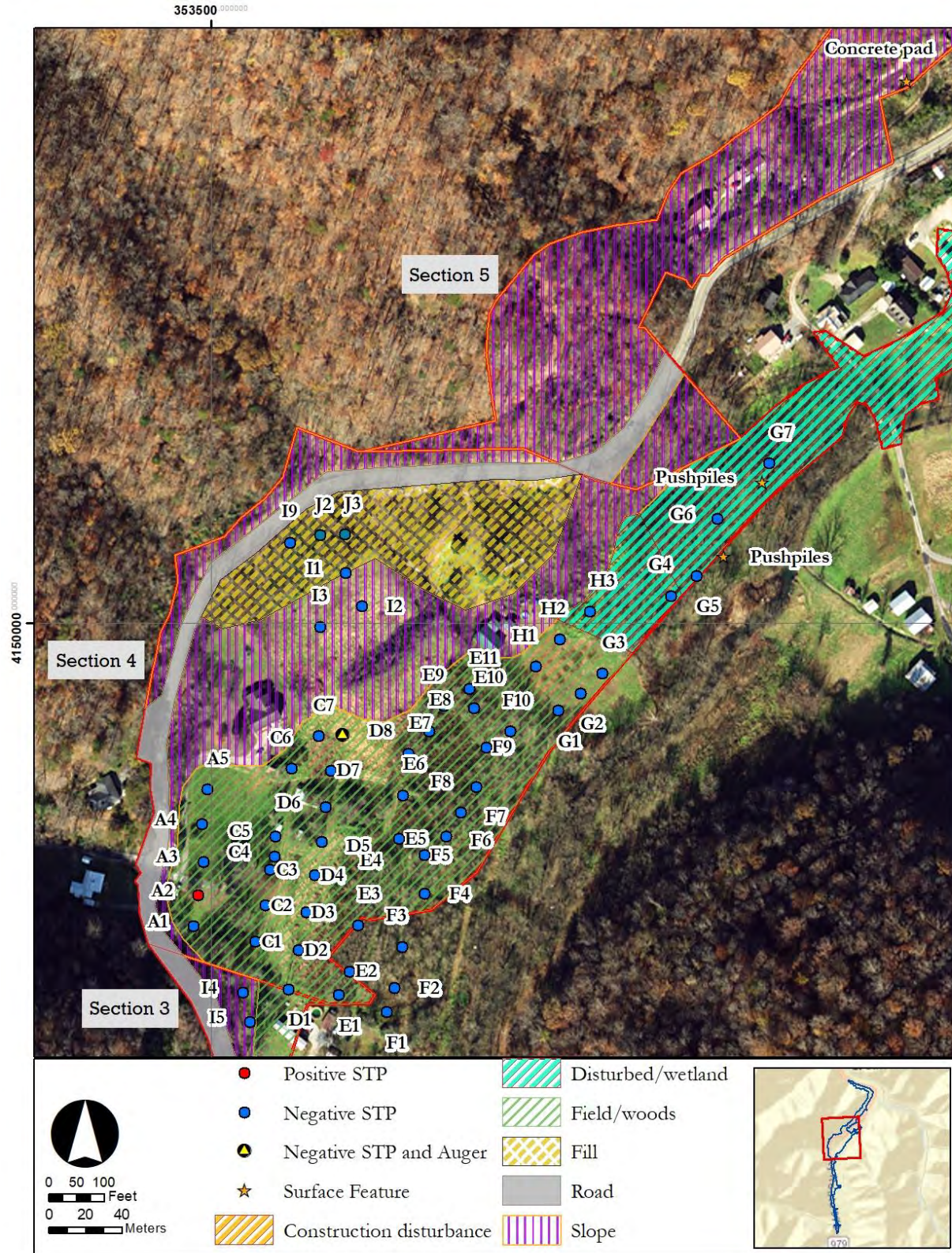


Figure 43. Overview of Section 3, 4 and part of survey Section 5 on 2018 satellite imagery from NAIP.

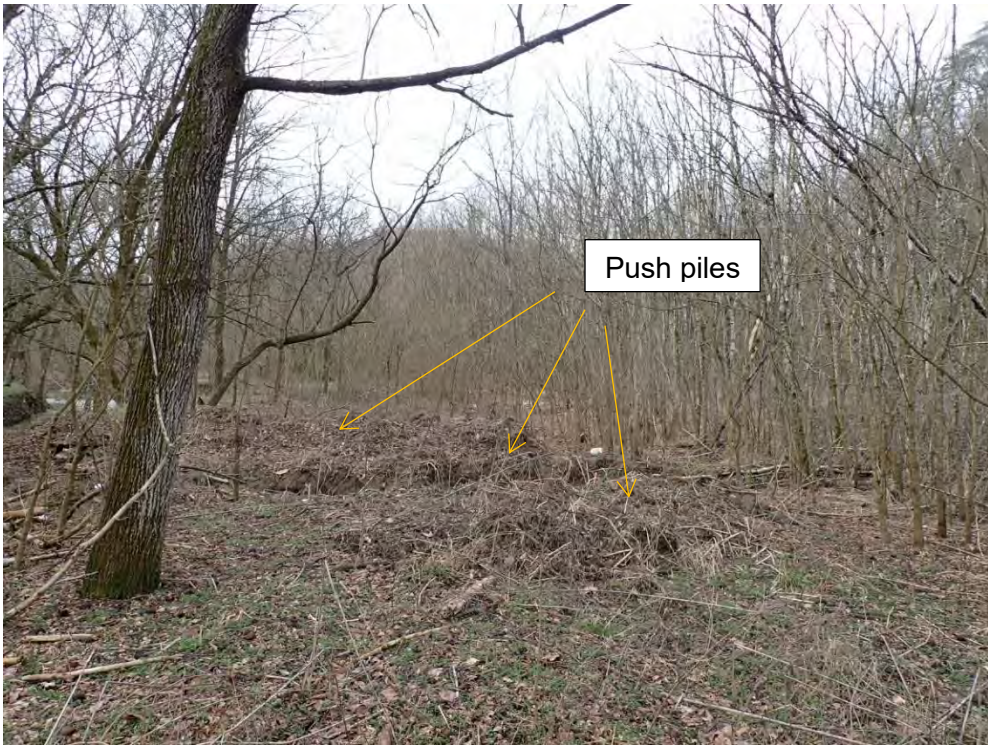


Figure 44. Push piles in northeastern part of survey Section 4.



Figure 45. Wet and disturbed area northeast of survey Section 4.

Survey Section 4

Survey Section 4 (see **Figure 43**) had two standing houses, several standing outbuildings, and a number of collapsed, or collapsing, outbuildings (**Figure 46**, **Figure 47**, **Figure 48**, and **Figure 49**). This survey section extends over sloped areas and relatively level bottom lands. Vegetation in this area varied between mown lawns, young trees, and thick brambles. Survey Section 4 was investigated with a pedestrian survey and the excavation of 56 STPs (**Figure 50**).

In the western portion of this area, STPs A1 through A5 encountered deposits of modern trash, coal and red dog (burned slate) from 0 to 31 cm (0 to 12.2 inches) bs. The modern trash consisted of clear bottle glass sherds, wire nails, and a quarter-sized bone fragment that showed no evidence of butchering or burning. One STP excavation in survey Section 4 (STP A2) recovered a single cut nail from a disturbed fill context (**Figure 51**). The current landowner reported that at some point he had brought in coal and red dog to shore up the driveway. Correspondingly, the modern and historical materials recovered in these STPs are likely from the location where fill was acquired rather than from the buildings that historical maps indicate were present in the vicinity of these STPs.

STPs excavated in this area of the survey section roughly conform to the USDA-NRCS soil series described for the area. The upper part of survey Section 4 is situated primarily in Allegheny loam, which is described as generally dark yellowish brown (Munsell 10YR 4/4) loam from 0 to 20 cm (0 to 8 inches) bs over a yellowish brown (Munsell 10YR 5/6) loam (Soil Survey Staff 2019). The darker hues observed in the STPs likely relate to the use of this area for residential and agricultural activities over the years. STP A1 consisted of a zone of very dark brown (Munsell 10YR 2/2) silt loam from 0 to 15 cm (0 to 6 inches) bs followed by a zone of dark yellowish brown (Munsell 10YR 4/4) silty clay from 15 to 34 cm (6 to 13.4 inches) bs (**Figure 52**).

The landowner further reported that his father had built four greenhouses between the two standing houses, and two greenhouses roughly along the C transect. The four greenhouses, which were apparently built prior to 1975, are visible on the 1975 USGS aerial photo (**Figure 53**). The 1979 USGS aerial (not shown) indicates the presence of at least one greenhouse on the C transect. All of these greenhouses have been razed or relocated and no intact vestiges of them were observed on the surface or in shovel tests. STPs excavated along the A, C, and D transects encountered light deposits of coal, slag, gravel, and a scattering of brick fragments. The E and F transects were excavated in an area of saplings in the bottoms and recorded light deposits of coal and sandstone gravels.

Typical STP profiles in the lower area of survey Section 4 (Transects D through F) were characterized by a zone of dark brown (Munsell 10YR 3/3) silt loam with 10 percent sandstone from 0 to 30 cm (0 to 12 inches) bs, followed by a zone of dark yellowish brown (Munsell 10YR 4/4) silty clay with 10 to 30 percent sandstone from 20 to 34 cm (8 to 13.4 inches) bs (**Figure 54**). An auger excavated into STP D8 recorded a greenish gray (Munsell Gray 1 5/10Y) clay from 30 to 70 cm (12 to 28 inches) bs, above a grayish brown (Munsell 10YR 5/2) mottled with a brown (Munsell 7.5YR 5/4) silty clay from 70 to 114 cm (28 to 45 inches) bs (**Figure 55**). This profile conforms more closely to the lower levels of Stokly fine sandy loam than to Allegheny silt loam.

STPs excavated in the lower area of survey Section 4 encountered soils that had substantially more sandstone gravels than described for the upper levels of soil type in this area (Stokly, fine

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sandy loam, occasionally flooded), according to the Soil Survey Staff (Soil Survey Staff 2019). Higher densities of sandstone may reflect erosion of the upper levels of Stokly fine sandy loam by Mud Creek, located to the east of the survey area. Otherwise, soils recorded in this area are roughly similar to the soil survey staff descriptions.



Figure 46. View to east on southwestern end of survey Section 4.



Figure 47. Collapsing barn and corn crib in survey Section 4.



Figure 48. Standing henhouse in survey Section 4.



Figure 49. View to north from center of survey Section 4.

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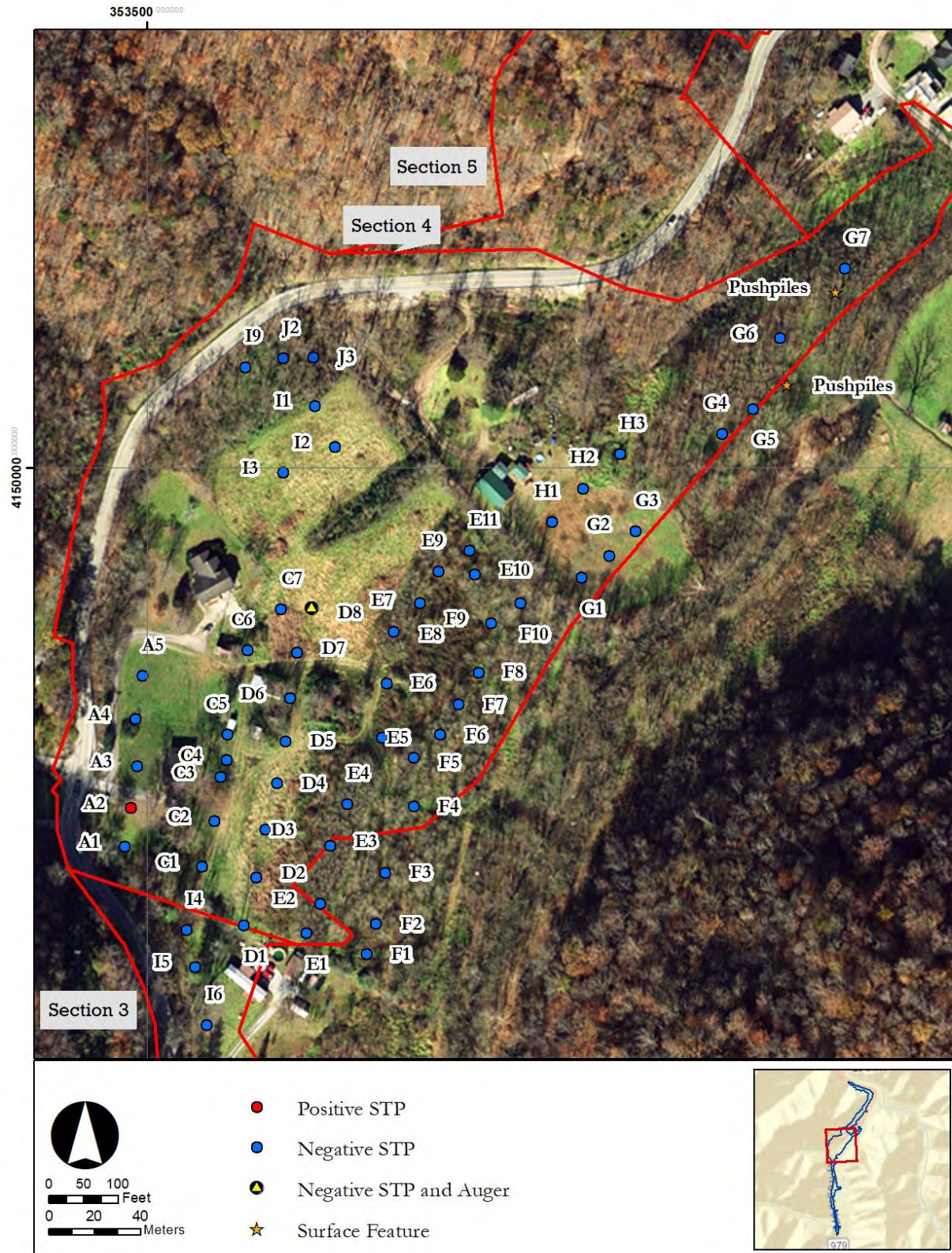


Figure 50. Overview of survey Section 4 STP locations on 2018 satellite imagery from NAIP.



Figure 51. Encrusted cut nail from STP A2.

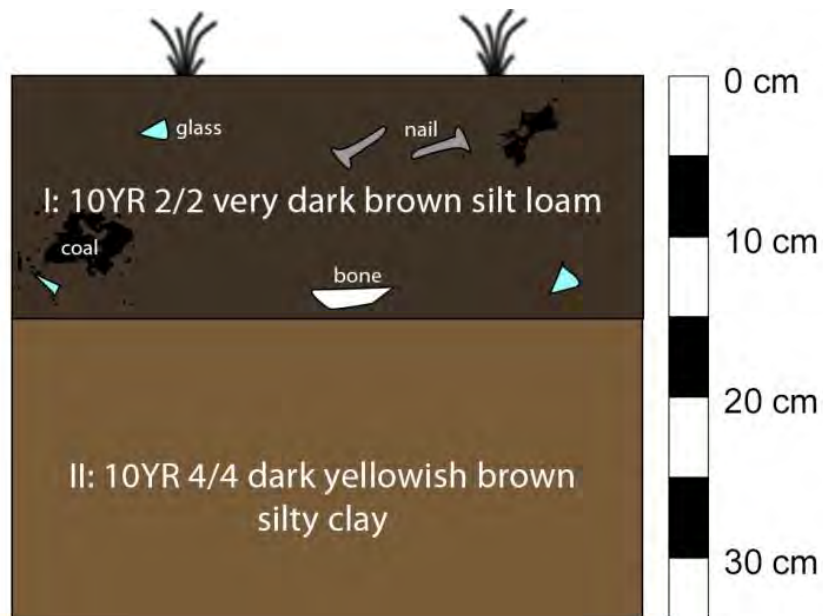


Figure 52. Profile of STP A1.

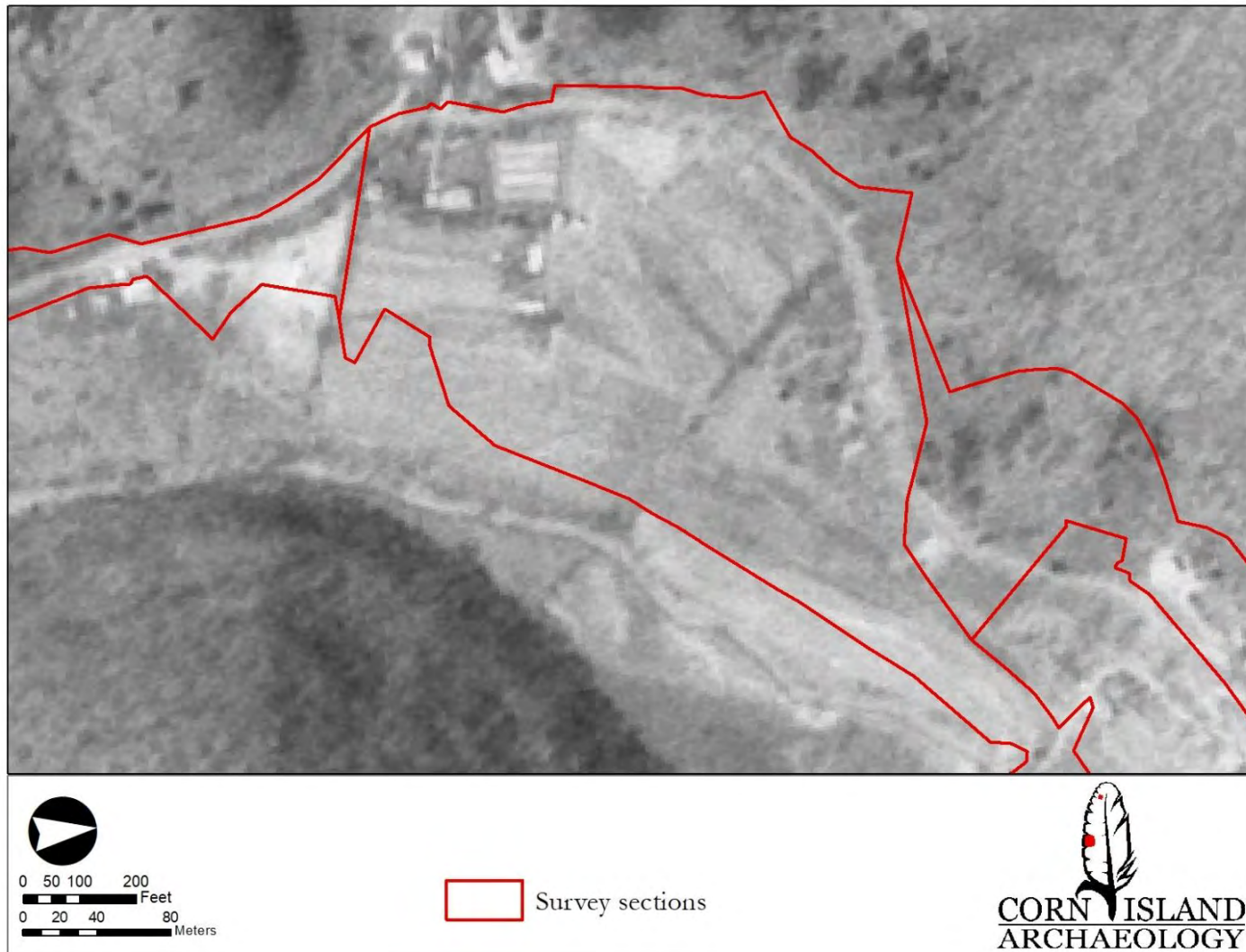


Figure 53. Survey Section 5 on 1975 USGS aerial photo.

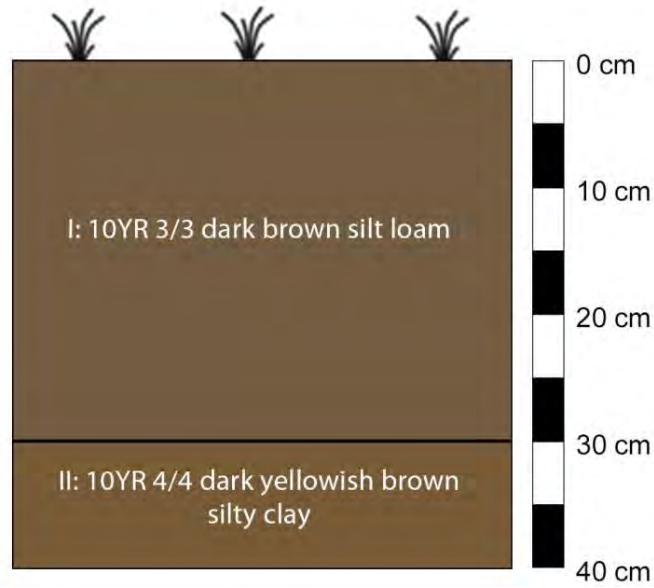


Figure 54. Schematic profile of STP D4.

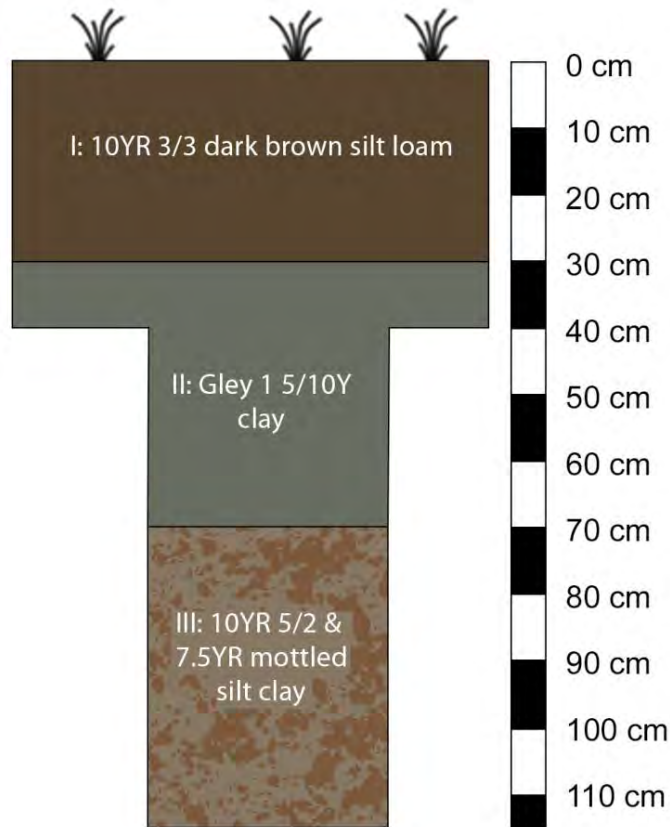


Figure 55. Schematic profile of STP D8.

A building is depicted on the 1914 and 1916 USGS quadrangles in what is now a sloped area with secondary growth. Corn Island returned to the area on February 13 and 14, 2020 and excavated three STPs in a sloped fallow field below and to the east of the area where this building is depicted, and one STP in the area of secondary growth where the building is depicted.

The fallow field had a 15- to 23 percent slope (see **Figure 56**, **Figure 57**, **Figure 58**, and **Figure 59**). Three additional STPs (I-1 through I-3) were excavated in this area. These STPs revealed a zone of dark yellowish brown (Munsell 10YR 4/3) sandy loam with 30 percent sandstone gravel from 0 to 40 cm (0 to 15.7 inches) bs, with sandstone increasing until refusal at 40 cm (15.7 inches) bs. One additional STP was excavated directly to the south of the area where the building is depicted on the 1914 and 1916 USGS quadrangles. This STP revealed a zone of dark brown (10YR 3/3) silt loam with 20 percent gravel, over a zone of brown (Munsell 10YR 4/3) sand loam with 60 percent sandstone gravel. A moderate quantity of gravel sized coal was present throughout each zone. Refusal was encountered at 35 cmbs. No cultural materials were recovered from these STPs.

On a return trip on March 26, 2020, transects were again walked directly over the area surrounding the location of the building on the 1914 and 1916 USGS maps (**Figure 60** and **Figure 61**). An additional two STPs were excavated directly in the area where the building is depicted. These STPs showed a zone of dark brown (Munsell 10YR 3/3) silt loam with 20 percent gravel, over a zone of brown (Munsell 10YR 4/3) sand loam with 60 percent sandstone gravel (**Figure 62**). A moderate quantity of gravel sized coal was present throughout each zone. These STPs encountered refusal on sandstone gravel at 30 cmbs.

Lidar data of this area suggest that the currently wooded area slope where a building is located on the 1914 and 1916 quadrangles has been filled in, likely in association with the construction of or modifications to KY-979 (**Figure 63**). This fill was likely placed when the road was modified into a secondary highway, which according to the symbolism on the USGS historical quadrangles, took place sometime between 1954 and 1992.



Figure 56. Brunton pocket transit documenting angle of slope on screen.



Figure 57. Detail of Brunton pocket transit slope reading (13°, or 23%, slope).



Figure 58. Excavations into grassy area of survey Section 4.



Figure 59. Secondary growth area of survey Section 4 below road, facing south.



Figure 60. Secondary growth area of survey Section 4 below road, facing north.



Figure 61. View to south over area with house on 1914 and 1916 USGS quadrangles.



Figure 62. Photograph of STP J2 showing gravel.

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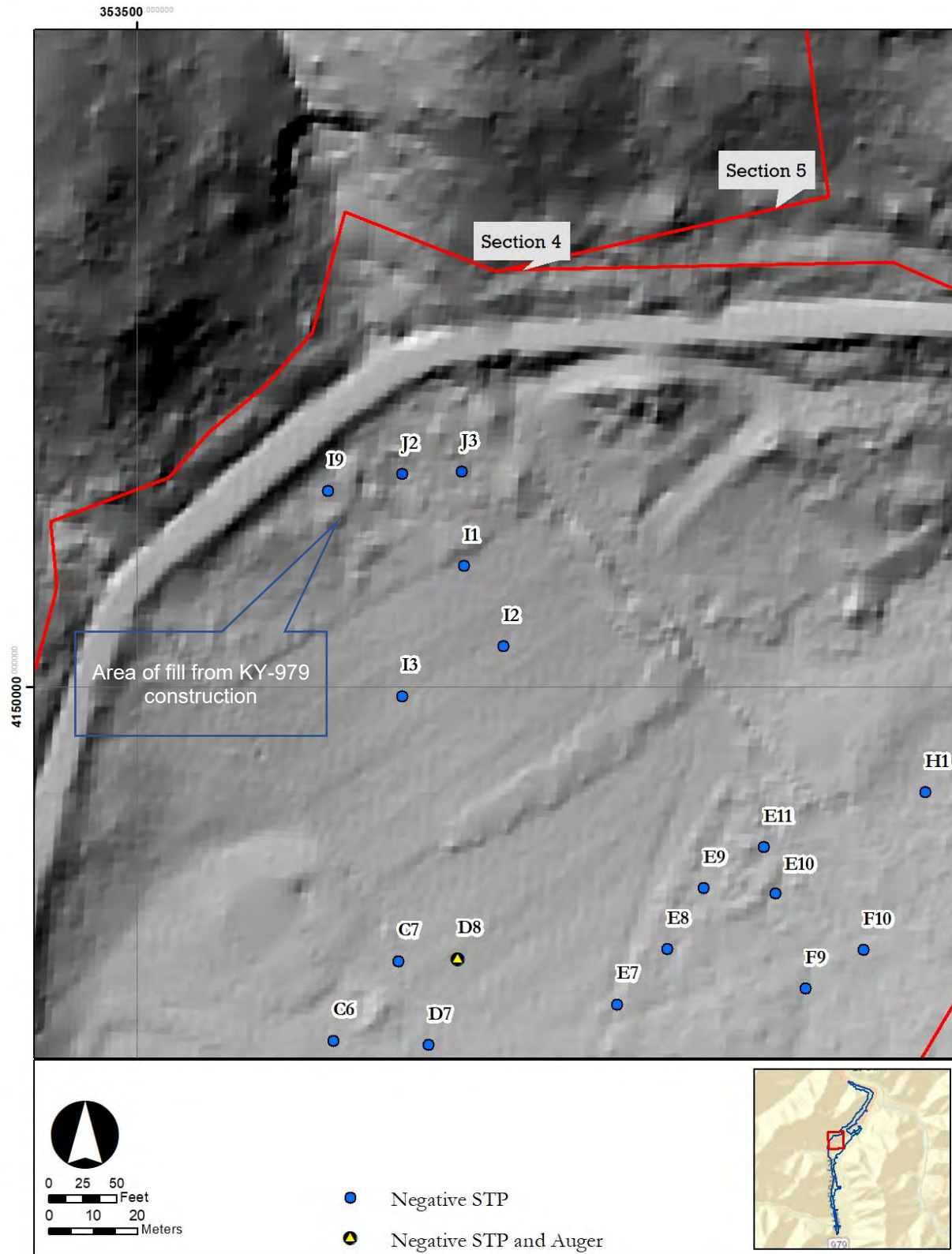


Figure 63. Detail of Lidar data displaying area of fill below KY-979 and location of STPs excavated in this fill.

The northeastern area of survey Section 4 was a low wet area with numerous push piles (low mounds of earth created by the movement of soil by mechanical excavators). The northeastern-most end of the wetland area was rutted with obvious evidence of disturbance. Due to the observed disturbance, this part of Section 4 was tested with limited STPs (see **Figure 43** and **Figure 50**). STP G5 (**Figure 64**) on the edge of the wet area, revealed three zones. Zone I was 27 cm of dark yellowish brown (Munsell 10YR 4/4) silt loam. This overlay Zone II, a thin layer (3 cm) of yellowish brown (Munsell 10YR 5/6) sand. The lower zone, Zone III was identical to the upper level and extended to a depth of 50 cm bgs.

STP G7, in the northern portion of the survey section within the wet area, had only two zones (**Figure 65**). Zones I and II compared to those seen in STP G5, only both were much thicker with Zone I extending to 36 cm bgs and Zone II (the sand) continuing to 50 cm bgs.

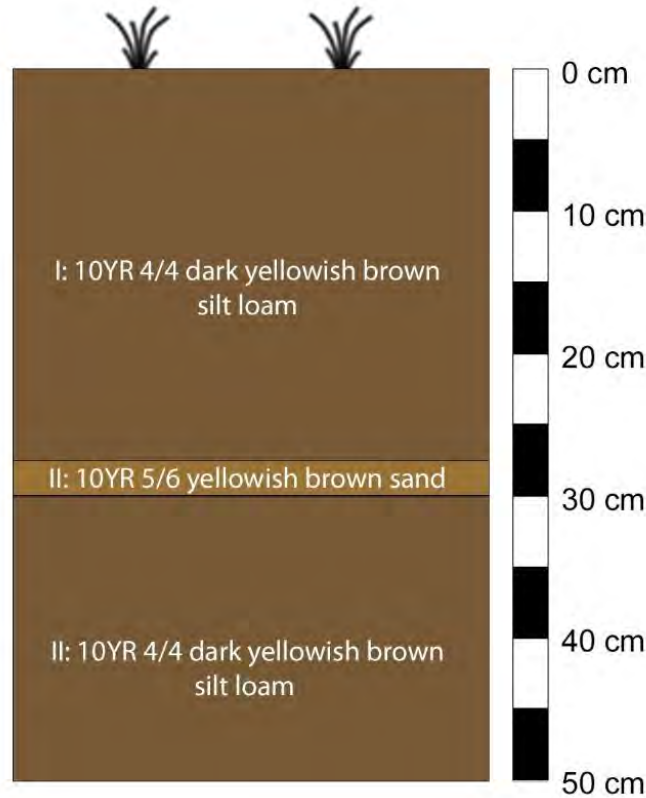


Figure 64. Profile of STP G5.

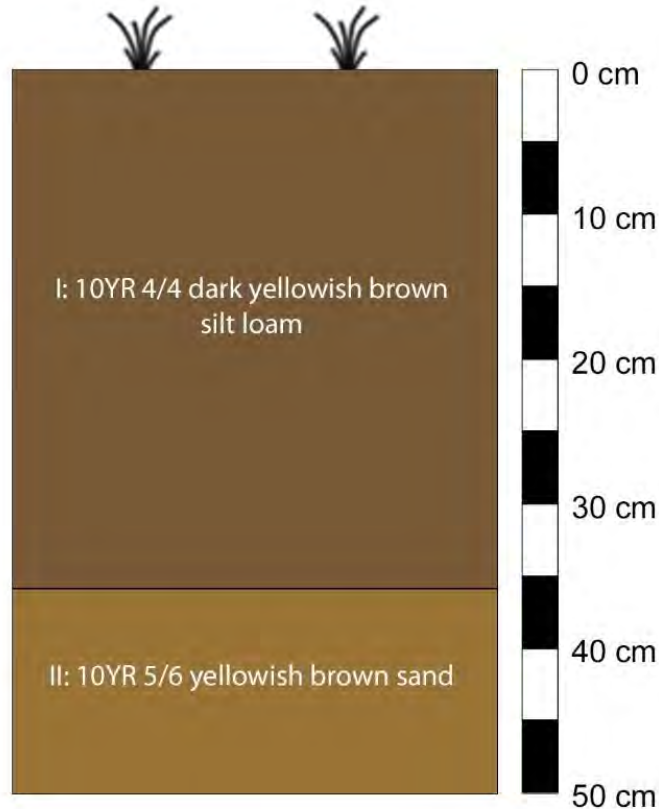


Figure 65. Profile of STP G7.

Survey Section 5

Survey Section 5 consists primarily of slope over 15 percent and was investigated with pedestrian survey only (see **Figure 43** above and **Figure 66**). On the southern part of this section, there is a terrace cut-out with a house, which historical maps and aerial photos indicate was constructed between 1960 and 1975. This building is absent on the 1975 edition of the USGS topographic quadrangle map series but is present on the 1979 edition. A quarry cut is also present within this area, where several concrete pads were noted. A power supply box was also noted, and it is evident that quarry-related buildings were present on the cut (**Figure 67**, **Figure 68**, **Figure 69**, and **Figure 70**). The quarry cut itself is not visible on the 1975 aerial photo of this area. A logging road is present on the northeastern segment of survey Section 5, curving around the nose of the mountain. Logging has been, and continues to be, an important component of the Appalachian economy since the mid-1870s (McBride and McBride 2008:958-959).

No rockshelters or other cultural features were observed in this area. One shallow sandstone crevice at the head of a stream, however, was noted 48 m (157 ft) to the west, and 3 m (10 ft) above the project area (**Figure 71**). Joseph Tackett, a lifelong local resident, informed us that this was the portal to a pony mine, dating to the 1930s or 1940s. Mr. Tackett describes these as small-scale mines that produced coal for personal and local consumption. A cursory examination of the portal recorded no artifacts; however, a large quantity of roof fall was noted on the floor (**Figure 73** through **Figure 73**).

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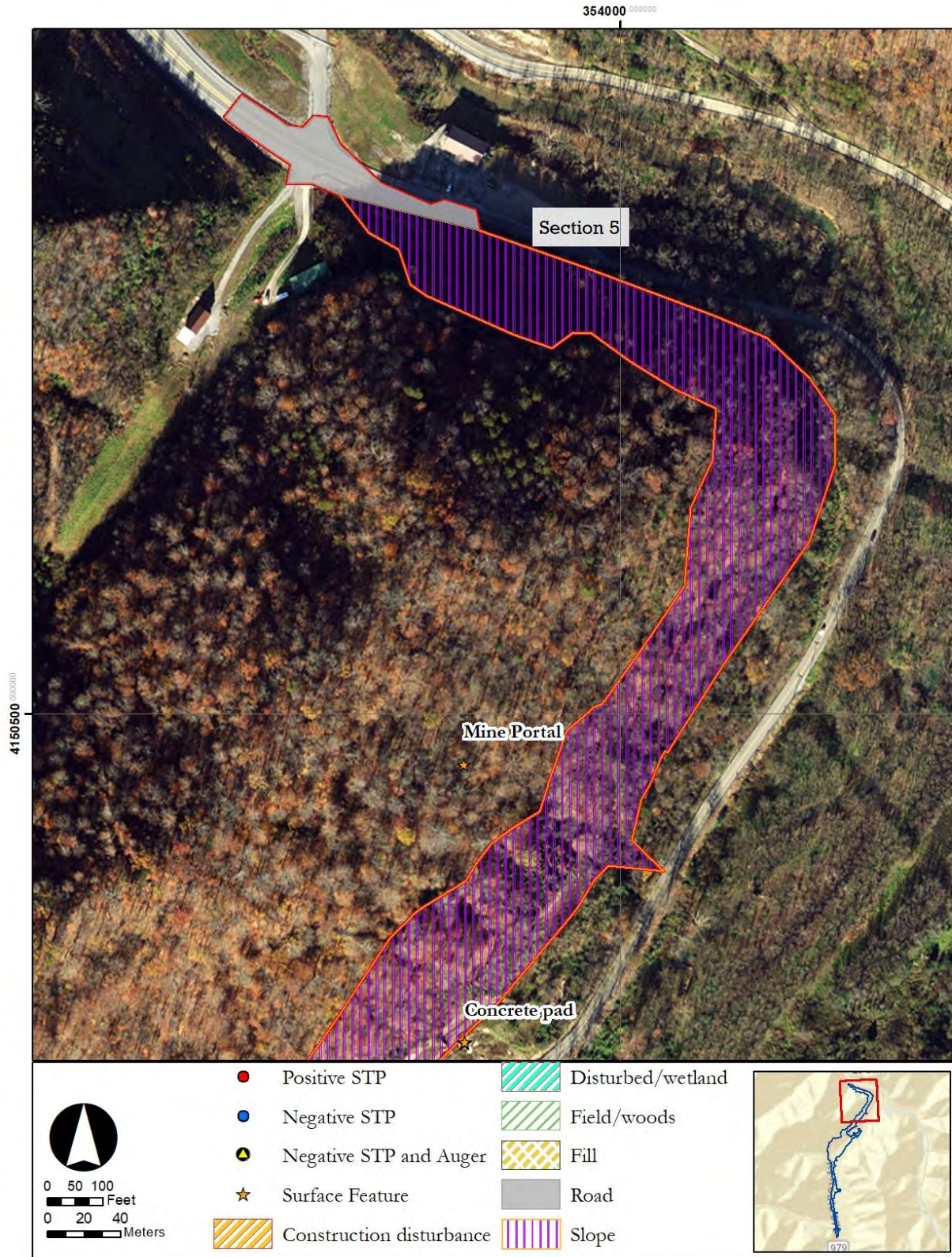


Figure 66. Overview of northern part of survey Section 5 on 2018 satellite imagery from NAIP.



Figure 67. View to south on logging road from northern slope of survey Section 5.



Figure 68. View to south from near center of survey Section 5.



Figure 69. Post-1971 quarry cut and associated concrete slab in southern part of survey Section 5.



Figure 70. Post-1971 collapsing concrete slabs in southern part of survey Section 5.



Figure 71. Exterior of mine portal outside of project area.



Figure 72. Drainage outside of mine portal.



Figure 73. Mine portal interior.

6

CONCLUSIONS AND RECOMMENDATIONS

On November 6 and 7, 2019, February 13 and 14, 2020, and again on March 26, 2020 Corn Island completed a Phase I archaeological survey of 16.73 ha (41.35 acres) for planned improvements to KY-979 in Floyd County, Kentucky. The investigation consisted of a pedestrian survey augmented with shovel testing and a single bucket auger. The area is located on the western side of the unincorporated community of Grethel, directly above Mud Creek. Historical maps indicate a relatively long history of settlement in parts of the proposed project area.

Investigations in the area recorded no intact archaeological sites. One isolated find (a cut nail) was recorded in a disturbed fill context within survey Section 4. No archaeological sites were recorded in the course of investigations. Proposed construction activities will have no adverse effects on archaeological resources eligible for listing in the NRHP. Consequently, no further archaeological investigations are recommended prior to commencement of construction activities.

No adverse effects are anticipated to any potential cultural deposits present in the mine portal (recorded above) and outside the project area.

In the unlikely event that human remains are discovered during construction, all work should stop and the Floyd County coroner, local law enforcement agencies, and the KHC/SHPO should be notified.

7

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