R.S. WEBB & ASSOCIATES
PHYSICAL/GEOPHYSICAL DELINEATION
WILSON-WHEELER-KING CEMETERY (ARCHEOLOGICAL SITE 9JK347)
BANA ROAD INDUSTRIAL PARK DEVELOPMENT TRACT
COMMERCE, JACKSON COUNTY, GEORGIA
USACE NO. SAS 2021-00778
HPD NO. HP-230106-001
March 22, 2024

Background: The Wilson-Wheeler-King Cemetery (aka archeological site 9JK347; Wilson-Wheeler-King Cemetery; "the Cemetery") was initially delineated by Mr. Steve Webb [Senior Principal Archeologist, R.S. Webb & Associates (RSWA)] in 2016 as part of a due diligence study for the Bana Road industrial park tract (Webb 2016). Cemetery boundaries were delineated and marked based on surface inspection and metal rod probing around the cemetery perimeter. The Bana Road tract and the Cemetery were revisited by RSWA in 2018, at which time observed individual graves were marked and the 2016 boundary flags were reset based on the 2018 findings (Webb 2019). In 2021, RSWA conducted a Phase I cultural resources survey of the Bana Road development tract for Rooker (current land developer) and officially recorded the Cemetery as archeological site 9JK347 (Webb and Bowen 2021) (Figures1 and 2). The survey was performed in anticipation of the Bana Road project requiring federal wetlands permitting under the Clean Water Act. Through consultation in 2023 between the U.S. Army Corps of Engineers (USACE) and the Georgia Historic Preservation Office (SHPO), the Cemetery was determined eligible for the National Register of Historic Places (NRHP).

Rooker determined that the NRHP-eligible Cemetery would require relocation because it lies within the footprint of a major proposed building that cannot be redesigned. To assist in their consultation with SHPO regarding the preparation for a project Memorandum of Agreement, the USACE requested that: a historic context be prepared for the Cemetery; the Cemetery boundaries be delineated; and the number of graves estimated.

Per the USACE's request for a cemetery delineation and grave count estimate, RSWA reset the 2021 individual grave and cemetery boundary flagging in mid-2023. In July 2023, Rooker had the Cemetery and an approximate 13 to 15-meter clear/buffer zone around it cleared of surface debris and non-historic vegetation (under the supervision of RSWA). RSWA subcontractors performed additional grave delineation work during the period of August 19 through December 6, 2023 (Figure 3).

First, Bigman Geophysical conducted a ground penetrating radar (GPR) survey of the Cemetery and buffer zone, and recorded the location of each grave flagged by RSWA. The GPR results indicated that numerous geophysical anomalies similar to human graves are located within RSWA's 2023 boundaries, and that there were similar anomalies south of the southern cemetery boundary. Bigman Geophysical provided RSWA with additional grave and boundary information on December 19, 2023 (Figure 3). The GPR study was followed by Mr. Webb performing 10 "flip tests" (i.e., shovel test to examine the soil profile) in the area of GPR anomalies south of the set boundary. Mr. Webb exposed heavily eroded soils typical of harsh farming practices that would be contrary to expectations if the subject area was part of a cemetery that had not been disturbed by agriculture since the early to middle 19th century.

Map Reference: Google Earth (2023)

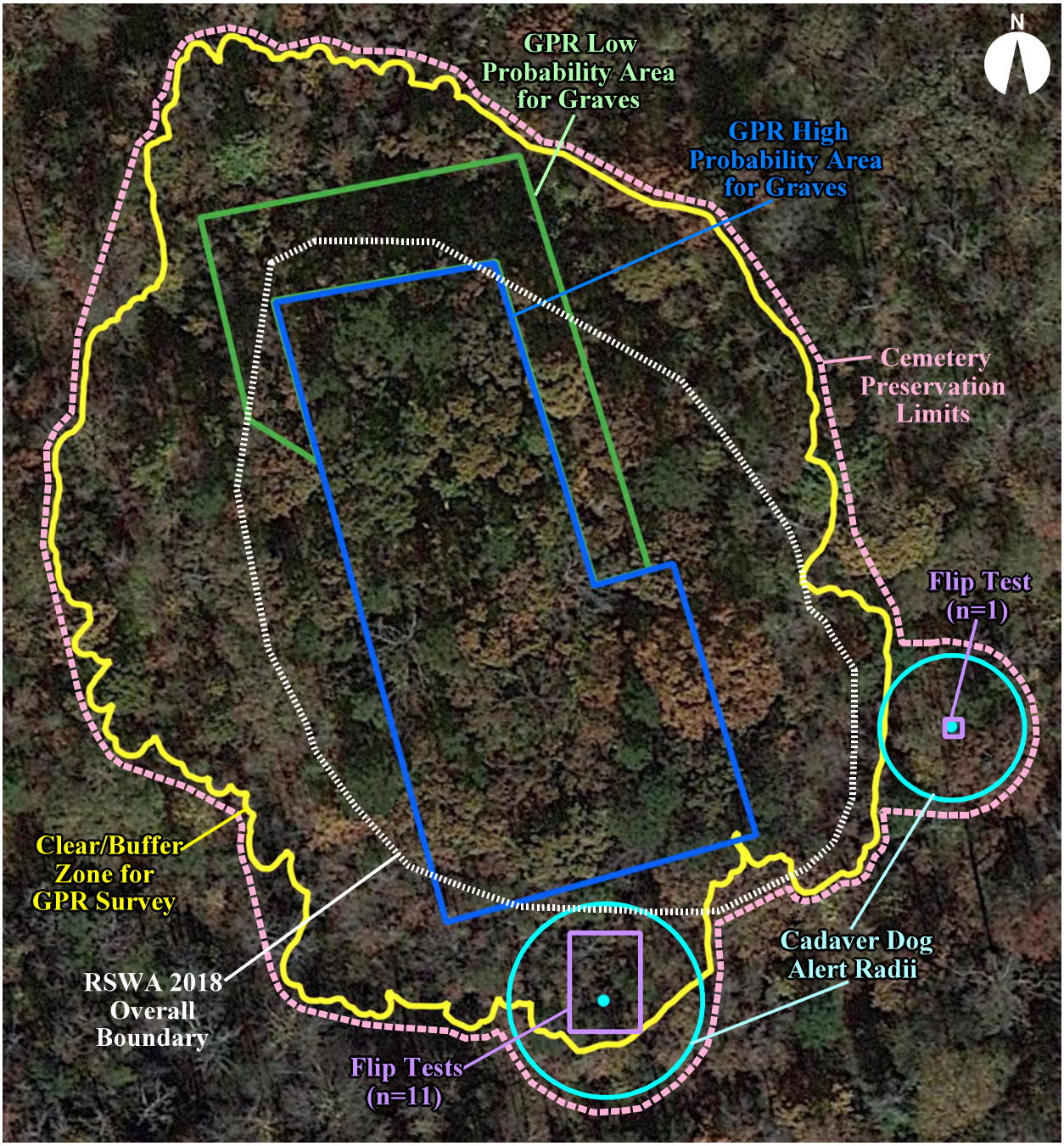
Scale
0 610 meters
0 2000 feet

Figure 1 Location of Wilson-Wheeler-King Cemetery Within the Bana Road Industrial Park Development Tract

Map Reference: Google Earth (2023)

Scale
0 18 meters
0 60 feet

Figure 2 2018/2023 Overall Boundary and Distribution of Marked Graves, Wilson-Wheeler-King Cemetery



Map Reference: Google Earth (2023)

Scale

0 18 meters

0 60 feet

Figure 3 RSWA 2018 Cemetery Boundaries, GPR Clear/Buffer Zone, GPR Probability Areas for Graves, Locations of Cadaver Dog Alert Radii, Flip Test Locations and Cemetery Preservation Limits

The GPR and flip test results prompted RSWA to subcontract the services of Dr. Tracy Sargent (K9 Search & Rescue Specialists, Inc.), who specializes in the detection of human remains using cadaver dogs. Two trained and experienced dogs, Draco and Taz, searched portions of the Cemetery and over 90 percent of the surrounding clear/buffer zones as instructed. Both dogs independently identified the same two scented locations within the cemetery buffer, one south and one southwest of RSWA's flagged cemetery boundaries. Dr. Sargent marked the locations where the dogs alerted her of scent, and Mr. Webb conducted one flip test at the center of each of those locations. The two flips tests revealed findings similar to the previous flip tests: heavily eroded soils at each location, suggesting that these areas had been heavily cultivated/altered for extended periods of time. Again, such soil profiles would not be expected in an early to middle 19th century cemetery environment.

Metal Rod Probing and Surface Inspection (Webb 2016, 2019; Attachment No. 1): Based on RSWA's 2016 and 2018 probing and surface inspection efforts and reassessment and resetting of the boundary flags in 2023, the Cemetery covers an area of 88 by 60 meters [0.39 hectare (0.96 acre)] (Figures 2 and 3) and contains at least 175 human graves; the original estimate was 165 graves, but 10 additional graves were marked during the 2023 field session, bringing the total to 185. Given the historic trees present and their root systems, the somewhat rocky terrain, and areas disturbed by trees that are no longer present, RSWA anticipates that as many as 200 graves could be present within the cemetery boundaries based on the physical delineation methods employed.

As a result of the various studies, RSWA identified 16 graves with inscriptions indicating individuals with the following the surnames: Bennett (n=1); Dickerson (n=3); King (n=2); Vinson (n=1); Wilson n=8); and Wheeler (n=1) (Table 1). One individual had a maiden surname of Wood.

Table 1. Known Decedents Based on Headstone Inscriptions (2016/2019 Delineation and 2023/2024 Research)

Grave No.	Decedent Name	Birth-Death
8	Elmina J. (Simmons) King	1840-1911
9	J[ames]. J[enkins]. King	1828-1896
10	Clarence J., son of J. N. Dickerson	1900-1901
12	Amanda King, wife of J. N. Dickerson	1871-1915
83	Louisa [Wood], wife of S[tephen]. T. Vinson	1843-1911
109	J[oseph]. M. Bennett	1839-1905
110	Thomas A., son of Matilda J. Wilson	1865
111	Mary Lueretia Haseltine, daughter of F. F. and M. A. Wilson	1861-1870
112	Dios [aka Dilmus] Alonzo, son of F. F. and M. A. Wilson	1855
113	Jenette N., daughter of F. F. and M. A. Wilson	1854-1855
154	J. M. Wilson	1852-1880
155	Miss Fanie Wilson	1859-1879
159	Mary M., wife of William Wilson	1804-1883
160	William Wilson [Junior]	1798-1875
Sailors 2003	Recorded as James White, field truthed as James Wheeler	1750-1854
Mathis and Mathis 2008	Infant Son Dickerson	1905-1905

GPR Survey of the Cemetery and Buffer Zone (McConnel et al. 2023; Attachment No. 2): The 2023 GPR survey of the Cemetery covered RSWA's 0.39-hectare cemetery boundary pin flag line plus an approximate 13 to 15-meter clear/buffer zone beyond the cemetery flag line that covers an additional 0.35 hectare (Figure 3). Given the forested landscape, the GPR survey was unable to provide an estimated grave count. Instead, it was estimated that between 190 and 350 graves could be present within a high probability polygon covering 0.21 hectare, and to a lesser extent, within a 0.07-hectare low probability area (Figure 3). Based on RSWA's familiarity within the Cemetery, its environment and the physical delineation results, 190 graves could be a reasonable low-end grave estimate; however, the 350-grave high-end projection appears to be unlikely.

Cadaver Dog Survey (Sargent 2023; Attachment No. 3): In an attempt to better define the limits of the Cemetery, Dr. Sargent, in consultation with Mr. Webb, searched the 15-meter perimeter around the Cemetery using two cadaver dogs with extensive experience finding human remains (blind study). Neither dog positively identified human decomposition scents within the east, west or north cemetery buffer/clear zones; however, both dogs positively responded at two locations within the south and southeast buffer/clear zones (Figure 3). Dr. Sargent also routed each dog along RSWA's cemetery boundary flag line with negative results along the east, west and north boundaries. Both dogs responded positively just within the southern cemetery boundary line where known graves are present.

In historic cemetery settings with numerous closely associated graves, cadaver dogs do not alert the trainer to individual graves within a grave cluster, but they seek out the location with the strongest human decomposition scent (Personal Communication, Dr. Tracy Sargent, 12-6-2023). So for the current cemetery investigation, the dogs were not only important in locating areas positive for human decomposition south and southeast of the cemetery boundary, but also for noting negative results beyond and along the west, east and north cemetery boundaries established by RSWA. It is also essential to understand that cadaver dogs can alert to human decomposition compounds even when a burial or some other "human remains" event occurred and the remains are no longer present at the detection site. Such events would include exhumations, burial destruction/dispersion by agriculture/ silviculture or "loss-of-life/limb" situations. While it is unclear which decomposition compounds alert cadaver dogs, adipocere is at least one reasonable candidate, especially for human remains of historic and possibly pre-contact origin. Mr. Webb and many other osteo-archeologists have observed this waxy complex mixture of oxo and hydroxy fatty acids (and other components) in human burials dating from the late 18th century into the early 20th century; experts on the subject have documented much greater longevity [see Ubelaker and Zarenko (2011) for a brief summary]. It is not clear how long other decomposition compounds linger (e.g., biogenic amines like cadaverine and putrescine), but many form fairly early in the postmortem interval [see Ioan *et al.* (2017) for details].

Expedient Flip Tests: In another effort to gain an understanding of the extent of the Cemetery, Mr. Webb excavated a series of "flip tests" in (Figure 3): the southern (n=10) clear/buffer zone where the GPR survey suggested the presence of graves; and the southern (n=1) and southeastern (n=1) clear/buffer zones where the cadaver dogs scented human decomposition. A flip test involves inserting a shovel blade into the ground, flipping the soil over onto the surface and examining the profile for soil texture, color and type. This provided a quick assessment of the extent to which historic land use practices have depleted A-horizon soils. Nine flip tests produced shallow profiles

of 10 to 15 cm of sandy clay loam plowzone over sandy clay subsoil. Three flip tests exposed sandy clay subsoil at the surface (all in the southern clear/buffer zone). These findings are contrary to what would be expected if the areas south and southeast of RSWA's cemetery boundary line had not been disturbed since the early to middle 19th century. This does not, however, preclude these two areas from containing heavily disturbed burials.

Summary: Based on current and previpous delineation efforts, RSWA has confirmed through physical delineation that at least 185 graves are present within the Cemetery. The GPR survey estimates that 190 to 350 graves could be present, the higher estimate being made out of an abundance of caution. The cadaver dog results place human decomposition detection within the southern and southeastern clear/buffer zones but nowhere else outside of RSWA's cemetery boundary flagging. Considering the various results and the wooded environment, RSWA estimates that approximately 175 to 200 graves could be present; however, the actual grave count and cemetery boundaries can only be determined by physical exposure of grave shafts through mechanical stripping.

Future Actions: The project Memorandum of Agreement (MOA) will stipulate the treatment of the Cemetery. Until the MOA is executed and the treatment stipulations are complete, the Cemetery and surrounding clear/buffer zone will be preserved. Based on present physical, geophysical and cadaver dog findings depicted in Figure 3, the preservation area covers approximately 0.80 hectare (1.98 acres). The outside edge of this clear/buffer zone will be professionally surveyed and the entire outer edge of this zone will be marked with high-visibility barrier fencing.

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ATTACHMENT NO. 1

CEMETERY DELINEATION LETTER REPORTS (WEBB 2016; 2019)

R.S. Webb & Associates

Cultural Resource Management Consultants
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Holly Springs, Georgia 30142
Phone: 770-345-0706 • Fax: 770-345-0707

October 4, 2016

Mr. David P. Huetter
United Consulting
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Norcross, Georgia 30071

Subject: Letter of Findings: Cultural Resources Reconnaissance Survey
Proposed 207-Acre Commerce Park Development Tract
Jackson County, Georgia
R.S. Webb & Associates No. 16-085-157

Dear Mr. Huetter:

INTRODUCTION

During the period of September 14 through 26, 2016, R.S. Webb & Associates (RSWA) conducted a cultural resources literature search and reconnaissance survey of the 207-acre Commerce Park development tract in Jackson County, Georgia (Figure 1). As part of the field reconnaissance, the boundaries of an abandoned cemetery were delineated. For this study a "cultural resource" is defined as a discrete area of human activity that is more than 50 years old. Cultural resources include, but are not limited to, archeological sites, historic structures, military earthworks, mines/mining features, historic cemeteries, and historic landscape features.

The purpose of the reconnaissance survey was to determine if previously recorded cultural resources are located within the project area, revisit known resource locations, survey locations within the project area with a high probability of containing cultural resources, delineate the known cemetery, and estimate the likelihood of significant cultural resources [i.e., eligible for the National Register of Historic Places (NRHP)] being present within the study tract. A secondary goal was to generally assess land use history and potential post-depositional effects on cultural resources.

METHODOLOGY

Literature and Records Search: Historical/archival data on the project area were gathered from the following repositories:

- Georgia Archeological Site Files (GASF), University of Georgia, Athens
- Georgia Department of Natural Resources, Historic Preservation Division (HPD), Stockbridge
- Georgia State Archives, Morrow
- Georgia's Natural, Archeological, and Historic Resources Geographic Information System (GNAHRGIS) (https://www.itos.uga.edu/nahrgis/)
- Digital Library of Georgia, Georgia Aerial Photographs (http://dbs.galib.uga.edu/gaph/html/jackson.html)
- Historic Aerials (http://www.historicaerials.com)

Records at the GASF, including the official files and maps, were examined, followed by a review of the pertinent site forms, and manuscript/report files. At the HPD, pertinent compliance document files, official maps, NRHP/pending files, Identified Site files, Centennial Farm files, and Jackson County historic structures survey files were reviewed. GNAHRGIS was used to confirm the presence or absence of state-recognized historic resources in Jackson County. At the State Archives, Surveyor General's Office, historic maps were examined for features, including trails, roads, structures, and cemeteries. Historic aerial photography was reviewed online at the Digital Library of Georgia and Historic Aerials. The *Official Military Atlas of the Civil War* (Davis *et al.*1983) was consulted for the locations of Civil War-era military actions or associated features.

The following sources were examined to search for historic resources within and adjacent to the project area:

- 1891 USGS Gainesville, Georgia 30-minute quadrangle map
- 1914 Bureau of Soil Map of Jackson County
- 1939, 1951, 1958 and 1973 Georgia Highway Department Maps of Jackson County
- 1944 and 1955 Agricultural Stabilization and Conservation Service aerial photographs
- 1964 USGS Apple Valley, Georgia 7.5-minute quadrangle map
- 1993-2015 Google Earth aerial photography

Cultural Resources Reconnaissance Survey: The field reconnaissance was designed to sample areas likely to contain prehistoric and/or historic resources. The Project Archeologist walked transects across project area landforms as shown in Figure 2. Exposed areas, such as road cuts, trails, tree falls, and eroding banks, were examined for artifacts. To monitor subsurface conditions, screened shovel tests were excavated at 30-meter (m) intervals along reconnaissance transects. Shovel tests were not excavated on steep slopes (15 percent or more) or in drainage features. Shovel testing involves the excavation of 30-by-30-centimeter (cm) pits and screening the soils through 0.64-cm hardware cloth to enhance the recovery of artifacts. Cultural resources were recorded and photographed, and their locations plotted on the project map.

The project area and immediate surrounding area were scanned to confirm the presence/absence of historic structures/properties. Potentially historic structures were photographed within context, assessed for age and condition, and plotted on the project map. The project area viewshed was photographed.

Cemetery Boundary Delineation: The boundaries of the abandoned cemetery were delineated using surface inspection and subsurface probing techniques along and beyond the visible edges of the cemetery. Surfaces along the cemetery edge were inspected for fallen stone grave markers, plot coping, oblong depressions, and ornamental vegetation common in cemeteries. Probing involved inserting a 1.2-m (4.0-foot) metal tile probe into the ground at intervals of 30 to 100 cm searching for contiguous areas of loose soil that match the approximate size and depth of a human grave. Probing was conducted within 6 to 7 m of the outermost observed graves. Once the delineation was completed, the cemetery boundaries were marked with white pin flags bearing 'Cemetery Boundary'.

RESULTS

Literature Search

Previous Archeological Investigations: At least seven cultural resources management projects have been performed within 1.6 kilometers (km) (1.0 mile) of the project area. Projects closest to the project are include various surveys of the I-85 corridor (McIntosh and Duff 2002, Pietak 2006), a survey for replacement of several bridges along I-85 (Entorf and Fleming 1996), and surveys for a project to upgrade and reconstruct various road intersections in Jackson County (McIntosh and Duff 1999, Roberts 2014) (Figure 1). Projects at a greater distance from the project area include a survey of four alternative reservoir sites along Oconee River tributaries (Ledbetter and Braley 1990) and an investigative study of natural and man-made rock formations (9JK8) on the North Oconee River (Loubser 2016).

Previous Architectural Investigations: A comprehensive architectural survey of Jackson County was conducted in 1976, a preliminary architectural survey was performed in 1992, and a second comprehensive survey was conducted in 2002. The records on file at HPD for the 1976 survey include only the survey maps of the various towns in Jackson County (the county-wide map of surveyed resources is no longer present in the records). The records of the 1992 survey include limited information, but no maps or structure forms are available. The records of the 2002 survey include only quadrangle maps with the recorded resource locations and field numbers. The GNAHRGIS database appears to contain records of the 2002 survey only.

National Register of Historic Places: According to the records of HPD, there are no NRHP-listed historic properties located within 1.6 km of the project area.

Jackson County Historic Structures Survey Files and GNAHRGIS Database: Review of the 2002 survey records at the HPD and the GNAHRGIS database show nine previously recorded historic resources located within 1,000 m of the project area (Figure 1). The closest of these is Wheeler Cemetery (Resource No. 101477; Figure 1) (see *Cemeteries* section).

Georgia Archeological Site File: Review of maps/data from the GASF reveals that there are two previously recorded archeological sites located within 1.6 km of the project area. The nearest of these, 9JK8, was recently reported to be a series of natural and man-made rock features (prehistoric) located over 1,000 m south of the project area near North Oconee River.

Civil War Features: Review of the *Official Military Atlas of the Civil War* (Davis *et al.* 1983) indicates that the primary military events of the Civil War occurred well to the west, southwest, and south of present-day Jackson County. While no known combat actions took place in the county, mustering, foraging, raiding, and bivouacking could have taken place.

Cemeteries: Wheeler Cemetery appears on historic maps and was recorded as an historic resource in 2002 (GNAHRGIS No. 101477; Figure 1). The cemetery is located approximately 380 m west of the project area. No cemeteries have been recorded within the project area and none appear on historic maps of Jackson County; however, a large abandoned cemetery is known to exist near the center of the project tract and is discussed in the *Archeological Resources* section below.

Land Records for Original Franklin County (1784): Jackson County was created in 1796 from land referred to as original Franklin County, which was established in 1784. Georgia's Land Lottery system was placed into effect in 1804, and thus there was no survey of the land prior to its distribution to Euro-Americans. The land in the project vicinity was distributed to eligible citizens by headright and those records were not consulted as part of this project.

Structures and Features on Historic Maps and Aerial Photographs: Some of the earliest European settlements in present Jackson County were in the vicinity of Commerce (formerly Groaning Rock and Harmony Grove) and near Hurricane Shoal on the North Oconee River (formerly Yamtrahoochee) (Wilson 1914). The 1891 Gainesville quadrangle map shows the route of present Wheeler Cemetery Road, a more southerly east-west road, and the course of Gravelly Creek and its tributaries. The 1914 soil map shows the present Wheeler Cemetery Road and a system of primary and secondary roads trending southward along the east and south project boundaries. The map shows two structures inside the project area and four additional structures located adjacent to project boundaries (Figure 1). County highway maps produced during the course of the 20th century show Wheeler Cemetery Road and a more direct single north-south route located north and east of the project area (after 1939); the latter highway maps show structures located in or near the northeast part of the project area from 1951 through 1958.

Aerial photographs taken in 1944 show that the south one-third and the east edge of the project area were under cultivation, while the north two-thirds of the project area display scrub or other vegetation of a moderate age. Wheeler Cemetery Road and the straightened road to the east were visible, and house signatures appear at or near the present northeast project corner and near the south project boundary, east of Gravelly Creek (Figure 1). A feature present near the center of the study tract is at the same location as the abandoned cemetery investigated during the current field survey. Aerial photographs from 1955 show significantly increased vegetation in the project area (the remaining cultivated areas were then similar to what is shown on the 1964/1976 quadrangle map) (Figure 1). The road courses remained relatively unchanged and two structures remained at or near the northeast project boundary, but no other structures or features are visible in the 1955 aerial photographs. Google Earth aerial photography from 1993 to 2015 shows the project area as being forested with episodic timber harvesting. No structures could be discerned within the project area during this span.

Field Reconnaissance

Land Use/Condition: Physiographically, the project area consists of a broad ridge end, ridge spurs and side slopes incised by Gravelly Creek and several of its low-order tributaries (Figure 1). Field observations confirm the heavily eroded nature of the project area due to harsh 19th and 20th century land use practices. These practices include early long-term monocultural row-crop cultivation, contour terracing, silviculture, and related severe erosion. Vegetation within the project area consists of pines, hardwoods and mixed pine/hardwood forests (Figures 3 and 4).

Field reconnaissance shovel testing was conducted along 20 transects (Figure 2). Of the 104 shovel test stations present along these transects, tests were excavated at 88 stations: all were negative. Tests were not excavated at 16 stations due to their locations on graded/disturbed areas, steep slopes or in drainage features. Shovel test profiles exposed A-horizon soil depths ranging from 2 to 20 cm deep; however, in only three locations did these soils reach 20 cm in depth. Average depth was less than 15 cm below surface and reflects heavy disturbance related to harsh agricultural/silvicultural

land use practices and significant erosion. A-horizon soil textures included loamy sand, loam, and clay loam, while subsoils were composed of clay, gravelly clay or sandy clay.

Archeological Resources: One archeological site, an abandoned cemetery, was recorded during the current field reconnaissance.

Wilson-Dickerson-King (aka Wilson Family) Cemetery: This abandoned cemetery is located on a prominent knoll in the middle of the project area (Figures 1 and 5). Vegetation in the cemetery consists primarily of a hardwood canopy with occasional historic cedars. Based on delineation results, the cemetery covers an area of approximately 60 m north-south by 41 m east-west, or about 0.25 hectare (0.61 acre). A systematic walkover of the cemetery indicates a minimum of 137 obvious graves. Numerous marked graves and unmarked depressions are present, all of which are aligned east-west as is traditional in 19th to early 20th century cemeteries. At least 16 graves have inscribed markers. Nine of these graves have the Wilson surname; these individuals were interred during the period of 1855 to 1883. Members of the Dickerson (n=3), King (n=2), Bennett (n=1), Vinson (n=1), and White (n=1) families are also present and were buried during the span of 1896 through 1915.

Abandoned cemeteries such as the Wilson-Dickerson-King Cemetery are protected under state law (Official Code of Georgia, Title 36, Chapter 72). Given its temporal range and diversity of grave markers, this cemetery may also be eligible for the NRHP. It is recommended that the cemetery be avoided and protected if possible. If this is not possible, Title 36, Chapter 72 identifies the process required for relocating the cemetery. If the Commerce Park undertaking requires federal oversight (e.g., wetlands permitting), and therefore treatment under the National Historic Preservation Act, then the relocation process may require more detailed work than is necessary under state law.

Historic Resources: No historic structures were observed during the field reconnaissance of the project area. The closest structure to the project area that appears to be at least 50 years old is located about 75 m west of the project access corridor on Tom Yarbrough Road (Structure No. 1; Figures 1 and 6). Due to significant alterations, this 20th century dwelling does not appear to meet any NRHP eligibility criteria.

CONCLUSIONS AND RECOMMENDATIONS

No previously recorded archeological sites or historic resources are located within the project area. One archeological site, the Wilson-Dickerson-King Cemetery, was recorded during the current field reconnaissance. The lack of additional archeological sites is probably due to the severely disturbed nature of the project area and the presence of moderate slope over about half of the project area. No historic structures/resources were recorded within the project area and it does not appears that nearby Structure No. 1 meets any NRHP eligibility criteria.

The Wilson-Dickerson-King Cemetery is protected under state law and it may be eligible for the NRHP. It is recommended that the cemetery be avoided and protected if possible. If this is not possible, Title 36, Chapter 72 provides for the relocation of the cemetery. If the project requires federal oversight (e.g., wetlands permitting), then relocation may require more detailed work than is necessary under state law.

CLOSING COMMENTS

Mr. Huetter, we appreciate the opportunity to work with United Consulting on this project. If you have any questions concerning our findings please contact me at 770-345-0706.

Sincerely,
R.S. WEBB & ASSOCIATES

Robert S. (Steve) Webb
President and Senior Principal Archeologist

Attachments: Figures 1-6

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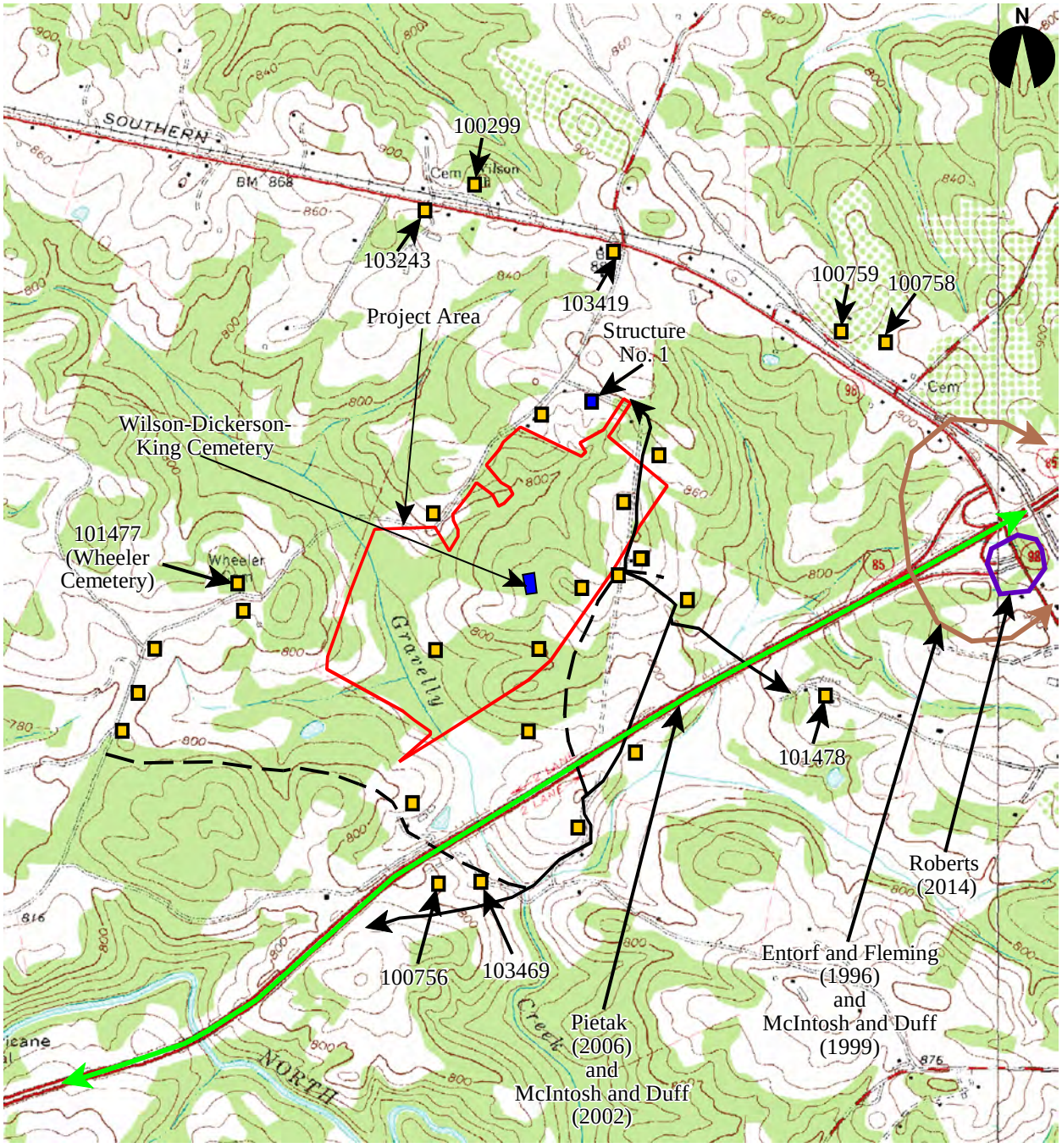


Structure on Historic Maps

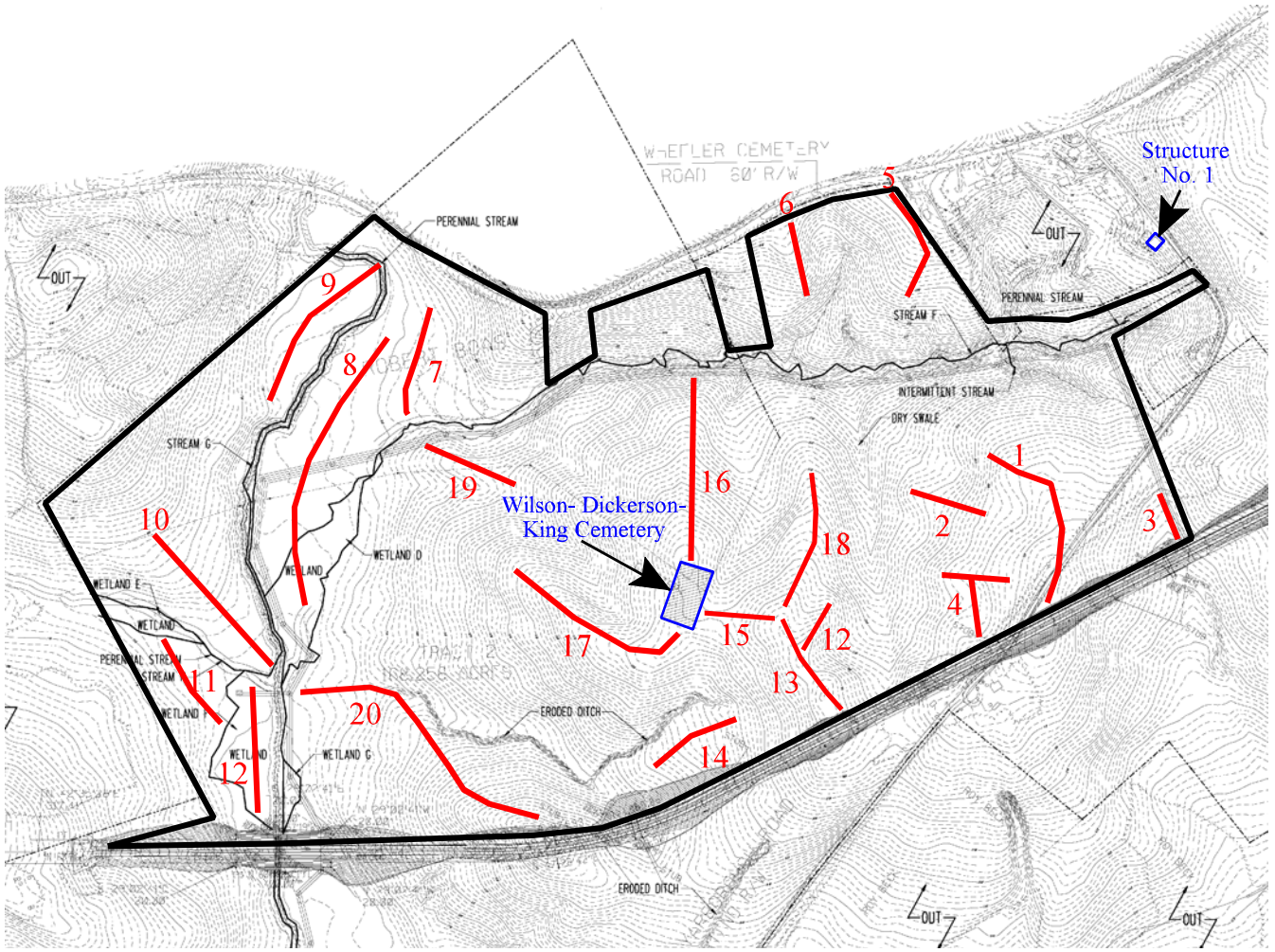
Primary and Secondary Roads on 1914 Soil Map

Previous Resource Investigation

Map Reference: 7.5-Minute USGS Quadrangle
Apple Valley (1964, PI 1976), Georgia

Scale
0 610 meters
0 2000 feet

Figure 1 Project Area and Cultural Resources Location Map



Map Reference: United Consulting (2007)

Scale

0 135 meters

0 443 feet

Figure 2 Survey Coverage and Cultural Resource Location Map

Facing North

Facing South

Figure 3 Selected Views of Project Area Lowland Settings

Facing Northwest

Facing West

Figure 4 Selected Views of Project Area Upland Settings

Facing West-Northwest

Facing South

Figure 5 Selected Views of Wilson-Dickerson-King Cemetery

Facing West

Facing Southeast

Figure 6 Selected Views of Structure No. 1

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February 12, 2019

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Subject: Cemetery Delineation Letter - Wilson-Dickerson-King Cemetery
Bana Road Development Tract
Jackson County, Georgia
R.S. Webb & Associates No. 18-799-001

Dear Mr. Story:

BACKGROUND

During the period of August 13 through 19, 2018, R.S. Webb & Associates (RSWA) delineated the abandoned Wilson-Dickerson-King Cemetery (hereafter referred to as the Cemetery) located approximately 700 feet northwest of Bana Road in Jackson County, Georgia (Figures 1 and 2). Mr. Steve Webb, RSWA Senior Principal Archeologist and Physical Anthropologist, conducted the physical delineation of the Cemetery with the assistance of Mr. Doug Tilley, RSWA Archeologist. The delineation was conducted in accordance with state law governing the treatment of historic cemeteries prior to the development of a property containing the cemetery (Georgia Code Title 36, Chapter 72). When development is planned, an archeologist is required to make a professional estimation of the cemetery boundaries and number of graves, and to prepare a report of findings.

METHODS

Physical Delineation: Mr. Webb used surface inspection and probing techniques to confirm grave locations and to search for possible graves within a 25-foot perimeter of the outermost graves within the Cemetery. Surfaces were inspected for head/foot stones, grave depressions, old fencing (i.e., wrought iron plot/cemetery fencing), erosional pads, and ornamental vegetation common in cemeteries. Probing involved inserting a 4.0-foot tile probe into the ground to explore the nature of known graves, questionable depressions and areas apparently devoid of graves based on surface inspection. Probing was conducted at 1.0 to 3.0-foot intervals, along transects spaced 2.0 to 3.0 feet apart. When Mr. Webb detected a grave or potential grave, Mr. Tilley marked the head and foot of each grave with paired, color-coded, numbered pin flags.

Physical Delineation Reliability: The reliability of the physical delineation results can be diminished by local conditions such as heavy tree root networking, rocky soils, limited soil moisture, and/or significant ground disturbance. Under such conditions, graves may not be detected or disturbance areas may be interpreted as graves, and the number of graves could be under- or over-estimated. While ground penetrating radar can provide additional information about grave presence/absence, the only reliable way to obtain the actual grave count is to strip the topsoil from the Cemetery and tally the number of exposed grave shafts. Since treatment of the Cemetery (i.e., relocation or preservation) is not yet known, stripping to expose grave shafts is not a feasible method.

Cemetery Marking: Once the delineation was complete, Mr. Webb set the cemetery boundaries based on the outermost identified graves and cemetery-related vegetation. Messrs. Webb and Tilley marked the boundaries with white pin flags bearing "Cemetery Boundary."

RESULTS

The Cemetery is located on a broad, gentle ridge near the center of a proposed development tract (Figure 1). Vegetation within the Cemetery primarily consists of mature/historic hardwoods with occasional cedars and light to thick surface/shrub-level vegetation. Given that the Cemetery is overgrown and exhibits evidence of vandalism, this property is considered to be in a state of abandonment.

Delineation results indicate that the Cemetery covers an area of approximately 197 feet north-south by 135 feet east-west, or about 0.6 acre (Figure 3). This area is based on the distribution of the graves and associated historic trees. In total, 165 graves were recorded, but additional/ undetected graves could be present. The Cemetery is organized in numerous grave clusters, in some cases by surname (Figure 3). The number of graves and the overall level of organization is fairly typical of a multi-generational and/or multi-family cemetery. At the time of the delineation, inscribed markers were observed on 14 graves. Other inscribed markers could have fallen and may be buried under forest litter. Most of the remaining graves are marked by fieldstones or are unmarked grave depressions. All observed graves are aligned east-west, which is the traditional orientation of historic Christian burials with the decedent's head at the west end of the grave.

Regarding the 14 inscribed markers, eight bear the Wilson surname; these individuals were interred during the period of 1855 to 1883 (Table 1). Members of the Dickerson (n=1), King (n=3), Bennett (n=1), and Vinson (n=1) families are also present and were buried during the later span of 1896 through 1915. Since numerous graves within the Cemetery are unmarked or have stones with no inscriptions, the overall use period could be longer than 1855 to 1915.

Table 1. Known Individuals Based on Headstone Inscriptions

Grave No.	Decedent Name	Birth-Death
8	Elmira J. King	1840-1911
9	J. J. King	1828-1896
10	Clarence J. (son of J. N. Dickerson)	1900-1901
12	Amanda King (wife of J. N. Dickerson)	1871-1915
83	Louisa (wife of S. T. Vinson)	1843-1911
109	J. M. Bennett	1839-1905
110	Thomas A. (son of Matilda J. Wilson)	1865
111	Mary Lueretia Haseltine (daughter of F. F. and M. A. Wilson)	1861-1870
112	Dios Alonzo (son of F. F. and M. A. Wilson)	1855
113	Jenettern (daughter of F. F. and M. A. Wilson)	1854-1855
154	J. M. Wilson	1852-1880
155	Miss Fanie Wilson	1859-1879
159	Mary M. (wife of William Wilson)	1804-1883
160	William Wilson	1798-1875

CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of the Principal Archeologist that it is unlikely that additional human graves lie beyond the delineated boundaries of the Cemetery as depicted in Figure 3. However unlikely, it is always possible that small graves, graves in heavily disturbed areas or localities with heavy roots or

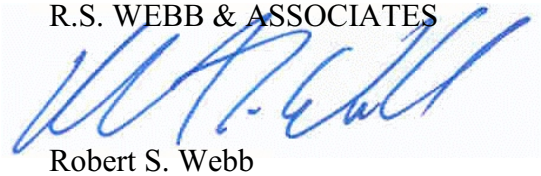
rocks, or graves in areas with unusually compact soil may not be detected using probing/surface inspection, GPR, or other discovery techniques.

If ground-disturbing activity is planned for the property containing the Cemetery, it is highly recommended that a 25-foot buffer zone be established around the delineated Cemetery boundaries until ground-disturbing activities are complete. It is also recommended that the outer edge of the buffer zone be marked with tree-save fencing or a similar brightly colored barrier so that incidental damage to the Cemetery might be avoided.

CLOSING COMMENTS

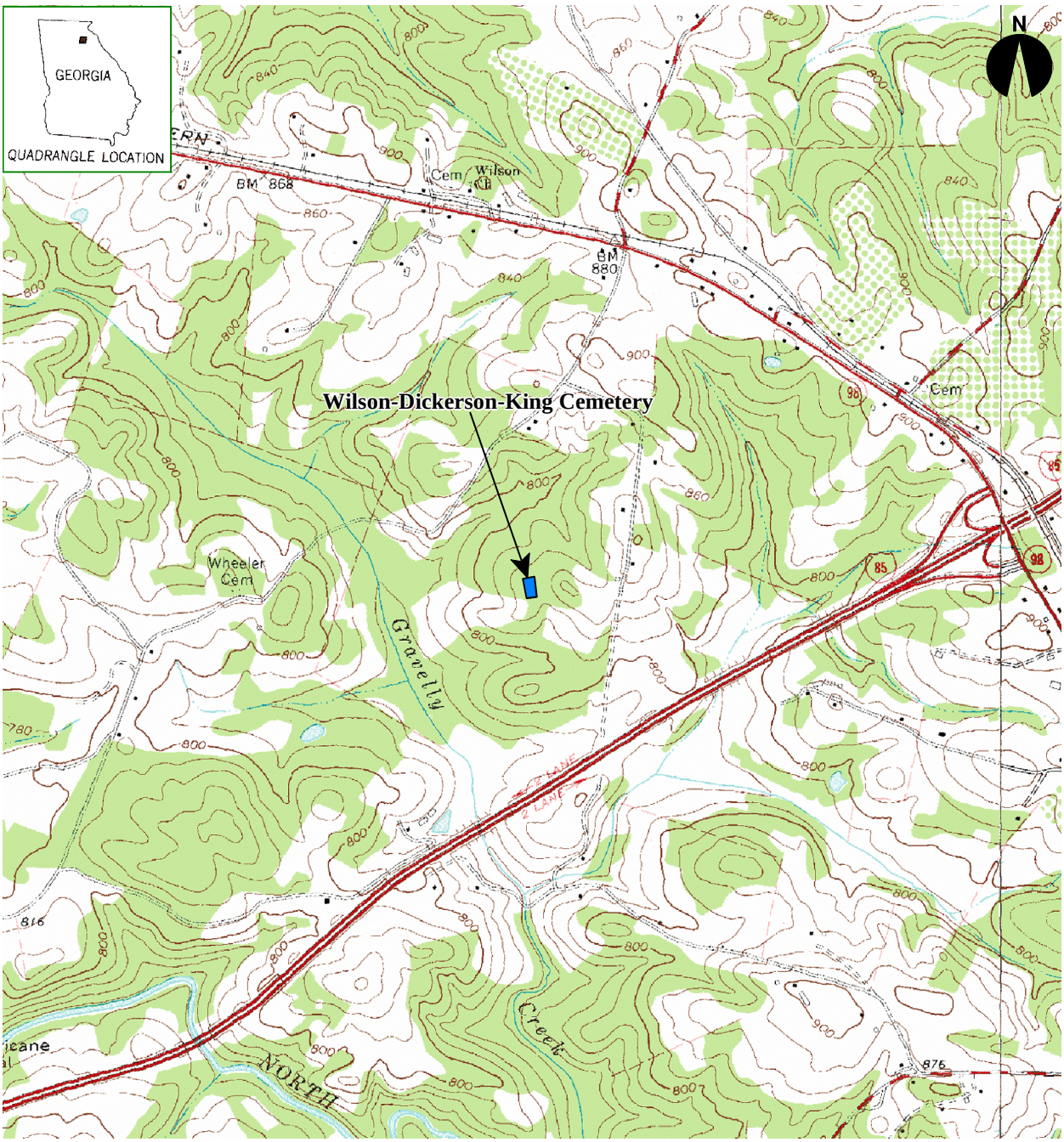
Mr. Story, we appreciate the opportunity to work with Avalon Real Estate Partners on this project. Please contact me at 770-345-0706 if you have any questions concerning our findings.

Sincerely,
R.S. WEBB & ASSOCIATES



Robert S. Webb
President and Senior Principal Archeologist

Attachments: Figures 1-3



Map Reference: 7.5-Minute USGS Quadrangle
Apple Valley, Georgia (1964, PI 1976)

Scale
0 610 meters
0 2000 feet

Figure 1 Wilson-Dickerson-King Cemetery Location Map

Figure 2 Aerial Photograph Showing Location of Wilson-Dickerson-King Cemetery

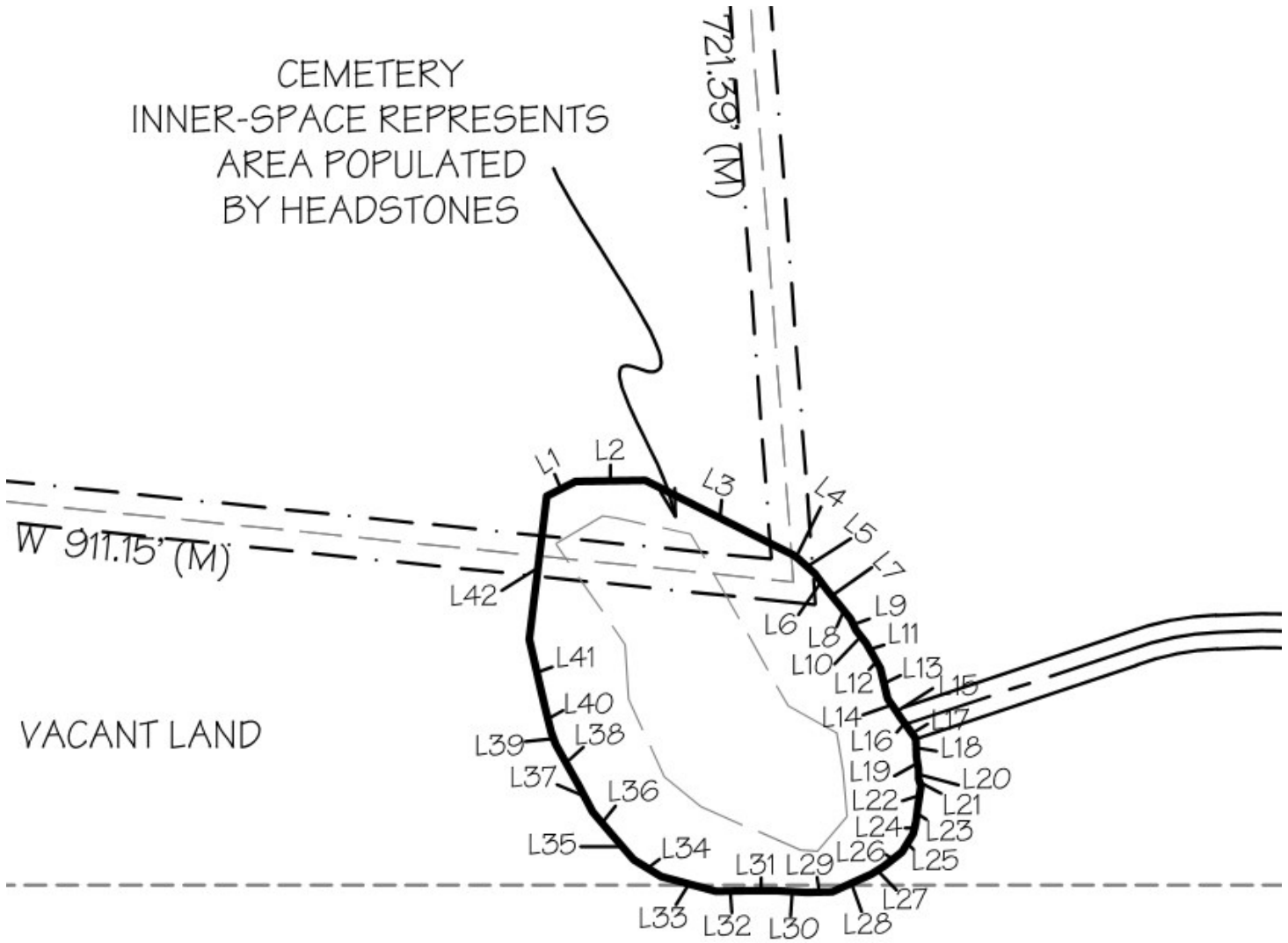


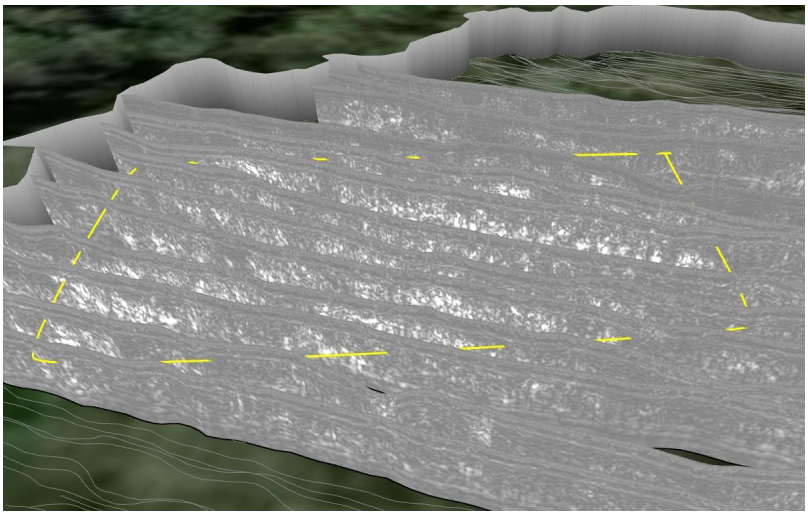
Figure 3 Professional Boundary Survey, Wilson-Dickerson-King Cemetery

ATTACHMENT NO. 2

CEMETERY GPR SURVEY REPORT (MCCONNEL *ET AL.* 2023)

BIGMAN GEOPHYSICAL

Cemetery Investigation for R.S. Webb Near Commerce, GA.



August 2023

Prepared By:
Dr. Sean McConnel
Robert Theberge
Mark Pfifer

INTRODUCTION

Bigman Geophysical, LLC was contracted to conduct a ground-penetrating radar investigation on approximately 1.8 acres of heavily forested environment near Commerce, GA. The project's scope was to delineate the boundaries of a known historic cemetery. The surface investigation had been carried out by qualified archaeologists equipped with surface probes, who had mapped over one hundred burials and flagged them appropriately.

The ground surface was extremely rough, having been abandoned long enough for a full canopy forest to cover the site, but brush clearing and mulching practices had been employed to allow for coverage by GPR pushcart systems. The scope was designed to record the area in which probable graves could be observed by radar, but an individual body count was decidedly infeasible given the degree of surface blockage by trees and the sheer quantity of graves. The goal of the investigation was to provide developers with a usable map to help plan the use of the land and the potential relocation of the cemetery in the future.

Figure 1: The site conditions with red and yellow flags representing the heads and feet of burials found by R.S. Webb and Associates.

METHODS

Ground Penetrating Radar (GPR)

This survey utilized GPR to record information about the subsurface environment in the area of investigation, which was then projected and evaluated in a three-dimensional computer model. GPR sends electromagnetic pulses to a transmitting antenna at the ground surface, which produces a radio wave that travels through the subsurface (Koppenjan 2009). Wave speed depends on the ability of a given medium to transfer energy (Annan 2009, Conyers 2004). When an approaching wave encounters a discontinuity in the physical properties of the soil, and the wave's speed changes, some of the wave front's energy is reflected back toward the ground surface (Annan 2009). According to classic works by Borne and Wolf (1959) and Crawford (1968), the amount of energy reflected when an approaching wave encounters a contrast in dielectric permittivity will vary based on how different the two materials are on either side of the interface. A large difference in dielectric permittivity will result in a large amount of energy reflected off the interface, whereas a small difference on either side of the boundary will result in a small amount of energy being reflected. The two-way travel time (usually recorded in nanoseconds) and the reflection amplitude is recorded at the surface by a receiver antenna. Each traverse with the GPR provides a two-dimensional profile of the subsurface. When traverses are collected adjacent to each other, data can be resampled to create pseudo-3D visuals called time-slices (Conyers 2004).

GPR is a popular and often successful technique for identifying utilities and other manmade subsurface features (Hebsur 2013, Metwaly 2015, Rashed 2013, Wai-Lok Lai 2018, Wei Jaw 2013). However, there are limits to the resolution of any non-destructive testing and the physical properties of subsurface materials, surface conditions at a site, and the complexity or orientation of targets can impact the overall quality of results from a GPR survey.

DATA COLLECTION AND FILTERING PARAMETERS

Data collection was completed using Sensors and Software 500MHz systems attached to Emlid RS2 GPS systems set up as a base/rover pair to establish RTK corrections. The location data was generally observed to be sub-foot accuracy despite the heavy tree canopy covering the entire AOI. RTK fix was gained and lost constantly during the survey, but thanks to the filtering and averaging options in the software, it was possible to generate usable GPS tracks of where the device has scanned.

The 500MHz antenna was chosen for its ability to resolve shallow targets (less than six feet below ground surface) and provide image clarity such that tree roots could be differentiated from human burials as much as possible. This system has been proven effective through previous investigations conducted by Bigman Geophysical in historic cemetery contexts. At this site, the 500MHz antenna produced excellent radargrams that brightly separated the organic signatures from native soils. Differentiating roots from graves was very difficult in the field, as there was an abundance of decaying root balls from trees that had presumably been logged or cut down in the cemetery's past. It was decided that post-processing would be necessary to determine where signatures on human burials ended, and thus, a boundary around the cemetery could be drawn.

Figure 2: The GPR and GPS systems deployed on site, as shown in a stock photo from Bigman Geophysical.

Filtering and Parameters

The software program used to process data was Geolitix, a third-party software designed to project GPR data in a 3D environment and provide advanced tools for drawing and exporting detected features. The radargrams were corrected for time-zero and then gained manually. They were then given a second energy-decay curve to highlight deeper features. A bandpass filter was applied to cut off both high and low-frequency interference, and a background removal was applied with an appropriate window to remove banding but avoid filtering planar signatures. Data migration using a velocity found with the hyperbola fitting method and a Hilbert transform was applied to all data to create time slices. Radargrams were left unmigrated to allow consideration of hyperbolic responses during profile analysis in the 3D environment.

Time slices (amplitude maps) were created with 5 cm cell sizes exposed to a 120cm search radius using the Kriging method. A plan-view map was created for every six inches of depth, averaging 6 inches above and below each slice. Finally, signatures were treated to a 5x5 low-pass filter to smooth features and better represent their shape in the ground.

The radargrams were corrected for time-zero and then gained manually. They were then given a second energy-decay curve to highlight deeper features. A bandpass filter was applied to cut off both high and low-frequency interference, and a background removal was applied with an appropriate window to remove banding but avoid filtering planar signatures.

Time slices (amplitude maps) were created with 5cm cell sizes exposed to a 1m search radius using the Kriging method. A plan-view map was created for every 10cm depth, averaging 7.5cm above and below for each slice. Finally, signatures were treated to a 5x5 low-pass filter to smooth features and better represent their shape in the ground.

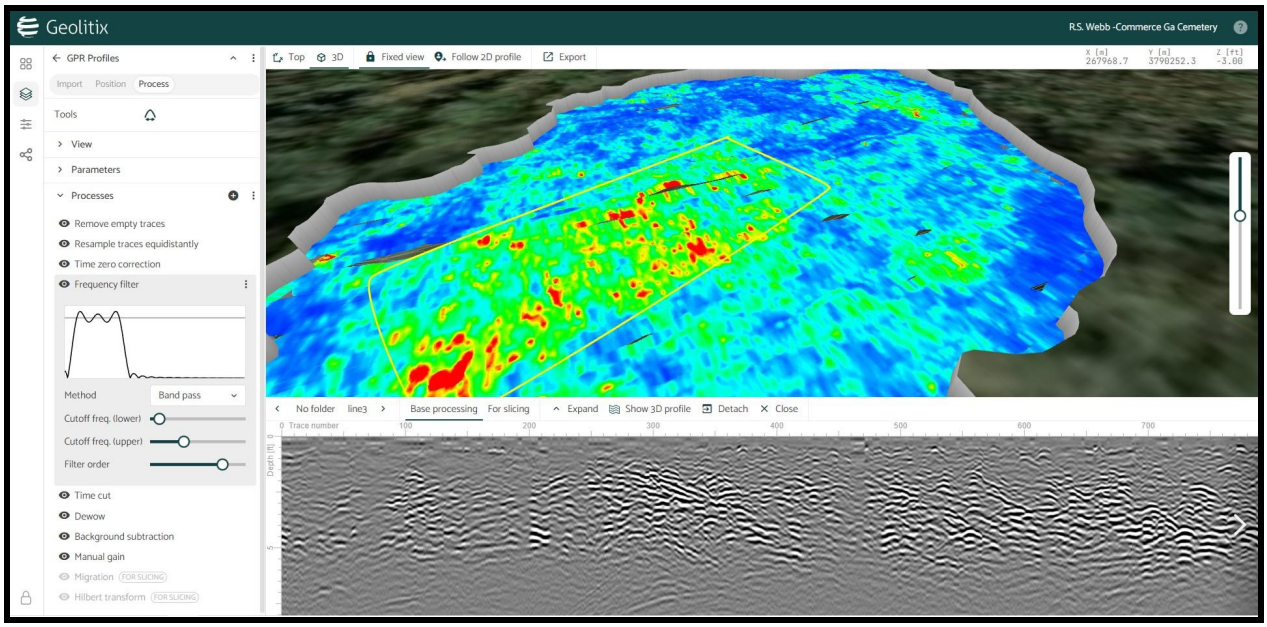


Figure 3: The three-dimensional computer modeling of the subsurface environment.

RESULTS

The GPR recorded an area of dense burial interment, with human remains often indicated on the surface by flags from the previous archaeological survey. For the majority of the cemetery graves produced a "bright" (high-amplitude) signature that was immediately visible in time slices as an approximately rectangular area, particularly for depths between two and four feet below the surface. Most likely, this area represents a distinctive boundary that was in use during the deposition of the graves. GPS points taken on the graves found by surface probing, however, show that there are two areas outside of that rectangular area in which additional graves are located. Figure 4 shows the high amplitude burial area at a depth of 3.5 feet below the ground surface.

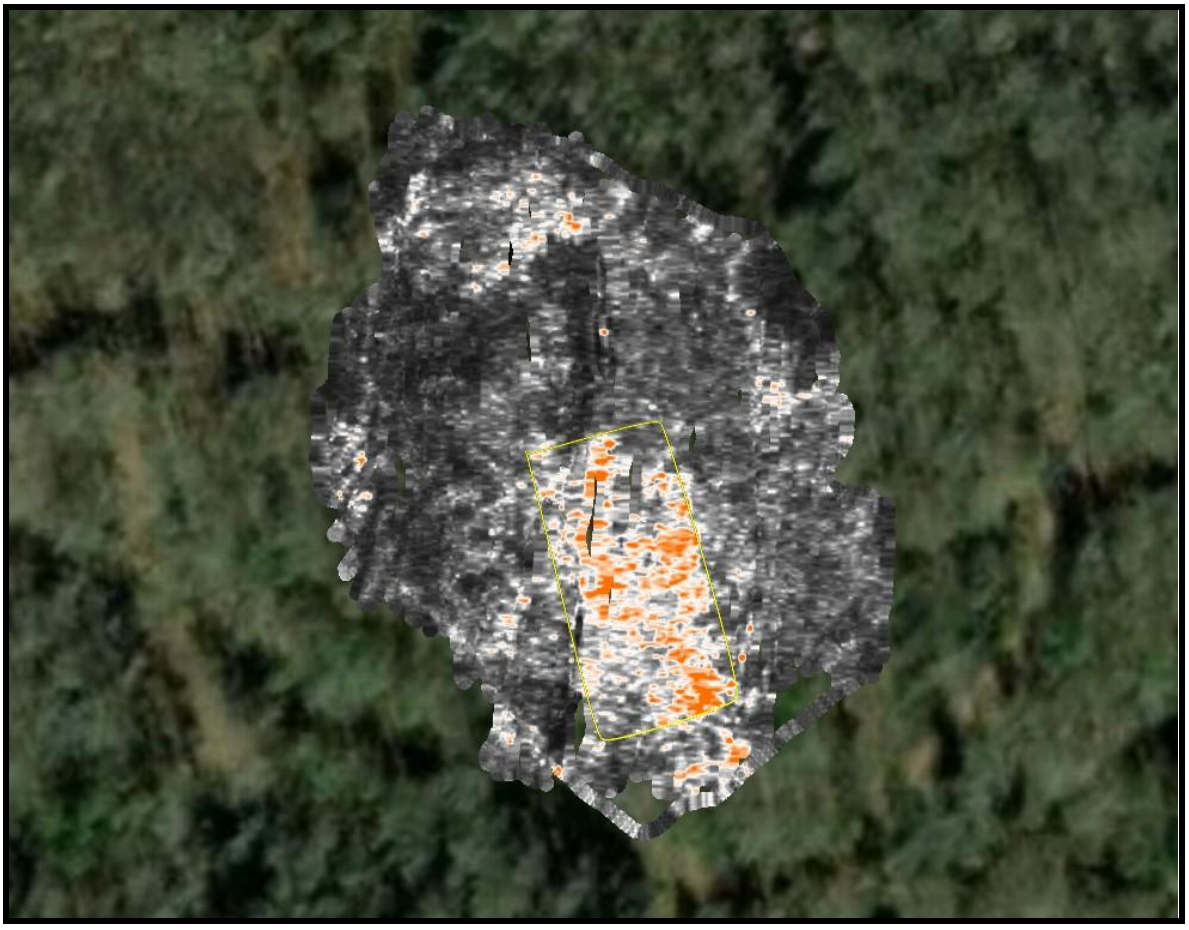


Figure 4: Time Slice of 3.5 feet below ground surface. High amplitude objects such as graves, shown in orange, with a yellow boundary around the detected rectangular area drawn in yellow.

It was clear from a review of the probe results that some of the graves were outside the high amplitude area and were generating much weaker responses to the GPR survey. Figure 5 shows the grave positions found by headstones or probing projected on the same slice, which triggered a review of the low amplitude areas to the north and east.

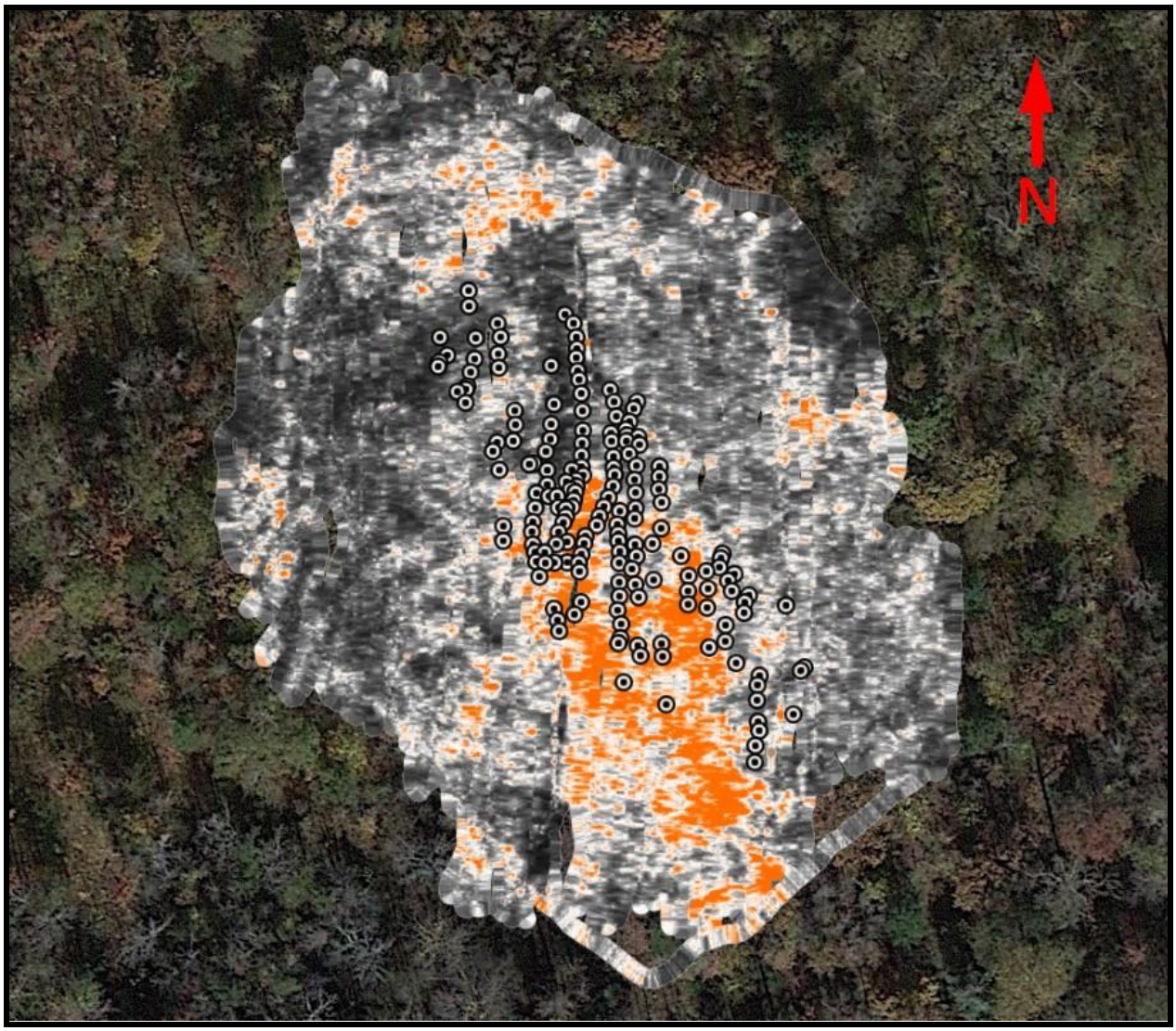


Figure 5: Graves marked during archaeological surface probing projected on top of the radar scan from 3.5 feet below the ground surface.

A review of probe results versus GPR data determined two clusters of graves outside of the visible rectangular area. Graves in those two locations presented much weaker signatures.

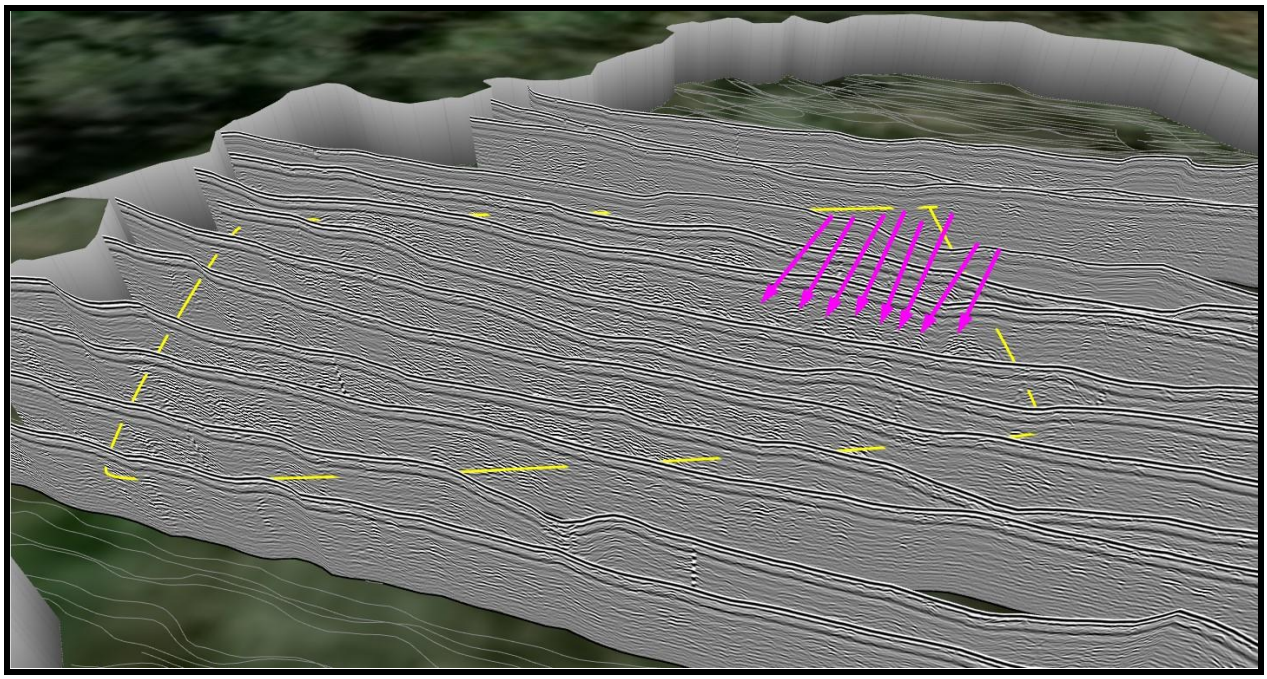


Figure 6: Radar profiles shown in place. A sample of grave signatures is highlighted with magenta arrows to visually distinguish from the much weaker responses around the cemetery.

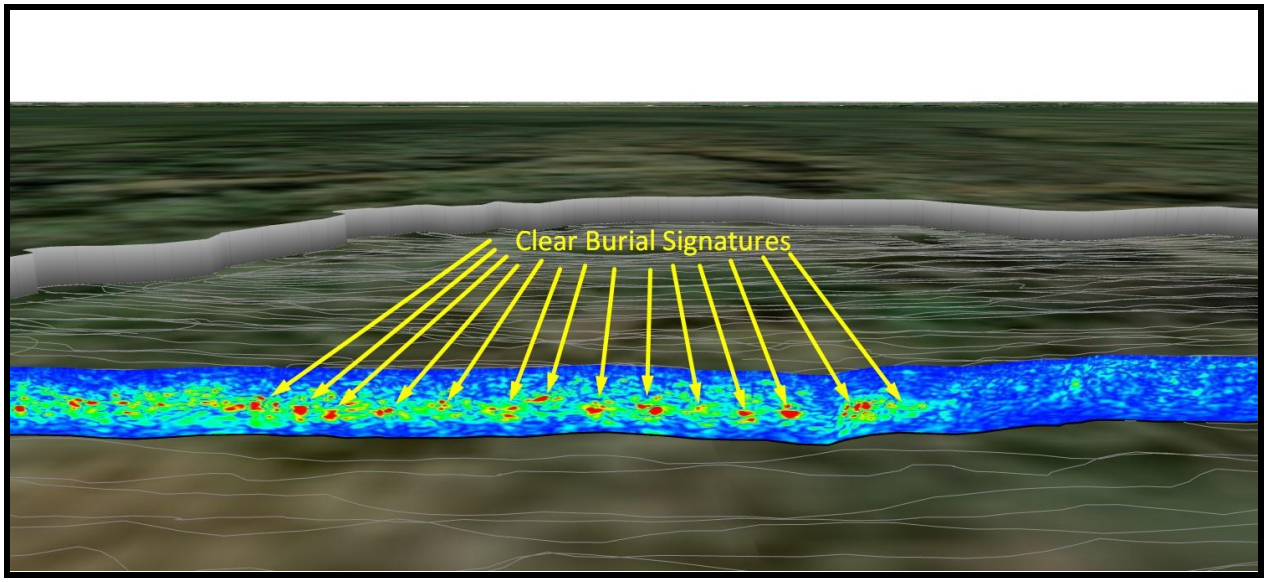


Figure 6: A Hilbert transform (colorized envelope) of a sample radar profile, again highlighting the clarity of graves within the rectangular area versus the area outside of it. The area on the right-hand side of the image does contain graves, but their responses are so faint that they failed to generate a colored envelope response in the above image.

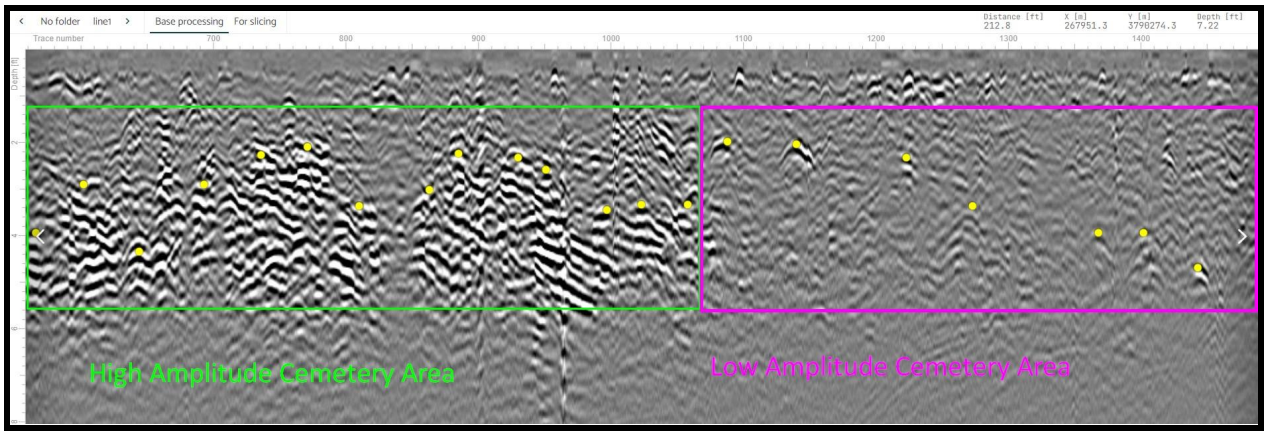


Figure 7: A single radargram image showing the high amplitude graves (left) versus the weaker responses on the right. Burials are marked with yellow dots.

When reviewing radargrams, it is important to note that a non-uniform depth to signature is normal for historic graves, as geophysicists necessarily tag the top of each feature because the depth to target is important information for excavation and preservation. The human remains are generally more homogenous in depth beneath the tagged responses because the unconsolidated soils and trapped decompositional gasses above the remains are the shallowest part of the grave visible in radar returns. The gasses and voids are not stable features but rather a function of the gradual decomposition of burials, so their depths are much less uniform than the burials themselves. In this dataset, the wider, often flat-bottom responses from human remains were generally found 2-3.5 feet below the surface, typical for historic cemeteries in Georgia. Figure 8 shows a good example of a burial in the low amplitude zone, in which no hyperbolic response was generated, but a wider feature with a rectangular cross-section is observed at grave depth.

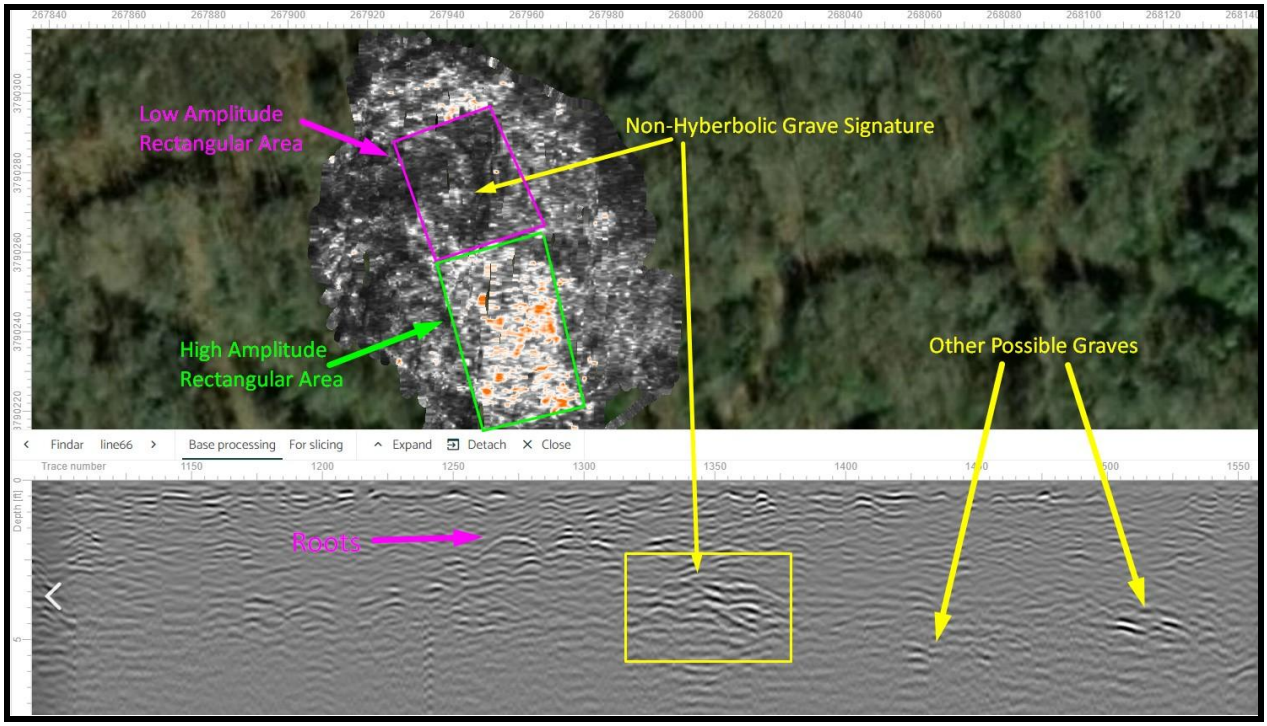


Figure 8: A radargram showing a marked grave found in the low amplitude area to the north. The lack of hyperbolic signature indicates that decompositional gasses have most likely vented from this burial, and only the remains can be identified.

CONCLUSION

The GPR recorded strong signatures of high amplitude reflections within a rectangular area, which correlates to where most grave markers and flags were found on the surface. Two areas outside of the highlighted rectangle contained visible grave markers and tested positive by probe but did not present the same strong GPR returns. Burials were identified in those areas but were different in response, indicating that they were physically different than the graves inside the bounded rectangle. It is likely that the cemetery was bounded originally by some fence or boundary that is no longer in existence, and internments outside of that area were either an older cemetery or zones where a population was buried with different techniques, such as casketless inhumation of paupers.

Figure 9 shows the high probability area in which graves are strongly indicated by surface probing and GPR returns and a low probability area in which the only detected signatures are most likely false positives, but full caution is advised until surface sampling or archaeological investigation has cleared the area. Bigman Geophysical recommends caution operating near historic cemetery boundaries, particularly in forests, as the complex subsurface around the cemetery contains tree roots and animal burrows that can mask or partially destroy individual burials, thus preventing their detection.

Given the nature of differential burial practices among social and ethnic groups, it is possible that a category of people such as paupers, African Americans, non-christians, or so on could be located near but outside of the consecrated ground, as was often traditional in nineteenth-century Georgia. Consultation with qualified archaeologists such as R.S. Webb and Associates should be taken before planning any ground-disturbing activities near the marked cemetery, and archaeological monitoring should be employed during the ground disturbance itself.

The presented cemetery boundary and low probability zone should be treated with full legal protection until extensive excavation or archaeological sampling has ground-truthed results in the low probability zone. “Full coverage” radar sampling is not possible in a forest with standing trees, but results indicate the 190-350 burials most likely exist in the marked area, a no convincing evidence of burials outside of the marked areas was found.

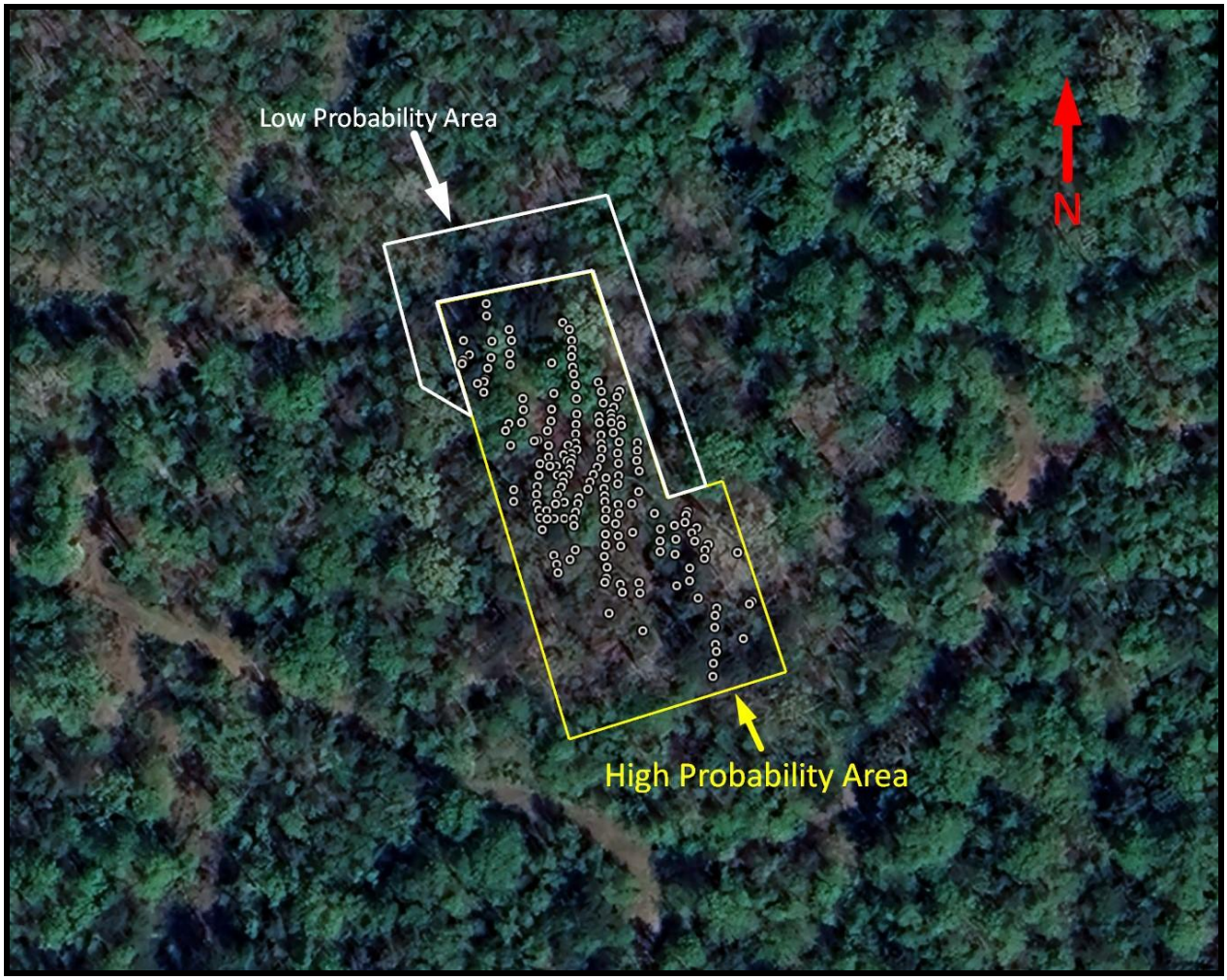


Figure 9: The high probability area that contained strong evidence of human burials marked in yellow and the low probability area that contained weak evidence of burials marked in white.

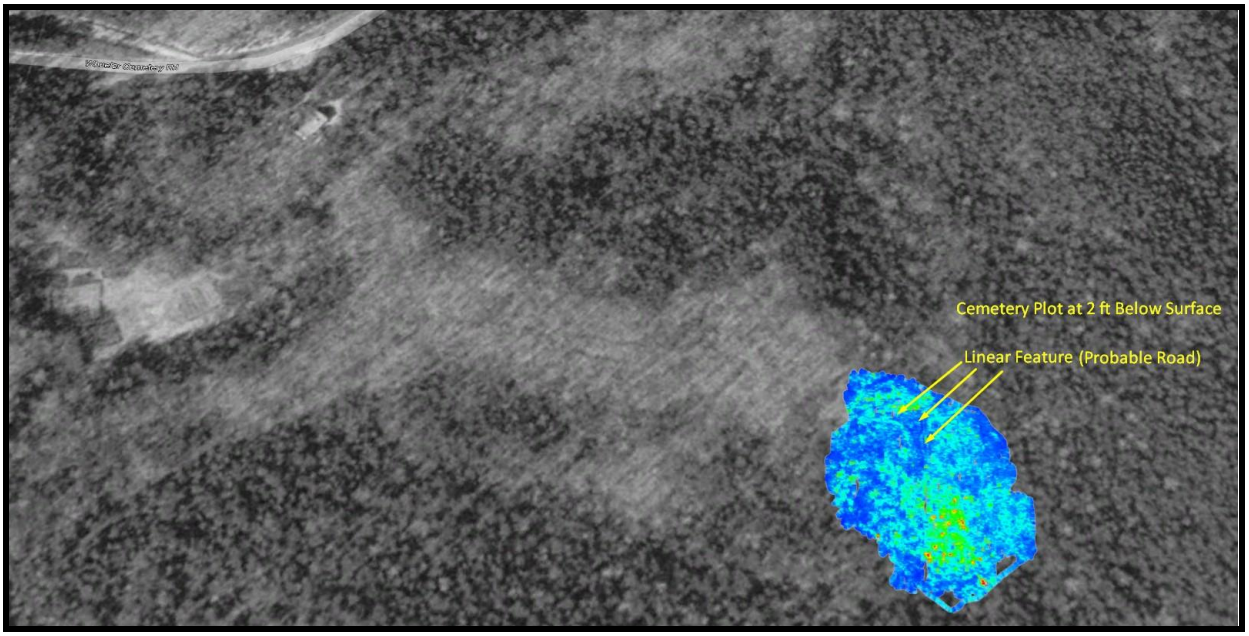


Figure 10: An image showing the radar slice from two feet below the surface projected on a Google Earth image from 1993, which indicates that the low amplitude area north of the bounded cemetery may have included a roadway to buildings located northwest.

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ATTACHMENT NO. 3

K9 SEARCH & RESCUE SPECIALISTS CADAVER DOG REPORT (SARGENT 2023)

K9 TEAM REPORT

K9 Search & Rescue Specialists, Inc.
368 Wiley Road, Cedartown, GA, 30125
770-722-4241
trace314@yahoo.com

ADMINISTRATION

Incident Number and Name Cemetery (Industrial Park Development)		**Incident Type** Human Remains	**Date** December 5, 2023
Place (Address, County, State) Cemetery located near Lat/Long: 34.236451° N -83.508947° W (Jackson County, Georgia)			
Requesting Agency Robert S. (Steve) Webb President and Senior Principal Archeologist R.S. Webb & Associates		**Responding Agency** R.S. Webb & Associates	
K9 Team Responded Tracy "Trace" Sargent K9 Draco, K9 Taz		**Status of Subject(s)** Investigation Pending	
Time Requested 11/22/2023	**Time On-scene** 12/5/2023 @ 0746	**Time In-Service** 12/5/2023 @ 1032	**Total Areas Searched** Various areas

[Please see R.S. Webb & Associates for project details]

SUBJECT PROFILE

Number of Subjects: Unknown

DESCRIPTION				
Name		**Race**	**Sex**	**Age/DOB**
Height	**Weight**	**Hair** Brown	**Eyes**	**Shoe Size**
Body Markings			**Other**	

CLOTHING				
Shirt	**Pants/Shorts**	**Coat**	**Hat**	**Shoe Type**
Other				

EQUIPMENT
Items Carried

MEDICAL
Any Known Medical Condition

PERSONALITY
What Type of Personality

PURPOSE OF ACTIVITY
An industrial development project is being considered within an area that is in close proximity to the cemetery. K9 resources were requested to determine if human remains were outside the currently identified cemetery boundary.

SEARCH INFORMATION

Definitions

PLS:	Point Last Seen – Where the subject was last seen by another person.
LKP:	Last Known Point – Last point where the subject was presumed to be as determined by clues (footprints, trash, broken branches, clothing, etc.).
Incident Commander:	Person(s) in charge of search operations.
Subject:	Person missing.
K-9 Team:	One dog handler and one dog.
Officers:	Law enforcement officers looking for the subject.
Searchers:	Other personnel looking for the subject.
HRD Dog:	Human Remains Detection (HRD) dog trained to locate human remains scent. Also known as a cadaver dog.
Indication:	HRD dog shows a heightened interest in an area where human remains scent may be present, but does not alert.
Alert:	Trained behavior the HRD dog performs when it detects human remains scent at a specific location.

Weather

Clear and cool comfortable conditions with little to moderate detectable wind.

Terrain

Primarily wooded areas with some elevation changes.

Summary

On November 22, 2023, I was contacted by Steve Webb with R.S. Webb & Associates. He advised he was conducting an assessment of an old cemetery that is in close proximity to a proposed industrial development area. He requested that search dogs check areas to determine if human remains were outside the currently identified cemetery boundary.

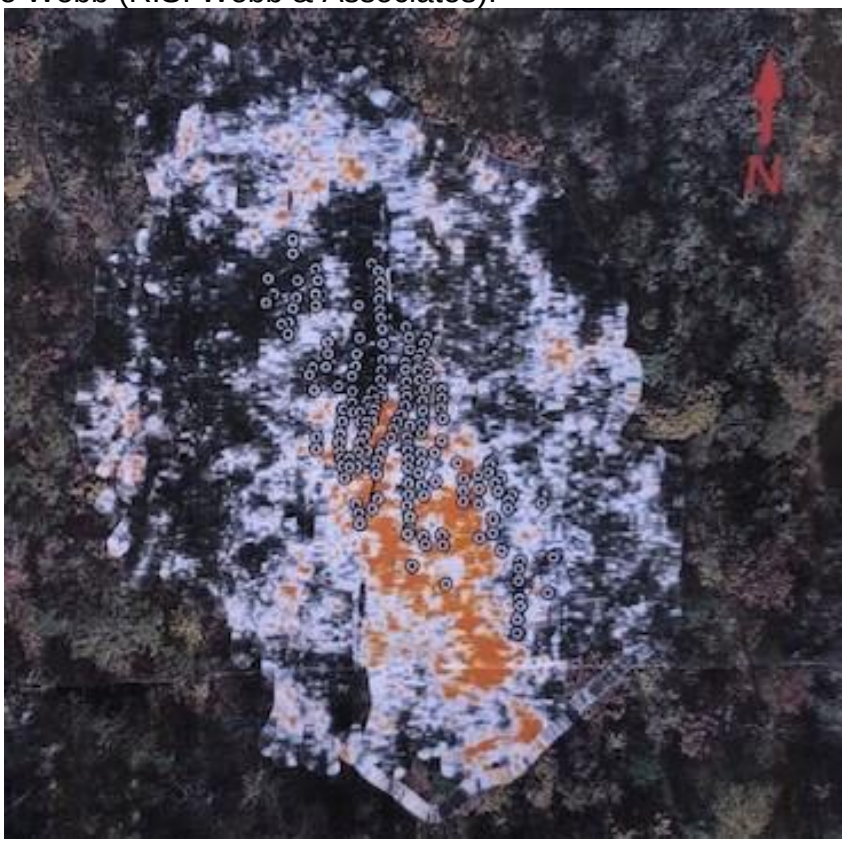
The details and results of today's search with HRD dogs are outlined in the following pages. Aerial image retrieved on December 6, 2023 by Google Earth Pro (Version 7.3.6.9345; 64-bit). Dog Track and GPS Coordinates obtained via GARMIN ALPHA 200i/TT. Search area and dog pictures taken on December 5, 2023 via Apple Iphone Timestamp App.

Overview of the Search Areas

The map below illustrates an overview of the search area with prominent landmarks. Map date via Google Earth is 12/2023.

View of Cemetery

The map below illustrates various gravesites identified, as well as GPR readings. Picture provided by Steve Webb (R.S. Webb & Associates).



View of K9 Alert Areas

The map below illustrates K9 alert areas within the cemetery area in question. Map date via Google Earth is 12/2023. NOTE: The distance from one red pinpoint to the second pinpoint area is approximately 160 feet. The radius areas of interest are the following:

- K9 Alert Area #1: Approximately 30-40 feet radius from GPS coordinates N 34 13.627; W 083 31.1414
- K9 Alert Area #2: Approximately 20-30 feet radius from GPS coordinates N 34 13.6442; W 083 31.1165

View of K9 Alert Area #1

The photo below illustrates K9 alert area #1 within the cemetery area in question. Picture taken on December 5, 2023, via Iphone. NOTE: The pink flags provide a visual of this particularly area of interest that should be further investigated.

K9 Alert Area #1, approximately a 30-40 feet radius from GPS coordinates N 34 13.627; W 083 31.1414 should be considered.

******* CONTINUED ON FOLLOWING PAGE *******

View of K9 Alert Area #2

The photo below illustrates K9 alert area #2 within the cemetery area in question. Picture taken on December 5, 2023, via Iphone. NOTE: The pink flags provide a visual of this particularly area of interest that should be further investigated.

K9 Alert Area #2, approximately a 20-30 feet radius from GPS coordinates N 34 13.6442; W 083 31.1165 should be considered.

******* CONTINUED ON FOLLOWING PAGE *******

At approximately 1032, I left the search area. I then traveled back home to Cedartown, GA and returned home.

The report was emailed to Steve Webb on December 6, 2023 at the following email rswebb.rswa@gmail.com.

***** END OF REPORT *****

Report prepared by Dr. Tracy "Trace" Sargent, K9 Handler
Questions or information needed, contact at 770-722-4241; trace314@yahoo.com