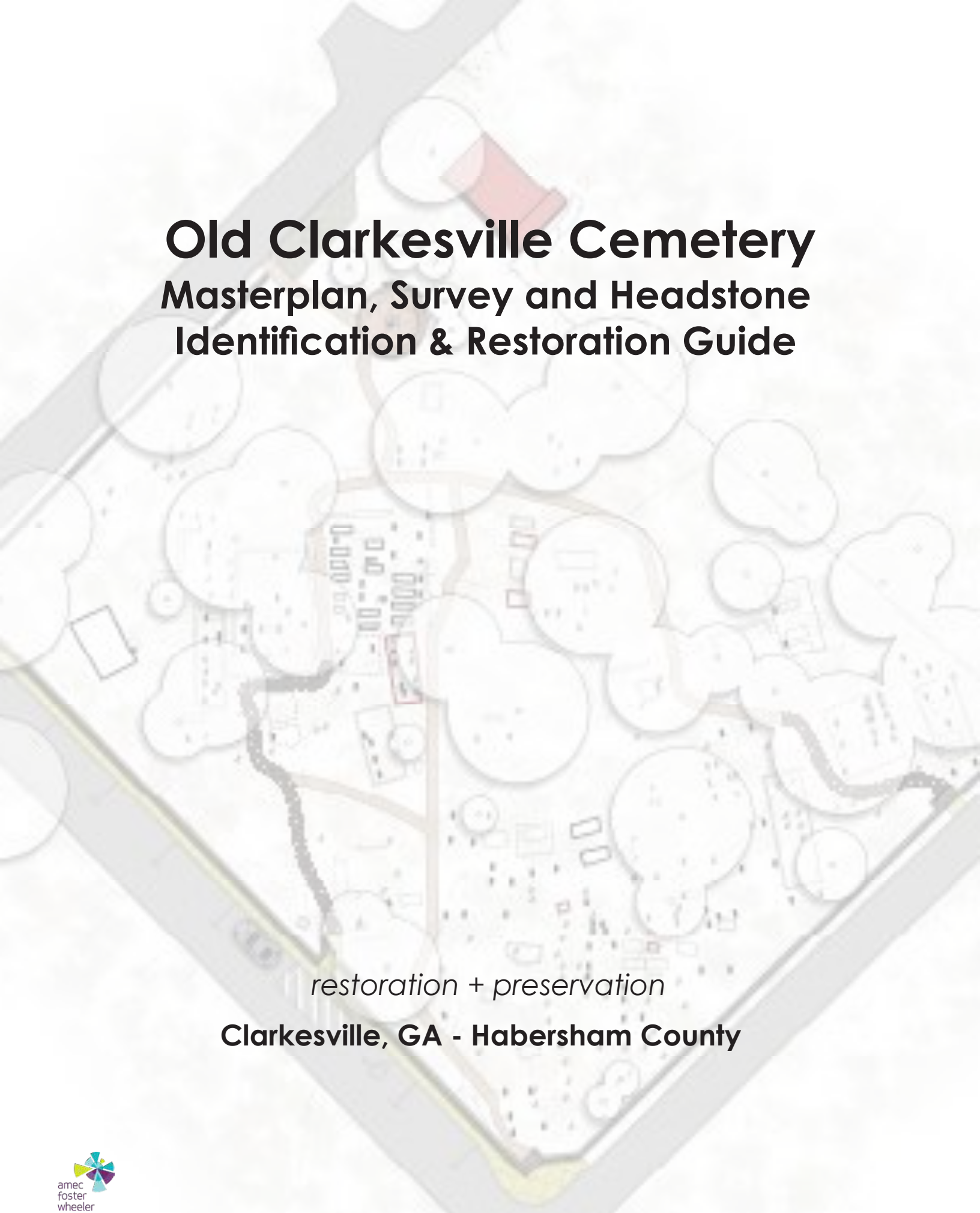
Old Clarkesville Cemetery

Masterplan, Survey and Headstone Identification & Restoration Guide



restoration + preservation

Clarkesville, GA - Habersham County

amec foster wheeler

Old Clarkesville Cemetery

Masterplan, Survey and Headstone Identification & Restoration Guide

City of Clarkesville

Barrie Aycock, Mayor
Tim Durham, Assistant City Manager

Amec Foster Wheeler Environment & Infrastructure, Inc.

May 2018

restoration + preservation
Clarkesville, GA - Habersham County

Introduction

Historic Clarkesville Cemetery is considered an excellent example of a "rural" or garden cemetery, a design that became fashionable in towns and cities during the nineteenth century. In the 18th and early 19th century industrialization had accelerated, and many city cemeteries had become severely overcrowded, dangerously unsanitary, and unpleasant. By the 1830's, the new concept of the rural/garden cemetery design had spread from Paris to New England, and by mid-century to Georgia. Its popularity would continue throughout the Victorian age and into the early 20th century. Typically located on the perimeter of town, the rural cemetery's appeal lay in a growing enchantment with the sanctity of nature and a romanticized appreciation for pastoral beauty. Woodlands, ponds, streams, flowers and shrubs were gracefully landscaped to follow the natural terrain. Burial plots were enhanced by sculptures, monuments, decorative fences, and retaining walls. Winding footpaths and carriageways provided leisurely access throughout the serene setting. In an era before greenspaces or botanical gardens, the rural cemetery offered a popular destination for carriage rides, serving as a forerunner for public parks. Because of its importance, there was a commitment to maintain and beautify individual gravesites according to personal tastes and means.

The City of Clarkesville is located in the foothills of the Blue Ridge Mountains, approximately 75 miles northwest of Atlanta, Georgia. In 2016, City officials and local citizenry began to express the desire to showcase the Old Clarkesville Cemetery, given its historic significance. The cemetery includes revolutionary war and civil war veterans. The Jarvis Van Buren (cousin of US President Martin Van Buren) and his wife are interred in the Old Clarkesville cemetery. There is also a large section of African American gravesites. Due to age and poor maintenance, the cemetery has fallen into serious disrepair with a large number of headstones in need of restoration. Meetings with the leadership of the city resulted in the recommendation for Clarkesville to move forward with the procurement of a Master Plan for the cemetery

The City of Clarkesville acquired the Old Clarkesville Cemetery from a private group in December 2016 due to local interest. The City issued a Request for Proposals (RFP) that solicited master planning services. The resulting project includes a site evaluation, a cemetery survey, recording of grave markers, a restoration plan and procedures, headstone photography, location and identification of specimen trees, identification of infrastructure including utility and storm water drainage, and other services.

The Old Clarkesville Cemetery Master Plan project has several challenges. Time and weather have caused significant damage to older headstones, and many walls have been displaced or damaged. It is hoped that the revitalization of the Old Clarkesville Cemetery will foster initiatives to increase tourism, while also preserving one of Clarkesville's most historic landscapes. The cemetery is a source of history education from the stories of residents; the unique architecture and pattern of design; the unique gravestones; and dramatic and beautiful landscape.

Survey

In January of 2018, a land survey was conducted of the cemetery by a registered land surveyor. The survey included above ground features and topography for the cemetery grounds bounded to the SE by E. Wayne Street; to NW by E. Morgan Street; to the NE by Grace-Calvary Episcopal Church; and to the SW by a private land owner. The survey identified 117 marked gravesites as well as dozens of rocks probably representing either unmarked gravesites or footstones bounding marked gravesites. The survey also identified more than 50 specimen trees that vary in size from a few inches in caliper to nearly 6 feet in caliper. The landscape is a signature component of the cemetery. Tree varieties include hemlocks, tulip poplars, cedars, pines, boxwood and hollies. The survey also identified the existing mulch walking paths as well as the rubble/fieldstone walls and wrought/cast iron fences that are surrounding several family plots. The survey clearly indicates the unique east-west orientation of the majority of the graves. The topography also clearly identifies a change in elevation from the NE corner at approximately elevation 1385 to the SW corner of with an elevation of 1355. Nearly a 30-foot change in elevation is indicated across the cemetery. (See Exhibit A)

The survey identified the gravesites of several Generals, veterans of the Civil War as well as veterans of the War of 1812. A few of the unique graves are listed below:

General Cleveland - War of 1812
General J.R. Wyly – War of 1812
General B.F. Patton – d. 1846
General William Taylor – d. 1864
Elizabeth Patton Phillips – Daughter of the founder of Asheville
Jarvis Van Buren – Cousin of United States President Martin Van Buren
Eliza K. Van Buren – Spouse of Jarvis
Honorable Richard W. Habersham – Namesake of Habersham County

Graves of Jarvis Van Buren and Spouse

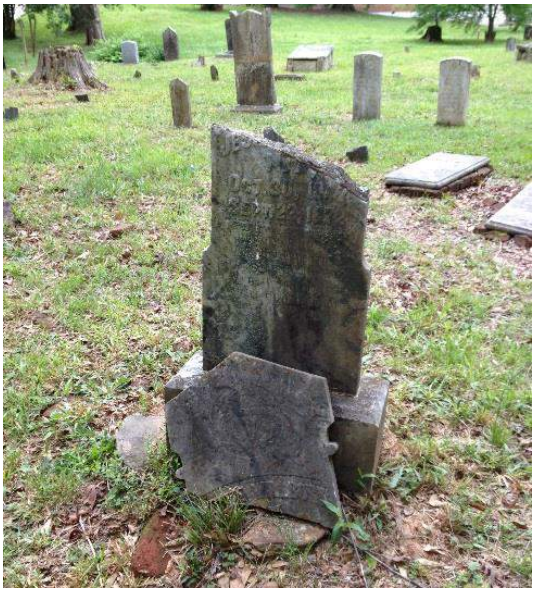
Section of unmarked graves

Headstone Condition Assessment

This study identified 117 stones in the Old Clarkesville Cemetery. One of most significant issues identified related to the poor quality of many of the headstone inscriptions. Time and weather have significantly worn the face of more than 1/3 of the markers. The inscription on these markers is very difficult or impossible to decipher. Listed below and mapped in Exhibit B are recommendations for the treatment of the headstones. Treatment methods are grouped into five categories: Reconstruction, Repair, Reset, Record, No Restoration Needed. Not identified below is the need for the restoration and in some cases the rebuilding of perimeter stone walls surrounding family grave plots. There are also a few family plots surrounded by cast or wrought iron fences. In most cases the fencing needs to be treated to prevent further restoration. Wall and fence repair are included in another section of this report.

Headstone Treatment Options:

Reconstruction-Reconstruction signifies the worst condition of a grave and includes stones that are broken, scattered, and unreadable. A variety of materials are represented in this category and each should be considered in restoration process. These graves will require the most extensive repair efforts. Stones in this category represent 26 of the 117 stones identified. We recommend that these stones receive immediate conservation treatments.



Repair-Repair signifies the grave is cracked. Cracked headstones can be repaired with a variety of strategies, each specific to the material makeup of the headstone. Stones in this category represent only 3 of the 117 stones identified. We recommend that these stones receive immediate conservation treatments.

Reset-Reset signifies the grave is leaning and needs to be made level. Leaning stones can be made level with minimal invasion by using concrete injection at the base of the stone. Stones in this category represent 14 of the 117 recorded stones. We recommend that these stones receive immediate treatments.

Record-Record signifies the grave is in good condition, but is nearly unreadable. Unreadable stones should have the contents documented and a supplemental cast bronze plaque with the inscribed contents should be placed near the grave. Stones in this category represent 43 of the 117 recorded stones. We recommend that these stones be documented immediately and cast bronze plaques with stake mount be ordered.

No Restoration Needed - Stones with this designation have no immediate repair concern. These stones should be monitored closely and regularly maintained.

Period of Internment

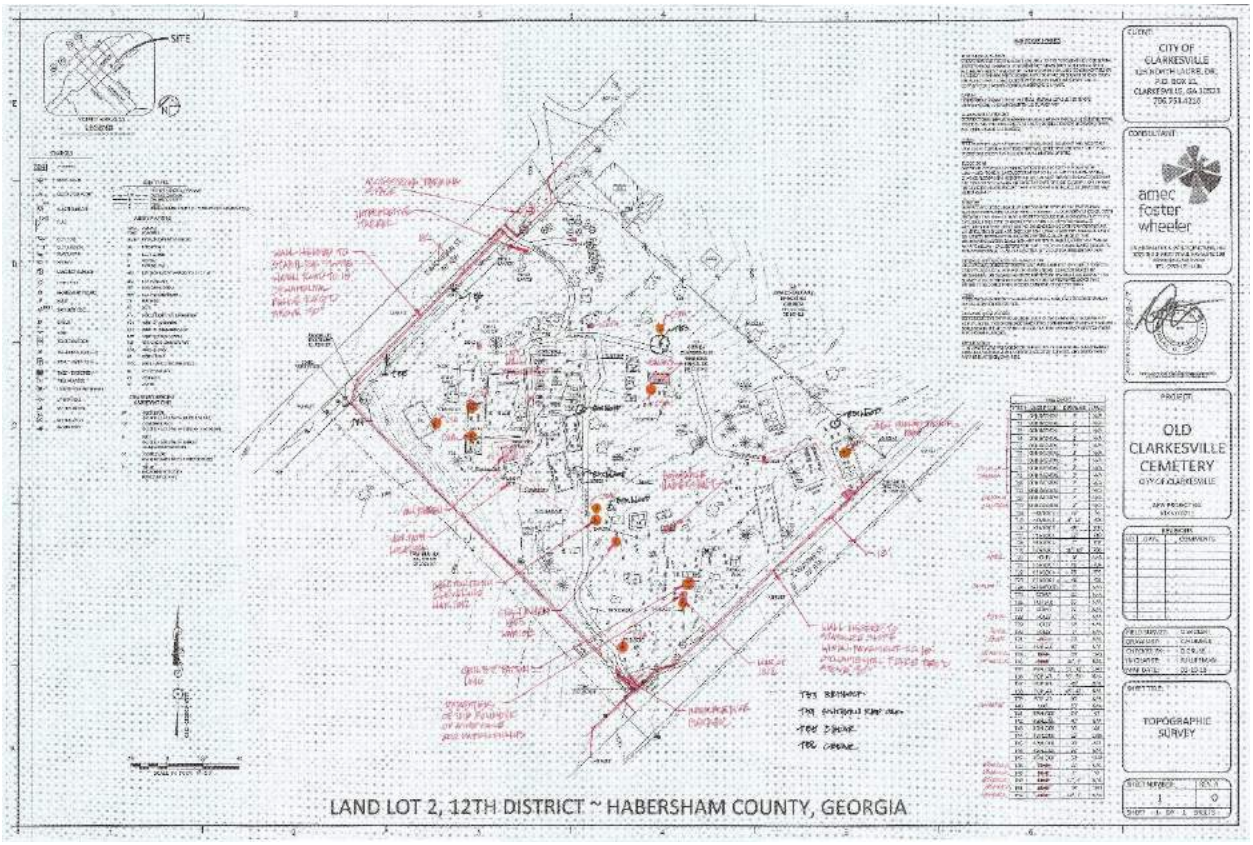
As part of the analysis of the Cemetery survey, the master planning team photographed and recorded the dates of internment for the 117 headstones in the cemetery. In Exhibit C, the headstones were color coded to highlight the dates of internment. The dates of internment were grouped as follows: 1800 -1850; 1850 - 1875; 1875 - 1900; 1900 - 1925; and after 1925. The majority of the headstones date from the three earliest time periods with 24 headstones falling in the period from 1800-1850, 30 headstones falling between 1850-1875 and 32 headstones falling between 1875 -1900. There were only eleven headstones identified from 1900-1925 and there were also 15 headstones that the date of internment could not be identified.

An analysis of the color-coded dates of internment reveals patterns of internment that indicate the earliest graves were established in the southern corner of the cemetery. It is also probably that the unmarked stones along the northern boundary of the cemetery along E. Morgan street may be African American or paupers.

The Clarkesville Cemetery has a wide variety of headstone types and sizes

Headstone Locations and Photographs

As part of the assessment of the historic cemetery, the assessment team photographed each headstone and numerically keyed them to the surveyed location. The attached exhibit and the following photographs are included as a record within this report. The digital file of the photographs has been turned over to the city for archive. Listed below are some of the unique headstone inscriptions. It is noted that there are more than a dozen headstones that are unreadable.



Field Map used by the master planning team to document trees and other unique features of the Cemetery.

Master Plan and Cost Estimate

The master plan for the historic Clarkesville Cemetery is intended to be a guide for the restoration and improvement of the cemetery. The goal of the master plan is to provide a "map" of recommended improvements to help restore, stabilize and guide restoration. The master plan also is designed to address the contemporary needs to accommodate public access including vehicular access, parking and pedestrian access. There are also concerns that erosion along the cemetery boundaries is creeping inwards towards the gravesites. The master plan includes the following primary recommendations (See Exhibit D):

1. An access drive with parallel parking along the southwestern boundary between E. Wayne Street and E. Morgan Street. Includes parking for 7 cars, handicapped parking and a parallel accessible paved sidewalk. An accessible cemetery entry is planned to include a sloping paved ramp and an interpretive marker.

2. Perimeter retaining walls along the SE, SW and NW cemetery boundaries. The walls need to designed to reflect the stacked stone heritage of the cemetery but should be built to stabilize the cemetery boundaries and stop the gradual erosion that is slowly shrinking the cemetery. The walls are expected to vary in height but generally are expected to be less than 4 feet tall.

3. Accessible parking and cemetery entry on the NW corner along E. Morgan Street. Recommended as an early phase improvement until the access drive is built. The NW corner provides the best opportunity to create an accessible parking spot and paved pedestrian route into the cemetery. The gentle grades in this area favor wheelchair access.

4. Donors Plaza including stone seatwalls, interpretive markers, relocated flagpole, paved plaza with donor's names engraved, and landscape planting. Located in the NW corner of the cemetery, the donor's plaza enhances the existing flagpole area but provides an opportunity for the supports of the cemetery to have their work and donations recognized. Fund raising for engraved brick pavers may help pay for the donor's plaza as well as renovations within the cemetery.

5. Proposed path extensions. There is a series of mulch paths throughout the cemetery that provide an adequate low impact pedestrian access to most of the cemetery. However, the surveyed paths do not form a continuous loop though the cemetery. Therefore, it is recommended that a few short extensions be added to complete a loop through the cemetery.

6. Relocation of incompatible grave plot. Located adjacent to the grave of Jarvis Van Buren and his spouse is an individual plot created without consent of the City. It is recommended that this plot be relocated towards the NW corner of the cemetery and away from the core of the most historic sections of the cemetery.

Master Plan Cost Estimate May 2018

DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	ESTIMATED COST
SMALL GRAVESIDE MARKERS (FOR HEADSTONE LEGIBILITY)	LS	43	$ 100.00	$ 4,300.00
CONCRETE STEPS	LS	2	$ 1,500.00	$ 3,000.00
SITEWORK/GRADING/EROSION CONTROL FOR PAVING	LS	1	$10,000.00	$10,000.00
COCNRETE SIDEWALK ALONG PARKING	SF	1,173	$ 6.50	$ 7,624.50
PEMEABLE PAVING - WITH PRE-CAST PAVERS & GRAVEL	SF	303	$ 5.00	$ 1,515.00
ASPHALT PAVING/PARKING - LIGHT DUTY	SF	5,021	$ 7.50	$37,657.50
STACKED STONE WALLS 4' AVERAGE HEIGHT	LF	598	$ 175.00	$104,650.00
TRAILS - MULCH (INCLUDES 720 SF OF NEW TRAIL)	SF	1956	$ 4.00	$ 7,824.00
FLAG POLE	EA.	1	$ 1,500.00	$ 1,500.00
INTERPRETIVE MARKERS	EA.	2	$ 1,300.00	$ 2,600.00
BRICK PAVERS (DONORS PLAZA)	SF	222	$ 34.00	$ 7,548.00
CONCRETE EDGE (DONORS PLAZA)	SF	33	$ 21.00	$ 693.00
STONE SEAT WALL.(DONORS PLAZA)	LF	26	$ 125.00	$ 3,250.00
HEADSTONE REPAIR/RECONSTRUCTION	EA.	30	$ 500.00	$ 15,000.00
HEADSTONE RESETTING AND STABILIZATION	EA.	14	$ 375.00	$ 5,250.00
SUBTOTAL				$212,412.00
CONTINGENCY 20%				$ 42,482.40
MASTER PLAN TOTAL				$254,894.40

This Opinion of Probable Construction Costs is made on the basis of Wood's judgement as experienced and qualified professionals generally familiar with trail projects. Cost items and estimated quantities were determined from the Concpet Plans prepared April 2018. Unit costs were based on pricing from product suppliers, data published in the RS Means publication "Site Work and Landscape Cost Data", and misc. published costs. The accuracy for this Opinion of Probable Construction of Costs is in the range of +/- 20%. Wood has no control over the costs of;

- labor, materials, equipment, or services furnished by others,
- the construction contractor's methods of determining prices
- competitive bidding or market conditions

Wood cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Wood's prepared Opinion of Probable Construction Costs or the above stated accuracy range. This Opinion of Probable Construction Cost does not include design consultation fees for items requiring additional design.

Conservation Guidelines:

It is recommended that all the cemetery conservation work follow the Secretary of the Interior's Standards for preservation but should also follow good conservation practice.

Basic conservation principals include:

-Respecting the original historic fabric, evidenced by retaining as much as possible

-Selecting the gentlest and least invasive treatment methods possible

-Ensuring that the proposed treatment will not impede future treatments

-Determining that the proposed treatment is reasonable and appropriate

-Recognizing that sometimes nonintervention is the best possible treatment

-Documenting all prospective and actual treatment activities

Recommended Conservation Treatment for Broken Stones

All of the broken early stones require immediate conservation intervention. Allowing them to remain broken increases the potential for additional damage and loss of the stone. Listed below are general guidelines for treatment and preservation:

1. Each buried stone should be carefully excavated and laid on supports to allow drying and access.
2. All stones should be carefully cleaned and allowed to dry.
3. Any previous repair materials (epoxys, caulk, etc…) should be removed manually using chisels being careful not to chip the stones.
4. Stone fragments must be matched, checking for registration, and ensuring a good fit. The locations for proposed pins should be marked with graphite pencil, avoiding edges, areas of cracks or other weak areas.
5. Holes must be drilled using masonry and carbide tipped bits. Holes diameters must not be greater than ¼ to 1/3 thickness of the stone. The depth must be sufficient to provide structural support, but minimize spalling or other failures.
6. Holes must be cleaned using compressed air and then swabbed with acetone. Holes should be dried using compressed air.

7. Fiberglass rods should be cut to fit each hole, allowing appropriate room for expansion and contraction of the rod. Fiberglass is preferred since it exhibits a tensile strength and expansion coefficient similar to marble.
8. All drilled holes should be dry fitted to ensure proper registration of the fragments.
9. An appropriate hi-mod, moisture insensitive, thixotropic epoxy should be selected and mixed according to manufacturer's specifications. The epoxy should be inserted only in the drill holes and not on the broken surface.
10. With the pins installed, registration should be checked and any necessary adjustments made. The stone should be clamped and 24048 hours allowed for the epoxy to set and begin curing.
11. With the clamps removed, the stone should be reset, checking its alignment with the others in the same row. Adjust for plumb and level.
12. Infill areas of missing stone using appropriate infill repair mortar. Color match if necessary. Microcracks may require the use of an injection grout.

Treatment of Spalling and Cracking

Some of the headstones exhibit either spalling or cracking. In the north Georgia climate, open cracks promote additional damage as water enters and freezes. Treatment of cracks will involve the use of injection grout to seal the crack in order to prevent water intrusion. Suitable repair materials include the use of Jahn M30 #32 Microinjection grout, various Edison Pump-X grouts, and the use of dispersed hydrated lime (DHL). Spalls may be more difficult to treat but in many cases may be unnecessary. Where spalls do require attention they are often treated using the techniques identical as those for cracks. It may however, be necessary to drill injection ports to ensure that the grout reaches behind the still -intact stone spalls.

Stones with inappropriate repairs should be taken apart, ferrous pins core drilled out and replaced with fiberglass pins, old epoxy adhesive carefully removed and the stones drilled for the use of blind pinning, inappropriate setting materials removed where possible to do so and appropriately reset with either lead or a high lime mortar, failing lead joints removed and replaced with either lead or high lime mortar.

Resetting of old markers and stones

There is a wide variety of types and sizes of stones in the Clarkesville Cemetery. This study does not include a detailed examination of stone foundations. However, resetting monuments is recommended, both to re-establish the original appearance of sections, as well as to minimize further mechanical and chemical damage to the stones. It has not been determined that a more sophisticated support mechanism is necessary for leaning or unstable stones. Typical headstones

are supported by a marble or granite base with a carved socket into which the marble has been set originally using lead. As long as the base is sufficient to support the stone, then excavating and resetting the base is recommended. Reset the base so that the granite socket is slightly above grade would help to protect the marble from further the damaging affects of soil acidity as well as from the use of nylon trimmers. A granite sand or crushed granite base of approximately 4 -6 inches should be placed under the base stones to help create a long term stable environment. Resetting must also completely refill and tamp the soil around the stone in order to prevent a low area that will serve to retain water next to the stone.

It is recommended that all work be done by hand, avoiding the use of clamping and mechanical equipment. It is of utmost importance that the stones be handled only by their granite bases. Moving stones by their marble dies may result in the stone snapping. While this damage can be repaired, it would be far better to avoid the need for repair by careful handling. If a headstone needs to be replaced onto a base or if the key has broken from the socket, then follow the treatment for broken stones when replacing the headstone.

Recommended treatment of walls

One of the signature aspects of the Clarkesville Cemetery are the abundance of large stacked stone walls surrounding family plots. These walls appear to have been dry laid and it is essential that their repair maintain the original style.

Dry laid walls rely on gravity and frictional forces – not mortar. As such they are remarkably resilient and easily repaired. There is a tendency to over-engineer repairs of historic dry laid walls, typically because there has been little effort to validate structural design methods. Although is can be argues that the original dry-laid wall stood for more than 100 years and that using traditional techniques should be sufficient to rebuild the walls, a slightly modified approach is recommended. Studies have shown that the strength of a dry-laid wall is a function of the properties and interaction of the blocks making up the wall face. Thus walls formed from squared, slab-like blocks of stone are more stable than ones formed of less regular and more random stonework. It is recommended that fallen or crumbling walls be rebuilt using the same stones but critical elements include placing the largest stones at the base with their shortest dimension in the vertical plane, inserting through stones and smaller stones to improve stability by limiting crack lengths, and ensuring that the stones interlock in a three dimensional structure.

Recommended treatment of collapsed grave vaults

There a couple of gravesites that are marked with large, flat slab stones that have cracked due to weather, erosion or other factors. In most cases the cracked stones fall within the eroded hollow

under the slab. There are a variety of approaches to address the treatment of these stones. It is recommended that the slab pieces be carefully removed and reassembled and reset on a lightweight pre-cast concrete slab similar in nature to those used under HVAC units. The treatment for broken stones discussed in an earlier section should be followed. The hollow should be filled with compacted native soil and the slab stone including the pre-cast should be replaced on top of the compacted fill.

Cleaning of stones

The National Cemetery Administration defines clean as "no discoloration, environmental deposits, mold, mildew, moss, algae, lichen, dirt/mud, grass clippings, grass marks, bird droppings, etcetera." However, stone cleaning should never be expected to return to its orginal colr or state. In the years since the erection of the stones, they have soiled, weathered, decayed and developed patinas that have changed the stone in irreversible ways. Cleaning runs the risk of causing damage that is also not already present. The simple reality is that it is possible to overclean stone and cause more damage.

It is recommended that water cleaning avoiding pressures above 500 psi and prefer pressures to be under 100 psi. High pressure washing may be convenient for contractors but it is capable of causing significant damage. D/2, a quartenary ammonium biocide shpoopuld be applied to stones that have been pre-wetted. A light scrubbing is typically useful but not always necessary. The stone should be rinsed to remove the cleaning product.

An issues worthy of mention is that many of the early stones exhibit some minor sugaring with resulting erosion. This is particularly noticeable on the upper surface where numbers and letters have been carved. These are frequently very worn and difficult to read as a result of acid rain affecting the marble. It is recommended that the stones be treated with ProSoCo HCT and further evaluated to determine the long-term impact of this treatment.

Landscape and trees

One of the defining features of the Clarkesville Cemetery is its mature trees. The deliberate planting of trees and shrubs to create the "garden" cemetery is a signature of the rural or garden cemetery movement that began around the mid 1800's. Trees planted among graves and around graves also provided relief from the starkness of regimented headstones. The Clarkesville Cemetery historically had a rustic appearance dominated by trees. Grass was minimal because prior to the introduction of power mowers in the mid 1920's, maintenance of large grasses areas would have been difficult. The Secretary of the Interior's guidelines for the treatment of Cultural Landscapes acknowledges that there will be change in historic landscapes. It is nevertheless

critical that this dynamic nature be counterbalanced by the continuity of distinctive characteristics.

Existing trees must be retained and preserved. This can be accomplished by stabilizing the existing vegetation and having the existing trees evaluated by an ISA certified arborist.. Undertaking appropriate pruning and fertilizing as necessary, cabling limbs that might be threatened, and protecting below ground root systems. Tree are every bit as much a resources as the stones or monuments in the cemetery. As a result all such vegetation should be carefully documented.

New Grave Internment:

It is recommended that no new graves shall added to the Old Clarkesville Cemetery for these reasons:

- Maintaining the true historic fabric of the site
- To ensure that no unknown graves are disturbed
- To retain the ecologic integrity of the cemetery by not disturbing the root systems of existing trees and other significant vegetation

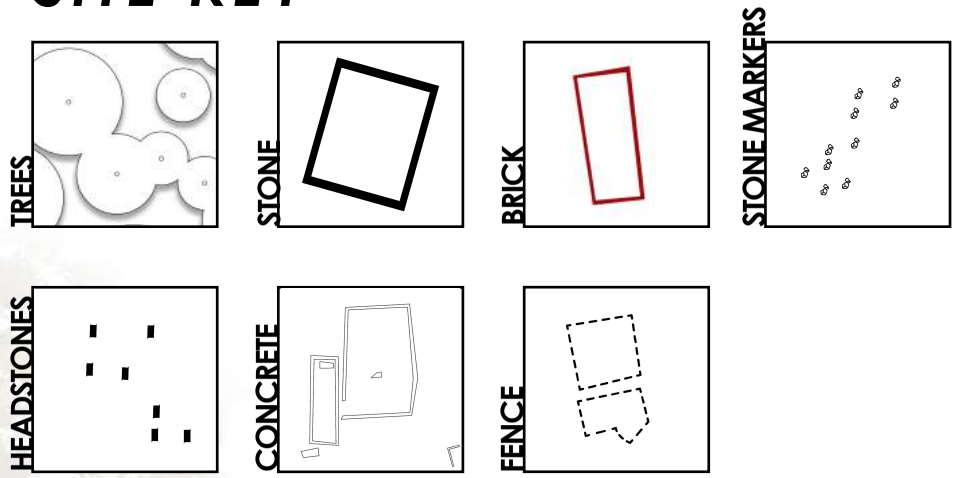
If a grave must be added, it should be done according to these guidelines

- New graves shall only be admitted in the Northern section of the cemetery
- The user should be vetted to show relation or close connection to a person buried in the cemetery
- Ground penetrating radar (GPR) shall be used to survey the underground conditions of the proposed burial site to ensure that no grave or significant ecological features are disturbed

OLD CLARKESVILLE CEMETERY

CLARKESVILLE, GA - April 2018

SITE KEY



E. MORGAN STREET

E. WAYNE STREET

LOCATION DIAGRAM

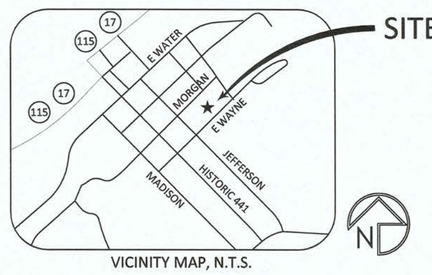
(#) identifies correspoinding photographs

10′ 20′

amec foster wheeler

NORTH

Exhibit A



VICINITY MAP, N.T.S.

LEGEND

SYMBOLS

- 1234 ADDRESS
- BENCHMARK
- COMPUTED POINT
- EM ELECTRIC METER
- FLAG FLAG
- GUY POLE
- GUY ANCHOR
- HEADSTONE
- HEDGE
- LAND LOT NUMBER
- LIGHT POLE
- MONUMENT FOUND
- ROCK
- DISH SATELLITE DISH
- SHRUB
- SIGN
- TB TELEPHONE BOX
- TELEPHONE PEDESTAL
- TREE ~ DECIDUOUS
- TREE ~ EVERGREEN
- T## TREE NUMBER
- UTILITY POLE WITH RISER
- UTILITY POLE
- WATER METER
- WV WATER VALVE
- WOOD POST

LINE TYPES

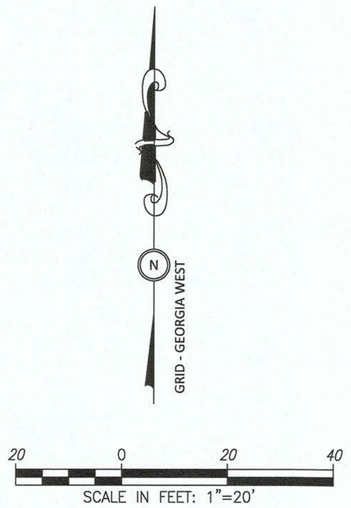
- PROPERTY LINE/RIGHT-OF-WAY
- 130 EXISTING CONTOUR
- E OVERHEAD UTILITY
- X FENCE
- ? UNDERGROUND UTILITY (? = TYPE NOTED IN ABBREVIATIONS)

ABBREVIATIONS

ASPH	ASPHALT
CONC	CONCRETE
DATR	DATA ACCORDING TO RECORD
DB	DEED BOOK
DI	DUCTILE IRON
E	ELECTRIC
G	NATURAL GAS
LOS	LIMITS OF SURVEY (APPLIES TO SUE ONLY)
N/A	NOT AVAILABLE
N/F	NOW OR FORMERLY
NW	NON-POTABLE WATER
PB	PLAT BOOK
PG	PAGE
PIN	PARCEL IDENTIFICATION NUMBER
POB	POINT OF BEGINNING
POC	POINT OF COMMENCEMENT
POT	POINT OF TERMINATION
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SPGC	STATE PLANE GRID COORDINATE
SS	SANITARY SEWER
UK	UNKNOWN
W	WATER

CEMETERY SPECIFIC ABBREVIATIONS

BP	BRICK PLOT (PLOT OF LAND WITH BRICK BORDER)
CP	CONCRETE PLOT (PLOT OF LAND WITH CONCRETE BORDER)
P	PLOT (PLOT OF LAND WITH FENCED OR MASONRY BORDER)
SP	STONE PLOT (PLOT OF LAND WITH STONE BORDER)
T	TOMB (MASONRY BOX WITH MASONRY COVER)



SURVEYOR'S NOTES

TOPOGRAPHIC SURVEY
SURVEYOR'S CERTIFICATION EXTENDS ONLY TO THE TOPOGRAPHIC / GEOSPATIAL ASPECTS SHOWN HEREON. TOPOGRAPHIC SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS NOT TO BE RECORDED OR USED TO CONVEY TITLE OR INTEREST IN THE PROPERTY. BOUNDARY INFORMATION SHOWN HEREON BASED ON PARENT TRACT DEED CALLS SUPPORTED BY RANDOM SURVEY TIES TO CORNER MONUMENTS. CONTOUR INTERVAL IS 1-FOOT.

DATUM
HORIZONTAL: NAD83 (2011); VERTICAL: NAVD88 ESTABLISHED BY GPS OBSERVATIONS; MEASUREMENTS: U.S. SURVEY FEET

EQUIPMENT STATEMENT
CONVENTIONAL MEASUREMENTS OBTAINED WITH A TRIMBLE S8 ROBOTIC TOTAL STATION. GPS POSITIONS OBTAINED WITH SOKKIA GRX2 GPS RECEIVERS (SERIAL NO. 1149-10585 & 1149-10586).

TITLE
THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, RESERVATIONS, RIGHTS OF WAY OR ANY SIMILAR MATTERS THAT WOULD BE DISCLOSED BY A TITLE SEARCH. THEREFORE EXCEPTION IS TAKEN TO ALL MATERS OF TITLE.

FLOOD ZONE
BASED ON GRAPHICAL INTERPRETATION THIS PROPERTY IS SITUATED IN UNSHADED "ZONE X" (AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DEPICTED ON THE NFIP FLOOD INSURANCE RATE MAP NO. 13137C0207C HAVING AN EFFECTIVE DATE OF JUNE 02, 2009. USER OF THIS INFORMATION IS CAUTIONED THAT A MORE PRECISE FLOOD DELINEATION MAY BE NECESSARY.

UTILITIES
SURFACE AND SUB-SURFACE UTILITIES SHOWN HEREON ARE BASED UPON SURFACE OBSERVATIONS AND PUBLIC RECORDS. AMEC FOSTER WHEELER. (AFW) PROVIDES THIS SERVICE IN AN EFFORT TO REDUCE RISK. HOWEVER, DUE TO THE NATURE OF THIS TYPE OF WORK AFW CANNOT GUARANTEE ABSOLUTE ACCURACY OR THAT THERE ARE NO OMISSIONS IN LOCATING UNDERGROUND UTILITIES. THEREFORE AFW DISCLAIMS ALL LIABILITY FOR ANY DAMAGES BASED ON UTILITY INFORMATION PROVIDED BY THIS SURVEY. USER OF THIS INFORMATION ASSUMES ALL RISK AND NOTICE IS HEREBY GIVEN THAT "KNOW WHAT'S BELOW - CALL BEFORE YOU DIG" UTILITY LOCATION SERVICE (811) IS TO BE NOTIFIED PRIOR TO ANY EXCAVATION OF THE SITE AS REQUIRED BY LAW.

STREAMS, BODIES OF WATER, & WETLANDS
ALL STREAMS, BODIES OF WATER, AND WETLANDS MAY BE SUBJECT TO STATE, COUNTY, AND LOCAL BUFFERS OR RESTRICTIONS. SURVEYOR MAKES NO INTERPRETATION REGARDING THESE BUFFERS OR RESTRICTIONS. USER OF THIS SURVEY IS CAUTIONED TO CONSULT WITH THE APPROPRIATE GOVERNING AUTHORITIES CONCERNING POSSIBLE BUFFERS OR RESTRICTIONS.

TREES
TREES SHOWN HEREON CLASSIFIED BY NOVICE. ARBORISTS OF OTHER SIMILAR PROFESSION NOT CONSULTED.

DRAWING PRESENTATION
FOR DRAWING CLARITY SOME OBJECTS OR SYMBOLS MAY NOT BE DRAWN AT ACTUAL SCALE. THIS SHOULD BE TAKEN INTO CONSIDERATION WHEN OBTAINING SCALED DATA OR IN UTILIZING THE CAD FILE THIS DRAWING ORIGINATED FROM FOR DESIGN PURPOSES.

CERTIFICATION
THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE FOR THE CLIENT NAMED HEREON AND REPRESENTS A SPECIFIC SCOPE OF SERVICES. ANY USE BY THIRD PARTIES IS AT THEIR OWN RISK.

TREE CHART

TREE #	DECRIPTION	DIAMETER	TAG #
T1	ORNIMENTAL	2"	N/A
T2	ORNIMENTAL	2"	N/A
T3	ORNIMENTAL	2"	N/A
T4	ORNIMENTAL	2"	N/A
T5	ORNIMENTAL	2"	N/A
T6	ORNIMENTAL	2"	N/A
T7	ORNIMENTAL	2"	N/A
T8	ORNIMENTAL	2"	N/A
T9	ORNIMENTAL	2"	N/A
T10	ORNIMENTAL	2"	N/A
T11	ORNIMENTAL	2"	N/A
T12	ORNIMENTAL	2"	N/A
T13	ORNIMENTAL	2"	N/A
T14	HEMLOCK	46"	66
T15	HEMLOCK	4", 12"	708
T16	HEMLOCK	18"	708
T17	HEMLOCK	22"	710
T18	HEMLOCK	7"	707
T19	HEMLOCK	18", 18"	706
T20	HOLLY	8"	N/A
T21	HEMLOCK	48"	704
T22	HEMLOCK	28"	705
T23	HEMLOCK	48"	703
T24	HARDWOOD	5"	N/A
T25	CEDAR	20"	N/A
T26	POPLAR	55"	N/A
T27	CEDAR	17"	N/A
T28	HOLLY	20"	N/A
T29	HOLLY	12"	N/A
T30	HOLLY	9"	N/A
T31	FIR	18"	N/A
T32	POPLAR	60"	N/A
T33	PINE	28"	1343
T34	PINE	21", 8"	N/A
T35	HEMLOCK	15", 15"	1341
T36	POPLAR	36", 39"	N/A
T37	POPLAR	45"	N/A
T38	POPLAR	45", 45"	N/A
T39	POPLAR	46"	N/A
T40	OAK	59"	N/A
T41	HEMLOCK	24"	67
T42	HEMLOCK	40"	N/A
T43	HEMLOCK	16"	68
T44	HEMLOCK	15"	1339
T45	HEMLOCK	38"	702
T46	HEMLOCK	58"	N/A
T47	HEMLOCK	58"	1348
T48	PINE	21"	N/A
T49	PINE	5"	55
T50	PINE	17", 9"	N/A
T51	PINE	18"	1345
T52	PINE	12", 7"	N/A

CLIENT:

CITY OF CLARKESVILLE
123 NORTH LAUREL DR.,
P.O. BOX 21,
CLARKESVILLE, GA 30523
706.754.4216

CONSULTANT:

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE, INC.
1075 BIG SHANTY ROAD, NW SUITE 100
KENNESAW, GA 30144
TEL: (770) 421-3400

LAST DAY IN THE FIELD: 12-13-17

GEORGIA REGISTERED 2937 LAND SURVEYOR DOUGLAS P. CRUSE

NOT VALID WITHOUT SEAL AND ORIGINAL SIGNATURE FOR THE FIRM AMEC FOSTER WHEELER, INC.

PROJECT:

OLD CLARKESVILLE CEMETERY

CITY OF CLARKESVILLE

AFW PROJECT No:
6143170711

REVISIONS		
NO.	DATE	COMMENTS

FIELD SURVEY:	D.WOLSKI
DRAWN BY:	K.HUMBLE
CHECKED BY:	D.CRUSE
IN CHARGE:	R.HUFFMAN
MAP DATE:	01-10-18

SHEET TITLE:

TOPOGRAPHIC SURVEY

SHEET NUMBER:	REV. #
1	0
SHEET 1 OF 1 SHEETS	

LAND LOT 2, 12TH DISTRICT ~ HABERSHAM COUNTY, GEORGIA

Exhibit B

OLD CLARKESVILLE CEMETERY

CLARKESVILLE, GA

SITE KEY

TREES

STONE

BRICK

STONE MARKERS

HEADSTONES

CONCRETE

FENCE

10′ 20′

amec foster wheeler

NORTH

Exhibit C

OLD CLARKESVILLE CEMETERY

CLARKESVILLE, GA

SITE KEY

TREES

STONE

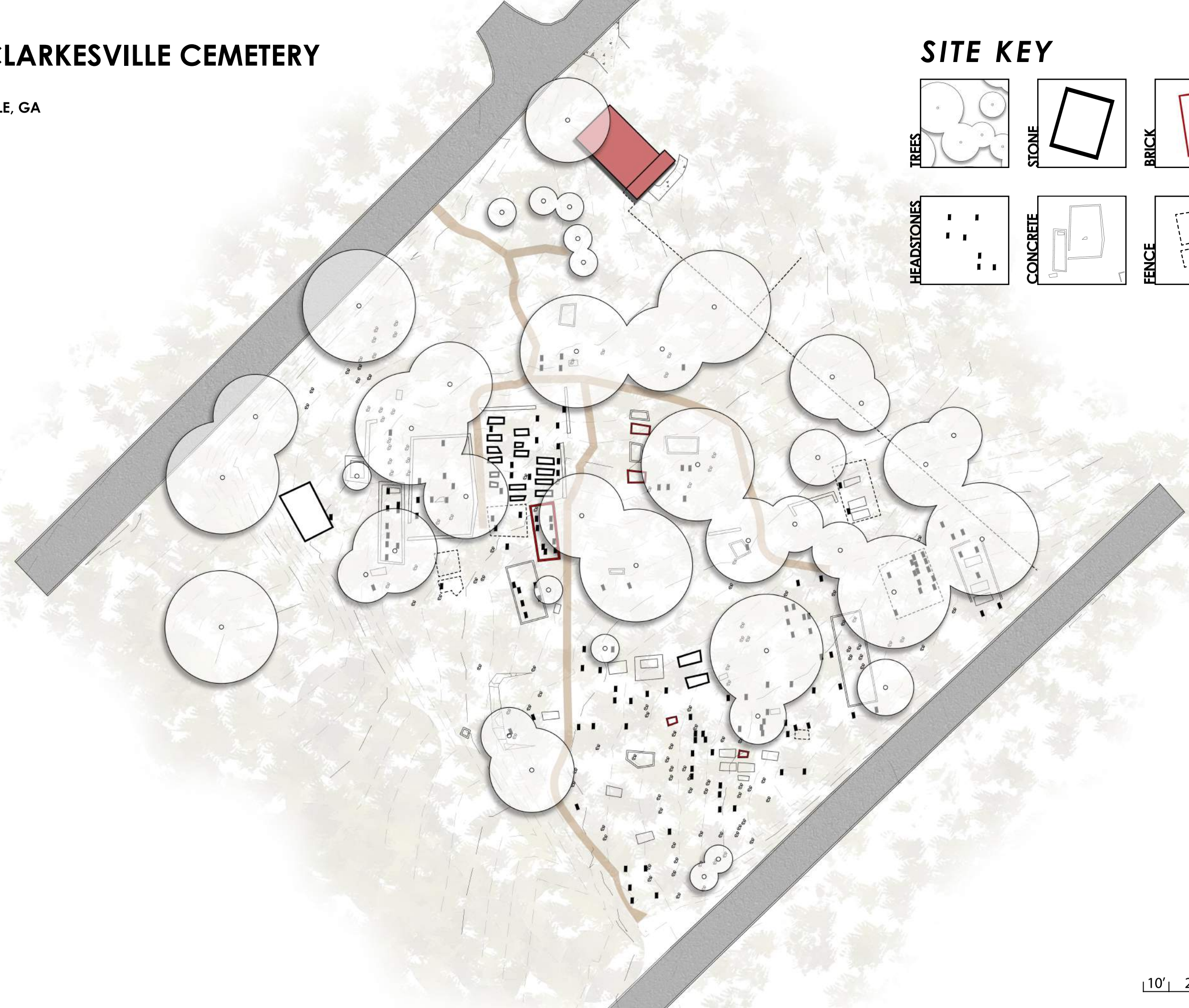
BRICK

STONE MARKERS

HEADSTONES

CONCRETE

FENCE



10′ 20′

amec foster wheeler

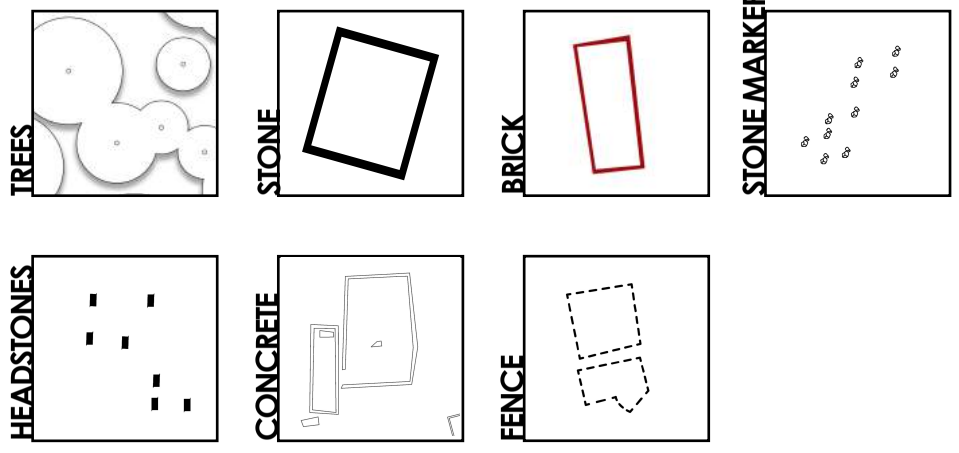
NORTH

Exhibit D

OLD CLARKESVILLE CEMETERY

CLARKESVILLE, GA - April 2018

SITE KEY



10′ 20′

amec foster wheeler

NORTH