

**AMENDMENT NO. 2 TO
PROFESSIONAL SERVICES AGREEMENT FOR
JORDAN BRANCH/SPENCER CREEK RESTORATION PROJECT
COF Contract No. 2015-0096**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 2018, by and between the **City of Franklin, Tennessee** ("City") and **Civil & Environmental Consultants, Inc. (CEC)** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") entitled Jordan Branch/Spencer Creek Restoration Project, dated May 26, 2015; and

WHEREAS, said Agreement stipulated that the Consultant would be paid a not-to-exceed fee of One Hundred Six Thousand Nine Hundred Forty-Five and No/100 Dollars (\$106,945.00), as authorized by the City Engineer and as detailed in the Fee Schedule; and

WHEREAS, on January 10, 2017, the Board of Mayor and Aldermen approved Amendment No. 1 to the Agreement with the Consultant for additional engineering and survey services in the amount not-to-exceed Six Thousand Five Hundred and No/100 Dollars (\$6,500.00); and

WHEREAS, the City and Consultant realize the need for additional archaeological and construction services due to circumstances beyond the control of the Consultant; and

WHEREAS, the Consultant has provided a Proposal for an increase in professional engineering services, as described in Attachment A, dated February 12, 2018, in the amount not-to-exceed **One Hundred Twenty-Three Thousand Eight Hundred Fifty and No/100 Dollars** (\$123,850.00); and

WHEREAS, the City has reviewed the Proposal and desires to enter into an agreement for the Project as proposed.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. Consultant agrees to perform the work as proposed in their February 18, 2018 letter of proposal (**Attachment**

A) which includes the Scope of Services for this Amendment, all of which shall be considered as an integral part hereof.

3. City's Responsibilities and Duties. City shall pay Consultant for the cost of the work as described in Attachment A in an amount not to exceed **One Hundred Twenty-Three Thousand Eight Hundred Fifty and No/100 Dollars (\$123,850.00).**

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly

indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated May 26, 2015 and Amendment No. 1 dated January 10, 2017 are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment.

The CITY OF FRANKLIN, TENNESSEE

**Civil and Environmental
Consultants, Inc. (CEC)**

By: _____

Dr. Ken Moore

Mayor

Date: _____

By: _____

Print: _____

Title: _____

Date: _____

Attest:

Eric S. Stuckey

City Administrator

Date: _____

Approved as to form:

Tiffani M. Pope, Staff Attorney

February 12, 2018

COF 2015-0096
Attachment A
PG 1 of 13

Mr. Paul Holzen, P.E., LEED AP
Director of Engineering
City of Franklin
109 3rd Avenue South
Franklin, TN 37064

Delivered via electronic mail to: paul.holzen@franklintn.gov

Dear Mr. Holzen:

Subject: Proposal for Professional Engineering Services
Additional Archaeological Services and Construction Services for Jordan
Branch/Spencer Creek in The Meadow at Cool Springs subdivision off Sliders
Knob & Bakers Bridge Avenue
City of Franklin, Williamson County, Tennessee
CEC Project 140-624

Civil & Environmental Consultants, Inc. (CEC) is pleased to submit this proposal to the City of Franklin as discussed and requested. Our preparation of this proposal is based on our understanding of the additional archaeological consultation being required by the Nashville District U.S. Army Corps of Engineers (USACE), Tennessee Division of Archaeology (TDOA), and Tennessee State Historic Preservation Office (SHPO) for permitting. This proposal is also based on our understanding of the construction services needed by the City to complete this project that were not included in CEC's design services proposal.

1.0 BACKGROUND

CEC understands that the City of Franklin has had complaints for several years regarding erosion of Jordan Branch/Spencer Creek which flows behind several houses before flowing under Cliffe Run in The Meadow subdivision located off of Bakers Bridge Avenue. The stream originates near the corporate boundary between Brentwood and Franklin at the edge of The Meadow subdivision adjacent to a golf course. Google Maps lists the stream as Jordan Branch, but the Tennessee Department of Environment and Conservation (TDEC) GIS lists it as Spencer Creek and impaired for siltation. Subsequent hydrologic determination work demonstrated that much of the channel is actually a wet weather conveyance and not a stream.

The channel is severely entrenched with eroding and undercut banks. The trees are in danger of falling and many could possibly fall on or very near houses. Relatively large portions of backyards are likely going to be "uprooted" when the trees fall. Stormwater channels designed to convey flow from the

subdivision to the stream are “head-cutting” which is also contributing to the loss of backyards in the form of eroding channels between lots.

There is also a known presence of significant prehistoric archaeological resources in the immediate vicinity of the stream restoration project. The project area includes the Coats-Hines Site, which is listed in the National Register of Historic Places.

Under previous phases of this project, CEC completed a feasibility study, consulted with TDEC, USACE, and other stakeholders during the design and plans development, conducted surveys of the project site, performed initial archaeological investigations and consultations, and developed conceptual plans, preliminary plans, and permit plans for the Jordan Branch/Spencer Creek Channel Restoration project. CEC has also submitted a TDEC ARAP application and submitted for coverage under USACE Nationwide Permit #27 (NWP #27). The TDEC ARAP Notice of Coverage for the project was issued on December 20, 2017.

The submission for coverage under NWP #27 initiated the Resource Agency Consultation regarding the Section 106 cultural resources process for the project. An onsite meeting was conducted on January 10, 2018 with representatives from CEC, City of Franklin, USACE, TDOA, and SHPO. During the onsite meeting, the USACE, TDOA, and SHPO indicated the required additional consultation would be a phased approach. An initial testing strategy of exposing soil horizon profiles along both sides of the stream cutbank at set intervals (tentatively 20 meters) is being required in order to provide further information on the boundaries of the Coats-Hines Site and to assess the potential presence of other sites within the project area. In addition, TDOA and USACE are requiring a series of Shovel Test Probes (STPs) along the construction access road portion of the project, to confirm the presence of fill placed during the neighborhood construction.

On January 31, 2018, CEC along with a representative from the City met with USACE, TDOA, and SHPO to discuss the additional archaeological consultation being required. The determination at this meeting was the soil horizon profiles would still be required unless the project plans were revised to not impact Jordan Branch/Spencer Creek below ordinary high water. The City, in consultation with CEC, determined a revision to the project plans would limit the ability to remove trees that are in danger of falling and reduce the effectiveness of the stabilization and restoration of severely entrenched, eroding and undercut channel banks.

On February 7, 2018, the USACE sent a letter requesting additional information that outlines the required additional information to continue processing the NWP #27 permit application. Subsequently, CEC reached out to USACE to request reduction of the soil horizon profile widths and/or reduce the number of profiles. The USACE representative stated that he would check with the TDOA, but to date, CEC has not received an answer. Therefore, this proposal is based upon the requirements contained in the February 7, 2018 letter.

2.0 PURPOSE

The purpose of this project is to enhance and stabilize the subject stream to a more aesthetically pleasing and stable condition by incorporating natural stream design principles, bioengineering, and

traditional stabilization techniques to the channel and riparian area that will enhance the aquatic habitat and provide a level of safety from the threat of falling trees and vertical streambanks.

The purpose of this proposal is to provide a scope and fee for CEC to provide additional archaeological consultation required as part of the NWP #27 application, construction administration, and construction observation services as the project moves forward toward construction.

3.0 SCOPE OF SERVICES

Phase I and II of this project included Tasks 3.1 through 3.8. Phase III includes additional archaeological consultation, bat mist net survey, construction administration, and construction observation services as detailed below in Tasks 3.9 – 3.12.

This scope of services and estimated cost are based on the assumption no cultural or faunal remains are uncovered during the soil horizon profiles and additional archaeological consultation will not be required after the soil horizon profiles have been completed and report submitted to the agencies.

CEC also assumes the agencies will require archaeological oversight during the excavation portion of construction based on prior consultation with TDOA and USACE even if no cultural or faunal remains are found during the profiling work. The proposal and estimated cost does not include consultation and/or additional services that may be required if cultural or faunal remains are found during construction.

3.1 Task 3.9 – Additional Archaeological Consultation

CEC will perform the following tasks:

- As required by the USACE, submit for coverage under USACE Nationwide Permit #6 (NWP #6) for Survey Activities prior to commencement of the fieldwork required for the additional archaeological consultation.
- After receiving concurrence on the soil horizon profiles work plan from the TDOA and USACE and coverage under NWP #6, CEC will subcontract to have the soil horizon profiles and reporting completed. See attached subcontractor proposal. CEC will not add a mark-up to the subcontracted services.
- CEC will submit the soil horizon profile report and continue consultation with TDOA and USACE as needed for NWP #27.

3.2 Task 3.10 – Bat Mist Net Survey

The USACE requires a review for the potential impact on threatened and endangered species pursuant to the Endangered Species Act (ESA). The Indiana bat and Northern long-eared bat are listed as threatened or endangered species potentially located near the project area.

CEC understands that the purpose of this survey is to gain Indiana bat/Northern long-eared bat clearance for the Jordan Branch/Spencer Creek Channel Restoration. In order to gain clearance, the

potential impacts to the federally endangered Indiana bat and federally threatened Northern long-eared bat must be given adequate consideration.

CEC currently possess a US Fish and Wildlife Service (USFWS) Permit (TE148282-5) and a Scientific Collecting Permit from the State of Tennessee (TWRA 1193) necessary for conducting this work. CEC is prepared to conduct a mist net survey for the tree clearing activity for a length of (0.5 kilometer (km) (1,600 ft.)) associated with the Jordan Branch/Spencer Creek Channel Restoration project area. The proposed survey work is based on the technical criteria outlined in the USFWS 2017 Range-wide Indiana Bat Summer Survey Guidelines (Guidelines). The guidelines indicates a survey effort of four net nights per km (0.6 miles) suitable habitat. CEC proposes to survey one mist net location (site) with two nets for two nights = four net nights. Upon completion of the field survey, CEC will prepare a Mist Net Report with the results of the survey. The report will then be submitted to the USFWS for their concurrence.

If the Indiana and/or Northern long-eared bat are captured at the Jordan Branch/Spencer Creek Channel Restoration project area, CEC will attach a transmitter and conduct a telemetry survey and emergence counts per the Guidelines. Telemetry and emergence counts are not included in this scope of work and a separate proposal will be prepared if an Indiana and/or Northern long-eared bat are captured.

3.3 Task 3.11 – Construction Administration

CEC will perform the following tasks:

- Revise and finalize the construction plans based on permitting requirements resulting from the required additional archaeological consultation and feedback from USACE received during the January 10, 2018 site visit. These revisions do not include revisions to the proposed channel alignment, profile, or grading.
- Make necessary copies and sell bid documents and maintain a list of bidders (CEC assumes that the City will pay any costs associated with advertising the bid in a newspaper).
- Conduct a Pre-bid Meeting.
- Conduct the Bid Opening at the City of Franklin offices.
- Certify the Bid tabulation and make a recommendation to the City of Franklin.

3.4 Task 3.12 – Construction Observation

CEC will perform the following tasks:

- Conduct Pre-Construction Meeting and Project Walk Through
- Review and Approve Shop Drawings
- Coordinate Utility Location and Relocation (If Necessary)
- Coordinate with Testing companies (If Necessary)
- Conduct Site Visits
 - Tree removal observation assumes one site visit per week for eight weeks on average.

- Archaeological observation during excavation activities. Assumes five days per week for six weeks of excavation. The archaeological observer will also provide construction observation during the excavation activities, except for the installation of the grade control structures. General daily field reports are included, however, detailed archaeological reporting is not included. If the TDOA and USACE require detailed archeological reporting of construction activities a separate proposal will be provided.
 - Grade control structure observation assumes one site visit per structure on average.
 - One site visit per week for four weeks on average from the end of excavation activities through substantial completion.
-
- Conduct/Attend Bi-Weekly On-site Progress Meeting.
 - Review Contractor Pay Requests and Make Recommendation to City.
 - Coordinate with City Inspector and Contractor.
 - Review and Make Recommendation on Change Orders.
 - Interpret/Clarify Plan and/or Specification Questions or Conflicts.
 - Conduct Substantial Completion Walk Through.
 - Prepare Punchlist
 - Conduct Final Walk Through
 - Prepare Final Punchlist
 - Prepare Final Change Order
 - Prepare Warranty documentation including a site visit one year after final completion.

4.0 SCHEDULE

CEC can begin work upon receiving your authorization to proceed.

CEC is prepared to complete the bat mist net survey as early as possible beginning May 15, 2018 (when the bat mist net survey season starts), authorization to proceed is received and weather permitting. The mist net report will be submitted to the Cookeville USFWS for approval within two weeks of completing the field survey.

5.0 COST

Our not-to-exceed costs are based on the scope of services described above and will be billed on a Time & Materials (T&M) basis. If CEC encounters conditions that require additional services and costs beyond what is presented in the proposal, CEC will provide a written revised scope of services and revised costs for the City of Franklin's approval prior to proceeding. The estimated cost to perform the scope of services outlined above is provided below:

Task	Not-to-Exceed Cost
3.9 Additional Archaeological Consultation	\$47,800
3.10 Bat Mist Net Survey	\$6,650
3.11 Construction Administration	\$5,900
3.12 Construction Observation	\$63,500
Total	\$123,850

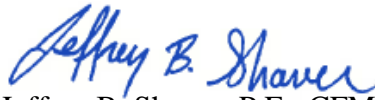
Invoicing of professional services will be in accordance with the attached fee schedule. Reimbursable expenses, including subcontracted services, are included in our estimated costs and will be invoiced according to the attached fee schedule. CEC assumes this proposal will be an addendum to CEC's existing City of Franklin contract number COF# 2015-0096.

6.0 CLOSING

CEC appreciates the opportunity to submit this proposal to you. We believe the scope of services outlined will address the City of Franklin's needs in a timely and cost effective manner. If you have any questions or comments, please call us at (615) 333-7797.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Jeffrey B. Shaver, P.E., CFM, CPESC
Project Manager



Jeffrey T. Duke, PWS, CPESC
Senior Principal



Steven E. Casey, P.E., CPESC
Principal

Cc: Jeff Willoughby, jeff.willoughby@franklintn.gov
Jonathan Marston, jonathan.marston@franklintn.gov

Enclosure 2018 Municipal Services Fee Schedule
Cultural Resource Analysts, Inc. Proposal

Task 3.10-3.12 will be dependent on the findings of task 3.9 and the City's agreement to this proposal does not imply agreement to proceed with task 3.10-3.12 if the findings from Task 3.9 deem the project unfeasible in the City's opinion.

Municipal Services Fee Schedule for 140-624

January 1, 2018 through December 31, 2018

PROFESSIONAL SERVICES

Classification	Rate/Hour
Senior Principal.....	\$220
Principal.....	\$195
Senior Project Manager	\$170
Project Manager III	\$160
Project Manager II	\$145
Project Manager I	\$135
Assistant Project Manager.....	\$110
Project Consultant / Geologist / Hydrogeologist / Biologist / Scientist.....	\$100
Staff Consultant / Geologist / Hydrogeologist / Environmental Specialist	\$95
CAD Designer.....	\$100
Draftsperson / CADD Operator.....	\$65
Senior Field Technician.....	\$80
Construction Observer / Environmental Technician.....	\$78
Senior Land Surveyor	\$150
Project Land Surveyor / GPS Specialist.....	\$100
Survey Technician IV	\$90
Survey Technician III.....	\$80
Survey Technician II.....	\$70
Survey Technician I.....	\$60
Administrative Assistant	\$65
Administrative Manager	\$73

DIRECT EXPENSES

Automobile Mileage	Current IRS Rate		
Printing and Reproduction	Cost		
Cost for	8.5"x11"	11"x17"	24"x36"
Black/White	.15	.15	\$2.00
Color	\$1.00	\$1.00	\$6.00 - \$10.00 (aerial)
Shipping	Cost		

SUBCONTRACT SERVICES

Services @ Cost

As stated on
 page 12 of this
 attachment A

**PROPOSAL TO CONDUCT ARCHAEOLOGICAL INVESTIGATIONS FOR THE PROPOSED
STABILIZATION OF JORDAN BRANCH IN
WILLIAMSON COUNTY, TENNESSEE**

February 8, 2018

Submitted to:

Jeffrey T. Duke
Senior Principal
Civil and Environmental Consultants, Inc.
325 Seaboard Lane, Suite 170
Franklin, Tennessee 37067

(616) 333-7797
jduke@cecinc.com

Cultural Resource Analysts, Inc. (CRA) is pleased to provide this proposal to conduct archaeological investigations of a section of the banks of Jordan Branch in Williamson County, Tennessee. This proposal includes our understanding of the project, as well as our scope of work, schedule and cost estimate. The information on this project was provided by Mr. Duke via emails dated February 6, 2018.

Project Description

This project includes the investigation of a portion of the banks of Jordan Branch near the town of Franklin in Williamson County, Tennessee. The project includes the stabilization of approximately 355 linear meters of bank on either side of Jordan Branch, a deeply incised wet-weather conveyance. The stream segment extends from Cliffe Run eastward to the boundary of the Nashville Golf and Athletic Club through a residential area. The stream banks are extensively eroded, exposing the roots of many of the large trees growing alongside the stream. Vehicular access to the stream will be along an access road running from Sliders Knob Avenue northeast along greenspace owned by the homeowner's association. The access road will cover approximately 300 linear meters. The project area encompasses approximately 3.6 acres in total.

Site 40WM31, the Coats-Hines Site, is situated immediately adjacent to the south bank of Jordan Branch on the eastern end of the project area. The Coats-Hines Site is nationally significant as it contains evidence of human interaction with now extinct Pleistocene fauna, including mastodon. Archaeological research at the site since the 1970s has produced the remains of mastodons and other animals, along with chert tools, carbonized plant remains, and pollen samples. Cut marks on the mastodon bones provide clear evidence of human activity, one of very few sites in the Southeast where this has been demonstrated.

As such, it is extremely important to Tennessee archaeology. The partial remains of at least two mastodons have been recovered from the south bank of Jordan Branch within the proposed project area. Pleistocene deposits have been identified in layers of gray and yellow clay buried as deep as 3m below the ground surface.

Scope of Work

A work plan for this project has been prepared by Civil and Environmental Consultants, Inc. (CEC) in consultation with the Tennessee Division of Archaeology and the Nashville District of the U. S. Army Corps of Engineers (USACE). This document was provided by Mr. Duke and was used in the preparation of this scope of work. No ground disturbance will take place within the existing boundaries of Site 40WM31.

Background Research

The background research for this project has been completed by CEC and it is assumed that this information will be shared for use in the field and final report.

Field Work

Given the extremely sensitive nature of the area to be examined during this project, standard archaeological methods for survey or testing are not appropriate. Instead, the work plan calls for profiles of the stream bank to be cleaned, drawn to scale, and photographed in order to determine the extent of the potentially cultural deposits. The profiles will be cleaned at 20m intervals on both banks, with the profiles on one bank spaced to fall between those of the opposite bank. The profiles will measure approximately one meter in width and will extend from the ground surface to the base of the stream bed. Each will be cleaned in such a way as to disturb as little soil as possible. No effort will be made to create vertical surfaces on sloped banks. Each soil zone will be described as to Munsell color and texture.

At this time, the amount of redeposited soil covering the natural soil strata is not known. Given the erosional nature of the stream, it is unlikely to be thick on the upper portions of the bank. However, it may be much thicker near the base. It is assumed for this project that a minimal amount of redeposited soil will be needed to be removed over the upper portions of the profiles. In addition, we anticipate that the slump deposits will be thicker near the base of the bank, but will not exceed 30cm in thickness.

While every effort will be made to obtain complete profiles at the prescribed intervals, the safety of the crew must take precedence. If sand lenses or other Class C soils (as defined by OSHA) are encountered, work will cease in that area. The client will be notified and a decision will be made on how to proceed at that point. At no time will OSHA regulations concerning deep excavations be violated. Deeply undercut portions of the stream bank will also be avoided.

If artifacts are encountered while cleaning profiles, their location will be recorded using a Total Station prior to being bagged. Lithic artifacts will be placed in paper bags marked with the horizontal and vertical provenience. Each bag will be issued a sequential bag number and that number recorded on a bag

list. If faunal remains are encountered, they will be left in situ until the proper means for their recovery has been decided in consultation with TDOA and USACE.

The access road corridor will be examined via systematic shovel testing. This area has presumably been covered by fill during the construction of the surrounding houses. Shovel tests will be excavated at a 15 meter interval along the centerline of the corridor, although additional tests will be necessary on the northern and southern ends where the corridor is wider. Each test will measure approximately 50 centimeters square and will be excavated no deeper than 61 cm below ground surface as no disturbance is anticipated beyond that depth. All of the excavated soils will be screened through ¼-inch mesh hardware cloth and all of the recovered artifacts retained for analysis. Records on each shovel test will be maintained throughout the project and will include total depth, soil stratigraphy, artifacts recovered, soil texture, and Munsell color. A GPS receiver will be used to record the location of each transect and positive shovel test. It is estimated that 25 shovel tests will be needed to complete the transects associated with the survey. No shovel tests will be excavated outside of the project area.

Notes on the overall project will be taken by the field director, along with appropriate photographs of the project area. Photographs of representative shovel tests will also be taken.

Laboratory Analysis

Upon arriving at CRA's laboratory, the recovered artifacts will be checked against the master bag list maintained in the field to assure that all materials are accounted for. The artifacts will then be cleaned in a manner appropriate to the material, allowed to dry, then placed in acid-free plastic bags with zip-type closures marked with the appropriate provenience information. The materials will be sorted and catalogued in keeping with the guidelines provided by the TDOA.

Given the nature of the site and the time period involved, it is expected that any recovered artifacts will be lithic tools or debitage. Analysis of the lithic artifacts will be conducted to provide an inventory of the recovered materials and an assessment of the likely temporal, spatial, and behavioral factors involved in the formation of the lithic assemblage. Analysis of these artifacts will focus on determining the raw material, manufacturing methods, technological characteristics, and possible function. Flake debris analysis will involve the use of multiple methods to determine the technological original of the flake. Three basic goals of the analysis are to: 1) provide information concerning the lithic technology utilized by the site inhabitants; 2) examine site use as indicated by the lithic artifacts; and 3) provide inferences concerning occupation intensity for the site. The resulting analysis will be presented in tabular form, which will be included in the technical report. A sample of diagnostic artifacts will be photographed. Following completion of the analysis of artifacts, they will be prepared for permanent curation in keeping with the requirements set forth by the TDOA. Curation will be at a facility to be agreed upon by the client and the USACE.

Deliverables

A summary of the field results will be provided to the client in an email at the conclusion of the field work. The results of the archaeological survey will be presented in a detailed technical report. The report

will provide a project description, methods, and field results. Project base maps showing areas surveyed and resources recorded during the investigation will also be included, along with appropriate photographs. Descriptions of each profile, including the soils encountered and any artifacts or faunal remains recovered will be included in the report. Our recommendations for additional work, if any, will also be included. In addition, the state site form for Site 40WM31 will be updated and submitted to TDOA.

A draft of the report will be provided to the client for initial review as a Portable Document Format (PDF) document. Once any comments have been received, final Draft Reports will be submitted for regulatory review. Three bound hard copies and three compact disks containing each draft report in PDF will be provided to the client.

Once comments have been received, the Final Report will be prepared which will incorporate any required revisions. An electronic version of the Final Report will be made available to the client to confirm that the revisions have been made. Three hard copies of each report and three compact disks with the reports in PDF format will be provided to the client following confirmation of the revisions.

Personnel

Mr. Travis W. Hurdle will serve as CRA's project manager for this project. The Principal Investigator for the archaeological survey will be Mr. Andrew Bradbury, who will also direct the field research and serve as author of the report. Mr. Bradbury has over 30 years of experience and is very familiar with deeply buried sites. He will be assisted in the field by four archaeologists with experience conducting investigations on prehistoric sites.

Schedule

We are prepared to begin work on the project within five business days following receipt of notice to proceed. It is anticipated that the archaeological investigations will require approximately 7-9 days in the field to complete. The draft report will be submitted to the client within 20 business days of completion of fieldwork. This schedule assumes that CRA will be running the project.

Assumptions

The following assumptions have been made when preparing the scope of work and estimated cost for this project. These are not intended to be all-inclusive, and it is recognized that unforeseen changes and circumstances may result during the course of the project. Should these situations arise, CRA will, in a timely manner, address specific scope or budget issues with the client to reach an agreement for any needed contract modifications and additional compensation per our standard rate schedule.

General Assumptions

- No issues with property access will be encountered. Access to private property will be coordinated by the client.
- Clear, detailed mapping (i.e., shapefiles of the project area) will be provided by the client.
- No extended periods of bad weather will occur during the fieldwork. Water levels within the stream channel will be sufficiently low to allow for the work to proceed.

- No presentations or meetings will be required as part of this project.
- No Archaeological Resources Protection Act permit is required. Any applicable USACE permits will be obtained by CEC prior to the beginning of the field work.
- No more than 1.9 acres will require shovel testing.
- No more than 25 shovel tests will be excavated.
- No more than 32 one-meter wide profiles will be prepared.
- No more than 30 cm of soil will need to be removed from each profile to expose the natural soil strata. Additional time may be needed to complete the profiles if this assumption is exceeded.
- No shovel test will exceed 61 cm in depth.
- No more than 50 artifacts will be recovered.
- No remains of megafauna will be discovered. Any specialized materials and additional time for the recovery of megafaunal remains is not included in this proposal.
- No Class C soils will be encountered.

Cost

We propose to complete the scope of work on a time and materials basis for a fee not to exceed of \$42,409 based on the scope of work and assumptions discussed above. This amount will not be exceeded without written permission from the client. Should any of the assumptions listed above be exceeded, a change to the budget may be requested. Terms are payment in full once the client has been paid.

This cost assumes the project will be managed and executed solely by CRA personnel. If CEC chooses to use CRA field personnel under the direction of CEC archaeologists, our costs will be billed on a per hour basis at the rates listed below, along with any associated expenses.

- Project archaeologist I \$96.11 per hour
- Staff Archaeologist I \$58.48 per hour
- Field Technician III \$50.03 per hour

Please sign below and return this page via email to twhurdle@crai-ky.com to authorize our services.

We appreciate the opportunity to assist you with this project. If you have any questions, please do not hesitate to call Mr. Travis Hurdle at 865-304-9141, or Mr. Paul Avery at 865-202-8091.

Sincerely,



Paul G. Avery, RPA
Principal Investigator
Cultural Resource Analysts, Inc.



Proposal Accepted and Work Authorized by:

Signed: _____

Name: _____

Position: _____