



February 25, 2015

Mr. Paul Holzen, P.E., LEED AP
Director of Engineering
City of Franklin
109 3rd Avenue South
Franklin, TN 37064
Delivered via email: paul.holzen@franklintn.gov

Dear Mr. Holzen:

Subject: Proposal for Professional Engineering Services
Phase II – Survey and Design for Jordan Branch/Spencer Creek in The Meadow 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 at our meeting on February 9, 2015. Our preparation of this proposal is based on a site review meeting with the City and the Regulatory Agencies (TDEC and the Corps of Engineers) on November 12, 2014, the Feasibility Study for Jordan Branch/Spencer Creek (December 16, 2014) including the feedback received from a public meeting earlier this year and our meeting on February 9, 2015 at your office.

1.0 BACKGROUND

Civil & Environmental Consultants, Inc. (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.

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.

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.

3.0 SCOPE OF SERVICES

Phase I of this project was a feasibility study and included Tasks 3.1, 3.2, and 3.3. Phase II includes the survey and design for one of the recommended solutions and is detailed below in Tasks 3.4 – 3.7.

The following scope of services is based upon the three-page “Stream Restoration Projects – Consultant Contract Design Tasks and Construction Administration” given to CEC at the January 12, 2011 meeting regarding COF Contract No. 2010-0155 and as modified during that meeting.

3.4 Project Survey/Scoping/Functional Layout

- Boundary and topographic survey of the project area including adjoining properties for which easements may be necessary to complete the restoration are included with this scope. The primary focus of the survey will be the current alignment of Jordan Branch and the properties that directly abut the drainage way. Back yard topographical information, fences, other residential structures, and back of house corners will be collected to ascertain the impact of sloping the banks back. Topographical information and tree information for the north-south HOA-owned property located between Sliders Knob Avenue and Jordan Branch will also be collected since this may be an access point for construction and because off-line detention within this area may be proposed as part of the design. There should be enough property corners found that when combined with the plat, will provide enough boundary information along the HOA-owned strip to avoid the need for a full boundary survey of all the adjoining properties to this strip.
- A tree survey will be performed on private parcels to document potential trees that may be lost during the construction phase.

- CEC will perform a topographic field survey of the project area using Tennessee state plane coordinates, NAD 83, NAVD 88, zone 4100/5301 for incorporation into the Franklin GIS database. CEC understands that GIS data of this area will be made available for use on this project. The purpose of this initial survey is to gather information for developing a current and comprehensive drawing of the existing stream channel and immediate surrounding area. This drawing will be used in developing and graphically depicting the proposed restoration design. This topographic survey is a prerequisite for all the following tasks.
- CEC will analyze the survey to determine a functional layout required for the stream restoration design and review with the City prior to continuing the work.

3.5 Preliminary and ROW Plans Preparation

The City has elected to proceed with either Option #1 or #2 from the Feasibility Study Report. Option #2 will be the preferred option; however, regulatory requirements and other constraints may dictate another approach. CEC will perform the following tasks:

- Develop initial design(s) for stream alignment, off-line detention within HOA property, stormwater conveyance transitions to the stream, and construction access considerations.
- Meet with City staff to go over initial project findings, so the design approach can be approved.
- Consultant to submit one set of Preliminary Plans for City review and approval (electronic submittal acceptable).
- Proceed with preparing the ROW plans after receiving comments back from City on the Preliminary Plans.
- Prepare draft permit applications for a City of Franklin grading permit and for coverage under the Tennessee Construction General Permit for Storm Water associated with Construction (this will include preparation of a preliminary Erosion Prevention and Sediment Control (EPSC) plan, Storm Water Pollution Prevention Plan (SWPPP), and Notice of Intent (NOI)), and a General Aquatic Resource Alteration Permit (ARAP) application and Corps of Engineers Nationwide Permit #27 application. TDEC schedule for the General ARAP for Stream Restoration expires in June 2015. It is unsure if TDEC will have the new General ARAP ready by that time and if so this project may have to be permitted through the Individual permit process requiring public notice.

- CEC to coordinate with the State Historic Preservation Office (SHPO) and the Tennessee Division of Archaeology for clearance (a cultural resources survey is not proposed as part of this scope).
- Identify ROW/Easement acquisition needs.
- Preliminary Hydraulic Design – CEC will delineate the watershed to the subject reach and perform hydraulic analysis using HEC-RAS in order to determine the design shear stresses, estimated depths of flow for various return interval storms, and other pertinent information. The design goal will be to not adversely impact property owners with increased water levels due to the proposed restoration.
- Preliminary Landscaping Design – CEC will coordinate with the City’s Landscape Architect to develop a plan that seeks to balance riparian benefit with aesthetic qualities requested by the residents in the area. Larger specimen trees will be specified to replace lost trees.
- Preliminary ROW Plan Review/Utility Coordination – One full-size set of ROW Plans for each utility’s use (electronic copies may be accepted based on the utility) and one full-size set, one half-size set, and an electronic copy of ROW Plans for City review.
- ROW Plan Sets may include, but are not limited to: Title Sheet, Typical Sections, Property Map with Acquisition Table, Present Layout, Proposed Layout, Proposed Profile, Utility Layout, X-Sections (minimum every 50’).
 - Prepare preliminary quantities and cost estimate
- Hold/Attend one preliminary utility coordination meeting (CEC has estimated a cost of \$950 per utility coordination meeting).
- Prepare exhibits for Public Hearing.
 - Two Sets of ROW Plans, Display Boards, and Presentation
- Hold/Attend Public Hearing (CEC understands that the City will advertise and hold the meeting and that CEC will provide the exhibits and attend to answer questions posed by the public).
- Incorporate comments and changes into ROW Plans and finalize ROW Plans.
- CEC will submit one full-size set, one half-size set, and an electronic copy (PDF and CADD) of finalized ROW Plans.

3.6 Easement Documents and Field Staking

- Legal descriptions and exhibits (CEC assumes 25 easement documents will be necessary for the properties along the stream and two along a proposed HOA-owned access where the HOA property narrows).
 - Descriptions and exhibits to be printed on 8 ½” x 11” paper (one tract per page)
 - Exhibits to show existing and proposed features, property lines, existing ROW
 - Field staking of up to 25 easements on three trips included.

3.7 Construction Plans Preparations

CEC will perform the following tasks:

- Finalize Design and Prepare Plan Specifications
 - Incorporate special conditions from preliminary plan development task.
 - Calculate final quantities and cost estimate.
 - Prepare erosion prevention and sediment control plans.
 - Prepare general notes.
 - Finalize water quality permit applications (this task will include water quality type permits such as the Aquatic Resource Alteration Permit application, the Corps of Engineer’s permit applications, the NOI and SWPPP, and the Franklin Grading Permit application).
- Final Hydraulic Design – CEC will finalize the HEC-RAS model of Jordan Branch in order to determine the design shear stresses, estimated depths of flow for various return interval storms, and other pertinent information.
- Construction Plan Review – one full-size set of construction plans for each utility’s use (electronic copies may be accepted based on the utility) and one full-size set, two half-size sets, and an electronic copy of construction plans for City review.
- Construction Plan Sets may include, but are not limited to: Title Sheet, Typical Sections, Quantities, Property Map with Acquisition/Easement Table, Present Layout, Proposed Layout, Proposed Profile, Utility Layout, Erosion Control, General Notes, X-Sections (~ every 50’), and Details.
- Final utility coordination meetings (if necessary).
- Prepare exhibits for second Public Hearing.

- Two Sets of Construction Plans, Display Boards, and Presentation
- Hold/Attend Public Hearing (CEC understands that the City will advertise and hold the meeting and that CEC will provide the exhibits and attend to answer questions posed by the public). CEC will provide copies of the easement documents at this meeting and anticipates that the field staking of the easements will have been accomplished before this meeting. In this way, the City may be able to secure a portion of the easements from the affected residents at the meeting.
- Incorporate comments and changes and finalize plans.
- Finalize the City of Franklin grading permit application and a Notice of Intent (NOI) and SWPPP for coverage under the Tennessee Construction General Permit for Storm Water associated with Construction (applicable permit application fees are assumed to be waived for the City grading permit; State permit fees are assumed to be paid by the City of Franklin and have not been included in the costs for this proposal).
- Submit permit applications (permit fees paid by City or reimbursed if CEC is asked to pay them).
- CEC to submit one full-size set, one half-size set and an electronic copy (PDF and CADD) of Finalized Construction Plans and Specifications.

Note: CEC will attend status update and other necessary meetings during the life of the Project and has estimated five meetings in addition to those specifically listed above in Tasks 3.4 through 3.7 for the purposes of providing a cost schedule with this proposal. CEC will maintain an updated schedule of project tasks and will submit this via email monthly (or as requested by the City).

Given the number of stakeholders involved on this project and the potential for the schedule being drawn out, CEC has not included the cost for bidding assistance, construction oversight, or warranty documentation at this time. CEC will provide additional scope and estimated costs if requested.

4.0 SCHEDULE

CEC can begin work within two weeks of receiving your authorization to proceed.

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
3.4 Project Survey/Scoping/Functional Layout	\$31,300
3.5 Preliminary & ROW Plans Preparation	\$26,200
3.6 Preparation of 25 easement descriptions and exhibits and field staking	\$22,200
3.7 Construction Plans Preparation	\$17,400
Total	\$97,100

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.~~

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 cost effective manner. If you have any questions or comments, please call me at (615) 333-7797.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Steven E. Casey, P.E., CPESC
Senior Project Manager



Jeff Duke, PWS, CPESC
VP Ecological Services

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

Enclosures



May 7 2015

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

Dear Mr. Holzen

Subject: Proposal for Professional Services
Archaeological Consultation Services
Jordan Branch/Spencer Creek Project
City of Franklin, Williamson County, Tennessee
CEC Project 140-624

Civil & Environmental Consultants, Inc. (CEC) presents for your consideration our proposal to provide the City of Franklin (Franklin) with professional services for archaeological consultation services.

1.0 PROJECT UNDERSTANDING

This proposal was based on the following:

- The Client communication that archaeologically sensitive areas have been identified in the project vicinity;
- YouTube video of prior archaeological investigation of the area;
- CEC staff's previous experience on similar stream stabilization and restoration projects.
- CEC staff's previous experience conducting archaeological investigations at prehistoric archaeological sites.

The overall goal of the stream bank stabilization project is defined in the CEC scope for that phase of work, and will not be reiterated here. The issue to be addressed by this scope of work is the presence of significant prehistoric archaeological resources in the immediate vicinity of the stream restoration project. CEC was provided with information indicating that the Tennessee Department of Archaeology (TDOA) conducted an excavation of a mastodon and associated prehistoric tools in 2010. Other previous archaeological excavations were conducted in the area in the 1970s and 1990s, both of which recovered mastodon remains. The location of the 2010 excavation abuts the current project area. This indicates that there is a high likelihood of additional significant archaeological resources within the project area. Because of the extremely sensitive and rare nature of these resources, CEC is recommending that coordination occurs with the TDOA and with the Lead Federal Agency, the US Army Corps of Engineers (USACE) prior to the development of a testing strategy. The standard techniques that are employed for Phase I

and even Phase II archeological investigations would be inadequate to identify the known resources at this location. Evidence indicates that the resources are between eight and twelve feet below the current ground surface. Our recommendations are outlined in the following sections and include Archival Research, Resource Agency Consultation, and Work Plan Development.

2.0 ARCHIVAL RESEARCH

It is suggested that the first task would be to examine the existing literature regarding the previous work in the project vicinity. It is anticipated that documents on file at the TDOA and Tennessee State Historic Preservation Office (SHPO) will provide a better understanding of what has been done at the site or sites in the area, what was found, and provide a framework to develop testing strategies that can be applied to the current project. The information gathered will also provide crucial information for subsequent discussions with the resource agencies. It is necessary to visit the TDOA facility in-person to complete the archival research. CEC will prepare a short summary of this research and provide it to the city and resource agencies prior to the proposed meeting. The data can be incorporated into the Work Plan and later reports, as needed.

3.0 RESOURCE AGENCY CONSULTATION

CEC is proposing to hold a resource agency consultation meeting to discuss the results of the archival research, observe the current conditions of the stream (as was done in November 2014, but with additional agencies present), the area proposed for bank stabilization, the proposed detention areas, and preliminary discussion of the public involvement that will be associated with a project of this nature. The agencies represented should include the USACE archaeologist and regulatory project manager, the TDOA, the City of Franklin, and CEC representatives. It may be beneficial to have the TDEC and additional USACE staff attend to discuss a coordinated approach to the work.

Discussions with the TDOA and the USACE archaeologist and regulatory project manager will focus on what field techniques may be most effective at identifying the cultural horizons within the project area. The purpose of the meeting is to come away with practicable techniques that can be used to identify where remains may be within the proposed project area. It is possible a combination of stream bank profiling, limited excavations into the stream banks, or other relatively limited fieldwork may be possible, however, it is equally possible TDOA or the USACE will want a more traditional block excavation of some areas. This would involve large-scale excavation to a depth similar to previous excavation: 8–12 ft.

4.0 WORK PLAN DEVELOPMENT

Subsequent to the agency consultation meeting, CEC will prepare a Work Plan for the project, outlining the techniques that will be used to investigate the project area, and the goals associated with each technique. The Work Plan will also provide man hour justification for the work to be undertaken.

5.0 ESTIMATED COSTS

The following estimated costs are presented to complete the Archival Research, Agency Coordination meeting, and prepare a Work Plan, based on our current understanding of the project. The overall scope of CEC's services may have to be modified as the project progresses. We will promptly notify Franklin if additional CEC services and costs are required.

Total Estimated Cost-Archival research, Agency Coordination, and Work Plan.....\$9,845

~~Our Standard Schedule of Terms and Conditions already in place for the current project (140-624) will apply to this work. Any changes to the agreement must be agreed to in writing by both parties prior to your authorization to proceed. Your oral or written authorization to proceed will form a binding contract and indicates your acceptance of our proposal.~~

6.0 SCHEDULE

CEC can initiate work on this project upon your notice to proceed (NTP). Because of time constraints, this proposal serves as our work plan for the project. The first task will be to conduct the archival research which will be contingent on when an appointment can be arranged with the TDOA. CEC will attempt to schedule the Agency meeting within two weeks of the completion of the Archival Research; however this will be contingent on Agency availability. CEC can have the Work Plan prepared within four weeks of the Agency meeting. This schedule can be revised during contract negotiation, if CEC is awarded the contract.

7.0 CLOSING

CEC appreciates the opportunity to assist Franklin with this archaeological investigation. Please contact us at 877-746-0749 or bhillen@cecinc.com or jsnyder@cecinc.com if you have any questions regarding this proposal.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Jim Snyder, MA, RPA
Archaeological Principal Investigator



Luella Beth Hillen
Principal

Fee Schedule

January 1, 2015 through December 31, 2015

PROFESSIONAL SERVICES

Classification	Rate/Hour
Vice President.....	\$220
Principal	\$205
Senior Project Manager	\$180
Project Manager III	\$155
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.....	\$90
Draftsperson / CADD Operator.....	\$65
Senior Field Technician.....	\$80
Construction Observer / Environmental Technician	\$78
Senior Land Surveyor	\$140
Project Land Surveyor / GPS Specialist.....	\$100
Survey Technician IV	\$83
Survey Technician III.....	\$78
Survey Technician II.....	\$70
Survey Technician I.....	\$63
Administrative Assistant	\$65
Administrative Manager	\$73

~~DIRECT EXPENSES~~

Company or Personal Automobile Mileage	\$0.56 /mile*
Computer / CADD Usage	\$15/hour
Other Travel Related Expenses	Cost plus 10%
Printing and Reproduction	Cost plus 10%
Telephone and Shipping	Cost plus 10%
Miscellaneous Services.....	Cost plus 10%

~~SUBCONTRACT SERVICES~~

~~Services @ Cost Plus 12%~~

* Will be modified to current IRS Rate