

**RESOLUTION 21-52**

**A RESOLUTION TO APPROVE A PROFESSIONAL SERVICES AGREEMENT WITH THE CORRADINO GROUP TO PROVIDE DESIGN AND CONSTRUCTION SERVICES FOR A TRAFFIC SIGNAL AT US 31 – MARY ANN CIRCLE/WILLIFORD WAY**

**WHEREAS**, the City of Spring Hill has identified the need to install a traffic signal at the intersection of US 31 and Mary Ann Circle/Williford Way; and

**WHEREAS**, the City contracted with KCI Technologies, Inc. to perform a traffic signal warrant study in October 2020 which showed the need does exist; and

**WHEREAS**, the traffic warrant study was presented to the Tennessee Department of Transportation (“TDOT”) for their review of a traffic signal installation on a State road (US31) and granted approval of the installation; and

**WHEREAS**, the developer for Petra Commons, located on the east side of the intersection, submitted escrow funds in February 2017 (Resolution 17-21) to the City in the amount of \$300,000 for future installation of the traffic signal in lieu of installing the signal as part of the development; and

**WHEREAS**, the funds from the developer are currently held in escrow by the City and will be used towards the costs of the design, materials and installation of the traffic signal; and

**WHEREAS**, the City would be responsible for the balance of the costs if the costs were to exceed \$300,000; and

**WHEREAS**, a Request for Qualifications was advertised with a submittal deadline of February 24, 2021 and the City received three submittals; and

**WHEREAS**, City staff recommends the selection of The Corradino Group to provide design and construction services for the traffic signal at US 31 – Mary Ann Circle/Williford Way at a not to exceed cost of \$81,633.19.

**NOW, THEREFORE BE IT RESOLVED**, the City of Spring Hill Board of Mayor and Aldermen:

1. Approve the professional services contract between the City and The Corradino Group at a not to exceed cost of \$81,633.19.
2. Authorize the Mayor to sign the contract between the City and The Corradino Group attached hereto.

**Passed and Adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee on the 19<sup>th</sup> day of April, 2021.**

  
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Rick Graham, Mayor



**REQUEST:** *Approval of Resolution 21-52*  
**SUBMITTED BY:** Missy Stahl, Senior Project Manager  
**DATE:** April 5, 2021  
**RE:** To approve a PSA with The Corradino Group for design and construction services for a traffic signal at US 31 – Mary Ann Circle/Williford Way  
**ATTACHMENTS:** Resolution 17-21, cost proposal, PSA

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**PURPOSE:**

The purpose of this memo is to provide information regarding a cost proposal from The Corradino Group to provide design and construction services for a new traffic signal at the intersection of US 31 – Mary Ann Circle/Williford Way.

**BACKGROUND:**

The developer of Petra Commons (located on the east side of the intersection) submitted escrow funds to the City in the amount of \$300,000 in February 2017 to be used towards the installation of a traffic signal once the development was built out if a traffic signal warrant study showed the need exists. As stated in Resolution 17-21 that established the escrow agreement:

*“Should it be found that a traffic signal is warranted, at that time the City of Spring Hill can use the funds in the escrow account to pay for the design and installation of the traffic signal.”*

The City contracted with KCI Technologies, Inc. in October 2020 to perform this study. The results show that a traffic signal at this intersection is warranted. The City presented the study to TDOT for their review of installing a traffic signal on a State road and granted approval of the installation.

Requests for qualifications for the design of the traffic signal were advertised and opened on February 24, 2021, with three submittals being received. City staff selected The Corradino Group and requested a cost proposal for services. The Corradino Group submitted a cost proposal for a total not-to-exceed cost of \$81,633.19. Services will include: project management; data collection; ROW/utility plans; final construction plans & construction documents; ROW acquisition; bidding assistance; CEI; traffic signal timing implementation and support.

**FINANCIAL IMPACT:**



The cost of the design services and installation of the new traffic signal will be expensed utilizing the \$300,000 escrow funds from the developer. If the cost of the design and installation exceeds \$300,000, the City will be responsible for the difference. It is estimated that the City will need to budget an additional \$125,000 in FY 21/22 budget to cover the cost difference with installation estimated to be \$333,900 which includes a 10% contingency.

### **STAFF RECOMMENDATION:**

Staff recommends approval of Resolution 21-52 to approve a PSA with The Corradino Group for design and construction services for a traffic signal at US 31 – Mary Ann Circle/Williford Way.

### **4/7/21 UPDATE:**

In order to complete the traffic warrant study for the intersection, traffic volume data was collected by KCI from 5:00 AM – 6:00 PM on a typical weekday in October 2020 while schools were in session. The collected count data was compared to historic TDOT ADT counts and 2018 data collected by KCI for the "US 31 (Main Street) Signal Timing Optimization Study" to determine if existing travel patterns had been altered by the pandemic.

As part of the traffic signal warrant study, traffic volumes, safety and operational analysis were reviewed. The projected traffic volumes met the warrants for the installation of a traffic signal, for which TDOT concurred. As for safety, it was determined that five (5) crashes correctable by the installation of a traffic signal occurred with the specified time frame of twelve (12) months (April 2017 – April 2018). Additionally, the intersection crash rate was calculated to be 0.580, which is higher than the statewide average rate of 0.125 for urban two-way stop-controlled intersections with same lane configuration for the years 2017-2019.

As for operational analysis and the traffic back-up on US 31 (Main Street). The study included operational analysis and identified the expected overall intersection operational improvements with the installation of a signal. As an unsignalized intersection, the westbound left and eastbound approach to the intersection are projected to have significant delays. When the delays reach excessive levels, drivers may tend to become impatient and accept smaller gaps in traffic which may create safety issues trying to pull/turn into oncoming traffic.

As mentioned during the April 5<sup>th</sup> meeting, there is typical traffic backup through the intersection during peak hours due to the volume of traffic and the capacity of the roadway. However, this will continue to be an issue until US 31 (Main Street) is widened or other roadway projects provide viable alternative routes to alleviate the congestion. The study did not measure the traffic backup (northbound in the AM or southbound in the PM) through this intersection. In an attempt to address the congestion, the study recommended coordinated signal timings be implemented, so that progression is achieved through adjacent traffic signals on US 31 (Main Street) at Buckner Road and Wilkes Lane. The coordinated traffic signal plans for this proposed signalized intersection were included as part of the US 31 (Main Street) Signal Timing Optimization Study completed by KCI in July 2019. When the traffic signal is installed, these timing plans will be implemented and fine-tuned to maximize progression through the network.



The Corradino Group (Corradino) utilized the preliminary widening plans for US 31 (Main Street) when submitting their proposal response to the RFQ. Through continued coordination with Corradino and as outlined in their proposed scope of services for the project, they intend to coordinate with TDOT STID on the proposed widening plan for US 31 (Main Street). The design goal is to install the signal poles outside of the proposed widening limits to potentially avoid the need to relocate them at the time that TDOT implements construction of the road improvements.

The terms set by the developer agreement for the use of the escrow funds states that a traffic signal warrant study and if warranted, the installation of a traffic signal at this intersection must be performed within seven years of the agreement (dated February 2017) or when build-out of the Petra Commons development is complete, whichever occurs first. I have verified with the developer that all the residential and commercial sites within Petra Commons has been built out to 100%.

**PROFESSIONAL SERVICES AGREEMENT BETWEEN  
CITY OF SPRING HILL, TENNESSEE  
AND THE CORRADINO GROUP**

**THIS AGREEMENT** is made this the 21st day of April, 2021, by and between **CITY OF SPRING HILL, TENNESSEE** (hereinafter "City"), and The Corradino Group (hereinafter "Consultant").

**WITNESSETH:**

**WHEREAS**, the City has determined to enter into an agreement with a consulting firm that affirms itself to have extensive experience in transportation, planning, design and construction engineering and inspection to provide design and construction services for a traffic signal at the intersection of US 31 – Mary Ann Circle/Williford Court; and

**WHEREAS**, the City submits that it has the authority to contract with Consultant to provide professional services for the work desired by the City; and

**WHEREAS**, by entering into this Agreement, Consultant affirms that it has extensive experience in transportation planning and traffic signal design for the City of Spring Hill providing such services in a professional manner in accordance with the terms and conditions of this Agreement as well as the standard of care practiced by other consultants and professionals performing similar services within the industry.

**NOW, THEREFORE**, in consideration of the premises and recitals hereinabove set forth, which are incorporated herein by reference, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the mutual covenants contained herein, the City and Consultant agree as follows:

**ARTICLE 1 - SCOPE OF SERVICES TO BE RENDERED BY CONSULTANT**

1. Consultant shall perform all necessary professional services in a satisfactory and proper manner, consistent with the City's requirements for the Project and by reference made a part hereof, including, but not be limited to, the following:

a. See Attached Exhibit A (Scope of Services)

2. All documents prepared by Consultant that form a part of the services rendered hereunder shall, upon completion of the exhibits, calculations, draft reports, presentation material, etc. will become the property of the City. Such documents shall not be used by either party on any other project, except as reference materials.

3. The City will furnish all information, data, reports and maps as are existing and identified by Consultant as necessary for carrying out the work that are available to the City without cost to Consultant.

4. Consultant shall have the authority to request work assignments necessary to obtain additional information to revise the cost of service study if required.

## **ARTICLE 2 – CITY’S RESPONSIBILITIES**

The City will provide to Consultant all criteria and full information as to the Project’s requirements, and shall furnish the following:

1. Provide Consultant with all known available information that is pertinent to the Project.
2. Meet with Consultant for ongoing discussions to assist in directing the consultant.
3. Give thorough consideration to all reports, exhibits or technical memorandums and other documents presented by Consultant and inform Consultant of all decisions within a reasonable time so as not to delay the work of Consultant (i.e. furnish approval or instructions for change).
4. Designate, in writing, a single person to act as Consultant point of contact with the City. The contact person for the City of Spring Hill will be Missy Stahl, Senior Project Manager.
5. Give prompt written notice to Consultant when it is known that either the Project criteria or conditions have changed, or there is reason to believe Consultant work is deficient in intent or technical content.

## **ARTICLE 3 - TERM**

1. The services of the Consultant shall be undertaken and completed within a timely manner and in accordance with all City and TDOT regulations and specifications.

## **ARTICLE 4 - FEES**

1. In consideration of the performance of services rendered under this Contract, Consultant shall be compensated for services performed in accordance with Article 1, not to exceed \$81,633.19.
2. Invoices shall be submitted by Consultant to the City in monthly statements for services rendered, if any. The statements shall be based on percent completion of the lump sum amount, and incurred expenses. Each individual invoice shall be due and payable thirty (30) days after receipt.
3. If the City disputes any portion of Consultant invoices, the undisputed portion will be paid by the City, and Consultant will be notified in writing within ten (10) days of receipt of the exceptions taken to such invoice. The City and Consultant will attempt to resolve any payment



1. The City and Consultant shall attempt to resolve conflicts or disputes under this Agreement in a fair and reasonable manner and agree that if an informal resolution cannot be achieved, the parties shall submit the matter to a mutually agreed upon mediator in an attempt to resolve the dispute through the mediation process. Such mediation process shall be initiated by a request in writing by either party.

2. The mediation provision can be waived by the mutual consent of the parties or by either party if such party's right would be irrevocably prejudiced by a delay in initiating a legal proceeding.

3. **Governing Law, Venue and Jurisdiction:** This Agreement shall be governed by and construed in accordance with the laws of the State of Tennessee. The venue and jurisdiction for any dispute arising pursuant to this Agreement shall be in the Circuit Court for Maury County, Tennessee.

#### **ARTICLE 8 – BREACH**

1. The term “breach of agreement” specifically includes, but is not limited to, failure to comply with any applicable federal, state or local laws or regulations.

2. One or more waivers of breach of any provision of this Agreement by any party shall not be construed as a waiver of subsequent breach of the same provision, nor shall it be considered a waiver of any other then existing or subsequent breach of a different provision.

3. The substantially prevailing party in any legal proceeding hereunder by and between the parties shall be entitled to their reasonable attorney's fees and court costs incurred in said legal proceeding.

#### **ARTICLE 9 - MODIFICATION**

This Agreement shall not be modified unless such modifications are evidenced in writing in the form of a written Amendment, which is signed by both the City and Consultant. Should any changes in the design of the Project be necessary, the City's designee shall report such change to Consultant in writing. If the City determines that any changes in work are necessary to complete the Project, then Consultant shall be allowed compensation based upon the original contract terms, including the additional work in the overall cost of the construction of the Project.

#### **ARTICLE 10 - INDEMNITY AND HOLD HARMLESS**

1. City shall agree to indemnify and hold Consultant, its officers, agents and/or employees, harmless from and against any and all lawsuits, damages and expenses, including court costs and attorneys' fees, by reason of any claim and/or liability imposed, claimed and/or threatened against the City, its officials, agents and/or employees, for damages because of bodily injury, death and/or property damages arising out of or in consequence of the performance of

services under this Agreement to the extent that such bodily injuries, death and/or property damages are attributable to the negligence of the City, its agents, employees, or any other entity for which the City may be found to be legally liable. This provision shall survive the completion of all services, obligation and duties provided pursuant to the Project, or the termination of this Agreement for any reason.

2. Consultant shall agree to indemnify and hold the City, its officers, agents and/or employees, harmless from and against any and all lawsuits, damages and expenses, including court costs and attorneys' fees, by reason of any claim and/or liability imposed, claimed and/or threatened against Consultant, its officials, agents and/or employees, for damages because of bodily injury, death and/or property damages arising out of or in consequence of the performance of services under this Agreement to the extent that such bodily injuries, death and/or property damages are attributable to the negligence of Consultant, its agents, employees, or any other entity for which Consultant may be found to be legally liable. This provision shall survive the completion of all services, obligation and duties provided pursuant to the Project, or the termination of this Agreement for any reason.

#### **ARTICLE 11 – INSURANCE**

Consultant shall maintain, during the term of this Agreement, or any extension hereof, the following insurance policy, written by an insurance company authorized to do business within the State of Tennessee, and furnish City, in duplicate, Certificates of Insurance as evidence thereof:

1. **Worker's Compensation:** Providing coverage in compliance with the laws of the state in which any part of the work is to be performed, and Employer's Liability Coverage in the minimum amount of the statutory limit for each occurrence.

2. **Comprehensive (Commercial) General Liability Insurance:** Bodily injury and property damage combined single limit in the minimum amount of \$1,000,000.00 for each occurrence.

3. **Automobile (Business) Liability Insurance:** Bodily injury and property damage combined single limit in the minimum amount of \$1,000,000.00 for each occurrence, \$1,000,000.00 aggregate.

4. **Professional Liability Insurance:** Professional liability insurance covering claims arising from errors, omissions or negligent acts committed in the performance of professional services under this Agreement with limits of \$1,000,000.00.

#### **ARTICLE 12 - SEVERABILITY**

In the event any provision of this Agreement or any instrument delivered in connection herewith shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provisions hereof or thereof.

**ARTICLE 13 - BINDING EFFECT**

This Agreement shall inure to the benefit of and shall be binding upon the parties and their respective heirs, administrators, successors and assigns.

**ARTICLE 14 - INDEPENDENT CONTRACTOR RELATIONSHIP**

It is specifically understood that Consultant relationship with City shall be that of independent contractor and Consultant shall in no sense be considered an agent or employee of City, nor shall Consultant be, as a result of the relationship established by this Agreement, entitled to or eligible to participate in any benefits or privileges extended or given by City to its employees, notwithstanding this Agreement.

**ARTICLES 15 - HEADINGS AND EXHIBITS**

The paragraph headings in this Agreement are for convenience only, and they form no part of this Agreement and shall not affect its interpretation.

**ARTICLE 16 - FORCE MAJEURE**

Consultant shall not be liable to City or be deemed to be in breach of this Agreement for any failure or delay in rendering performance arising out of causes beyond Consultant reasonable control and without its fault or negligence. Such causes may include, but are not limited to, acts of God or the public enemy, terrorism, significant fires, floods, earthquakes, epidemics, quarantine restrictions, strikes, freight embargoes, or Governmental Authorities approval delays which are not caused by any act or omission by Consultant and unusually severe weather. Consultant agrees to notify City of the existence and nature of any delay.

**ARTICLE 17 - ENTIRE AGREEMENT**

This Agreement and accompanying documents contain the entire agreement between the parties with respect to the subject matter hereof and all prior or contemporaneous written or oral agreements with respect to the subject matter hereof are superseded hereby.

**IN WITNESS WHEREOF**, the City has caused this Agreement to be signed by its authorized representative, and Consultant has caused this Agreement to be signed in its corporate name by its authorized representative as of the day and year first written above.

**[Signatures on next page]**

**CITY OF SPRING HILL, TENNESSEE**

By:   
Rick Graham, Mayor

**THE CORRADINO GROUP**

By: 

Gerald Bolden, Vice President  
(Print Name)

# THE CORRADINO GROUP, INC.

CORRADINO

ENGINEERS • PLANNERS • PROGRAM MANAGERS • ENVIRONMENTAL SCIENTISTS

March 25, 2021

Ms. Missy Stahl, CMFO  
Senior Project Manager  
City of Spring Hill  
199 Town Center Parkway  
Spring Hill, TN 37174

**Re: Scope of Work and Fee Proposal  
US 31 (Main St) and Mary Ann Cir/Williford Ct Traffic Signal**

Dear Ms. Stahl:

Attached for the City's approval is our scope of work and lump sum fee proposal in the amount of \$81,633.19 to provide professional services for the signalization of the intersection of US 31 (Main St) and Mary Ann Cir/Williford Ct. A detailed scope of work for survey, design, right-of-way acquisition and CEI services to be performed by The Corradino Group and our subconsultants, Energy Land and Infrastructure (ELI) and Moffett-Revell LLC, are included along with a detailed breakdown of the hours and costs associated with each task.

We are available at your discretion to further discuss and answer any questions the City may have concerning this information. We greatly appreciate this opportunity and look forward to working with you and the City.

Sincerely,

**THE CORRADINO GROUP, INC.**



**Gerald Bolden, PE, PTOE**  
Vice President  
TN Operations Manager

## **SCOPE OF SERVICES**

US 31 (Main St) at Mary Ann Cir/Williford Ct  
Traffic Signal Design  
March 25, 2021

The following scope of work outlines the professional services to design and develop plans for the traffic signal improvements at the intersection of US 31 (Main St) at Mary Ann Cir/Williford Ct.

### **1. General Project Management**

Project management is a continuous task that will be performed for the duration of this contract. Monitoring, coordination, scheduling, and reporting requirements of this task will be used to facilitate periodic review by the City of Spring Hill (City) to ascertain conformance with the requirements of this task.

After receipt of the notice-to-proceed, Corradino will conduct a project kick-off meeting with the City staff. This meeting will include the following topics:

- Key project staff
- Communications protocol
- Design goals and requirements
- Project schedule
- Invoicing
- Monthly progress meetings and reports
- Data and information needs

Once the project is underway, Corradino will provide monthly status reports to the City's Project Manager (PM) and conduct progress meetings with City staff, as necessary. These meetings will include a status update, anticipated next phases of work to be completed, and discussion on any critical items/issues and/or potential issues identified during project development.

Corradino anticipates having up to three (3) meetings with the City staff throughout the development of the project. These meetings will include (1) an initial design kick-off meeting, (2) ROW/Utility Plans review meeting, and (3) Construction Plans review meeting.

Corradino will prepare the agenda for all meetings and provide all necessary materials and handouts for discussion. At the conclusion of each meeting, Corradino will prepare meeting minutes and a cumulative list of "action items" developed for assignment to the appropriate party. These items will be distributed to the attendees and other appropriate stakeholders within five (5) working days following the meeting. All deliverables included within this task will be provided in .pdf format.

The following subtask will be completed as part of Task 1:

- 1.1 Conduct Project Kickoff Meeting
- 1.2 Provide monthly status reports to the City's Project Manager (PM).
- 1.3 Conduct progress meetings with City staff, as necessary.

Scope of Services

US 31 (Main St) at Mary Ann Cir/Williford Ct

March 25, 2021

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- 1.4 Project milestones to occur for ROW/Utility Plans and Final Construction Plans. An electronic copy of plans in .pdf format will be submitted to the City at the completion of these milestones.
- 1.5 Attend meetings at these project milestones.
- 1.6 Attend one (1) Transportation Advisory Committee (TAC) and one (1) Board of Mayor and Alderman (BOMA) meeting at these project milestones to provide status updates to the City.
- 1.7 Coordination with subconsultants.

**2. Data Collection**

The data collection phase will include a network and intersection evaluation of the traffic operations in the area, compilation of the design requirements and considerations for the intersection, field-run survey and compilation of utilities within the study area. This will include coordination with TDOT STID to discuss and obtain the preferred design alternative for US 31 (Main St) widening project.

- 2.1. Collect previous traffic operations, signal timing and traffic signal warrant studies for the intersection. This information will be used to evaluate of the anticipated traffic signal operations of the intersection and identify design specifics, such as signal phasing and timings.
- 2.2. Coordinate with TDOT STID and/or their consultant for the US 31 (Main St) preliminary engineering study to obtain any preferred or recommended alternatives in relation to US 31 (Main St) at the intersection with Mary Ann Cir/Williford Ct. as well as anticipated location for proposed right-of-way for these alternatives.
- 2.3. Survey the project to collect field information that will be used for the basis of designing the project. Energy Land and Infrastructure, LLC (ELI) will provide a TDOT standard roadway database survey in accordance with the TDOT Survey Manual, Third Edition, dated May 3, 2011.

The survey limits will extend 400 feet in each direction (north-south) from the center of the intersection along Main Street and 150 feet in each direction from the center of intersection (east-west) along Mary Ann Circle and Williford Court. The width of the survey limits will be 60 feet either side of the centerline (120 feet total) for 150 feet along each leg of the intersection. Beyond 150, the width will narrow down to approximately 30-35 feet from the centerline (60-70 feet total).

The survey will include:

- Right-of-way and property owner information within the survey limits
- All utilities (underground and above ground) within the survey limits
- All features (sidewalks, buildings, fences, driveways, drainage structures, trees, signage, pavement markings, curb ramps, etc.) within the survey limits
- All roadway planimetric features, an existing surface digital terrain model, a right-of-way acquisition table, and a list of utility owners
- A drainage areas map is excluded

The survey file deliverables will include:

- MicroStation drawing file (.dgn)
- GEOPAK Project File (.prj)
- GEOPAK Geometry File (.gpk)

## Scope of Services

US 31 (Main St) at Mary Ann Cir/Williford Ct

March 25, 2021

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- TIN Surface File (.tin)
- Property Owner/Right-of-way Acquisition Table (.xslm)

In addition to the TDOT standard database survey, ELI will also prepare exhibits and legal descriptions for up to four (4) property tracts and stake the corners of the easement and/or property acquisitions one time only.

### 3. ROW/Utility Plans

The traffic signal design and preparation of the plans and construction documents shall be developed in accordance with City of Spring Hill Standards; TDOT Design Guidelines and Standard Specifications; AASHTO Green Book; and latest edition of the MUTCD.

The design components include:

- Black powder coated mast arm signal supports
- McCain Omni ATC EX2 NEMA controller
- EDI SSM-16LE(ip) Enhanced NEMA MMU
- PDC SSS86I/O load switches
- Wavetronix radar detection
- Sonem emergency vehicle preemption
- LED street name signs
- ADA accommodations (curb ramps, pedestrian signal heads, etc.)

The following subtasks will be completed as part of the ROW/Utility design phase:

- 3.1 Develop projected traffic volumes for design year operational analysis.
- 3.2 Conduct operational analysis for projected design year traffic conditions to determine preferred signal phasing and lane configuration.
- 3.3 With the proposed US 31 (Main St) project, the intersection configuration will be evaluated with existing lanage and conditions along with future conditions from the information obtained from TDOT STID. The traffic signal layout will be designed to minimize the future impacts of the widening on the layout. As feasible, this includes locating the traffic signal poles and cabinet outside of the anticipated impacted areas of the future widening. Additionally, the lengths of the mast arms will be designed to accommodate the future lanage and traffic signal heads.
- 3.4 Prepare the proposed traffic signal design based on the design components listed above and the results of the subtask 3.2 and 3.3.
- 3.5 The following sheets are anticipated to be included in the ROW/Utility package.
  - Title Sheet
  - Miscellaneous Details
  - Property Map (with acquisition table and notes)
  - Present Layout
  - Proposed Signal Layout
  - Traffic Signal Details/Tables
  - Estimated Quantities
  - Signing and Marking Plan

## Scope of Services

US 31 (Main St) at Mary Ann Cir/Williford Ct

March 25, 2021

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- Traffic Control Plan (Preliminary)
- EPSC Plan

- 3.6 Submit the ROW/Utility design package to the City for review.
- 3.7 Conduct review meeting with the City, prepare a Summary of Comments and revise plans accordingly.
- 3.8 Submit final ROW/Utility plans to the City. The plans will be submitted in hard copy format (11" x 17") consisting of a minimum of three (3) copies for the City plus additional copies for utility companies. Additionally, an electronic (.pdf) copy will be provided to the City.
- 3.9 Assist the City with coordination of impacted utilities that may be impacted in the project area. No utility relocation design will be performed as part of this scope.

*NOTE: An environmental evaluation or geotechnical investigation of the area is not anticipated for this project.*

## 4. Final Design / Construction Documents

Final design and development of construction plans will proceed upon approval of the City consisting of the following elements.

- 4.1 Complete final details and remaining design elements to finalize the construction plans.
- 4.2 Prepare additional plan sheets to be included in the overall plan set. These include: Index, Final Quantities, General and Special Notes, Final Traffic Control.
- 4.3 Review the traffic signal timing plans developed by the City's consultant and presented in the July 2019 Final Report of the US 31 (Main St) Signal Timing Optimization Study. Confirm clearance timings (vehicle and pedestrian).
- 4.4 Calculate final project quantities.
- 4.5 Submit the Construction Plans design package to the City for review.
- 4.6 Conduct review meeting with the City, prepare a Summary of Comments and revise plans accordingly.
- 4.7 Submit final Construction Plans to the City.
- 4.8 Prepare a final detailed Engineer's Opinion of Probable Cost and submit to the City upon completion of final construction plans.
- 4.9 Prepare TDOT Entrance/Grading Permit Application, if required by TDOT Region 3.
- 4.10 Prepare bid book containing project information, legal forms to enter into contract with a selected contractor, and any technical specifications to construct the project.

## 5. ROW Acquisition Phase

Corradino will attempt to minimize the need for right-of-way and easements resulting from the design. However, due to the limited right-of-way along the west side of US 31 (Main St) and the location of utilities in the project area, there may be the need for right-of-way/easement acquisition. As such, Corradino with assistance from Moffett-Revell, LLC (Moffett) will provide the following services/tasks.

- 5.1 On behalf of the City, Corradino will contact the property owners (anticipate up to 2 properties) of parcels identified to have the need for additional right-of-way or easement.
- 5.2 Moffett will perform Formal Part Affected appraisals, following TDOT guidelines and the Uniform Act on up to two properties.
- 5.3 After receipt of the appraisals, Corradino will coordinate with the City prior to coordinating with the property owners.
- 5.4 Corradino will negotiate with the property owners to acquire the needed right-of-way or easement and provide documentation to the City.
- 5.5 The City of Spring Hill will provide all legal services relating to the purchase any properties.

## **6. Bidding Assistance**

- 6.1. Assist the City of Spring Hill to advertise the project for the purpose of selecting a contractor to perform the work. Publications and media for advertising will be decided by the City. Cost to advertise in these journals will be provided by Corradino and directly reimbursed to the City of Spring Hill.
- 6.2. Assist the City and oversee distribution of bid documents to potential bidders.
- 6.3. Supervise a pre-bid meeting to answer any questions concerning the project. Minutes of the meeting will be distributed, and addendum issued if necessary, addressing any possible conflicts.
- 6.4. Open bids on behalf of the City, evaluate all bids, and recommend award for this contract.

## **7. Construction Engineering and Inspection (CEI)**

CEI Services will be upon approval of construction by the City of Spring Hill. The scope of work for CEI services is estimated and outlined in the following. Material testing is not anticipated but may be added at such time if desired by the City of Spring Hill.

Corradino will serve as the City's representative and provide CEI services throughout the life of the project to effectively monitor and oversee construction of the project as defined by the plans and specifications. Typically, with a stand-alone traffic signal design the actual construction period could take as long as 9 months due to equipment and pole delivery. However, during this period actual field construction activities only occur for several weeks. This includes a period during the first couple of months of the project when tasks such as submittal reviews, RFIs responses, construction of foundations, installation of conduit, installation of pedestrian curb ramps/sidewalk, etc. Then, at such time as the cabinet, controller, poles, detection devices, etc. are delivered those components will be installed. Based on the typical phasing of the work, and not requiring an inspector on-site during non-activities by the contractor, Corradino has assumed the CEI will require one full-time inspector for the equivalent of three (3) weeks' time plus technical staff for submittal reviews, RFIs, general documentation and reporting.

Corradino will provide CEI services as outlined in the following sections. Based on discussions with the City, Corradino will provide an inspection team consisting of a Project Manager and full-time inspector for the project. Corradino will coordinate throughout the construction phase with the City's PM accordingly. The inspector will not be required to be on-site during periods when the contractor is inactive.

**A. Pre-Construction Conference**

Corradino will prepare for and conduct the Pre-Construction Conference; address and resolve all issues that arise at the meeting and prepare and distribute detailed minutes of the meeting. *Erosion Control* and *Utility Coordination* discussion will also be discussed prior to commencing activities to discuss scheduling and operations for these specific items.

**B. Project Administration**

Corradino will provide project administration and coordinate with the City; monitor Contractors hours worked on the project and justify need for overtime; obtain from the contractor a list of contractor's personnel that will be responsible for any occurrence that may arise on the project for the life of the project.

**C. Provide Construction Inspection Technical Support**

Corradino will provide qualified personnel for inspection of the project during the construction phase to oversee the Contractor's activities.

**D. Supplemental Agreements – Construction Change Orders**

Through coordination with the City, if the Contractor request a change order, Corradino will review any Supplemental Agreements/Construction Changes; Negotiate prices for additional pay items with the contractor while adhering to the "Average Unit Price" listing when possible; Coordinate acceptance of prices with the City; Prepare the Supplemental Agreement/Change Order and submit to the City for final review and submittal for processing.

**E. Quality Assurance, Testing for Acceptance**

Corradino will assist and oversee a subconsultant to monitor and provide materials testing in the field as defined by TDOT specifications. Any certifications of material submitted by the contractor will be reviewed by Corradino for conformity to the Plans and Specifications. A Final Materials and Tests Certification will be included in the Final Records submitted to the City.

**F. Progress Payments**

Corradino will document and assemble accurate quantities for Monthly Progress Payments to the Contractor from actual project field records. The quantities for payment will be referenced to field records prior to submission for payment. All pay quantities will be submitted to the City for review and payment. Payments for stockpiled material may be made as defined in the Standard Specifications and approved by the Project Supervisor. The Estimate "cut-off" will be the 15<sup>th</sup> of each month.

**G. Distribution of Correspondence**

Corradino will maintain a copy of all correspondence between the Consultant, contractor, subcontractors, or others concerning matters related to the project. The correspondence will be submitted with the project Final Records.

**H. Inspection of Work**

Corradino's inspection team ensure completion of the following tasks:

1. Provide inspection services for conformance to Plans and Specifications for all items that are being incorporated into the project. Corradino will measure and record all quantities for payment and provide daily reports to the City. These daily reports will be provided at a minimum of weekly. The daily records will be recorded on a standard form (field book) and/or on field inspection forms.
2. Check traffic control daily, and additionally as required.

3. Notify the contractor of deficiencies or problems immediately. Document weekly (or as often as necessary) project traffic control and provide to the City.
4. Inspect daily erosion control items for conformance to the plans as well as effectiveness in the field.
5. Prepare an accurate daily diary, signed by the inspector, consisting of:
  - A record of the contractors on the project
  - Their personnel (number and classification)
  - Equipment (number and type or size)
  - Location and work performed by each contractor or subcontractor
  - Orders given the contractor
  - Events of note on the project
  - Accidents on the project and any details surrounding the accident such as police report number, fatalities, causes, time, etc. Obtain a copy of the police report for the project records whenever possible.
  - Weather, amount of precipitation, temperature at morning, noon, and evening
  - Days charged, with explanation if not charged.
  - Equipment arriving or leaving the project, idle equipment.
  - Any other details that may be important later in the project life.
6. Review shop drawings and/or submittals and evaluate for compliance.

Corradino understands that the City does not expect Corradino to be on-site for the entire work day if no work is being performed.

**I. Final Records**

Corradino will provide a compilation of project records as well as all project documentation to the City. Corradino will make any corrections when/if notified and resubmit the records and a final estimate for the project at the appropriate time and submit all final forms (with the final records).

**J. As-Built Plans**

Corradino will develop as-built plans showing the location of constructed improvements. Final as-built plans (in .pdf format) and survey files (in MicroStation (.dgn) format) will be delivered to the City upon completion of the project.

**8. Traffic Signal Timing Implementation and Support**

At the conclusion of the construction phase, Corradino will provide traffic signal timing implementation and support services to the City staff. These tasks include:

- 8.1 Provide assistance to the City staff with verification of the traffic signal timing plans programmed into the controller by the Contractor.
- 8.2 Conduct traffic observations of the traffic signal timings during the weekday AM, Midday, and PM peak periods and during a typical weekend peak period.
- 8.3 Adjust/Fine-tune the traffic signal timings, including splits and offsets, to optimize traffic progression along the corridor while minimizing overall intersection delays.

Scope of Services

US 31 (Main St) at Mary Ann Cir/Williford Ct

March 25, 2021

Page 8 of 8

**9. Additional Services**

Any work, other than the scope of services outlined herein, shall be designated "Additional Services."

At such time that it is determined that these additional services are required, Corradino reserves the right to amend this proposal or execute a separate agreement that will provide such services. Services desired by the client, but not specifically outlined herein, can be provided on an hourly basis in accordance with Corradino's standard hourly rates.

**NOTE:** *This scope of services does not include environmental evaluation; geotechnical investigation; roadway lighting design; utility design; landscape architecture or design or materials testing during construction. If desired, Corradino can provide scope of services and proposed fee for any of these services.*

**US 31 (Main St) at Mary Ann Cir/Williford Ct Traffic Signal Design**  
**The Corradino Group**  
**24-Mar-21**

TASK	Prin	PM	Sr Eng 1	Sr Eng 2	Staff Eng	EI/ Inspector	Staff Plnr	Admin	Hours/Task
<b>1.0 Project Management</b>									
Project Schedule						2			2
Invoicing/Progress Reports									0
Project Team Meetings (Kick-off)		2				2			4
Progress Meetings			3						3
TAC/BOMA Work Session/Meeting (up to 2)			4						4
Public Meeting									0
<b>2.0 Data Review &amp; Evaluation</b>									
Traffic Studies & Data			1						1
Survey coordination and verification						2			2
Coordination with TDOT STID			2			4			6
<b>Design</b>									
<b>3.0 ROW Plans development</b>	0	0	10.5	4	13	57	0	0	84.5
<b>4.0 Construction Plans development</b>	0	0	11	4	9	42.5	0	0	66.5
<b>5.0 ROW Acquisition</b>									
Coordination with Impacted Property Owners				2	8			16	26
Coordination with City		2		4					6
Negotiation with Property Owners/Documentation				4	8		24	8	44
<b>6.0 Bidding Assistance</b>									
Prepare Specs, Contract Docs, Materials			2		12	4		16	34
Distribute Plans & Attend Pre-Bid Meeting			3			4			7
Prepare Addendum/RFI & Coordination			2		3				5
Attend Bid Opening			3						3
Evaluate Bids & Meeting with City			2		1	4			7
<b>7.0 CEI</b>									
Daily Inspection				6		120			126
Pre-Con & Bi-monthly Progress Meeting		6				6			12
Shop Drawings, Misc. Reviews and Coordination			4		4	8			16
As-built Coordination			2			8			10
<b>8.0 Traffic Signal Timing Implementation &amp; Support</b>									
Verification of timings & Controller programming			2						2
Traffic Observations & Fine-tuning			8						8

<b>TASK 1 TOTAL</b>	0	2	7	0	0	4	0	0	13
<b>TASK 2 TOTAL</b>	0	0	3	0	0	6	0	0	9
<b>TASK 3 TOTAL</b>	0	0	10.5	4	13	57	0	0	84.5
<b>TASK 4 TOTAL</b>	0	0	11	4	9	42.5	0	0	66.5
<b>TASK 5 TOTAL</b>	0	2	0	10	16	0	24	24	76
<b>TASK 6 TOTAL</b>	0	0	12	0	16	12	0	16	56
<b>TASK 7 TOTAL</b>	0	6	6	6	4	142	0	0	164
<b>TASK 8 TOTAL</b>	0	0	10	0	0	0	0	0	10
<b>GRAND TOTAL</b>	0	10	59.5	24	58	263.5	24	40	479

<b>TASK 1 TOTAL</b>	\$2,600.00
<b>TASK 2 TOTAL</b>	\$1,325.00
<b>TASK 3 TOTAL</b>	\$10,725.00
<b>TASK 4 TOTAL</b>	\$8,925.00
<b>TASK 5 TOTAL</b>	\$6,700.00
<b>TASK 6 TOTAL</b>	\$7,550.00
<b>TASK 7 TOTAL</b>	\$18,575.00
<b>TASK 8 TOTAL</b>	\$2,500.00
<b>DIRECT EXPENSE (ELI - Survey)</b>	\$15,779.44
<b>RECT EXPENSE (Moffett-Revell - ROW Appraisal)</b>	\$6,500.00
<b>DIRECT EXPENSE (CEI Vehicle (\$30.25/day)</b>	\$453.75
<b>GRAND TOTAL</b>	\$81,633.19

TENNESSEE DEPARTMENT OF TRANSPORTATION  
MANDAY ESTIMATE AND FEE PROPOSAL

*For Survey Only*

**Main Street (S.R. 6 / U.S. 31)**

**Intersection at Mary Ann Circle / Williford Court**

**Williamson County**

**Project Identification Number (PIN): n/a**

General Comments:

Pre-Design Roadway Database Survey for Signalization Improvements

***Energy Land & Infrastructure***

**Timothy L. Haggard, PE, RLS**

745 S. Church St., Suite 850,

Murfreesboro, TN 37130

615-383-6300

615-360-8476

[tim.haggard@eli-llc.com](mailto:tim.haggard@eli-llc.com)

*Prepared By:*

**Tim Haggard**

Date prepared:

**3/5/2021**

Project No.:

**<00000-0000-00>**



Version 2.27



SURVEY MANDAY ESTIMATE

ESTIMATE FOR FIELD SURVEYS

PROJECT DESCRIPTION:

Version 2.27

Route: Main Street (S.R. 6 / U.S. 31)  
 Description: Intersection at Mary Ann Circle / Williford Court  
 County: Williamson Prepared By: Tim Haggard  
 Consultant: Energy Land & Infrastructure Date Prepared: 3/5/2021  
 Project No.: <00000-0000-00>

TOTAL LENGTH(miles): 0.19  
 OFFICE TRAVEL TIME PER DAY(hrs): 1.30  
 CREW TRAVEL TIME PER DAY(hrs): 1.30



ACTIVITY	PROJECT MANAGER	OFFICE CADD TECH.	PARTY CHIEF	INSTRUMENT MAN	RODMAN	RODMAN	FLAGGER	FLAGGER	Total
	PM	O	P	I	R	R	F	F	
1. Establish & Stake Alignments	0.1	0.1							0.2
2. Update Survey									
3. Control Traverses	0.1		0.1	0.1	0.1				0.4
4. Set Aerial Control									
5. Bench Levels			0.1	0.1	0.1				0.3
6. Develop Digital Terrain Model	0.1	0.2	0.3	0.3	0.3				1.2
7. R.O.W., Deed & Utility Research	0.4	0.3							0.7
8. Property Owner Contact	0.5		0.5						1.0
9. Locate Property & Pres. R.O.W. Lines	0.8	0.8	1.3	1.3	1.3				5.5
10. Obtain Topo/Verify Aerial	0.1	0.2	0.9	0.9	0.9				3.0
11. Drainage Surveys (Culverts)	0.1	0.1	0.3	0.3	0.3				1.1
12. Bridge Surveys (bridge details, stream alignment, topo, profile, flood plain sections, high water, etc.)									
13. Railroad Surveys									
14. Utilities		0.1	0.5	0.5	0.5				1.6
15. Stake R.O.W. & Easements	0.1	0.1	0.5	0.5	0.5				1.7
16. Stake Sounding Holes									
17. Note Reduction & other Calculations	0.2								0.2
18. Plot Plan, Profiles, Property Map, Drainage Map, Bridge Survey, Control Point Table, etc.	1.2	1.2							2.4
19. Supervision	0.2								0.2
20. Travel Time (8 HOUR MAN-DAYS)	0.5	0.2	0.9	0.8	0.8				3.2
<b>TOTALS (8 HOUR MAN-DAYS)</b>	<b>4.4</b>	<b>3.3</b>	<b>5.4</b>	<b>4.8</b>	<b>4.8</b>				<b>22.7</b>

SURVEY MANDAY ESTIMATE

PROJECT DESCRIPTION:

Version 2.27

Route: Main Street (S.R. 6 / U.S. 31)  
 Description: Intersection at Mary Ann Circle / Williford Court  
 County: Williamson  
 Consultant: Energy Land & Infrastructure  
 Project No.: <00000-0000-00>

TOTAL LENGTH(miles): 0.19  
 Date Prepared: 3/5/2021 Prepared By: Tim Haggard



	OFFICE DIFFICULTY	FIELD DIFFICULTY	REMARKS
Align.	1.0	0.0	
Update	1.0	1.0	0 Survey Updates
Control	1.0	1.0	
Aerial	0.0	0.0	0 0 NUMBER HORIZONTAL & NUMBER VERTICAL POINTS
Levels	1.0	1.0	ZERO IF NOT REQUIRED
DTM	1.0	1.0	100% PERCENT SKIPS 80 DTM WIDTH(feet)
Research	1.0	1.0	8 NUMBER OF TRACTS
Contacts	1.0	1.0	
Property	1.0	1.0	DO NOT EDIT THESE CELLS
Topo	1.0	1.0	
Culverts	1.0	1.0	
Bridges	1.0	1.0	0 0 0 NUMBER OF SMALL, MEDIUM, LARGE BRIDGES
RR	1.0	1.0	0 NUMBER OF RR CROSSINGS
Utilities	1.0	1.0	6 Number of Different Utilities Involved
R.O.W.	1.0	1.0	DO NOT EDIT THESE CELLS
Geotech.	1.0	1.0	
	1.0		0 20 0 Number of IP's, 1-stake, 2-stakes
Plotting	4.0		0 Number of Geotechnical Staking Points
	1.0		128.7 8 - Hr MD/MILE not including travel
	1.0	1.0	149.8 8 - Hr MD/MILE

SURVEY DIRECT EXPENSES																																									
PROJECT DESCRIPTION: ROUTE: Main Street (S.R. 6 / U.S. 31) DESCRIPTION: Intersection at Mary Ann Circle / Williford Court COUNTY: Williamson CONSULTANT: Energy Land & Infrastructure TOTAL LENGTH(miles): 0.21																																									
				Prepared By: Tim Haggard Date Prepared: 3/5/2021 Project No.: <00000-0000-00>																																					
				Item Subtotal	Item Total Cost																																				
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To: 4824 Main Street, Spring Hill																																									
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Stakes	20	\$ 0.50	\$ 10.00																																						
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			<b>Subtotal</b>																																						
<b>TOTAL DIRECT EXPENSES</b>					<b>\$ 316.00</b>																																				

\* Rate must agree with most current State of Tennessee travel regulations.  
 First and last day of travel must be at the 75% Per Diem Rate.

SURVEY LABOR DIRECT EXPENSES

SURVEY DIRECT LABOR COST

PROJECT DESCRIPTION:

ROUTE: Main Street (S.R. 6 / U.S. 31)  
 DESCRIPTION: Intersection at Mary Ann Circle / Williford Court  
 COUNTY: Williamson  
 CONSULTANT: Energy Land & Infrastructure  
 TOTAL LENGTH(miles): 0.21

Prepared By: Tim Haggard  
 Date Prepared: 3/5/2021



	Abbrv.	Personnel Classification	8 - Hr Man-Days	Approved Hours	Rate Per Hr	Direct Labor
1	PM	PROJECT MANAGER	4.4	8.0	\$ 60.00	\$ 2,112.00
2	O	OFFICE CADD TECH.	3.3	8.0	\$ 38.00	\$ 1,003.20
3	P	PARTY CHIEF	5.4	8.0	\$ 31.00	\$ 1,339.20
4	I	INSTR. MAN	4.8	8.0	\$ 19.00	\$ 729.60
5	R	RODMAN	4.8	8.0	\$ 17.00	\$ 652.80
6	R	RODMAN	0.0	8.0	\$ 17.00	\$ -
7	F	FLAGGER	0.0	8.0	\$ -	\$ -
8	F	FLAGGER	0.0	8.0	\$ -	\$ -
		TOTALS	22.7			\$ 5,836.80

Direct Labor Cost Per 8 - Hour Man-Day	\$ 257.13
--	-----------

Version 2.27





# Tennessee Department of Transportation

## Fixed Fee Worksheet

( 8% base plus)

**Project Description:**

Route: Main Street (S.R. 6 / U.S. 31)  
 Termini: Intersection of Mary Ann Circle and Williford Court  
 County: Williamson  
 Consultant: Energy Land & Infrastructure, LLC  
 Other: \_\_\_\_\_

<b>Size of Contract</b>	The smaller the phase(s) of work negotiated in a project specific type contract or the smaller the work order negotiated in an on-call type contract, the higher the additional fixed fee percentage.
-------------------------	---

% Additional Fee	Qualifier
<input type="checkbox"/> 0.00	More than \$2,000,000
<input type="checkbox"/> 0.50	Less than \$2,000,000
<input type="checkbox"/> 1.00	Less than \$500,000
<input checked="" type="checkbox"/> 2.00	Less than \$50,000

2.00

<b>Complexity</b>	The higher the complexity, the higher the additional fixed fee percentage.
-------------------	--

% Additional Fee	Qualifier
<input type="checkbox"/> 0.00	Resurfacing, No Plans Contracts, CEI On-Call Work Orders
<input checked="" type="checkbox"/> 0.50	Rural widening project, Freeway widening, New alignment, NEPA, Natural Stream Design, Tech. Studies, CEI Project Specific Contracts, TPR, Bridge Approach Project, Signal Project, Intersection Widening, Standard Geotechnical Investigations and Designs, Railroad Projects
<input type="checkbox"/> 1.00	Interchange, Urban widening, ITS, Bridge Design, Retaining wall design or evaluations involving soldier piles or soldier piles with anchor walls, seismic evaluations, and rockfall/landslide designs

0.50

<b>Contract Duration</b>	The longer the duration for the phase(s) negotiated in a project specific type contract or for the work order duration in an on-call type contract, the higher the additional fixed fee percentage.
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% Additional Fee	Qualifier
<input checked="" type="checkbox"/> 0.00	less than two years
<input type="checkbox"/> 0.50	from two to four years
<input type="checkbox"/> 1.00	four years or more

0.00

<b>Subcontracting</b>	The less work subcontracted, the higher the additional fixed fee percentage
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% Additional Fee	Qualifier
<input type="checkbox"/> 0.00	More than 40% of job
<input type="checkbox"/> 0.50	Less than 40% of job
<input checked="" type="checkbox"/> 1.00	Less than 20% of job

1.00

<b>Overhead</b>	The lower the overhead the higher the additional fixed fee percentage
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% Additional Fee	Qualifier
<input type="checkbox"/> 0.00	Office Overhead > 200% or Field (CEI) Overhead > 150%
<input type="checkbox"/> 0.50	Office Overhead > 180% and ≤ 200% or Field (CEI) Overhead > 130% and ≤ 150%
<input type="checkbox"/> 1.00	Office Overhead > 160% and ≤ 180% or Field (CEI) Overhead > 120% and ≤ 130%
<input type="checkbox"/> 2.00	Office Overhead > 140% and ≤ 160% or Field (CEI) Overhead > 110% and ≤ 120%
<input checked="" type="checkbox"/> 3.00	Office Overhead > 120% and ≤ 140% or Field (CEI) Overhead > 90% and ≤ 110%
<input type="checkbox"/> 4.00	Office Overhead ≤ 120% or Field (CEI) Overhead ≤ 90%

3.00

**Total Fixed Fee = 14.50%**

Completed By	Firm	Date
Tim Haggard	Energy Land & Infrastructure, LLC	3/5/2021