

BOARD OF PUBLIC WORKS AND SAFETY
Agenda Request Form

(Form B-01-2012)

Organizations and individuals are asked to submit a request form and supporting documents to be placed on the agenda. You will be contacted by the City confirming the date of the meeting in which your request will be heard.

Please make sure that your contact information is accurate in case we need to get in touch with you. The Board of Works meets on the 1st and 3rd Monday of each month at 5:00 p.m. in City Hall located at 70 E. Monroe Street.

Date Submitted:	11/10/2015	Requested Meeting Date:	11/6/2015
		Confirmed Meeting Date:	
Received by:			
Contact Information: Please provide all requested information in the fields below. (Print or Type)			
On Behalf of Organization or Individual:		Planning and Engineering	
Name:	Travis Underhill	Telephone:	(317) 736-3631
Title or Position:	City Engineer		
E-Mail:	tunderhill@franklin.in.gov		
Address:	70 E. Monroe Street		
City:	Franklin	State:	IN
		ZIP:	46131
Who will attend the meeting and present the request?			
Name:	Travis Underhill	Telephone:	(317) 736-3631
Title or Position:	City Engineer		
E-Mail:	tunderhill@franklin.in.gov		
Please describe the purpose or title of your presentation.			
Approval of LPA/Consulting Contract with Crossroad Engineers PC for the design of a roundabout at the intersection of Westview Drive and Jefferson Street.			
Supporting documents: All supporting documents should be submitted with the request form.			
1. LPA/Consulting Contract			
2.			
3.			
4.			

LPA - CONSULTING CONTRACT

This Contract ("this Contract") is made and entered into effective as of _____, 20____ ("Effective Date") by and between CITY OF FRANKLIN, INDIANA, acting by and through its proper officials ("LOCAL PUBLIC AGENCY" or "LPA"), and CROSSROAD ENGINEERS, PC ("the CONSULTANT"), a corporation organized under the laws of the State of Indiana.

Des. No.: 1500685

Project Description: Westview Drive and Jefferson Street Intersection Improvements

RECITALS

WHEREAS, the LPA has entered into an agreement to utilize federal monies with the Indiana Department of Transportation ("INDOT") for a transportation or transportation enhancement project ("the Project"), which Project Coordination Contract is herein attached as Attachment 1 and incorporated as reference; and

WHEREAS, the LPA wishes to hire the CONSULTANT to provide services toward the Project completion more fully described in Appendix "A" attached hereto ("Services");

WHEREAS, the CONSULTANT has extensive experience, knowledge and expertise relating to these Services; and

WHEREAS, the CONSULTANT has expressed a willingness to furnish the Services in connection therewith.

NOW, THEREFORE, in consideration of the following mutual covenants, the parties hereto mutually covenant and agree as follows:

The "Recitals" above are hereby made an integral part and specifically incorporated into this Contract.

SECTION I SERVICES BY CONSULTANT. The CONSULTANT will provide the Services and deliverables described in Appendix "A" which is herein attached to and made an integral part of this Contract.

SECTION II INFORMATION AND SERVICES TO BE FURNISHED BY THE LPA. The information and services to be furnished by the LPA are set out in Appendix "B" which is herein attached to and made an integral part of this Contract.

SECTION III TERM. The term of this Contract shall be from the date of the last signature affixed to this Contract to the completion of the construction contract which is estimated to be December 2020. A schedule for completion of the Services and deliverables is set forth in Appendix "C" which is herein attached to and made an integral part of this Contract.

SECTION IV COMPENSATION. The LPA shall pay the CONSULTANT for the Services performed under this Contract as set forth in Appendix "D" which is herein attached to and made an integral part of this Contract. The maximum amount payable under this Contract shall not exceed \$ 150,000.00

SECTION V NOTICE TO PROCEED AND SCHEDULE. The CONSULTANT shall begin the work to be performed under this Contract only upon receipt of the written notice to proceed from the LPA, and shall deliver the work to the LPA in accordance with the schedule contained in Appendix "C" which is herein attached to and made an integral part of this Contract.

SECTION VI GENERAL PROVISIONS

1. **Access to Records.** The CONSULTANT and any SUB-CONSULTANTS shall maintain all books, documents, papers, correspondence, accounting records and other evidence pertaining to the cost incurred under this Contract, and shall make such materials available at their respective offices at all reasonable times during the period of this Contract and for five (5) years from the date of final payment under the terms of this Contract, for inspection or audit by the LPA, INDOT and/or the Federal Highway Administration (“FHWA”) or its authorized representative, and copies thereof shall be furnished free of charge, if requested by the LPA, INDOT, and/or FHWA. The CONSULTANT agrees that, upon request by any agency participating in federally-assisted programs with whom the CONSULTANT has contracted or seeks to contract, the CONSULTANT may release or make available to the agency any working papers from an audit performed by the LPA, INDOT and/or FHWA of the CONSULTANT and its SUB-CONSULTANTS in connection with this Contract, including any books, documents, papers, accounting records and other documentation which support or form the basis for the audit conclusions and judgments.

2. **Assignment; Successors.**
 - A. The CONSULTANT binds its successors and assignees to all the terms and conditions of this Contract. The CONSULTANT shall not assign or subcontract the whole or any part of this Contract without the LPA’s prior written consent, except that the CONSULTANT may assign its right to receive payments to such third parties as the CONSULTANT may desire without the prior written consent of the LPA, provided that the CONSULTANT gives written notice (including evidence of such assignment) to the LPA thirty (30) days in advance of any payment so assigned. The assignment shall cover all unpaid amounts under this Contract and shall not be made to more than one party.

 - B. Any substitution of SUB-CONSULTANTS must first be approved and receive written authorization from the LPA. Any substitution or termination of a Disadvantaged Business Enterprise (“DBE”) SUB-CONSULTANT must first be approved and receive written authorization from the LPA and INDOT’s Economic Opportunity Division Director.

3. **Audit.** The CONSULTANT acknowledges that it may be required to submit to an audit of funds paid through this Contract. Any such audit shall be conducted in accordance with 48 CFR part 31 and audit guidelines specified by the State and/or in accordance with audit requirements specified elsewhere in this Contract.

4. **Authority to Bind Consultant.** The CONSULTANT warrants that it has the necessary authority to enter into this Contract. The signatory for the CONSULTANT represents that he/she has been duly authorized to execute this Contract on behalf of the CONSULTANT and has obtained all necessary or applicable approval to make this Contract fully binding upon the CONSULTANT when his/her signature is affixed hereto.

5. **Certification for Federal-Aid Contracts Lobbying Activities.**
 - A. The CONSULTANT certifies, by signing and submitting this Contract, to the best of its knowledge and belief after diligent inquiry, and other than as disclosed in writing to the LPA prior to or contemporaneously with the execution and delivery of this Contract by the CONSULTANT, the CONSULTANT has complied with Section 1352, Title 31, U.S. Code, and specifically, that:
 - i. No federal appropriated funds have been paid, or will be paid, by or on behalf of the CONSULTANT to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contracts, the making of any federal grant, the making of any federal loan, the

entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

- ii. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal Contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- B. The CONSULTANT also agrees by signing this Contract that it shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000, and that all such sub-recipients shall certify and disclose accordingly. Any person who fails to sign or file this required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

6. **Changes in Work.** The CONSULTANT shall not commence any additional work or change the scope of the work until authorized in writing by the LPA. The CONSULTANT shall make no claim for additional compensation or time in the absence of a prior written approval and amendment executed by all signatories hereto. This Contract may be amended, supplemented or modified only by a written document executed in the same manner as this Contract. The CONSULTANT acknowledges that no claim for additional compensation or time may be made by implication, oral agreements, actions, inaction, or course of conduct.

7. **Compliance with Laws.**

- A. The CONSULTANT shall comply with all applicable federal, state and local laws, rules, regulations and ordinances, and all provisions required thereby to be included herein are hereby incorporated by reference. If the CONSULTANT violates such rules, laws, regulations and ordinances, the CONSULTANT shall assume full responsibility for such violations and shall bear any and all costs attributable to the original performance of any correction of such acts. The enactment of any state or federal statute, or the promulgation of regulations thereunder, after execution of this Contract shall be reviewed by the LPA and the CONSULTANT to determine whether formal modifications are required to the provisions of this Contract.
- B. The CONSULTANT represents to the LPA that, to the best of the CONSULTANT'S knowledge and belief after diligent inquiry and other than as disclosed in writing to the LPA prior to or contemporaneously with the execution and delivery of this Contract by the CONSULTANT:
 - i. *State of Indiana Actions.* The CONSULTANT has no current or outstanding criminal, civil, or enforcement actions initiated by the State of Indiana pending and agrees that it will immediately notify the LPA of any such actions. During the term of such actions, CONSULTANT agrees that the LPA may delay, withhold, or deny work under any supplement or amendment, change order or other contractual device issued pursuant to this Contract.
 - ii. *Professional Licensing Standards.* The CONSULTANT, its employees and SUBCONSULTANTS have complied with and shall continue to comply with all applicable licensing standards, certification standards, accrediting standards and any other laws, rules or regulations governing services to be provided by the CONSULTANT pursuant to this Contract.
 - iii. *Work Specific Standards.* The CONSULTANT and its SUB-CONSULTANTS, if any, have obtained, will obtain and/or will maintain all required permits, licenses, registrations and approvals, as well as comply with all health, safety, and environmental statutes, rules, or regulations in the performance of work activities for the LPA.

- iv. *Secretary of State Registration.* If the CONSULTANT is an entity described in IC Title 23, it is properly registered and owes no outstanding reports with the Indiana Secretary of State.
 - v. *Debarment and Suspension of CONSULTANT.* Neither the CONSULTANT nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from entering into this Contract by any federal agency or by any department, agency or political subdivision of the State and will immediately notify the LPA of any such actions. The term “principal” for purposes of this Contract means an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the CONSULTANT or who has managerial or supervisory responsibilities for the Services.
 - vi. *Debarment and Suspension of any SUB-CONSULTANTS.* The CONSULTANT’s SUB-CONSULTANTS are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from entering into this Contract by any federal agency or by any department, agency or political subdivision of the State. The CONSULTANT shall be solely responsible for any recoupment, penalties or costs that might arise from the use of a suspended or debarred SUBCONSULTANT. The CONSULTANT shall immediately notify the LPA and INDOT if any SUB-CONSULTANT becomes debarred or suspended, and shall, at the LPA’s request, take all steps required by the LPA to terminate its contractual relationship with the SUB-CONSULTANT for work to be performed under this Contract.
- C. *Violations.* In addition to any other remedies at law or in equity, upon CONSULTANT’S violation of any of Section 7(A) through 7(B), the LPA may, at its sole discretion, do any one or more of the following:
- i. terminate this Contract; or
 - ii. delay, withhold, or deny work under any supplement or amendment, change order or other contractual device issued pursuant to this Contract.
- D. *Disputes.* If a dispute exists as to the CONSULTANT’s liability or guilt in any action initiated by the LPA, and the LPA decides to delay, withhold, or deny work to the CONSULTANT, the CONSULTANT may request that it be allowed to continue, or receive work, without delay. The CONSULTANT must submit, in writing, a request for review to the LPA. A determination by the LPA under this Section 7.D shall be final and binding on the parties and not subject to administrative review. Any payments the LPA may delay, withhold, deny, or apply under this section shall not be subject to penalty or interest under IC 5-17-5.
8. **Condition of Payment.** The CONSULTANT must perform all Services under this Contract to the LPA’s reasonable satisfaction, as determined at the discretion of the LPA and in accordance with all applicable federal, state, local laws, ordinances, rules, and regulations. The LPA will not pay for work not performed to the LPA’s reasonable satisfaction, inconsistent with this Contract or performed in violation of federal, state, or local law (collectively, “deficiencies”) until all deficiencies are remedied in a timely manner.
9. **Confidentiality of LPA Information.**
- A. The CONSULTANT understands and agrees that data, materials, and information disclosed to the CONSULTANT may contain confidential and protected information. Therefore, the CONSULTANT covenants that data, material, and information gathered, based upon or disclosed to the CONSULTANT for the purpose of this Contract, will not be disclosed to others or discussed with third parties without the LPA’s prior written consent.

- B. The parties acknowledge that the Services to be performed by the CONSULTANT for the LPA under this Contract may require or allow access to data, materials, and information containing Social Security numbers and maintained by the LPA in its computer system or other records. In addition to the covenant made above in this section and pursuant to 10 IAC 5-3-1(4), the CONSULTANT and the LPA agree to comply with the provisions of IC 4-1-10 and IC 4-1-11. If any Social Security number(s) is/are disclosed by the CONSULTANT, the CONSULTANT agrees to pay the cost of the notice of disclosure of a breach of the security of the system in addition to any other claims and expenses for which it is liable under the terms of this Contract.

10. **Delays and Extensions.** The CONSULTANT agrees that no charges or claim for damages shall be made by it for any minor delays from any cause whatsoever during the progress of any portion of the Services specified in this Contract. Such delays, if any, shall be compensated for by an extension of time for such period as may be determined by the LPA subject to the CONSULTANT's approval, it being understood, however, that permitting the CONSULTANT to proceed to complete any services, or any part of them after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the LPA of any of its rights herein. In the event of substantial delays or extensions, or change of any kind, not caused by the CONSULTANT, which causes a material change in scope, character or complexity of work the CONSULTANT is to perform under this Contract, the LPA at its sole discretion shall determine any adjustments in compensation and in the schedule for completion of the Services. CONSULTANT must notify the LPA in writing of a material change in the work immediately after the CONSULTANT first recognizes the material change.

11. **DBE Requirements.**

- A. Notice is hereby given to the CONSULTANT and any SUB-CONSULTANT, and both agree, that failure to carry out the requirements set forth in 49 CFR Sec. 26.13(b) shall constitute a breach of this Contract and, after notification and failure to promptly cure such breach, may result in termination of this Contract or such remedy as INDOT deems appropriate. The referenced section requires the following assurance to be included in all subsequent contracts between the CONSULTANT and any SUB-CONSULTANT:

The CONSULTANT, sub recipient or SUB-CONSULTANT shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The CONSULTANT shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the CONSULTANT to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as INDOT, as the recipient, deems appropriate.

- B. The CONSULTANT shall make good faith efforts to achieve the DBE percentage goal that may be included as part of this Contract with the approved DBE SUB-CONSULTANTS identified on its Affirmative Action Certification submitted with its Letter of Interest, or with approved amendments. Any changes to a DBE firm listed in the Affirmative Action Certification must be requested in writing and receive prior approval by the LPA and INDOT's Economic Opportunity Division Director. After this Contract is completed and if a DBE SUB-CONSULTANT has performed services thereon, the CONSULTANT must complete, and return, a Disadvantaged Business Enterprise Utilization Affidavit ("DBE-3 Form") to INDOT's Economic Opportunity Division Director. The DBE-3 Form requires certification by the CONSULTANT AND DBE SUB-CONSULTANT that the committed contract amounts have been paid and received.

12. **Non-Discrimination.**

- A. Pursuant to I.C. 22-9-1-10, the Civil Rights Act of 1964, and the Americans with Disabilities Act, the CONSULTANT shall not discriminate against any employee or applicant for employment, to be employed in the performance of work under this Contract, with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment,

because of race, color, religion, sex, disability, national origin, ancestry or status as a veteran. Breach of this covenant may be regarded as a material breach of this Contract. Acceptance of this Contract also signifies compliance with applicable federal laws, regulations, and executive orders prohibiting discrimination in the provision of services based on race, color, national origin, age, sex, disability or status as a veteran.

- B The CONSULTANT understands that the LPA is a recipient of federal funds. Pursuant to that understanding, the CONSULTANT agrees that if the CONSULTANT employs fifty (50) or more employees and does at least \$50,000.00 worth of business with the State and is not exempt, the CONSULTANT will comply with the affirmative action reporting requirements of 41 CFR 60-1.7. The CONSULTANT shall comply with Section 202 of executive order 11246, as amended, 41 CFR 60-250, and 41 CFR 60-741, as amended, which are incorporated herein by specific reference. Breach of this covenant may be regarded as a material breach of Contract.

It is the policy of INDOT to assure full compliance with Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act and related statutes and regulations in all programs and activities. Title VI and related statutes require that no person in the United States shall on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (INDOT's Title VI enforcement shall include the following additional grounds: sex, ancestry, age, income status, religion and disability.)

- C. The CONSULTANT shall not discriminate in its selection and retention of contractors, including without limitation, those services retained for, or incidental to, construction, planning, research, engineering, property management, and fee contracts and other commitments with persons for services and expenses incidental to the acquisitions of right-of-way.
- D. The CONSULTANT shall not modify the Project in such a manner as to require, on the basis of race, color or national origin, the relocation of any persons. (INDOT's Title VI enforcement will include the following additional grounds; sex, ancestry, age, income status, religion and disability).
- E. The CONSULTANT shall not modify the Project in such a manner as to deny reasonable access to and use thereof to any persons on the basis of race, color or national origin. (INDOT's Title VI enforcement will include the following additional grounds; sex, ancestry, age, income status, religion and disability.)
- F. The CONSULTANT shall neither allow discrimination by contractors in their selection and retention of subcontractors, lessors and/or material suppliers, nor allow discrimination by their subcontractors in their selection of subcontractors, lessors or material suppliers, who participate in construction, right-of-way clearance and related projects.
- G. The CONSULTANT shall take appropriate actions to correct any deficiency determined by itself and/or the Federal Highway Administration ("FHWA") within a reasonable time period, not to exceed ninety (90) days, in order to implement Title VI compliance in accordance with INDOT's assurances and guidelines.
- H. During the performance of this Contract, the CONSULTANT, for itself, its assignees and successors in interest (hereinafter referred to as the "CONSULTANT") agrees as follows:
- (1) Compliance with Regulations: The CONSULTANT shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

- (2) **Nondiscrimination:** The CONSULTANT, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The CONSULTANT shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- (3) **Solicitations for SUBCONSULTANTS, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the CONSULTANT for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential SUBCONSULTANT or supplier shall be notified by the CONSULTANT of the CONSULTANT'S obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- (4) **Information and Reports:** The CONSULTANT shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the LPA or INDOT to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a CONSULTANT is in the exclusive possession of another who fails or refuses to furnish this information the CONSULTANT shall so certify to the LPA, or INDOT as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) **Sanctions for Noncompliance:** In the event of the CONSULTANT'S noncompliance with the nondiscrimination provisions of this contract, the LPA shall impose such contract sanctions as it or INDOT may determine to be appropriate, including, but not limited to:
 - (a) withholding of payments to the CONSULTANT under the Contract until the CONSULTANT complies, and/or
 - (b) cancellation, termination or suspension of the Contract, in whole or in part.
- (6) **Incorporation of Provisions:** The CONSULTANT shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The CONSULTANT shall take such action with respect to any SUBCONSULTANT procurement as the LPA or INDOT may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a CONSULTANT becomes involved in, or is threatened with, litigation with a SUBCONSULTANT or supplier as a result of such direction, the CONSULTANT may request the LPA to enter into such litigation to protect the interests of the LPA, and, in addition, the CONSULTANT may request the United States to enter into such litigation to protect the interests of the United States.

13. Disputes.

- A. Should any disputes arise with respect to this Contract, the CONSULTANT and the LPA agree to act promptly and in good faith to resolve such disputes in accordance with this Section 13. Time is of the essence in the resolution of disputes.
- B. The CONSULTANT agrees that the existence of a dispute notwithstanding, it will continue without delay to carry out all of its responsibilities under this Contract that are not affected by the

dispute. Should the CONSULTANT fail to continue to perform its responsibilities regarding all non-disputed work, without delay, any additional costs (including reasonable attorneys' fees and expenses) incurred by the LPA or the CONSULTANT as a result of such failure to proceed shall be borne by the CONSULTANT.

- C. If a party to this Contract is not satisfied with the progress toward resolving a dispute, the party must notify the other party of this dissatisfaction in writing. Upon written notice, the parties have ten (10) business days, unless the parties mutually agree in writing to extend this period, following the written notification to resolve the dispute. If the dispute is not resolved within ten (10) business days, a dissatisfied party may submit the dispute in writing to initiate negotiations to resolve the dispute. The LPA may withhold payments on disputed items pending resolution of the dispute.

14. Drug-Free Workplace Certification.

- A. The CONSULTANT hereby covenants and agrees to make a good faith effort to provide and maintain a drug-free workplace, and that it will give written notice to the LPA within ten (10) days after receiving actual notice that an employee of the CONSULTANT in the State of Indiana has been convicted of a criminal drug violation occurring in the CONSULTANT's workplace. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of Contract payments, termination of this Contract and/or debarment of contracting opportunities with the LPA.
- B. The CONSULTANT certifies and agrees that it will provide a drug-free workplace by:
- i. Publishing and providing to all of its employees a statement notifying their employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the CONSULTANT's workplace and specifying the actions that will be taken against employees for violations of such prohibition;
 - ii. Establishing a drug-free awareness program to inform its employees of (1) the dangers of drug abuse in the workplace; (2) the CONSULTANT's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation, and employee assistance programs; and (4) the penalties that may be imposed upon an employee for drug abuse violations occurring in the workplace;
 - iii. Notifying all employees in the statement required by subparagraph 14.B.i above that as a condition of continued employment, the employee will (1) abide by the terms of the statement; and (2) notify the CONSULTANT of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;
 - iv. Notifying in writing the LPA within ten (10) days after receiving notice from an employee under subdivision 14.B.iii(2) above, or otherwise receiving actual notice of such conviction;
 - v. Within thirty (30) days after receiving notice under subdivision 14.B.iii(2) above of a conviction, imposing the following sanctions or remedial measures on any employee who is convicted of drug abuse violations occurring in the workplace: (1) take appropriate personnel action against the employee, up to and including termination; or (2) require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement, or other appropriate agency; and
 - vi. Making a good faith effort to maintain a drug-free workplace through the implementation of subparagraphs 14.B.i. through 14.B.v. above.

15. **Employment Eligibility Verification.** The CONSULTANT affirms under the penalties of perjury that he/she/it does not knowingly employ an unauthorized alien.

The CONSULTANT shall enroll in and verify the work eligibility status of all his/her/its newly hired employees through the E-Verify program as defined in IC 22-5-1.7-3. The CONSULTANT is not required to participate should the E-Verify program cease to exist. Additionally, the CONSULTANT is not required to participate if the CONSULTANT is self-employed and does not employ any employees.

The CONSULTANT shall not knowingly employ or contract with an unauthorized alien. The CONSULTANT shall not retain an employee or contract with a person that the CONSULTANT subsequently learns is an unauthorized alien.

The CONSULTANT shall require his/her/its subcontractors, who perform work under this Contract, to certify to the CONSULTANT that the SUB-CONSULTANT does not knowingly employ or contract with an unauthorized alien and that the SUB-CONSULTANT has enrolled and is participating in the E-Verify program. The CONSULTANT agrees to maintain this certification throughout the duration of the term of a contract with a SUB-CONSULTANT.

The LPA may terminate for default if the CONSULTANT fails to cure a breach of this provision no later than thirty (30) days after being notified by the LPA.

16. **Force Majeure.** In the event that either party is unable to perform any of its obligations under this Contract or to enjoy any of its benefits because of fire, natural disaster, acts of God, acts of war, terrorism, civil disorders, decrees of governmental bodies, strikes, lockouts, labor or supply disruptions or similar causes beyond the reasonable control of the affected party (hereinafter referred to as a Force Majeure Event), the party who has been so affected shall immediately give written notice to the other party of the occurrence of the Force Majeure Event (with a description in reasonable detail of the circumstances causing such Event) and shall do everything reasonably possible to resume performance. Upon receipt of such written notice, all obligations under this Contract shall be immediately suspended for as long as such Force Majeure Event continues and provided that the affected party continues to use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay. If the period of nonperformance exceeds thirty (30) days from the receipt of written notice of the Force Majeure Event, the party whose ability to perform has not been so affected may, by giving written notice, terminate this Contract.
17. **Governing Laws.** This Contract shall be construed in accordance with and governed by the laws of the State of Indiana and the suit, if any, must be brought in the State of Indiana. The CONSULTANT consents to the jurisdiction of and to venue in any court of competent jurisdiction in the State of Indiana.
18. **Liability.** If the CONSULTANT or any of its SUB-CONSULTANTS fail to comply with any federal requirement which results in the LPA's repayment of federal funds to INDOT the CONSULTANT shall be responsible to the LPA, for repayment of such costs to the extent such costs are caused by the CONSULTANT and/or its SUB-CONSULTANTS.
19. **Indemnification.** The CONSULTANT agrees to indemnify the LPA, its officials, and employees, and to hold each of them harmless, from claims and suits including court costs, attorney's fees, and other expenses caused by any negligent act, error or omission of, or by any recklessness or willful misconduct by, the CONSULTANT and/or its SUB-CONSULTANTS, if any, under this Contract. The LPA shall not provide such indemnification to the CONSULTANT.
20. **Independent Contractor.** Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever. Neither party will assume liability for any injury

(including death) to any persons, or damage to any property, arising out of the acts or omissions of the agents or employees of the other party. The CONSULTANT shall be responsible for providing all necessary unemployment and workers' compensation insurance for its employees.

21. Insurance - Liability for Damages.

- A. The CONSULTANT shall be responsible for the accuracy of the Services performed under this Contract and shall promptly make necessary revisions or corrections resulting from its negligence, errors or omissions without any additional compensation from the LPA. Acceptance of the Services by the LPA shall not relieve the CONSULTANT of responsibility for subsequent correction of its negligent act, error or omission or for clarification of ambiguities. The CONSULTANT shall have no liability for the errors or deficiencies in designs, drawings, specifications or other services furnished to the CONSULTANT by the LPA on which the Consultant has reasonably relied, provided that the foregoing shall not relieve the CONSULTANT from any liability from the CONSULTANT'S failure to fulfill its obligations under this Contract, to exercise its professional responsibilities to the LPA, or to notify the LPA of any errors or deficiencies which the CONSULTANT knew or should have known existed.
- B. During construction or any phase of work performed by others based on Services provided by the CONSULTANT, the CONSULTANT shall confer with the LPA when necessary for the purpose of interpreting the information, and/or to correct any negligent act, error or omission. The CONSULTANT shall prepare any plans or data needed to correct the negligent act, error or omission without additional compensation, even though final payment may have been received by the CONSULTANT. The CONSULTANT shall give immediate attention to these changes for a minimum of delay to the project.
- C. The CONSULTANT shall be responsible for damages including but not limited to direct and indirect damages incurred by the LPA as a result of any negligent act, error or omission of the CONSULTANT, and for the LPA's losses or costs to repair or remedy construction. Acceptance of the Services by the LPA shall not relieve the CONSULTANT of responsibility for subsequent correction.
- D. The CONSULTANT shall be required to maintain in full force and effect, insurance as described below from the date of the first authorization to proceed until the LPA's acceptance of the work product. The CONSULTANT shall list both the LPA and INDOT as insureds on any policies. The CONSULTANT must obtain insurance written by insurance companies authorized to transact business in the State of Indiana and licensed by the Department of Insurance as either admitted or non-admitted insurers.
- E. The LPA, its officers and employees assume no responsibility for the adequacy of limits and coverage in the event of any claims against the CONSULTANT, its officers, employees, sub-consultants or any agent of any of them, and the obligations of indemnification in Section 19 herein shall survive the exhaustion of limits of coverage and discontinuance of coverage beyond the term specified, to the fullest extent of the law.
- F. The CONSULTANT shall furnish a certificate of insurance and all endorsements to the LPA prior to the commencement of this Contract. Any deductible or self-insured retention amount or other similar obligation under the insurance policies shall be the sole obligation of the CONSULTANT. Failure to provide insurance as required in this Contract is a material breach of Contract entitling the LPA to immediately terminate this Contract.

I. Professional Liability Insurance

The CONSULTANT must obtain and carry professional liability insurance as follows: For INDOT Prequalification **Work Types** 1.1, 12.2-12.6 the CONSULTANTS shall provide not less than \$250,000.00 professional liability insurance per claim and \$250,000.00

aggregate for all claims for negligent performance. For **Work Types** 2.2, 3.1, 3.2, 4.1, 4.2, 5.5, 5.8, 5.11, 6.1, 7.1, 8.1, 8.2, 9.1, 9.2, 10.1 – 10.4, 11.1, 13.1, 14.1 – 14.5, the CONSULTANTS shall carry professional liability insurance in an amount not less than \$1,000,000.00 per claim and \$1,000,000.00 aggregate for all claims for negligent performance. The CONSULTANT shall maintain the coverage for a period ending two (2) years after substantial completion of construction.

II. Commercial General Liability Insurance

The CONSULTANT must obtain and carry Commercial / General liability insurance as follows: For INDOT Prequalification **Work Types** 2.1, 6.1, 7.1, 8.1, 8.2, 9.1, 9.2, 10.1 - 10.4, 11.1, 13.1, 14.1 - 14.5, the CONSULTANT shall carry \$1,000,000.00 per occurrence, \$2,000,000.00 general aggregate. Coverage shall be on an occurrence form, and include contractual liability. The policy shall be amended to include the following extensions of coverage:

1. Exclusions relating to the use of explosives, collapse, and underground damage to property shall be removed.
2. The policy shall provide thirty (30) days notice of cancellation to LPA.
3. The CONSULTANT shall name the LPA as an additional insured.

III. Automobile Liability

The CONSULTANT shall obtain automobile liability insurance covering all owned, leased, borrowed, rented, or non-owned autos used by employees or others on behalf of the CONSULTANT for the conduct of the CONSULTANT's business, for an amount not less than \$1,000,000.00 Combined Single Limit for Bodily Injury and Property Damage. The term "automobile" shall include private passenger autos, trucks, and similar type vehicles licensed for use on public highways. The policy shall be amended to include the following extensions of coverage:

1. Contractual Liability coverage shall be included.
2. The policy shall provide thirty (30) days notice of cancellation to the LPA.
3. The CONSULTANT shall name the LPA as an additional insured.

IV. Watercraft Liability (When Applicable)

1. When necessary to use watercraft for the performance of the CONSULTANT's Services under the terms of this Contract, either by the CONSULTANT, or any SUB-CONSULTANT, the CONSULTANT or SUB-CONSULTANT operating the watercraft shall carry watercraft liability insurance in the amount of \$1,000,000 Combined Single Limit for Bodily Injury and Property Damage, including Protection & Indemnity where applicable. Coverage shall apply to owned, non-owned, and hired watercraft.
2. If the maritime laws apply to any work to be performed by the CONSULTANT under the terms of the agreement, the following coverage shall be provided:
 - a. United States Longshoremen & Harbor workers
 - b. Maritime Coverage - Jones Act

3. The policy shall provide thirty (30) days notice of cancellation to the LPA.
4. The CONSULTANT or SUB-CONSULTANT shall name the LPA as an additional insured.

V. Aircraft Liability (When Applicable)

1. When necessary to use aircraft for the performance of the CONSULTANT's Services under the terms of this Contract, either by the CONSULTANT or SUB-CONSULTANT, the CONSULTANT or SUB-CONSULTANT operating the aircraft shall carry aircraft liability insurance in the amount of \$5,000,000 Combined Single Limit for Bodily Injury and Property Damage, including Passenger Liability. Coverage shall apply to owned, non-owned and hired aircraft.
2. The policy shall provide thirty (30) days notice of cancellation to the LPA.
3. The CONSULTANT or SUB-CONSULTANT shall name the LPA as an additional insured.

22. **Merger and Modification.** This Contract constitutes the entire agreement between the parties. No understandings, agreements or representations, oral or written, not specified within this Contract will be valid provisions of this Contract. This Contract may not be modified, supplemented or amended, in any manner, except by written agreement signed by all necessary parties.

23. **Notice to Parties:** Any notice, request, consent or communication (collectively a "Notice") under this Agreement shall be effective only if it is in writing and (a) personally delivered; (b) sent by certified or registered mail, return receipt requested, postage prepaid; or (c) sent by a nationally recognized overnight delivery service, with delivery confirmed and costs of delivery being prepaid, addressed as follows:

Notices to the LPA shall be sent to:

CITY ENGINEER
70 EAST MONROE STREET
FRANKLIN, INDIANA 46131

Notices to the CONSULTANT shall be sent to:

CROSSROAD ENGINEERS, PC
3417 SHERMAN DRIVE
BEECH GROVE, INDIANA 46107

or to such other address or addresses as shall be furnished in writing by any party to the other party. Unless the sending party has actual knowledge that a Notice was not received by the intended recipient, a Notice shall be deemed to have been given as of the date (i) when personally delivered; (ii) three (3) days after the date deposited with the United States mail properly addressed; or (iii) the next day when delivered during business hours to overnight delivery service, properly addressed and prior to such delivery service's cut off time for next day delivery. The parties acknowledge that notices delivered by facsimile or by email shall not be effective.

24. **Order of Precedence; Incorporation by Reference.** Any inconsistency or ambiguity in this Contract shall be resolved by giving precedence in the following order: (1) This Contract and attachments, (2) RFP document, (3) the CONSULTANT's response to the RFP document, and (4) attachments prepared by the CONSULTANT. All of the foregoing are incorporated fully by reference.

25. **Ownership of Documents and Materials.** All documents, records, programs, data, film, tape, articles, memoranda, and other materials not developed or licensed by the CONSULTANT prior to execution of this Contract, but specifically developed under this Contract shall be considered “work for hire” and the CONSULTANT assigns and transfers any ownership claim to the LPA and all such materials (“Work Product”) will be the property of the LPA. The CONSULTANT agrees to execute and deliver such assignments or other documents as may be requested by the LPA. Use of these materials, other than related to contract performance by the CONSULTANT, without the LPA’s prior written consent, is prohibited. During the performance of this Contract, the CONSULTANT shall be responsible for any loss of or damage to any of the Work Product developed for or supplied by INDOT and used to develop or assist in the Services provided herein while any such Work Product is in the possession or control of the CONSULTANT. Any loss or damage thereto shall be restored at the CONSULTANT’s expense. The CONSULTANT shall provide the LPA full, immediate, and unrestricted access to the Work Product during the term of this Contract. The CONSULTANT represents, to the best of its knowledge and belief after diligent inquiry and other than as disclosed in writing prior to or contemporaneously with the execution of this Contract by the CONSULTANT, that the Work Product does not infringe upon or misappropriate the intellectual property or other rights of any third party. The CONSULTANT shall not be liable for the use of its deliverables described in Appendix “A” on other projects without the express written consent of the CONSULTANT or as provided in Appendix “A”. The LPA acknowledges that it has no claims to any copyrights not transferred to INDOT under this paragraph.
26. **Payments.** All payments shall be made in arrears and in conformance with the LPA’s fiscal policies and procedures.
27. **Penalties, Interest and Attorney's Fees.** The LPA will in good faith perform its required obligations hereunder, and does not agree to pay any penalties, liquidated damages, interest, or attorney's fees, except as required by Indiana law in part, IC 5-17-5, I. C. 34-54-8, and I. C. 34-13-1.
28. **Pollution Control Requirements.** If this Contract is for \$100,000 or more, the CONSULTANT:
- i. Stipulates that any facility to be utilized in performance under or to benefit from this Contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities issued pursuant to the requirements of the Clean Air Act, as amended, and the Federal Water Pollution Control Act, as amended;
 - ii. Agrees to comply with all of the requirements of section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, and all regulations and guidelines issued thereunder; and
 - iii. Stipulates that, as a condition of federal aid pursuant to this Contract, it shall notify INDOT and the Federal Highway Administration of the receipt of any knowledge indicating that a facility to be utilized in performance under or to benefit from this Contract is under consideration to be listed on the EPA Listing of Violating Facilities.
29. **Severability.** The invalidity of any section, subsection, clause or provision of this Contract shall not affect the validity of the remaining sections, subsections, clauses or provisions of this Contract.
30. **Status of Claims.** The CONSULTANT shall give prompt written notice to the LPA any claims made for damages against the CONSULTANT resulting from Services performed under this Contract and shall be responsible for keeping the LPA currently advised as to the status of such claims. The CONSULTANT shall send notice of claims related to work under this Contract to:

CITY ENGINEER
70 EAST MONROE STREET
FRANKLIN, INDIANA 46124

31. **Sub-consultant Acknowledgement.** The CONSULTANT agrees and represents and warrants to the LPA, that the CONSULTANT will obtain signed Sub-consultant Acknowledgement forms, from all SUB-CONSULTANTS providing Services under this Contract or to be compensated for Services through this Contract. The CONSULTANT agrees to provide signed originals of the Sub-consultant Acknowledgement form(s) to the LPA for approval prior to performance of the Services by any SUB-CONSULTANT.
32. **Substantial Performance.** This Contract shall be deemed to be substantially performed only when fully performed according to its terms and conditions and any modification or Amendment thereof.
33. **Taxes.** The LPA will not be responsible for any taxes levied on the CONSULTANT as a result of this Contract.
34. **Termination for Convenience.**
- A. The LPA may terminate, in whole or in part, whenever, for any reason, when the LPA determines that such termination is in its best interests. Termination or partial termination of Services shall be effected by delivery to the CONSULTANT of a Termination Notice at least fifteen (15) days prior to the termination effective date, specifying the extent to which performance of Services under such termination becomes effective. The CONSULTANT shall be compensated for Services properly rendered prior to the effective date of termination. The LPA will not be liable for Services performed after the effective date of termination.
- B. If the LPA terminates or partially terminates this Contract for any reason regardless of whether it is for convenience or for default, then and in such event, all data, reports, drawings, plans, sketches, sections and models, all specifications, estimates, measurements and data pertaining to the project, prepared under the terms or in fulfillment of this Contract, shall be delivered within ten (10) days to the LPA. In the event of the failure by the CONSULTANT to make such delivery upon demand, the CONSULTANT shall pay to the LPA any damage (including costs and reasonable attorneys' fees and expenses) it may sustain by reason thereof.
35. **Termination for Default.**
- A. With the provision of twenty (20) days written notice to the CONSULTANT, the LPA may terminate this Contract in whole or in part if
- (i) the CONSULTANT fails to:
1. Correct or cure any breach of this Contract within such time, provided that if such cure is not reasonably achievable in such time, the CONSULTANT shall have up to ninety (90) days from such notice to effect such cure if the CONSULTANT promptly commences and diligently pursues such cure as soon as practicable;
 2. Deliver the supplies or perform the Services within the time specified in this Contract or any amendment or extension;
 3. Make progress so as to endanger performance of this Contract; or
 4. Perform any of the other provisions of this Contract to be performed by the CONSULTANT; or
- (ii) if any representation or warranty of the CONSULTANT is untrue or inaccurate in any material respect at the time made or deemed to be made.
- B. If the LPA terminates this Contract in whole or in part, it may acquire, under the terms and in the manner the LPA considers appropriate, supplies or services similar to those terminated, and the

CONSULTANT will be liable to the LPA for any excess costs for those supplies or services. However, the CONSULTANT shall continue the work not terminated.

- C. The LPA shall pay the contract price for completed supplies delivered and Services accepted. The CONSULTANT and the LPA shall agree on the amount of payment for manufactured materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause (see Section 14). The LPA may withhold from the agreed upon price for Services any sum the LPA determine necessary to protect the LPA against loss because of outstanding liens or claims of former lien holders.
- D. The rights and remedies of the LPA in this clause are in addition to any other rights and remedies provided by law or equity or under this Contract.
- E. **Default by the LPA.** If the CONSULTANT believes the LPA is in default of this Contract, it shall provide written notice immediately to the LPA describing such default. If the LPA fails to take steps to correct or cure any material breach of this Contract within sixty (60) days after receipt of such written notice, the CONSULTANT may cancel and terminate this Contract and institute the appropriate measures to collect monies due up to and including the date of termination, including reasonable attorney fees and expenses, provided that if such cure is not reasonably achievable in such time, the LPA shall have up to one hundred twenty (120) days from such notice to effect such cure if the LPA promptly commences and diligently pursues such cure as soon as practicable. The CONSULTANT shall be compensated for Services properly rendered prior to the effective date of such termination. The CONSULTANT agrees that it has no right of termination for non-material breaches by the LPA.
36. **Waiver of Rights.** No rights conferred on either party under this Contract shall be deemed waived, and no breach of this Contract excused, unless such waiver or excuse is approved in writing and signed by the party claimed to have waived such right. Neither the LPA's review, approval or acceptance of, nor payment for, the Services required under this Contract shall be construed to operate as a waiver of any rights under this Contract or of any cause of action arising out of the performance of this Contract, and the CONSULTANT shall be and remain liable to the LPA in accordance with applicable law for all damages to the LPA caused by the CONSULTANT's negligent performance of any of the Services furnished under this Contract.
37. **Work Standards/Conflicts of Interest.** The CONSULTANT shall understand and utilize all relevant INDOT standards including, but not limited to, the most current version of the Indiana Department of Transportation Design Manual, where applicable, and other appropriate materials and shall perform all Services in accordance with the standards of care, skill and diligence required in Appendix "A" or, if not set forth therein, ordinarily exercised by competent professionals doing work of a similar nature.
38. **No Third-Party Beneficiaries.** This Agreement is solely for the benefit of the parties hereto. Other than the indemnity rights under this Contract, nothing contained in this Agreement is intended or shall be construed to confer upon any person or entity (other than the parties hereto) any rights, benefits or remedies of any kind or character whatsoever.
39. **No Investment in Iran.** As required by IC 5-22-16.5, the CONSULTANT certifies that the CONSULTANT is not engaged in investment activities in Iran. Providing false certification may result in the consequences listed in IC 5-22-16.5-14, including termination of this Contract and denial of future state contracts, as well as an imposition of a civil penalty.
40. **Assignment of Antitrust Claims.** The CONSULTANT assigns to the State all right, title and interest in and to any claims the CONSULTANT now has, or may acquire, under state or federal antitrust laws relating to the products or services which are the subject of this Contract.

Non-Collusion

The undersigned attests, subject to the penalties for perjury, that he/she is the CONSULTANT, or that he/she is the properly authorized representative, agent, member or officer of the CONSULTANT, that he/she has not, nor has any other member, employee, representative, agent or officer of the CONSULTANT, directly or indirectly, to the best of his/her knowledge, entered into or offered to enter into any combination, collusion or agreement to receive or pay, and that he/she has not received or paid, any sum of money or other consideration for the execution of this Contract other than that which appears upon the face of this Contract.

In Witness Whereof, the CONSULTANT and the LPA have, through duly authorized representatives, entered into this Contract. The parties having read and understand the forgoing terms of this Contract do by their respective signatures dated below hereby agree to the terms thereof.

CONSULTANT
CrossRoad Engineers, PC

LOCAL PUBLIC AGENCY
Board of Public Works
City of Franklin, Indiana

Signature

Signature

Walter E. Charles, President
(Print or type name and title)

Joseph McGuinness, Mayor
(Print or type name and title)

Attest:

Attest:

Signature

Signature

Trent E. Newport, Vice Pres.
(Print or type name and title)

Janet P. Alexander, Clerk-Treasurer
(Print or type name and title)

APPENDIX "A"

SERVICES BY CONSULTANT

In fulfillment of this Agreement, the CONSULTANT shall comply with the requirements of the appropriate regulations and requirements of the City of Franklin, the Indiana Department of Transportation, and the Federal Highway Administration.

The description of the proposed project is as follows:

Roundabout Construction at Westview Drive and Jefferson Street Intersection

The CONSULTANT shall be responsible for performing the following tasks:

- A. Survey Data Collection and Route Survey** – CONSULTANT shall survey the project limits in order to produce a topographic base map and Location Control Route Survey in accordance with applicable Indiana Code. Upon the completion of the field work, CONSULTANT shall establish all section lines, right-of-way lines, and property lines per deeds and platted subdivisions; complete all survey line work; generate the TIN surface model and also create one foot interval contours; and add all relative survey notes to the drawings.
- B. Abbreviated Engineering Assessment** – CONSULTANT shall perform an Abbreviated Engineering Assessment and prepare an Engineer's Report. The report shall document analysis of alternatives and outline the proposed recommendation. It represents a preliminary project improvement plan, with refinements reserved for the subsequent design phase. This work shall be in general accordance with the Indiana Design Manual. CONSULTANT shall collect Peak Hour traffic turning movement counts as part of this task.
- C. Road Design and Plan Preparation** – In general, this task involves the preparation of design plans and bidding documents to allow the proposed project to be constructed. CONSULTANT shall prepare plans, specifications, and estimates of cost, which shall be in accordance with the accepted standards for such work and in general accordance with the following documents in effect as of the Effective Date of this Agreement: American Association of State Highway and Transportation Officials' "A Policy on Geometric Design of Highways and Streets"; Indiana Manual on Uniform Traffic Control Devices; and, Indiana Design Manual.
- D. Landscape Design and Construction Documents** – This task consists of utilizing the services of a subconsultant, Remenschneider Associates, Inc. (RAI) to prepare schematic design and construction plans. These services are more fully described in RAI's proposal dated September 15, 2015, which is attached.
- E. Utility Coordination** – CONSULTANT shall coordinate with the representatives from each of the utility companies having facilities located within the project area. CONSULTANT shall communicate any relocation of facilities that may be needed and then review the relocation

plans that the utility companies prepare. CONSULTANT shall review any reimbursable claims by the utilities and coordinate as necessary. This task does not include work associated with field locating the vertical depth of any utilities. Although no 'potholing' of facilities is anticipated to be required, it is assumed that the utility companies will be responsible for performing this work on their own facilities. This work shall be in general accordance with INDOT policy and procedures in effect as of the Effective Date of this Agreement. This scope of work only addresses utility coordination through the design process. Utility coordination services during the construction phase will be provided as needed on an hourly basis.

- F. Environmental Document Preparation** – CONSULTANT shall perform Environmental Services work in compliance with National Environmental Policy Act (NEPA) and other pertinent and applicable laws and regulations. It is assumed that a Level 2 Categorical Exclusion document will be required. Included is the early coordination with the various regulatory agencies that is required. A subconsultant, Archaeological Consultants of the Midwest, will be utilized to provide some of these services. These services are more fully described in Archaeological Consultants of the Midwest's proposals dated September 11, 2015, which are attached to, and made a part of, Appendix "D".
- G. Permit Application** – It is anticipated the construction of the project will disturb more than one acre of ground and therefore an Indiana Department of Environmental Management (IDEM) Rule 5 Notice of Intent will be required. CONSULTANT shall prepare a Storm Water Pollution Prevention Plan, submittal of public notice, and permit application forms. No other permits are anticipated to be required.
- H. Geotechnical Investigation and Pavement Design** – CONSULTANT shall utilize the services of a subconsultant, Earth Exploration, Inc. to provide a geotechnical engineering investigation and pavement design. This work shall be in accordance with the Indiana Department of Transportation's policy as of the Effective Date of this Agreement. See Subconsultant proposal dated September 11, 2015 in Appendix "D" for detailed scope of services.

APPENDIX "B"

INFORMATION AND SERVICES TO BE FURNISHED BY THE LPA

LPA shall furnish CONSULTANT with the following:

1. Guarantee access to enter upon public and private lands as required for CONSULTANT to perform work under this Agreement.
2. Criteria for design and details for signs, signals, lighting, highway and structures such as grades, curves, sight distances, clearances, design loading, etc.
3. Standard Specifications and standard drawings applicable to the Project.
4. Plans of existing facilities within the limits of the project.
5. Available traffic data and studies as well as perform or cause to perform the collection of traffic volume and classification counts for the determination of Average Daily Traffic and percentage of truck traffic.
6. Necessary permit forms and permit processing, and payment of any permit applications fees, advertisements, etc.
7. Necessary advertisements for public meeting(s), provide venue for public meeting(s), and cause for the compilation of written transcript if so required.
8. Utility plans available to LPA for utility facilities throughout the limits of the project.
9. All legal services as may be required for the development of the project.
10. Utility relocation design and plans for LPA owned utilities.
11. Sufficient quantities of all pertinent forms.

APPENDIX "C"

SCHEDULE

No work under this Contract shall be performed by the CONSULTANT until the CONSULTANT receives a written notice to proceed from the LPA.

All work by the CONSULTANT under this Contract shall be completed and delivered to the LPA and INDOT for review and approval in accordance with INDOT's policies and procedures to allow letting during Fiscal Year 2020.

APPENDIX "D"

COMPENSATION

A. Amount of Payment

1. The CONSULTANT shall receive as payment for the work performed under this Agreement the total amount not to exceed \$ 150,000.00 (Section **A. 2.** - \$139,370.00 and Section **A. 3.** - \$10,630.00, unless a supplemental is executed by the parties that increases the maximum amount payable.

2. The CONSULTANT shall be paid for the following work performed under this Agreement on a lump sum basis in accordance with the following schedules:

a.	Survey Data Collection and Route Survey	\$ 21,500.00
b.	Abbreviated Engineering Assessment	\$ 5,900.00
c.	Road Design and Plan Preparation	\$ 74,570.00
d.	Landscape Design and Construction Documents	\$ 10,500.00
e.	Utility Coordination (During Design Phase)	\$ 6,500.00
f.	Environmental Document Preparation	\$ 15,400.00
g.	Permit Application	<u>\$ 5,000.00</u>
Total Section A. 2.		\$ 139,370.00

3. The CONSULTANT shall be paid for the following work tasks performed under this Agreement on a unit price basis as estimated below and in accordance with the attached fee schedules:

a.	Geotechnical Investigation & Pavement Design	<u>\$ 10,630.00</u>
Total Section A. 3.		\$ 10,630.00

The CONSULTANT shall not be paid for any services performed by LPA or INDOT, or not required to develop this project.

B. Method of Payment

1. The CONSULTANT may submit a maximum of one invoice per calendar month for work covered under this Contract. The invoices shall be submitted to:

City Engineer, City of Franklin
70 E. Monroe Street
Franklin, Indiana 46131

The invoices shall represent the value to the LPA of the partially completed work as of the date of the invoice. The CONSULTANT shall attach thereto a summary of each pay item in Section A of this Appendix "D", including percentage complete and prior payments.

2. The LPA, for and in consideration of the rendering of the engineering services provided for in **Section A. 2.** of this Appendix "D", agrees to pay to the CONSULTANT for rendering such services the fees established above in the following manner:

a. For each pay item, and upon receipt of invoices from the CONSULTANT and the approval thereof by the LPA, payments covering the work performed shall be due and payable to the CONSULTANT, such payments to be equal to an amount arrived at by multiplying the percentage of the specified work performed by the fee heretofore set forth. From the partial payment thus computed, there shall be deducted all previous partial fee payments made to the CONSULTANT.

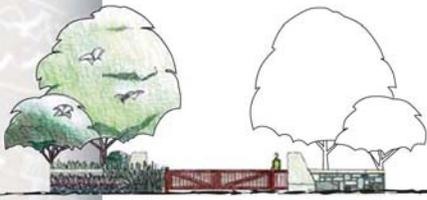
b. Upon approval by the LPA, after submittal of the completed work, a sum of money equal to the fees heretofore set forth, less the total of the amounts of the partial payments previously paid to the CONSULTANT under **Section B. 2.** of this Appendix "D", shall be due and payable to the CONSULTANT.

c. The fee shown for **Section A. 2. c.** includes clearing the Public Hearing requirements as prescribed by INDOT and FHWA. However, this fee assumes no Public Hearing nor Public Information Meeting will be required. If any were to be required, the costs to prepare for and attend such meetings will be considered an additional service. Such services shall be authorized by LPA in advance and payment for such services will be at a mutually agreed rate.

d. An amount of \$200 has been included in the fee shown for **Section A. 2. g.** to pay for anticipated fees for permit applications and NOI Advertisements that will be incurred by CONSULTANT. Amounts incurred for permit fees, public notice fees, or other such expenses in excess of that amount will be invoiced to the LPA at the actual cost plus a 10% mark-up for task coordination and administrative efforts.

3. The services provided for in **Section A. 3.** of this Appendix "D" will be performed by other than the CONSULTANT and the costs shown are estimated. The CONSULTANT will submit to LPA invoices for these services, the basis of which will be the actual number of units of work performed multiplied by the specific cost per unit. The unit costs are estimated and the actual cost used will be the latest INDOT-approved costs at the time the services are performed. The LPA agrees to reimburse to the CONSULTANT for rendering such services the actual invoice for the services performed by other than the CONSULTANT, provided that each such invoice shall be subject to approval as reasonable by the LPA prior to any reimbursement therefore.

4. If the LPA does not agree with the amount claimed by the CONSULTANT on an invoice voucher, it will send the CONSULTANT a letter by regular mail and list the differences between actual and claimed progress. The letter will be sent to the CONSULTANT's address on page 12 of this Contract or the CONSULTANT's last known address.



REMENSCHNEIDER ASSOCIATES, INC.

landscape architecture & planning

PROJECT: ROUND-ABOUT ENHANCEMENTS AT JEFFERSON STREET & WESTVIEW DRIVE
LOCATION: FRANKLIN, INDIANA
DATE: SEPTEMBER 15, 2015

Remenschneider Associates, Inc. (RAI) is pleased to provide this scope of services to *CrossRoad Engineers (CRE)* for landscape architectural services for the proposed Round-about (RAB) located at *Westview Drive and Jefferson Street* as shown in the attached *Exhibit 'A'*:

Our firm will coordinate with the project design team, led by *CrossRoad Engineers*, to prepare schematic designs and construction plans per the scope of work outlined below. The schematic design plans will, upon the *City's* request, incorporate elements and standards commonly known as the '*Gateways & Greenways*' features. Per previous discussions with *CRE*, the design will also work to resemble the planned Eastview Drive gateway round-about monument features while conforming to the Westview Drive project constraints. Lighting design plans for the interior features, coordination of street lighting plans and required special provisions have also been included in the scope of work outlined below.

Following acceptance of design concepts, RAI will prepare construction drawings for non-vehicular related hardscape elements and ornamental landscape plantings.

SCOPE OF WORK

Phase I – Schematic Design

- A. Coordination with project design team and client to further understand:
 - 1. Budget
 - 2. Schedule
 - 3. Determination of Site elements
 - 4. Line of Sight setback requirements
- B. Preparation of two (2) schematic design plans to include the following elements:
 - 1. Signature masonry monuments
 - 2. Site walls and piers
 - 3. Ornamental landscape
 - 4. Lighting considerations
- C. Design review meeting with *CRE* and applicable City staff

Deliverables:

- (2 qty) Schematic Design Concept Master Plans
- (1 qty) Client meetings

Phase II – Construction Documents and Specifications

Work to be performed within this phase includes preparation of landscape architectural construction drawings and coordination with civil engineering. This work will be based upon selected schematic design elements.

- A. Design coordination with CrossRoad Engineers
 - 1. Design grades for feature area

2. Lighting (*see below*)
- B. Site hardscape construction plans including:
 1. Material selections
 2. Typical masonry sections and details
 3. Construction specifications
- C. Landscape planting plans including:
 1. Planting installation details
 2. Plant material specifications
 - a. Species botanical and common name
 - b. Installation size
 - c. Quantity
 3. Installation specifications
- D. Lighting design for interior round-about feature
 1. Preparation of photometric plan integrating street lighting design with RAB feature lighting design including:
 - a. Street lighting
 - b. In-grade / up-lighting of masonry monuments
 - c. Lighting of piers and metal columns
 2. Design review meeting with applicable City staff and/or CRE
 3. Coordination with CRE in their preparation of lighting plans
 4. Preparation of feature lighting unique special provisions for INDOT bidding / letting
- E. Prepare estimate of probable site work costs for Phase II Section B, C and D listed above
- F. Completion of construction drawings

Deliverables:

- (1 qty) Landscape Architectural construction drawing set (24" x 36")
with necessary plans & details listed above for INDOT submittals
- (1 qty) Estimate of probable site work costs

PROFESSIONAL FEES

Professional services as described in the scope of work outlined above are listed below:

Phase I:	Project Initiation / Schematic Design	\$	4,000.00
Phase II:	Construction Documents and Specifications	\$	6,500.00

The above fees total \$ 10,500.00 through completion of Phase II and will proceed per authorization of this proposal. Professional services will be billed on a monthly complete basis. All invoices are due upon receipt and 1.5% interest will be charged per month for any invoices not paid within 45 days. Professional fees associated with the above scope will expire if not accepted within 60 days from the date of this contract.

ADDITIONAL SERVICES

Additional services beyond the above scope of work can be provided upon request or as needed. These include, but are not limited to, further design studies beyond those outlined above, design review meetings and studies requested beyond those outlined, agency coordination beyond outlined above, color renderings, irrigation plans, wayfinding / signage plans, presentation to or attendance at public meetings/hearings, state or federal environmental process meetings and coordination, construction documents and specifications beyond those outlined, onsite inventory of existing trees, competitive contractor bidding, irrigation design, as built/record drawings, and regulatory application and permit fees.

Principal landscape architect 160
Project landscape architect 120

Staff landscape architect 90
Administrative support 50

INTELLECTUAL PROPERTY

All designs indicated by the drawings and plans created for use on this project are the intellectual property of Remenschneider Associates Inc. No such designs or ideas shall be used by any other person, firm or corporation to advance the designs to the level of construction documents without written permission and procured release.

If the above meets with your approval, please return a copy of the executed contract to confirm our agreement and initiate work on your project.

Respectfully submitted,



Kenneth J. Remenschneider, President

Authorization

Date

PHASE Ia ARCHAEOLOGY LITERATURE REVIEW AND RECONNAISSANCE SURVEY
Westview Drive and Jefferson Street

Archaeological Consultants of the Midwest, Inc.

CONSULTANT: CrossRoad Engineers
DATE: 9/11/2015

Task - Description	Hourly Rate	Total Hours	Total Costs
A. LITERATURE REVIEW			
Field Director	\$70.00	1	\$70.00
<i>SUBTOTAL A</i>			\$70.00
B. RECONNAISSANCE SURVEY			
Field Director	\$70.00	6	\$420.00
<i>SUBTOTAL B</i>			\$420.00
C. FIELD EXPENSES			
Mileage/Gasoline			\$30.00
Per Diem			\$0.00
<i>SUBTOTAL C</i>			\$30.00
D. ANALYSIS AND REPORT PREPARATION			
Field Director	\$70.00	6	\$420.00
<i>SUBTOTAL D</i>			\$420.00
E. REPORT PREPARATION EXPENSES			
Photocopying			\$25.00
Project Supplies			\$25.00
Report Mailing Expense			\$25.00
<i>SUBTOTAL E</i>			\$75.00
SUBTOTAL (A&B&C&D&E)			\$1,015.00
Net Fee (15 percent)			\$152.25
TOTAL COST			\$1,167.25

*To Authorize Work, Sign & Return to Archaeological Consultants of the Midwest, Inc.
 Payment is due within 30 days of invoice date.

Date

**Historic Properties Survey and Section 106 Process
Westview Drive and Jefferson Street Project**

Archaeological Consultants of the Midwest, Inc.

CONSULTANT: CrossRoad Engineers
DATE: 9/11/2015

Task - Description	Hourly Rate	Total Hours	Total Costs
A. HISTORIC PROPERTIES SURVEY			
Principal Investigator	\$75.00	8	\$600.00
<i>SUBTOTAL A</i>			\$600.00
B. BACKGROUND RESEARCH			
Principal Investigator	\$75.00	8	\$600.00
<i>SUBTOTAL B</i>			\$600.00
C. CONSULTING PARTIES PREPARATION AND REPORT PROCESSING			
Principal Investigator	\$75.00	32	\$2,400.00
<i>SUBTOTAL C</i>			\$2,400.00
D. REPORT PREPARATION EXPENSES			
Photocopying			\$30.00
Project Supplies			\$10.00
Report Mailing Expense			\$20.00
<i>SUBTOTAL D</i>			\$60.00
SUBTOTAL (A&B&C&D)			\$3,660.00
Net Fee (15 percent)			\$549.00
TOTAL COST			\$4,209.00

***To Authorize Work, Sign & Return to Archaeological Consultants of the Midwest, Inc.
Payment is due within 30 days of invoice date.**

Date

September 11, 2015

Mr. Chip Charles, P.E.
CrossRoad Engineers, PC
3417 South Sherman Drive
Beech Grove, IN 46107



7770 West New York Street
Indianapolis, IN 46214-2988
317-273-1690 (FAX) 317-273-2250

2204 Yankee Street
Niles, MI 49120
269-262-4320 or 574-233-6820
(FAX) 269-262-4479

Re: Proposal for Professional Services:
Geotechnical Evaluation and Pavement Design
Westview Dr. & Jefferson St. Intersection Improvements
Franklin, Johnson Co., Indiana
EEI Proposal No. P1-15-685

Dear Chip:

We are appreciative of you including us on your design team for the referenced project. This proposal is in response to your request via electronic correspondence on September 9, 2015.

PROJECT DESCRIPTION

We understand that representatives of the city of Franklin, with the assistance of federal funds, are planning to make improvements to the intersection of Westview Drive and Jefferson Street. Based on the information provided, the improvements are anticipated to include construction of a 150-ft diameter roundabout with slight realignment and/or reconstruction of the approaches for a distance of up to 450 ft. In addition, we anticipate that drainage improvements consisting of a new storm sewer system via pipes and open ditches will be included. With regard to the pavement, we anticipate that widening and overlay may be considered within the project limits where the existing pavement conditions are adequate. Additional information regarding the project such as traffic volume, earthwork (cuts and fills), sewer depths and construction schedule is not known at this time.

PURPOSE AND SCOPE OF SERVICES

The purpose of our services will be to provide an evaluation of the subsurface conditions and assess the impacts of these conditions on the proposed construction. Based on our review of publicly-available geologic information and experience in the area, the subsurface conditions within the depth of interest are anticipated to consist of moderate-plasticity clay overlying glacial till (i.e., low-plasticity cohesive-type soil) with seams and layers of granular soil. For the anticipated improvements, the scope of our services will include:

1. Performing up to six exploratory test borings for the intersection improvements to a depth of up to 12½ ft each. The actual location, depth, and number of borings will be dependent on the soil conditions encountered, forthcoming plans, and INDOT guidelines at the time of our evaluation. Standard Penetration Test (SPT) sampling will be performed in the borings at 2½-ft intervals. We anticipate that access to the boring locations can be accomplished from off the road with ATV-mounted equipment, and the borings will be backfilled at completion of the field work with auger cuttings and a bentonite chip plug near the surface.

EI will locate the test borings using measurements from existing site features shown on plans to be provided. We will also contact Indiana 811 to arrange an underground utility line location check and coordinate our field activities with the city and affected property owners;

2. Performing appropriate laboratory tests consistent with INDOT requirements including visual soil classification, hand penetrometer readings, moisture content, grain size analysis, soil pH, soluble sulfate, moisture-density relations, resilient modulus, Atterberg limit determinations, and unconfined compression;
3. Preparing a technical report which will include a summary of our findings and recommendations for geotechnical considerations regarding:
 - a. Subgrade preparation and improvement, as necessary, for support of drainage elements, embankment fill, if any, and pavement;
 - b. Pavement design parameters;
 - c. Embankment fill placement, including re-use of onsite soil;
 - d. Placement and compaction of backfill for sewers; and
 - e. Potential construction problems due to the subsurface conditions encountered (e.g., soft subgrade difficulties, dewatering, etc.);
4. Pavement design with considerations for reconstruction in addition to widen and overlay. We will obtain up to four pavement cores as part of our geotechnical field activities and make a site visit to document any existing pavement distress for information necessary for analysis of an overlay. Our analyses will be performed using the MEPDG approach (AASHTOWare PavementME) in accordance with Ch. 304 of the INDOT Design Manual and applicable memoranda. Anticipating less than 10,000 sq. yds of new pavement, the analysis will be made using only HMA for the new section(s) and for the overlay along with patching tables, if necessary; and
5. Geotechnical review of the final check prints.

SCHEDULE

We are typically able to mobilize within one to two weeks of notice to proceed and coordination of our field activities with underground utility owners, private property owners, and the city. The field work will likely require one day to complete. After the field work is completed, the laboratory testing will take approximately three to four weeks. We anticipate submitting a draft geotechnical report within two weeks after the laboratory work is completed.

COST

We propose to provide our geotechnical services on a unit rate basis in accordance with the attached Cost Estimate, and we estimate that cost to be up to \$10,630. Please recognize that the fee is approximate because it is based on estimated quantities. If any significant variations develop during the course of our evaluation, we will advise you so that our efforts can be effectively directed.

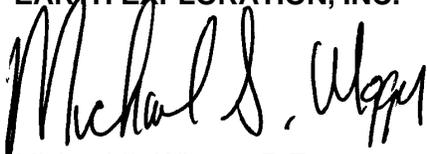
For the scope discussed above, we propose to provide an HMA design for the intersection and widening in addition to the overlay(s) (up to three sections) for a lump sum fee of \$4,500. We will notify you of any services performed beyond the scope identified above as a result of an INDOT change in policy. We will prepare the design to be submitted through ERMS, and we will coordinate with INDOT through the review process. We understand this may require additional analyses pending their comments.

CLOSURE

We anticipate that you will prepare an agreement outlining the terms and conditions. We look forward to providing our services on this project. Should you have any questions about this information, please feel free to contact us.

Sincerely,

EARTH EXPLORATION, INC.



Michael S. Wigger, P.E.
Vice President

RDO

Enclosure: Cost Estimate – Geotechnical Evaluation

Cost Estimate

Westview Drive and Jefferson Street Intersection Improvements
Franklin, Johnson County, Indiana

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
<u>GEOTECHNICAL FIELD</u>			
1. Mobilization and Field Coordination			
a. SPT Rig	1 ea	\$240.00	\$240.00
b. CPT	ea	\$405.00	
c. Field and utility coordination	1 LS	\$560.00	\$560.00
d. Field coordination with property owners			
i. 1 - 10	1 LS	\$280.00	\$280.00
ii. 11 - 25	LS	\$460.00	
iii. Over 25	LS	\$640.00	
e. Mileage	60 mi	\$3.15	\$189.00
2. Truck mounted borings with split spoon sampling	ft	\$17.10	
3. Truck mounted borings with drilling fluid	ft	\$17.00	
4. Truck mounted core drilling	ft	\$35.40	
5. Truck mounted borings			
a. Truck mounted borings through bedrock or boulders or concrete pavement	ft	\$35.00	
b. Bridge deck coring and restoration	ea	\$310.00	
6. Cone penetrometer testing			
a. Set up	ea	\$68.00	
b. Subsurface profiling	ft	\$11.00	
c. Profiling with pore pressure measurement			
i. Piezometric Saturation	ea	\$85.30	
ii . Penetration	ft	\$13.15	
iii. Pore water dissipation test	hr	\$175.00	
iv. Hydraulic conductivity and consolidation	ea	\$65.00	
d. Profiling with Shearwave Velocity Measurement	ft	\$14.50	
e. Sample	ea	\$21.00	
7. Hand or truck soundings	20 ft	\$11.00	\$220.00
8. Hand auger drilling	ft	\$11.50	
9. Skid mounted borings with split spoon sampling	75 ft	\$27.25	\$2,043.75
10. Skid mounted borings using drilling fluid	ft	\$27.50	
11. Skid mounted core drilling	ft	\$39.00	
12. Skid mounted boring through bedrock or boulders	ft	\$41.00	
13. Skid mounted soundings	ft	\$15.60	
14. Skid Mounted Cone Penetrometer Testing (CPT)			

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
a. Set up	ea	\$102.00	
b. Subsurface profiling	ft	\$17.00	
c. Profiling with pore pressure measurement			
i. Piezometric Saturation	ea	\$130.00	
ii. Penetration	ft	\$20.00	
iii. Pore Water Dissipation Test	hr	\$260.00	
iv. Hydraulic Conductivity and Consolidation	ea	\$79.00	
d. Profiling with Shearwave Velocity Measurement	ft	\$22.00	
e. Sample	ea	\$33.00	
15. Furnishing of a boat		Actual Cost	
16. Barge set-up expenses			
a. Navigable water			
i. Barge set-up	ea	\$5,200.00	
ii. Rental of support equipment and/or boat		Actual Cost	
iii. Drill rig down time	hr	\$132.00	
b. Non-navigable water barge set-up	ea	\$4,500.00	
17. Additional disassembly and reassembly			
a. Navigable water	ea	\$1,900.00	
b. Non-navigable water	ea	\$1,700.00	
18. Barge mounted borings with split spoon sampling	ft	\$29.75	
19. Barge mounted core drilling	ft	\$40.25	
20. Barge mounted boring through bedrock or boulders	ft	\$44.50	
21. Barge mounted soundings	ft	\$17.60	
22. Casing through water	ft	\$7.75	
23. Uncased sounding through water	ft	\$5.00	
24. Set up for borings and machine soundings			
a. Borings and machine soundings less than 20 ft deep	6 ea	\$64.00	\$384.00
b. Rock core borings	ea	\$110.00	
25. Additional 2-in. split spoon sampling	ea	\$19.00	
26. 3-in. split spoon samples	ea	\$21.00	
27. 3-in. Shelby tube samples	ea	\$57.00	
28. Bag samples			
a. 300-lb sample	1 ea	\$105.00	\$105.00
b. 25-lb sample	ea	\$46.00	
c 5-lb sample	ea	\$40.00	
29. Field vane shear test	ea	\$102.00	
30. 4½-in. cased hole	ft	\$11.30	
31. Installation of Geotechnical Instruments			

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
a. Inclinator casing installation	ft	\$13.40	
b. Piezometer installation up to 25 ft below surface	ea	\$230.00	
c. Piezometer installation deeper than 25 ft below surface	ea	\$260.00	
d. Metal protective outer cover for inclinometer and piezometer casings	ea	\$113.00	
32. Geotechnical engineer	4 hr	\$105.00	\$420.00
33. Railroad expenses		Actual Cost	
34. Twenty-four hour water levels			
a. Field measurements per borehole	4 ea	\$34.75	\$139.00
b. PVC slotted pipe	ft	\$5.30	
35. Special borehole backfilling			
a. 0 to 30 ft			
i. SPT	6 ea	\$97.00	\$582.00
ii . CPT	ea	\$43.00	
b. More than 30 ft			
i. SPT	ft	\$6.00	
ii . CPT	ea	\$1.75	
c. Pavement restoration (for pavement cores)	4 ea	\$52.00	\$208.00
36. Dozer rental		Actual Cost	
37. Traffic control			
a. Flag crew	day	\$550.00	
b. Equipment Rental		Actual Cost	
c. Flag crew with equipment (for cores)	0.5 day	\$665.00	\$332.50
38. Centerline surveying		Invoice Cost	
		Subtotal (Geotechnical Field)	\$5,703.25
<u>GEOTECHNICAL LABORATORY</u>			
39. Sieve analysis for soils	4 ea	\$44.00	\$176.00
40. Hydrometer analysis	4 ea	\$50.50	\$202.00
41. Sieve analysis for Aggregates			
a. Analysis by Washing (AASHTO T-11)	ea	\$70.00	
b. Analysis by Using (AASHTO T-27)	ea	\$125.00	
42. Liquid limit	4 ea	\$31.00	\$124.00
43. Plastic limit & plasticity index	4 ea	\$22.50	\$90.00
44. Liquid Limit Ratio	ea	\$70.00	
45. pH test	4 ea	\$13.80	\$55.20
46. Loss on Ignition Test			
a. Loss on Ignition Test (Conventional)	2 ea	\$22.00	\$44.00
b. Loss on Ignition Test (Sequential)	ea	\$50.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
47. Moisture Content Tests			
a. Moisture Content Test (Conventional)	30 ea	\$6.00	\$180.00
b. Moisture Content Test (Microwave)	ea	\$12.00	
48. Expansion Index of Soils	ea	\$240.00	
49. Specific Gravity Test	ea	\$32.50	
50. Unit weight determination	ea	\$16.15	
51. Hydraulic Conductivity Test			
a. Constant Head	ea	\$210.00	
b. Falling Head	ea	\$260.00	
52. a. Unconfined Compression Test	3 ea	\$42.00	\$126.00
b. Remolding of soil samples with chemical admixtures in chemical soil modification/stabilization (3 samples is equal to 1 unit)	ea	\$105.00	
c. Point Load Strength Index of Rock	ea	\$40.00	
53. Compressive Strength and Elastic Moduli of Intact Rock			
a. Compressive Strength of Intact Rock	ea	\$100.00	
b. Elastic Moduli of Intact Rock	ea	\$400.00	
54. Consolidation Test	ea	\$410.00	
55. Triaxial test			
a. Unconsolidated - Undrained (UU)	ea	\$320.00	
b. Consolidated - Undrained (CU)	ea	\$475.00	
c. Consolidated - Drained (CD)	ea	\$650.00	
d. Pore Pressure measurement with a. or b. and use of back pressure for saturation	ea	\$230.00	
56. Direct Shear Test	ea	\$550.00	
57. Moisture-Density Relationship Test			
a. Standard Proctor	1 ea	\$128.00	\$128.00
b. Modified Proctor	ea	\$140.00	
58. Soil Support Testing			
a. California Bearing Ratio Test	ea	\$490.00	
b. Subgrade Resilient Modulus	2 ea	\$460.00	\$920.00
59. Collapse Potential Evaluation Test			
a. Silty Soil (Loess)	ea	\$352.00	
b. Cohesive or Expansive Soils	ea	\$420.00	
60. Water Soluble Sulfate Test	2 ea	\$100.00	\$200.00
61. Water Soluble Chloride Test	ea	\$100.00	
62. Soil Resistivity Test	ea	\$125.00	
63. a. Slake Durability Index Test	ea	\$120.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
b. Jar Slake Test	ea	\$12.00	
Subtotal (Geotechnical Laboratory)			\$2,245.20

GEOTECHNICAL ENGINEERING

64. Geotechnical profile and related work			
a. Without soil subgrade drawings			
First mile	LS	\$1,100.00	
Each additional mile	mi	\$500.00	
b. With soil subgrade drawings			
First mile	LS	\$1,300.00	
Each additional mile	mi	\$570.00	
c. Soil subgrade drawings (only)			
First mile	LS	\$335.00	
Each additional mile	mi	\$210.00	
65. Geotechnical report			
a. Without soil subgrade investigation			
First mile	1 LS	\$1,800.00	\$1,800.00
Each additional mile	mi	\$650.00	
b. With soil subgrade investigation			
First mile	LS	\$1,900.00	
Each additional mile	mi	\$740.00	
c. Soil subgrade investigation (only)			
First mile	LS	\$550.00	
Each additional mile	mi	\$340.00	
66. Settlement analysis and recommendations for embankment			
a. Proposed embankment	ea	\$470.00	
b. Proposed and existing embankment	ea	\$520.00	
67. Ground modification design	ea	\$1,375.00	
68. Slope stability analysis			
a. C, ϕ or C & ϕ analysis	ea	\$735.00	
b. Corrective measures	ea	\$735.00	
c. Stage construction corrective method	ea	\$1,275.00	
69. Bridge foundation analysis and recommendations			
a. Shallow foundation	ea	\$450.00	
b. Deep foundation			
i. Deep foundation analyses	ea	\$800.00	
ii. Wave equation analyses	ea	\$310.00	
iii. Liquefaction analysis	ea	\$250.00	
iv. Group - 3D analysis	ea	\$400.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
c. Settlement analysis for bridge pier foundation			
i. Bridge pier	ea	\$360.00	
ii. Embankment plus pier	ea	\$400.00	
iii. Embankment plus pier plus all other loads	ea	\$460.00	
d. Foundation on bedrock	ea	\$350.00	
70. Retaining structure analysis recommendations			
a. Conventional retaining structures and other types such as MSE Walls and Bin walls			
i. Shallow foundation	ea	\$820.00	
ii. Deep foundation	ea	\$1,080.00	
iii. Settlement analysis for retaining wall foundation	ea	\$350.00	
b. Pile retaining structure analysis and recommendations			
i. Free standing structure	ea	\$950.00	
ii. Retaining structure with tie-back system	ea	\$1,380.00	
c. Drilled-in-pier retaining structure analysis			
i. Free standing structure	ea	\$975.00	
ii. Retaining structure with tie-back system	ea	\$1,400.00	
d. Soil nailing wall analysis	ea	\$940.00	
71. Seepage analysis	ea	\$1,320.00	
72. Deep dynamic compaction analysis	ea	\$1,330.00	
		Subtotal (Geotechnical Engineering)	\$1,800.00

CONSTRUCTION INSPECTION AND MONITORING

73. Mobilization of testing equipment	LS	\$150.00	
74. a. Monitoring geotechnical instrumentation	hr	\$70.00	
b. Filed Inspector	hr	\$70.00	
75. Integrity testing		Actual Cost	
76. Field Compaction Testing			
a. Dynamic Cone Penetration Test (DCPT)	hr	\$70.00	
b. Light Weight Deflectometer Test (LWD)	hr	\$70.00	
77. Dynamic pile analysis	ea	\$975.00	
78. Static load test	ea	\$975.00	
79. Dynamic pile load test		Actual Cost	
80. CAPWAP-C analysis	ea	\$450.00	
81. Final construction inspection report	ea	\$875.00	
		Subtotal (Construction Inspection and Monitoring)	

FOUNDATION EVALUATION BY NON-DESTRUCTIVE METHODS

82. a. Surface test/Pier or foundation		Actual Cost	
b. Borehole test/Pier or foundation		Actual Cost	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
<u>GEOPHYSICAL INVESTIGATION</u>			
83. Geophysical Investigations		Invoice Cost	
<u>GEOTECHNICAL PROJECT MANAGEMENT</u>			
84. Project Management			
a. Project Coordination	mi	\$1,600.00	
b. Project Website	LS	\$3,100.00	
85. Geotechnical Review			
a. Structure Report	ea	\$310.00	
b. Roadway Report	mi	\$260.00	
<u>PAVEMENT INVESTIGATION</u>			
1. Mobilization of coring equipment	LS	\$200.00	
2. Mobilization mileage for coring equipment	mi	\$1.70	
3. Pavement core (partial depth)	ea	\$120.00	
4. Pavement core (full depth)	4 ea	\$180.00	\$720.00
5. Sub-base sample	ea	\$59.00	
6. Cement concrete pavement core density determination	ea	\$31.00	
7. Cement concrete core compressive strength test	ea	\$30.00	
8. Bituminous extraction test	ea	\$80.00	
9. Sieve analysis of extracted aggregate test	ea	\$53.50	
10. Recovery of asphalt from solution by Abson method	ea	\$315.00	
11. Theoretical maximum specific gravity test	ea	\$67.00	
12. Bulk specific gravity test	ea	\$29.00	
13. Air voids calculation	ea	\$27.00	
14. Core report for partial depth core	ea	\$32.00	
15. Core report for full depth core	4 ea	\$40.00	\$160.00
16. Pavement analysis and report	ea	\$730.00	
		Subtotal (Pavement Investigation)	\$880.00

Summary of Fees

Geotechnical Field	\$5,703.25
Geotechnical Laboratory	\$2,245.20
Geotechnical Engineering	\$1,800.00
Construction Inspection and Monitoring	
Pavement Investigation	\$880.00
Estimated Total	\$10,628.45



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

100 North Senate Avenue
Room N749
Indianapolis, Indiana 46204

Michael R. Pence, Governor
Brandye Hendrickson, Commissioner

External Audit <http://www.in.gov/indot/2846.htm>
Division of Economics, External Audit, and Performance Metrics

July 7, 2015

Re: Report on Review of Financial Prequalification submission **15-15-164**
For Fiscal Year Ending: December 31, 2014

Chip E. Charles, President
CrossRoad Engineers, Inc.
3417 Sherman Drive
Beech Grove, IN 46107

Dear Mr. Charles:

External Audit has reviewed the Financial Prequalification submittal by CrossRoad Engineers, P.C. for the fiscal year ending December 31, 2014. This notice is to report the results of the financial review. For further information regarding the overall Prequalification status of your firm, including technical requirements, please contact the Prequalification Section directly.

We reviewed an Indirect Cost Schedule and associated required documents for Financial Prequalification submitted for the CPA Audited Level as application #10749.

Per the BGBC Partners, LLP report, the Indirect Cost Schedule was audited in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States and 48 CFR Part 31, with an audited indirect cost rate of 154.19%, facilities capital cost of money rate of 0.38% and expressed the opinion that these rates present fairly, in all material respects, the direct labor, fringe benefits, and general overhead of CrossRoad Engineers, P.C.. for the period ending December 31, 2014.

Indiana Department of Transportation (INDOT) accepts the use of these rates for invoicing of services provided during the firm's fiscal period covered by this report, for contracts with or administered through the agency. Acceptance of these rates for this use does not constitute "establishment of a rate by a cognizant agency" for the purpose of applying the regulations published in Title 23 CFR Sect. 172.7. INDOT also accepts the use of these rates as provisional rates for estimating, negotiating and billing current contracts with or administered through the agency. This provisional rate acceptance expires June 30, 2016. Costs billed to contracts with federal participation are subject to audit for compliance with the cost principles contained in 48 CFR Part 31. With the financial prequalification accepted at the CPA Audited Level, this firm is **not** restricted to total annual billings of less than \$250,000.00 for a contract or contracts with or administered through INDOT.

Total wages and salaries (not including bonuses, profit share, company retirement contributions, or other unallowable forms of indirect compensation) were submitted as \$1,142,837 Direct and \$818,877 Indirect, for a total of \$1,961,714.



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

100 North Senate Avenue
Room N749
Indianapolis, Indiana 46204

Michael R. Pence, Governor
Brandy Hendrickson, Commissioner

The audited financial submission for this firm documents the separation of direct and unallowable indirect vehicle operating cost, from allowable indirect vehicle operating costs. This firm may bill and be reimbursed for direct miles billed for contracted services in accordance with State statute and policy.

Issues concerning the financial data submitted to the Agency and the allowable indirect cost rates accepted by External Audit are subject to the following procedures. All CPA workpapers used as the basis to establish an audited overhead rate must be made available to INDOT for review at a location of mutual agreement, as determined by INDOT and the consultant firm. The consultant firm named above is solely responsible for all costs billed by the firm's Independent CPA related to the review of the auditor's work papers by the agency. INDOT and American Council of Engineering Companies agreed to the implementation of a Dispute Resolution Procedure effective January 1, 2008. Firms wishing to dispute the indirect cost rates allowed by the agency may request a meeting with Mark Ratliff, Director of Economics, External Audit, and Performance Metrics at (MRatliff@indot.in.gov).

This letter is for internal use only and shall not be used for any other purpose. Occasionally, INDOT receives requests from other state transportation agencies to share the financial data for firms providing financial prequalification submissions to our agency, and we may respond to those requests. Firms offering "engineering and design services", as defined under 23 USC 112(b) (2) (A), who have submitted financial data for Prequalification with INDOT will receive a notification from External Audit summarizing any such data provided and identifying the agency and contact person receiving the information.

If you have any questions or concerns regarding your financial submission or the allowable indirect cost rate for your firm, you may contact External Audit directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'S.L. Weinberg'.

Steven L. Weinberg, Field Auditor
Phone: 317-232-5640
SWeinberg@INDOT.IN.GOV

cc: David E. Brewer, Manager of External Audit, INDOT
Karen Macdonald, Prequalification Engineer, INDOT
John Leming, Consultant Prequalification Analyst, INDOT

CrossRoad Engineers, PC
3417 Sherman Drive
Beech Grove, Indiana 46107

HOURLY RATE SHEET		154.19%	15.0%	0.38%			2015
Employee Classification	Hourly Pay	Overhead	Profit	Facilities Capital			Billing
DIRECTOR							
Jay Vorisek	\$56.00	\$86.35	\$21.35	\$0.21		\$163.91	
Trent Newport	\$54.00	\$83.26	\$20.59	\$0.21		\$158.06	
					AVERAGE	\$160.98	\$160.98
SENIOR PROJECT MANAGER							
Greg Ilko	\$50.00	\$77.10	\$19.06	\$0.19		\$146.35	
Mike Masterson	\$49.00	\$75.55	\$18.68	\$0.19		\$143.42	
Richard Gardner	\$40.00	\$61.68	\$15.25	\$0.15		\$117.08	
Mark Beck	\$39.00	\$60.13	\$14.87	\$0.15		\$114.15	
					AVERAGE	\$130.25	\$130.25
PROJECT MANAGER							
Willie Hall	\$31.00	\$47.80	\$11.82	\$0.12		\$90.74	\$90.74
PROJECT ENGINEER							
Dustin Myers	\$27.00	\$41.63	\$10.29	\$0.10		\$79.03	
Derek Snyder	\$25.60	\$39.47	\$9.76	\$0.10		\$74.93	
Andrew Wolf	\$25.00	\$38.55	\$9.53	\$0.10		\$73.17	
Matt McElroy	\$22.40	\$34.54	\$8.54	\$0.09		\$65.56	
					AVERAGE	\$73.17	\$73.17
ASST. PROJECT ENGINEER							
Kevin Lee	\$20.80	\$32.07	\$7.93	\$0.08		\$60.88	
Michael Kalberg	\$20.10	\$30.99	\$7.66	\$0.08		\$58.83	
Justin Schneck	\$18.80	\$28.99	\$7.17	\$0.07		\$55.03	
					AVERAGE	\$58.25	\$58.25
CADD MANAGER							
Andy Percifield	\$35.20	\$54.27	\$13.42	\$0.13		\$103.03	
Todd Bennett	\$32.20	\$49.65	\$12.28	\$0.12		\$94.25	
					AVERAGE	\$98.64	\$98.64

CrossRoad Engineers, PC
3417 Sherman Drive
Beech Grove, Indiana 46107

HOURLY RATE SHEET		154.19%	15.0%	0.38%		2015
Employee Classification	Hourly Pay	Overhead	Profit	Facilities Capital		Billing
CADD TECHNICIAN						
Lisa Cox	\$24.32	\$37.50	\$9.27	\$0.09		\$71.18
Chris Lee	\$22.52	\$34.72	\$8.59	\$0.09		\$65.92
Erik Carson	\$22.52	\$34.72	\$8.59	\$0.09		<u>\$65.92</u>
					AVERAGE	\$67.67
						\$67.67
R/W MANAGER						
Ryan Perry	\$25.20	\$38.86	\$9.61	\$0.10		\$73.76
Jill Newport	\$25.00	\$38.55	\$9.53	\$0.10		<u>\$73.17</u>
					AVERAGE	\$73.47
						\$73.47
SURVEY MANAGER						
G.W. Charles	\$39.00	\$60.13	\$14.87	\$0.15		\$114.15
						\$114.15
ASST. SURVEY MANAGER						
Kevin Lee	\$20.80	\$32.07	\$7.93	\$0.08		\$60.88
						\$60.88
CREW CHIEF						
Bob Bleich	\$26.80	\$41.32	\$10.22	\$0.10		\$78.44
Brad Stahley	\$26.00	\$40.09	\$9.91	\$0.10		\$76.10
Garen Charles	\$21.40	\$33.00	\$8.16	\$0.08		<u>\$62.64</u>
					AVERAGE	\$72.39
						\$72.39
FIELD MAN						
Chris Wright	\$20.32	\$31.33	\$7.75	\$0.08		\$59.48
Justin Curtis	\$17.52	\$27.01	\$6.68	\$0.07		\$51.28
Dane Snyder	\$17.52	\$27.01	\$6.68	\$0.07		<u>\$51.28</u>
					AVERAGE	\$54.01
						\$54.01
RESEARCHER						
John Whiteside	\$21.72	\$33.49	\$8.28	\$0.08		\$63.57
						\$63.57

The above listed hourly rates are correct for the above individuals as of October 2015.

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

FIELD SURVEY						
DESCRIPTION	MANHOURS BY CLASSIFICATION					
	SURVEY MANAGER	SURVEY CREW CHIEF	FIELD MAN	RESEARCHER	CADD TECHNICIAN	TOTAL HOURS
Project Management / Field Coordination	8	8				
Section Corner, Right-of-Way & Adjoiners Research	2			8		
Establish Baselines, Reference Necessary Points	1	4	4			
Establish Control Circuit	1	8	8			
Establish Section Corners (includes coordination w/ Co. Surveyor)	2	8	8			
Establish Bench Circuit, Set & Reference Project Benchmarks w/ USGS Elevations	2	8	8			
Obtain Cross Sections and Topographic Information as Required	2	24	24			
Locate All Utilities	2	8	8			
Data Downloading, Perform Calculations, Complete Field Books, & Review Project	8	4				
Topographic Survey Drawing	2	4			24	
Route Survey Plat	24	8		16	40	
TOTAL HOURS	54	84	60	24	64	286
AVERAGE 2015 HOURLY RATES	\$114.15	\$72.39	\$54.01	\$63.57	\$67.67	
TOTAL LABOR COSTS	\$6,164.10	\$6,080.76	\$3,240.60	\$1,525.68	\$4,330.88	\$21,342.02
DIRECT NON-LABOR COSTS Mileage (10 trips, 50 miles per trip, \$0.40/mile)					\$200.00	
TOTAL DIRECT NON-LABOR COSTS					\$200.00	
TOTAL						\$21,542.02
USE FOR FIELD SURVEY						\$21,500.00

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

ABBREVIATED ENGINEERING ASSESSMENT					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
Task 1 - Determine the Essential Project Need and Purpose	1	1			
Task 2 - Gather Information Existing Plans, Aerial Photography and Maps (USGS/State/Local GIS), Utility Maps, Plat Maps, Traffic Classification and Volume Data from Town, Crash Data from local police, Project History, Prior Studies AM and PM Peak Hour Turning Movement Counts		0.5	2 4		
Task 3 - Conduct Field Inspection On-Site Investigations Follow-up and Meeting Notes		1.5 1	1.5 1		
Task 4 - Choose Design Criteria	0.5	0.5			
Task 5 - Perform Data Analyses Storm Water Traffic Forecast Roundabout Capacity Analysis Crash Analysis		1 0.5 4 1	1		
Task 6 - Verify and Refine Project Needs and Objectives	0.5	0.5	2		
Task 7 - Develop Project Alternatives Preliminary Design Determine Alternatives' Environmental Impacts Estimate Costs	1 0.5	1 1	4 1 2	4	
Task 8 - Build Consensus for an Alternative	1	1			
Task 9 - Evaluate Alternatives: Informal Analysis	0.5	1	1		
Task 10 - Write Engineer's Report	1	1	4	1	
TOTAL HOURS	12	13	25	5	54
AVERAGE 2015 HOURLY RATES	\$160.98	\$130.25	\$73.17	\$98.64	
HOURLY COSTS	\$1,931.76	\$1,628.13	\$1,792.67	\$493.20	\$5,845.75
DIRECT NON-SALARY COSTS Mileage (2 trips to site @ 50 miles per trip; \$0.40/mile)				\$40.00	
TOTAL DIRECT NON-SALARY COSTS				\$40.00	
TOTAL					\$5,885.75
USE FOR ABBREVIATED ENGINEERING ASSESSMENT					\$5,900.00

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

ROAD DESIGN & PLANS					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
Preliminary Geometrics and Design Calculations	8		8	16	
Prepare Preliminary Title Sheet			1	2	
Plot & Check Plan Profile Sheets		2	4	16	
Preliminary Typical Cross Sections	1	1	2	8	
Preliminary Grade Design	1	2	16	8	
Preliminary Cross Sections with Proposed Templates	1	2	4	16	
Preliminary Design Calcs.	1	4	8	8	
Preliminary Quantity Calcs.	1	2	8	4	
Preliminary Cost Estimate	1	2	8		
Commitments		2	4		
Phase 1 Plan Submittal	1		8	4	
PRELIMINARY DESIGN, STAGE 1	15	17	71	82	185
Review and incorporate Stage 1 INDOT comments	1	4	4	8	
Preliminary R/W Design	1		4	4	
Review Utility Plans			2	4	
Preliminary Drainage Design	1	4	16	4	
Preliminary Maintenance of Traffic Details	1	1	4	4	
Preliminary MOT Sheets	1	1	2	8	
Design Coordination with Affected Agencies		1	2		
Review Utility Plans		1	2	4	
Preliminary Drainage Design		4	16	8	
Preliminary Construction Details	1		8	16	
Preliminary Temporary Erosion Control Plans		4	8	4	
Coordinate Field Check Meeting, Prepare and Distribute Plans			4	2	
Hold Field Check Meeting	4		4		
FIELD CHECK	25	37	147	148	357
Revise Plans per Field Check		2	4	8	
Finalize R/W Design		1	2	2	
Plat No. 1	1		4	16	
Detailed Drainage Design	1	8	24	12	
Approach & Structure Data Tables		4	8	4	
Preliminary Quantities & Construction Cost Estimate	1	4	16	4	
Incorporate Information from Utility Coordination		1	2	4	
Commitments		1	1		
Phase 2 Plan Submittal	1		8	2	
DESIGN PLANS, STAGE 2	29	58	216	200	503
Review and incorporate Stage 2 INDOT comments	1	4	4	8	
Obtain Public Hearing Certification			2		
Finalize Detail Sheets	1	2	8	8	
Finalize Typical Cross Sections		1	2	2	

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

ROAD DESIGN & PLANS					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
Finalize Cross Sections	1	2	8	16	
Finalize Plan Profile Sheets	1	2	8	12	
Pavement Marking, Signing, & Lighting	1	4	4	12	
Preliminary Special Provisions	1	1	8		
Finalize Maintenance of Traffic Details		1	2	4	
Finalize Temp. Erosion Control Plans & Rule 5 Application	1	4	16	8	
Miscellaneous Tables		2	2	8	
Final Quantities & Construction Cost Estimate	1	4	4	2	
Environmental Consultation Form		1	2		
Incorporate information from Utility Coordination		1	4	8	
Traffic Control Plan Checklist		1	2		
Commitments		1	1		
Final Check Plan Submittal	2		4	2	
FINAL CHECK PLANS, STAGE 3	39	89	297	290	715
Incorporate Information from Utility Coordination		1	2	4	
Review and incorporate Stage 3 INDOT comments	1	4	4	8	
Final Special Provisions	1	1	2		
Final Construction Cost Estimate Update	1	2	4	2	
Final Tracings Package Submittal	2	4	4	2	
Commitments		1	2		
Review INDOT Bid Documents	2	2	4		
TRACINGS	46	104	319	306	775
TOTAL HOURS	46	104	319	306	775
AVERAGE 2015 HOURLY RATES	\$160.98	\$130.25	\$73.17	\$98.64	
TOTAL LABOR COSTS	\$7,405.08	\$13,546.00	\$23,341.23	\$30,183.84	\$74,476.15
DIRECT NON-LABOR COSTS Mileage (5 trips, 50 miles per trip, \$0.40/mile)				\$100.00	
TOTAL DIRECT NON-LABOR COSTS				\$100.00	
TOTAL					\$74,576.15
USE FOR ROAD DESIGN & PLANS					\$74,570.00

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

UTILITY COORDINATION					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
Distribute Plans and Project Schedule to Utility Companies			4	1	
Request Relocation Plans with Estimated Relocation Schedules			4		
Provide Utility Companies with all Plan Revisions that affect Utilities			4		
Obtain Written Documentation from Utility Companies Regarding Existing Locations / Relocations		2			
Review Relocation Plans and Schedules to Verify All Conflicts Are Resolved	1	2	4		
Meetings with Utility Companies to Review Relocation Plans and Schedules to Address Conflicts		6			
Review Utility Work Plan for each Utility	1	2			
Prepare and Submit Utility Coordination Certification	1	2			
Review Construction Plans for Potential Utility Conflicts and Transmit to Utility Owners with Instructions	1	2			
Review Utility Relocation Plans and Cost Estimates for Accuracy and Acceptability		1	4		
Prepare Utility Reimbursement Agreements		1	4		
Coordinate with INDOT to Investigate Potential Plan Revisions to Minimize Excessive Utility Relocation Costs		2			
Prepare Special Provisions to Coordinate Utility Relocation During Construction		1	4		
Schedule, Conduct and Prepare Minutes for Utility Field Check	1	2	4		
Act as a Liaison Between Utility Companies and INDOT During Construction					
Assist INDOT District in Resolving Problems Concerning Utilities During Construction					
Assist INDOT w/ Progress Payments During Construction					
Maintain Records to Track Status of Utility Relocations					
Participate in Development and Recommendations of Policies, Procedures, Guidelines & Methods Concerning Utility Relocation and Accommodation					
TOTAL HOURS	5	23	32	1	61
AVERAGE 2015 HOURLY RATES	\$160.98	\$130.25	\$73.17	\$98.64	
TOTAL LABOR COSTS	\$804.90	\$2,995.75	\$2,341.44	\$98.64	\$6,240.73
DIRECT NON-LABOR COSTS					
Plan Shipping (8 sets @ \$10.00 per set)					\$80.00
Mileage (8 trips, 50 miles per trip, \$0.40/mile)					\$160.00
* note: 8 utilities anticipated to be within the project area					
TOTAL					\$6,480.73
USE FOR UTILITY COORDINATION					\$6,500.00

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

ENVIRONMENTAL DOCUMENT PREPARATION					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
CE Field Check/Site Photos/Field Inventory Forms		4	10		
CE Maps(s) & Exhibit Development	1	1	12		
Early Coordination with Regulatory Agencies	1	1	12		
CE Form and Required Attachments		4	36		
INDOT Submissions/Release for Public Involvement	1	1	18		
INDOT Public Hearings Certification Submittal	1	1	4		
Final Submission of CE with PH Certification	1	1	4		
Final Commitments Summary Form Prep and Upload to ERMS		1	4		
ENVIRONMENTAL DOCUMENT PREPARATION - CE	5	14	100	0	119
TOTAL HOURS	5	14	100	0	119
AVERAGE 2015 HOURLY RATES	\$160.98	\$130.25	\$73.17	\$98.64	
TOTAL SALARY COSTS	\$804.90	\$1,823.50	\$7,317.00	\$0.00	\$9,945.40
DIRECT NON-SALARY COSTS					
Mileage (2 trips, 50 miles per trip, \$0.40/mile)				\$40.00	
Phase 1a Archaeological Studies (See attached proposal from Archaeological Consultants of the Midwest)				\$1,167.25	
Section 106 Documentation (See attached proposal from Archaeological Consultants of the Midwest)				\$4,209.00	
TOTAL DIRECT NON-SALARY COSTS				\$5,416.25	
TOTAL					\$15,361.65
USE FOR ENVIRONMENTAL DOCUMENT PREPARATION					\$15,400.00
Notes:					
1. Proposal assumes Noise Analysis, nor Wetlands Delineation, nor other specialized studies are included or anticipated. Proposal also assumes that project will fall under MPPA for Section 106 documentation.					
2. Public involvement will occur during the design development phase and will be included with Road Design and Plan Development. Therefore, preparations for and attendance at public meetings are not included in this fee.					

CrossRoad Engineers, PC

3417 Sherman Drive, Beech Grove, Indiana 46107

PHASE Ia ARCHAEOLOGY LITERATURE REVIEW AND RECONNAISSANCE SURVEY
Westview Drive and Jefferson Street

Archaeological Consultants of the Midwest, Inc.

CONSULTANT: CrossRoad Engineers
DATE: 9/11/2015

Task - Description	Hourly Rate	Total Hours	Total Costs
A. LITERATURE REVIEW			
Field Director	\$70.00	1	\$70.00
<i>SUBTOTAL A</i>			\$70.00
B. RECONNAISSANCE SURVEY			
Field Director	\$70.00	6	\$420.00
<i>SUBTOTAL B</i>			\$420.00
C. FIELD EXPENSES			
Mileage/Gasoline			\$30.00
Per Diem			\$0.00
<i>SUBTOTAL C</i>			\$30.00
D. ANALYSIS AND REPORT PREPARATION			
Field Director	\$70.00	6	\$420.00
<i>SUBTOTAL D</i>			\$420.00
E. REPORT PREPARATION EXPENSES			
Photocopying			\$25.00
Project Supplies			\$25.00
Report Mailing Expense			\$25.00
<i>SUBTOTAL E</i>			\$75.00
SUBTOTAL (A&B&C&D&E)			\$1,015.00
Net Fee (15 percent)			\$152.25
TOTAL COST			\$1,167.25

*To Authorize Work, Sign & Return to Archaeological Consultants of the Midwest, Inc.
 Payment is due within 30 days of invoice date.

Date

**Historic Properties Survey and Section 106 Process
Westview Drive and Jefferson Street Project**

Archaeological Consultants of the Midwest, Inc.

CONSULTANT: CrossRoad Engineers
DATE: 9/11/2015

Task - Description	Hourly Rate	Total Hours	Total Costs
A. HISTORIC PROPERTIES SURVEY			
Principal Investigator	\$75.00	8	\$600.00
<i>SUBTOTAL A</i>			\$600.00
B. BACKGROUND RESEARCH			
Principal Investigator	\$75.00	8	\$600.00
<i>SUBTOTAL B</i>			\$600.00
C. CONSULTING PARTIES PREPARATION AND REPORT PROCESSING			
Principal Investigator	\$75.00	32	\$2,400.00
<i>SUBTOTAL C</i>			\$2,400.00
D. REPORT PREPARATION EXPENSES			
Photocopying			\$30.00
Project Supplies			\$10.00
Report Mailing Expense			\$20.00
<i>SUBTOTAL D</i>			\$60.00
SUBTOTAL (A&B&C&D)			\$3,660.00
Net Fee (15 percent)			\$549.00
TOTAL COST			\$4,209.00

***To Authorize Work, Sign & Return to Archaeological Consultants of the Midwest, Inc.
Payment is due within 30 days of invoice date.**

Date

Westview Drive & Jefferson Street RAB

Franklin, Indiana

Manhour Justification For

PERMIT APPLICATION					
DESCRIPTION	MANHOURS BY CLASSIFICATION				
	DIRECTOR	SEN. PROJ. MANAGER	PROJECT ENGINEER	CADD MANAGER	TOTAL HOURS
Preliminary Temporary Erosion Control Plans		2	8	24	
Finalize Temporary Erosion Control Plans		2	8	8	
TOTAL HOURS	0	4	16	32	52
AVERAGE 2015 HOURLY RATES	\$160.98	\$130.25	\$73.17	\$98.64	
TOTAL SALARY COSTS	\$0.00	\$521.00	\$1,170.72	\$3,156.48	\$4,848.20
DIRECT NON-SALARY COSTS Anticipated fees for permit applications and NOI advertisements				\$200.00	
TOTAL DIRECT NON-SALARY COSTS				\$200.00	
TOTAL					\$5,048.20
USE FOR PERMIT APPLICATION					\$5,000.00

CrossRoad Engineers, PC

3417 Sherman Drive, Beech Grove, Indiana 46107

September 11, 2015

Mr. Chip Charles, P.E.
CrossRoad Engineers, PC
3417 South Sherman Drive
Beech Grove, IN 46107



7770 West New York Street
Indianapolis, IN 46214-2988
317-273-1690 (FAX) 317-273-2250

2204 Yankee Street
Niles, MI 49120
269-262-4320 or 574-233-6820
(FAX) 269-262-4479

Re: Proposal for Professional Services:
Geotechnical Evaluation and Pavement Design
Westview Dr. & Jefferson St. Intersection Improvements
Franklin, Johnson Co., Indiana
EEI Proposal No. P1-15-685

Dear Chip:

We are appreciative of you including us on your design team for the referenced project. This proposal is in response to your request via electronic correspondence on September 9, 2015.

PROJECT DESCRIPTION

We understand that representatives of the city of Franklin, with the assistance of federal funds, are planning to make improvements to the intersection of Westview Drive and Jefferson Street. Based on the information provided, the improvements are anticipated to include construction of a 150-ft diameter roundabout with slight realignment and/or reconstruction of the approaches for a distance of up to 450 ft. In addition, we anticipate that drainage improvements consisting of a new storm sewer system via pipes and open ditches will be included. With regard to the pavement, we anticipate that widening and overlay may be considered within the project limits where the existing pavement conditions are adequate. Additional information regarding the project such as traffic volume, earthwork (cuts and fills), sewer depths and construction schedule is not known at this time.

PURPOSE AND SCOPE OF SERVICES

The purpose of our services will be to provide an evaluation of the subsurface conditions and assess the impacts of these conditions on the proposed construction. Based on our review of publicly-available geologic information and experience in the area, the subsurface conditions within the depth of interest are anticipated to consist of moderate-plasticity clay overlying glacial till (i.e., low-plasticity cohesive-type soil) with seams and layers of granular soil. For the anticipated improvements, the scope of our services will include:

1. Performing up to six exploratory test borings for the intersection improvements to a depth of up to 12½ ft each. The actual location, depth, and number of borings will be dependent on the soil conditions encountered, forthcoming plans, and INDOT guidelines at the time of our evaluation. Standard Penetration Test (SPT) sampling will be performed in the borings at 2½-ft intervals. We anticipate that access to the boring locations can be accomplished from off the road with ATV-mounted equipment, and the borings will be backfilled at completion of the field work with auger cuttings and a bentonite chip plug near the surface.

EEl will locate the test borings using measurements from existing site features shown on plans to be provided. We will also contact Indiana 811 to arrange an underground utility line location check and coordinate our field activities with the city and affected property owners;

2. Performing appropriate laboratory tests consistent with INDOT requirements including visual soil classification, hand penetrometer readings, moisture content, grain size analysis, soil pH, soluble sulfate, moisture-density relations, resilient modulus, Atterberg limit determinations, and unconfined compression;
3. Preparing a technical report which will include a summary of our findings and recommendations for geotechnical considerations regarding:
 - a. Subgrade preparation and improvement, as necessary, for support of drainage elements, embankment fill, if any, and pavement;
 - b. Pavement design parameters;
 - c. Embankment fill placement, including re-use of onsite soil;
 - d. Placement and compaction of backfill for sewers; and
 - e. Potential construction problems due to the subsurface conditions encountered (e.g., soft subgrade difficulties, dewatering, etc.);
4. Pavement design with considerations for reconstruction in addition to widen and overlay. We will obtain up to four pavement cores as part of our geotechnical field activities and make a site visit to document any existing pavement distress for information necessary for analysis of an overlay. Our analyses will be performed using the MEPDG approach (AASHTOWare PavementME) in accordance with Ch. 304 of the INDOT Design Manual and applicable memoranda. Anticipating less than 10,000 sq. yds of new pavement, the analysis will be made using only HMA for the new section(s) and for the overlay along with patching tables, if necessary; and
5. Geotechnical review of the final check prints.

SCHEDULE

We are typically able to mobilize within one to two weeks of notice to proceed and coordination of our field activities with underground utility owners, private property owners, and the city. The field work will likely require one day to complete. After the field work is completed, the laboratory testing will take approximately three to four weeks. We anticipate submitting a draft geotechnical report within two weeks after the laboratory work is completed.

COST

We propose to provide our geotechnical services on a unit rate basis in accordance with the attached Cost Estimate, and we estimate that cost to be up to \$10,630. Please recognize that the fee is approximate because it is based on estimated quantities. If any significant variations develop during the course of our evaluation, we will advise you so that our efforts can be effectively directed.

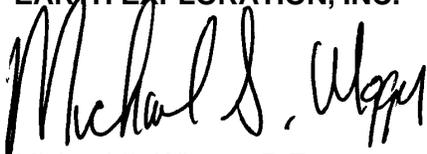
For the scope discussed above, we propose to provide an HMA design for the intersection and widening in addition to the overlay(s) (up to three sections) for a lump sum fee of \$4,500. We will notify you of any services performed beyond the scope identified above as a result of an INDOT change in policy. We will prepare the design to be submitted through ERMS, and we will coordinate with INDOT through the review process. We understand this may require additional analyses pending their comments.

CLOSURE

We anticipate that you will prepare an agreement outlining the terms and conditions. We look forward to providing our services on this project. Should you have any questions about this information, please feel free to contact us.

Sincerely,

EARTH EXPLORATION, INC.

A handwritten signature in black ink that reads "Michael S. Wigger". The signature is written in a cursive style with a large initial "M".

Michael S. Wigger, P.E.
Vice President

RDO

Enclosure: Cost Estimate – Geotechnical Evaluation

Cost Estimate

Westview Drive and Jefferson Street Intersection Improvements
Franklin, Johnson County, Indiana

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
<u>GEOTECHNICAL FIELD</u>			
1. Mobilization and Field Coordination			
a. SPT Rig	1 ea	\$240.00	\$240.00
b. CPT	ea	\$405.00	
c. Field and utility coordination	1 LS	\$560.00	\$560.00
d. Field coordination with property owners			
i. 1 - 10	1 LS	\$280.00	\$280.00
ii. 11 - 25	LS	\$460.00	
iii. Over 25	LS	\$640.00	
e. Mileage	60 mi	\$3.15	\$189.00
2. Truck mounted borings with split spoon sampling	ft	\$17.10	
3. Truck mounted borings with drilling fluid	ft	\$17.00	
4. Truck mounted core drilling	ft	\$35.40	
5. Truck mounted borings			
a. Truck mounted borings through bedrock or boulders or concrete pavement	ft	\$35.00	
b. Bridge deck coring and restoration	ea	\$310.00	
6. Cone penetrometer testing			
a. Set up	ea	\$68.00	
b. Subsurface profiling	ft	\$11.00	
c. Profiling with pore pressure measurement			
i. Piezometric Saturation	ea	\$85.30	
ii . Penetration	ft	\$13.15	
iii. Pore water dissipation test	hr	\$175.00	
iv. Hydraulic conductivity and consolidation	ea	\$65.00	
d. Profiling with Shearwave Velocity Measurement	ft	\$14.50	
e. Sample	ea	\$21.00	
7. Hand or truck soundings	20 ft	\$11.00	\$220.00
8. Hand auger drilling	ft	\$11.50	
9. Skid mounted borings with split spoon sampling	75 ft	\$27.25	\$2,043.75
10. Skid mounted borings using drilling fluid	ft	\$27.50	
11. Skid mounted core drilling	ft	\$39.00	
12. Skid mounted boring through bedrock or boulders	ft	\$41.00	
13. Skid mounted soundings	ft	\$15.60	
14. Skid Mounted Cone Penetrometer Testing (CPT)			

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
a. Set up	ea	\$102.00	
b. Subsurface profiling	ft	\$17.00	
c. Profiling with pore pressure measurement			
i. Piezometric Saturation	ea	\$130.00	
ii. Penetration	ft	\$20.00	
iii. Pore Water Dissipation Test	hr	\$260.00	
iv. Hydraulic Conductivity and Consolidation	ea	\$79.00	
d. Profiling with Shearwave Velocity Measurement	ft	\$22.00	
e. Sample	ea	\$33.00	
15. Furnishing of a boat		Actual Cost	
16. Barge set-up expenses			
a. Navigable water			
i. Barge set-up	ea	\$5,200.00	
ii. Rental of support equipment and/or boat		Actual Cost	
iii. Drill rig down time	hr	\$132.00	
b. Non-navigable water barge set-up	ea	\$4,500.00	
17. Additional disassembly and reassembly			
a. Navigable water	ea	\$1,900.00	
b. Non-navigable water	ea	\$1,700.00	
18. Barge mounted borings with split spoon sampling	ft	\$29.75	
19. Barge mounted core drilling	ft	\$40.25	
20. Barge mounted boring through bedrock or boulders	ft	\$44.50	
21. Barge mounted soundings	ft	\$17.60	
22. Casing through water	ft	\$7.75	
23. Uncased sounding through water	ft	\$5.00	
24. Set up for borings and machine soundings			
a. Borings and machine soundings less than 20 ft deep	6 ea	\$64.00	\$384.00
b. Rock core borings	ea	\$110.00	
25. Additional 2-in. split spoon sampling	ea	\$19.00	
26. 3-in. split spoon samples	ea	\$21.00	
27. 3-in. Shelby tube samples	ea	\$57.00	
28. Bag samples			
a. 300-lb sample	1 ea	\$105.00	\$105.00
b. 25-lb sample	ea	\$46.00	
c 5-lb sample	ea	\$40.00	
29. Field vane shear test	ea	\$102.00	
30. 4½-in. cased hole	ft	\$11.30	
31. Installation of Geotechnical Instruments			

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
a. Inclinator casing installation	ft	\$13.40	
b. Piezometer installation up to 25 ft below surface	ea	\$230.00	
c. Piezometer installation deeper than 25 ft below surface	ea	\$260.00	
d. Metal protective outer cover for inclinometer and piezometer casings	ea	\$113.00	
32. Geotechnical engineer	4 hr	\$105.00	\$420.00
33. Railroad expenses		Actual Cost	
34. Twenty-four hour water levels			
a. Field measurements per borehole	4 ea	\$34.75	\$139.00
b. PVC slotted pipe	ft	\$5.30	
35. Special borehole backfilling			
a. 0 to 30 ft			
i. SPT	6 ea	\$97.00	\$582.00
ii . CPT	ea	\$43.00	
b. More than 30 ft			
i. SPT	ft	\$6.00	
ii . CPT	ea	\$1.75	
c. Pavement restoration (for pavement cores)	4 ea	\$52.00	\$208.00
36. Dozer rental		Actual Cost	
37. Traffic control			
a. Flag crew	day	\$550.00	
b. Equipment Rental		Actual Cost	
c. Flag crew with equipment (for cores)	0.5 day	\$665.00	\$332.50
38. Centerline surveying		Invoice Cost	
		Subtotal (Geotechnical Field)	\$5,703.25
<u>GEOTECHNICAL LABORATORY</u>			
39. Sieve analysis for soils	4 ea	\$44.00	\$176.00
40. Hydrometer analysis	4 ea	\$50.50	\$202.00
41. Sieve analysis for Aggregates			
a. Analysis by Washing (AASHTO T-11)	ea	\$70.00	
b. Analysis by Using (AASHTO T-27)	ea	\$125.00	
42. Liquid limit	4 ea	\$31.00	\$124.00
43. Plastic limit & plasticity index	4 ea	\$22.50	\$90.00
44. Liquid Limit Ratio	ea	\$70.00	
45. pH test	4 ea	\$13.80	\$55.20
46. Loss on Ignition Test			
a. Loss on Ignition Test (Conventional)	2 ea	\$22.00	\$44.00
b. Loss on Ignition Test (Sequential)	ea	\$50.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
47. Moisture Content Tests			
a. Moisture Content Test (Conventional)	30 ea	\$6.00	\$180.00
b. Moisture Content Test (Microwave)	ea	\$12.00	
48. Expansion Index of Soils	ea	\$240.00	
49. Specific Gravity Test	ea	\$32.50	
50. Unit weight determination	ea	\$16.15	
51. Hydraulic Conductivity Test			
a. Constant Head	ea	\$210.00	
b. Falling Head	ea	\$260.00	
52. a. Unconfined Compression Test	3 ea	\$42.00	\$126.00
b. Remolding of soil samples with chemical admixtures in chemical soil modification/stabilization (3 samples is equal to 1 unit)	ea	\$105.00	
c. Point Load Strength Index of Rock	ea	\$40.00	
53. Compressive Strength and Elastic Moduli of Intact Rock			
a. Compressive Strength of Intact Rock	ea	\$100.00	
b. Elastic Moduli of Intact Rock	ea	\$400.00	
54. Consolidation Test	ea	\$410.00	
55. Triaxial test			
a. Unconsolidated - Undrained (UU)	ea	\$320.00	
b. Consolidated - Undrained (CU)	ea	\$475.00	
c. Consolidated - Drained (CD)	ea	\$650.00	
d. Pore Pressure measurement with a. or b. and use of back pressure for saturation	ea	\$230.00	
56. Direct Shear Test	ea	\$550.00	
57. Moisture-Density Relationship Test			
a. Standard Proctor	1 ea	\$128.00	\$128.00
b. Modified Proctor	ea	\$140.00	
58. Soil Support Testing			
a. California Bearing Ratio Test	ea	\$490.00	
b. Subgrade Resilient Modulus	2 ea	\$460.00	\$920.00
59. Collapse Potential Evaluation Test			
a. Silty Soil (Loess)	ea	\$352.00	
b. Cohesive or Expansive Soils	ea	\$420.00	
60. Water Soluble Sulfate Test	2 ea	\$100.00	\$200.00
61. Water Soluble Chloride Test	ea	\$100.00	
62. Soil Resistivity Test	ea	\$125.00	
63. a. Slake Durability Index Test	ea	\$120.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
b. Jar Slake Test	ea	\$12.00	
Subtotal (Geotechnical Laboratory)			\$2,245.20

GEOTECHNICAL ENGINEERING

64. Geotechnical profile and related work			
a. Without soil subgrade drawings			
First mile	LS	\$1,100.00	
Each additional mile	mi	\$500.00	
b. With soil subgrade drawings			
First mile	LS	\$1,300.00	
Each additional mile	mi	\$570.00	
c. Soil subgrade drawings (only)			
First mile	LS	\$335.00	
Each additional mile	mi	\$210.00	
65. Geotechnical report			
a. Without soil subgrade investigation			
First mile	1 LS	\$1,800.00	\$1,800.00
Each additional mile	mi	\$650.00	
b. With soil subgrade investigation			
First mile	LS	\$1,900.00	
Each additional mile	mi	\$740.00	
c. Soil subgrade investigation (only)			
First mile	LS	\$550.00	
Each additional mile	mi	\$340.00	
66. Settlement analysis and recommendations for embankment			
a. Proposed embankment	ea	\$470.00	
b. Proposed and existing embankment	ea	\$520.00	
67. Ground modification design	ea	\$1,375.00	
68. Slope stability analysis			
a. C, ϕ or C & ϕ analysis	ea	\$735.00	
b. Corrective measures	ea	\$735.00	
c. Stage construction corrective method	ea	\$1,275.00	
69. Bridge foundation analysis and recommendations			
a. Shallow foundation	ea	\$450.00	
b. Deep foundation			
i. Deep foundation analyses	ea	\$800.00	
ii. Wave equation analyses	ea	\$310.00	
iii. Liquefaction analysis	ea	\$250.00	
iv. Group - 3D analysis	ea	\$400.00	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
c. Settlement analysis for bridge pier foundation			
i. Bridge pier	ea	\$360.00	
ii. Embankment plus pier	ea	\$400.00	
iii. Embankment plus pier plus all other loads	ea	\$460.00	
d. Foundation on bedrock	ea	\$350.00	
70. Retaining structure analysis recommendations			
a. Conventional retaining structures and other types such as MSE Walls and Bin walls			
i. Shallow foundation	ea	\$820.00	
ii. Deep foundation	ea	\$1,080.00	
iii. Settlement analysis for retaining wall foundation	ea	\$350.00	
b. Pile retaining structure analysis and recommendations			
i. Free standing structure	ea	\$950.00	
ii. Retaining structure with tie-back system	ea	\$1,380.00	
c. Drilled-in-pier retaining structure analysis			
i. Free standing structure	ea	\$975.00	
ii. Retaining structure with tie-back system	ea	\$1,400.00	
d. Soil nailing wall analysis	ea	\$940.00	
71. Seepage analysis	ea	\$1,320.00	
72. Deep dynamic compaction analysis	ea	\$1,330.00	
		Subtotal (Geotechnical Engineering)	\$1,800.00

CONSTRUCTION INSPECTION AND MONITORING

73. Mobilization of testing equipment	LS	\$150.00	
74. a. Monitoring geotechnical instrumentation	hr	\$70.00	
b. Filed Inspector	hr	\$70.00	
75. Integrity testing		Actual Cost	
76. Field Compaction Testing			
a. Dynamic Cone Penetration Test (DCPT)	hr	\$70.00	
b. Light Weight Deflectometer Test (LWD)	hr	\$70.00	
77. Dynamic pile analysis	ea	\$975.00	
78. Static load test	ea	\$975.00	
79. Dynamic pile load test		Actual Cost	
80. CAPWAP-C analysis	ea	\$450.00	
81. Final construction inspection report	ea	\$875.00	
		Subtotal (Construction Inspection and Monitoring)	

FOUNDATION EVALUATION BY NON-DESTRUCTIVE METHODS

82. a. Surface test/Pier or foundation		Actual Cost	
b. Borehole test/Pier or foundation		Actual Cost	

	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
<u>GEOPHYSICAL INVESTIGATION</u>			
83. Geophysical Investigations		Invoice Cost	
<u>GEOTECHNICAL PROJECT MANAGEMENT</u>			
84. Project Management			
a. Project Coordination	mi	\$1,600.00	
b. Project Website	LS	\$3,100.00	
85. Geotechnical Review			
a. Structure Report	ea	\$310.00	
b. Roadway Report	mi	\$260.00	
<u>PAVEMENT INVESTIGATION</u>			
1. Mobilization of coring equipment	LS	\$200.00	
2. Mobilization mileage for coring equipment	mi	\$1.70	
3. Pavement core (partial depth)	ea	\$120.00	
4. Pavement core (full depth)	4 ea	\$180.00	\$720.00
5. Sub-base sample	ea	\$59.00	
6. Cement concrete pavement core density determination	ea	\$31.00	
7. Cement concrete core compressive strength test	ea	\$30.00	
8. Bituminous extraction test	ea	\$80.00	
9. Sieve analysis of extracted aggregate test	ea	\$53.50	
10. Recovery of asphalt from solution by Abson method	ea	\$315.00	
11. Theoretical maximum specific gravity test	ea	\$67.00	
12. Bulk specific gravity test	ea	\$29.00	
13. Air voids calculation	ea	\$27.00	
14. Core report for partial depth core	ea	\$32.00	
15. Core report for full depth core	4 ea	\$40.00	\$160.00
16. Pavement analysis and report	ea	\$730.00	
		Subtotal (Pavement Investigation)	\$880.00

Summary of Fees

Geotechnical Field	\$5,703.25
Geotechnical Laboratory	\$2,245.20
Geotechnical Engineering	\$1,800.00
Construction Inspection and Monitoring	
Pavement Investigation	\$880.00
Estimated Total	\$10,628.45