

**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:	5-14-14	Requested Meeting Date:	5-19-14
		Confirmed Meeting Date:	
Received by:			
<b>Contact Information: Please provide all requested information in the fields below. (Print or Type)</b>			
On Behalf of Organization or Individual:		Planning and Engineering Department	
Name:	Travis Underhill	Telephone:	736-3631
Title or Position:	City Engineer		
E-Mail:	<a href="mailto:tunderhill@franklin.in.gov">tunderhill@franklin.in.gov</a>		
Address:	70 E. Monroe Street		
City:	Franklin	State:	IN
		ZIP:	46131
<b>Who will attend the meeting and present the request?</b>			
Name:	Travis Underhill	Telephone:	736-3631
Title or Position:	City Engineer		
E-Mail:	<a href="mailto:tunderhill@franklin.in.gov">tunderhill@franklin.in.gov</a>		
<b>Please describe the purpose or title of your presentation.</b>			
Truck Bypass Intersection Improvements Design Contract			
<b>Supporting documents: All supporting documents should be submitted with the request form.</b>			
1. Contract			
2.			
3.			
4.			

# PROFESSIONAL SERVICES AGREEMENT

This PROFESSIONAL SERVICES AGREEMENT (“Agreement”) dated \_\_\_\_\_ is made by and between the **City of Franklin**, acting by and through its Board of Public Works and Safety (“OWNER”) and **CrossRoad Engineers, PC**, (“CONSULTANT”) an Indiana corporation organized under the laws of the State of Indiana.

Project Description: The **East Bypass Intersection Improvements** Project (“Project”) involves the study, design, and construction of transportation infrastructure improvements for the purpose of facilitating safe and efficient traffic flow at the following intersection locations:

- Location 1 – Commerce Drive/Parkway & Graham Road
- Location 2 – Arvin Road & Commerce Parkway/Hurricane Street
- Location 3 – Arvin Road/Eastview Drive & Hurricane Road
- Location 4 – Eastview Drive & Upper Shelbyville Road

## RECITALS

WHEREAS, OWNER wishes to hire CONSULTANT to provide certain professional services with respect the Project; and

WHEREAS, CONSULTANT has extensive experience, knowledge and expertise relating to these services and has expressed a willingness to furnish the services in connection therewith, subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the promises, the mutual covenants and undertakings herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

### **Section I – Services by CONSULTANT**

The engineering services to be performed by CONSULTANT are described in Appendix “A”, which is attached hereto, and made a part hereof, and are referred to herein as the “Services”.

### **Section II – Information and Services to be furnished by OWNER**

The information and services to be furnished by OWNER are as set out in Appendix “B”, which is attached to this Agreement, and incorporated herein by reference.

### **Section III – Commencement of Services and Schedule**

CONSULTANT shall commence performance under this Agreement and shall provide the Services hereunder in accordance with the Schedule contained in Appendix “C”, which is attached to this Agreement, and incorporated herein by reference.

#### **Section IV – Compensation**

For all Services rendered by CONSULTANT under this Agreement, OWNER agrees to pay CONSULTANT on the basis of fees and charges established in Appendix “D”, which is attached to this Agreement, and incorporated herein by reference.

#### **Section V – Term and Termination**

1. Term

This Agreement shall commence upon execution by the parties and shall continue until completion of the Services and deliverables as set forth in Appendix “C” or unless terminated as set forth below.

2. Termination

OWNER reserves the right to terminate or suspend this Agreement upon five days advance written notice to CONSULTANT. Upon termination of this Agreement, CONSULTANT shall deliver all Work Product (as defined herein) to OWNER. The dollar amount for any earned but unpaid Services performed by CONSULTANT shall be based upon an estimate of the portions of the total Services completed by CONSULTANT through the effective date of termination, which estimated shall be as made by OWNER in the exercise of its honest and reasonable judgment for all Services to be paid for on a lump sum basis and shall be based upon an audit by OWNER of those Services to be paid for on a cost basis or a cost plus fixed fee basis as described in Section IV hereof.

#### **Section VI – General Provisions**

1. Subcontracting

It is recognized that CONSULTANT may engage subconsultants to perform a portion of the work under this Agreement. The engagement of subconsultants by CONSULTANT shall not relieve CONSULTANT of any responsibility for the fulfillment of this Agreement. No subconsultant shall subcontract any portion of its work under this Agreement.

2. Ownership of Documents

All reproducible materials prepared by CONSULTANT or its subconsultants in connection with this Agreement, alone or in combination with others, on any and all media, in whole or in part, and all copies thereof, whether created before, during, or after the term of this Agreement (collectively, the “Work Product”) will be the property of the OWNER.

CONSULTANT shall be allowed to retain copies of all documents included in the Work Product, unless prohibited for reasons of security and as mutually agreed by both parties.

CONSULTANT agrees that written agreements with any and all subconsultants used by CONSULTANT to fulfill CONSULTANT’s obligations hereunder shall contain language substantially similar to that of this Subsection to assign OWNER all Work Product by such subconsultants, and to require cooperation with CONSULTANT on the same terms and conditions as set forth herein.

The provisions of this Subsection shall survive the expiration, suspension, abandonment, termination, or completion of this Agreement.

3. Access to Records

Full access to the work during the progress of the Services shall be available to the OWNER. CONSULTANT and its subconsultants shall maintain all books, documents, papers, accounting records and other evidence pertaining to the cost incurred under this Agreement and shall make such materials available at its respective offices at all reasonable times during the period of this Agreement and for three (3) years from the date of final payment for Services is made by OWNER to CONSULTANT.

4. Liability for Damages

CONSULTANT assumes all risk of loss, damage or destruction to the Work Product, to all of its materials, tools, appliances and property of every description, and for injury to or deaths of its employees or agents arising out of or in connection with the performance of this Agreement, excluding that which occurs due to the acts or failure to act of any third party, and excluding that which is caused by the OWNER.

5. General Liability Insurance

a. Amounts of Coverage. CONSULTANT shall procure and maintain at its expense insurance of the kind and in the amounts set forth in Appendix "E" by companies authorized to do such business in the State of Indiana covering all Services and related activities performed by CONSULTANT.

b. Evidence of Insurance. Before commencing its Services, CONSULTANT shall furnish to OWNER a certificate, or certificates, showing that it has complied with this Section VI.5.b, which certificate or certificates, shall also designate OWNER as an additional named insured. The policies shall not be changed or canceled unless thirty (30) days prior written notice has been given to OWNER.

6. Worker's Compensation

CONSULTANT shall be responsible for providing all necessary unemployment and Worker's Compensation Insurance for its employees. CONSULTANT shall provide the OWNER with a certificate of insurance indicating that it has complied with this requirement.

7. Changes in Work

a. Prior Approval. CONSULTANT shall not commence any additional services or change of scope until authorized by OWNER.

b. Additional Services. Additional services may include, but not be limited to:

i. Services associated with significant changes in the scope, extent, or character of the portions of the Project required by, but not limited to,

changes in scope, complexity or schedule and revisions required by changes in applicable laws and regulations or due to any other causes beyond CONSULTANT's control.

- ii. Preparing to serve or serving as a consultant or witness for OWNER in any litigation or other dispute resolution process related to the Project that does not involve a claim against CONSULTANT or a claim that is based on an alleged act of negligence or breach of contract by CONSULTANT.
- iii. Subject to other provisions of this Agreement, additional or extended services during the Project made necessary by (1) emergencies or Acts of God endangering the Project site, (2) an occurrence of a hazardous environmental condition, (3) damages to OWNER's facilities caused by fire, flood or other cause, (4) acceleration or deceleration of the Schedule involving services beyond normal working hours, (5) significant delays, changes, or price increases occurring as a direct or indirect result of materials, equipment, or energy shortages and (6) default or failure to perform by other consultants.

8. Non-Discrimination

CONSULTANT and its subconsultants, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of the Services under this Agreement, 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, handicap, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the Agreement.

9. Safety

- a. Responsibility. CONSULTANT shall be directly responsible for the safety requirements and programs applicable to its own employees, its subconsultants and other parties with whom it has contracted to perform Services with respect to the Project.
- b. Compliance. CONSULTANT's safety program shall comply with applicable federal, state and local statutes, rules, regulations and ordinances. CONSULTANT shall report to OWNER, in writing, any injury or accident at the Project site involving its employees, its subconsultants or other parties for which it is responsible, within forty-eight (48) hours or a shorter period of time if required by law.
- c. Notification. CONSULTANT shall not be responsible for the safety requirements or programs applicable to any other person or entity involved with the Project other than CONSULTANT and its subconsultants.

10. **Independent Contractor**  
OWNER and CONSULTANT are acting in an individual capacity in the performance of this Agreement and will not act as agents, employees, partners, joint venturers 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 purpose whatsoever. Neither party will assume any liability for any injury (including death) to any persons, nor damage to any property, arising out of the acts or omissions of the agents, employees, or subconsultants of the other party. CONSULTANT shall be responsible for providing all necessary unemployment and worker's compensation insurance for its employees.
  
11. **Indemnification**  
CONSULTANT agrees to indemnify OWNER, 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, effort or omission of, or by any recklessness or willful misconduct by CONSULTANT, its employees, or subconsultants. CONSULTANT's indemnification and defense obligations hereunder shall extend to Claims occurring after this Agreement is terminated as well as while it is in force, and shall continue until it is finally adjudicated.
  
12. **Notification**  
All written notices required by this Agreement shall be sent to the parties at the following addresses by certified mail, return receipt:  
  
To OWNER;                   **City Engineer**  
                                      **70 East Monroe Street**  
                                      **Franklin, Indiana 46124**  
  
To CONSULTANT:       **CrossRoad Engineers, PC**  
                                      **3417 Sherman Drive**  
                                      **Beech Grove, Indiana 46107**
  
13. **Authority to Bind Consultant**  
CONSULTANT warrants that it has the necessary authority to enter into this Agreement. The signatory for CONSULTANT represents that he/she has been duly authorized to execute this Agreement on behalf of CONSULTANT and has obtained all necessary or applicable approval to make this Agreement fully binding upon CONSULTANT when his/her signature is affixed hereto.
  
14. **Successors and Assignees**  
This Agreement is binding upon and shall inure to the benefit of OWNER and CONSULTANT and their respective successors and permitted assigns. CONSULTANT shall not assign this Agreement without the written consent of OWNER.

15. Entire Agreement; Amendments

This Agreement and its Appendices, each of which is incorporated herein by reference and made a part of this Agreement, constitutes the entire Agreement of the parties with regard to the subject matter hereof and supersedes all prior discussions or agreements concerning any subject matter related hereto. This Agreement may only be amended, supplemented or modified by a written document executed in the same manner as this Agreement.

16. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Indiana, without giving effect to principles respecting conflicts of laws. Subject to Section 19, any action pursuant to this Agreement shall be brought and tried in a court of competent jurisdiction in Johnson County, Indiana, and each party hereby irrevocably consents to the personal and subject matter jurisdiction of any such court and waives any objection to such jurisdiction and venue.

17. Non-Waiver

It is agreed and acknowledged that no action or failure to act by OWNER or CONSULTANT as to a breach, act or omission of the other shall constitute a waiver of any right or duty afforded either of them under this Agreement, as to any subsequent breach, act or omission of the other nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereof, except as may be specifically agreed in writing. No right conferred on either party under this Agreement shall be deemed waived and no breach of this Agreement excused unless such a waiver or excuse shall be in writing and signed by the party claimed to have waived such right.

18. Invalid Provisions

If any part of this Agreement is later found to be contrary to, prohibited by, or invalid under applicable law, rules or regulations, that provision shall not apply and shall be omitted to the extent so contrary, prohibited or invalid, but the remainder of this Agreement shall not be invalidated and shall be given full force and effect insofar as possible.

19. Dispute Resolution

Any dispute arising out of this Agreement that cannot be resolved through informal discussions between the parties, shall be subject to this Section.

a. The parties agree that the existence of a dispute notwithstanding, the parties shall continue without delay to carry out all of their respective responsibilities under this Agreement.

b. Should any dispute arise with respect to this Agreement that cannot be resolved through informal discussions between the parties, a party shall serve written

notice to the other party outlining the details of the dispute and demanding mediation. No later than twenty (20) days from the date of the notice demanding mediation, the parties shall confer to discuss the selection of the mediator and agree upon other mediation procedures.

- c. Submission of a dispute under this Agreement to a mediation procedure shall be a condition precedent to filing litigation. No litigation shall be initiated by either party unless the mediation has been completed (unsuccessfully) or a party has failed to participate in a mediation procedure.

20. Employment Eligibility Verification

CONSULTANT affirms under the penalties of perjury that it does not knowingly employ an unauthorized alien.

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

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

CONSULTANT shall require its subconsultants, who perform work under this Agreement, to certify to CONSULTANT that the subconsultant does not knowingly employ or contract with an unauthorized alien and that the subconsultant has enrolled and is participating in the E-Verify program. CONSULTANT agrees to maintain this certification throughout the duration of the term of an agreement with a subconsultant.

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

21. No Investment in Iran

As required by IC 5-22-16.5, CONSULTANT certifies that it 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 Agreement and denial of future agreements, as well as an imposition of a civil penalty.

[Signature page follows]

**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 Agreement other than that which appears within this Agreement.

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

CROSSROAD ENGINEERS, PC  
(CONSULTANT)

CITY OF FRANKLIN  
BOARD OF PUBLIC WORKS AND SAFETY  
FRANKLIN, INDIANA  
(OWNER)

\_\_\_\_\_  
Walter E. Charles, President

\_\_\_\_\_  
Joseph McGuiness, Mayor

\_\_\_\_\_  
Steve Barnett, Member

\_\_\_\_\_  
Robert Swinehamer, Member

Attest:

Attest:

\_\_\_\_\_  
Trent E. Newport, Vice President

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print or type name and title)

## APPENDIX "A"

### SERVICES BY CONSULTANT

CONSULTANT shall be responsible for performing the following tasks:

- A. **Environmental Document** – CONSULTANT shall perform Environmental Services work in compliance with National Environmental Policy Act (NEPA) and related regulations and guidelines. The CONSULTANT shall follow the Federal Highway Administration (FHWA) / Indiana Department of Transportation (INDOT) Streamlining Process and comply with INDOT's Procedural Manual for Preparing Environmental Studies and Categorical Exclusion Manual as of the Effective Date in anticipation that the required Environmental Document will be a Categorical Exclusion Level 2 or 3. Additionally, based on initial investigations of cultural and historical resources, there are no sites or structures within the preliminarily defined Area of Potential Effects (APE) for the proposed project that are listed or eligible for listing in the National Register of Historic Places.
- B. **Survey** – CONSULTANT shall survey the project location in order to produce a topographic base map and Location Control Route Survey. CONSULTANT's work shall be in accordance with I.C. 25-21.5; 865 I.A.C. 1-12; and the Indiana Design Manual (IDM). If there is conflict between I.C. 25-21.5, 865 I.A.C. 1-12, or the IDM, the order of precedence shall be:
  - 1. I.C. 25-21.5
  - 2. 865 I.A.C. 1-12
  - 3. IDM
- C. **Engineering Assessment** – CONSULTANT shall perform a Preliminary 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 the Preliminary Engineering Assessment.
- D. **Road Design** – 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 contract: 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.
- E. **Public Meeting** – CONSULTANT shall prepare display materials for and present the proposed project at one or more public meetings if so directed. This work shall be in accordance with INDOT procedures if meeting is to satisfy Public Hearing requirements.
- F. **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.

- G. **Utility Coordination** – CONSULTANT shall perform coordination activities related to the adjustment or relocation of utility facilities as a result of the project. This work shall be in general accordance with INDOT policy and procedures in effect as of the Effective Date of this contract.
- H. **Geotech Services** – CONSULTANT shall provide an evaluation of the subsurface conditions and assess the impact of these conditions on the proposed construction. This Geotechnical Investigation and Pavement Design shall be in accordance with the Indiana Department of Transportation’s policy as of the Effective Date. See SUBCONSULTANT proposal in Appendix “D” for detailed scope of services.
- I. **R/W Engineering** – CONSULTANT shall perform Right-of-Way Engineering work consisting of preparing title research, legal descriptions, route survey plats or right-of-way parcel plats, acquisition instruments and other materials to be used in the acquisition of right-of-way in accordance with the Right-of-Way Engineering Procedure Manual, hereinafter called the MANUAL, 865 I.A.C. 1-12.
- J. **R/W Acquisition** – CONSULTANT shall be responsible for administration, scheduling and coordinating all activities necessary to certify that the right-of-way has been acquired and the project is clear for construction letting. The CONSULTANT shall perform this Right-of-Way Acquisition work consisting of the following activities:
  - a. CONSULTANT shall perform real estate appraisals and prepare appraisal reports in accordance with *“The INDOT Appraisal Manual”*.
  - b. CONSULTANT shall make a prompt offer to acquire each parcel for the full amount, which has been established and approved by OWNER as just compensation for the acquisition. The offer shall be made in a Uniform Land and Easement Acquisition Offer letter which shall be given to each parcel owner in person or sent by certified mail with return receipt requested. In accomplishing the above, CONSULTANT shall do the following:
    - i. Make all reasonable efforts to personally contact each owner or his designated representative, explain the acquisition, and offer in writing the approved estimate of just compensation. When all efforts to make personal contact have failed or in the event the property owner resides out of state, the owner may be contacted by certified or registered first class mail or other means appropriate to the situation.
    - ii. No later than the first contact where the offer is discussed, CONSULTANT shall give the property owner a brochure describing the land acquisition process and the owner’s rights, privileges and obligations.

- c. CONSULTANT further agrees that the parcel(s) shall be sufficiently documented to meet the minimum standards set out in Title 49 CFR Part 24, dated March 2, 1989 and all attachments and amendments thereto. Said Title CFR Part 24, attachments and amendments are incorporated into this Agreement by reference and made a part hereto. CONSULTANT further agrees to follow accepted principles and techniques in purchase of real estate in accordance with existing State Laws, the "Buying Section Policy and Procedures Manual", this "Appendix "A", and any necessary interpretation of these furnished by INDOT.
- d. When attempts to buy are successful, a signed statement is to be prepared by CONSULTANT to the effect that:
  - i. The written agreement secured, embodies all considerations agreed to by the property owner;
  - ii. CONSULTANT has no direct or indirect, present or contemplated future personal interest in the property or in any monetary benefit from the acquisition of the property; and
  - iii. The agreement was reached without coercion of any type.
- e. When attempts to buy are unsuccessful, CONSULTANT shall record his recommendation for action and submit it to OWNER:
  - i. The recommendation shall consider administrative settlement, include the amount of settlement and reasons for a settlement,
  - ii. Otherwise, a condemnation report shall be filled out and submitted with the completed file.
- f. CONSULTANT shall provide an updated title and encumbrance report upon submission of any secured or condemned parcel.

## APPENDIX "B"

### **SERVICES BY OWNER**

OWNER 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 OWNER 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 City owned utilities.

## APPENDIX "C"

### **SCHEDULE**

The schedule for all work by CONSULTANT under this Agreement shall be determined in conjunction with OWNER.

APPENDIX "D"

**FEE SCHEDULE**

**I. AMOUNT OF PAYMENT –**

1. CONSULTANT shall receive as payment for the work performed under this Agreement the total fee not to exceed \$815,400 unless a modification of the Agreement is approved in writing by OWNER.
2. CONSULTANT shall be paid for the following work tasks performed under this Agreement on a lump sum basis in accordance with the following schedule:

TASK DESCRIPTION	INTERSECTION LOCATION				TOTALS
	1	2	3	4	
A. Env. Document	\$33,900	\$35,200	\$36,400	\$35,200	\$140,700
B. Survey	19,700	22,000	21,200	19,700	82,600
C. Eng. Assessment	12,900	12,900	12,900	12,900	51,600
D. Road Design	73,900	73,900	73,900	73,900	295,600
E. Public Meeting	3,700	3,700	3,700	3,700	14,800
F. Permit Application	4,300	4,300	4,300	4,300	17,200
G. Utility Coordination	4,500	4,500	4,500	4,500	18,000
TOTALS	\$152,900	\$156,500	\$156,900	\$154,200	\$620,500

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

TASK DESCRIPTION	INTERSECTION LOCATION				TOTALS
	1	2	3	4	
H. Geotech Services	\$9,570	\$9,570	\$9,570	\$9,570	\$38,280
I. R/W Engineering	12,400	12,400	18,600	10,500	53,900
J. R/W Acquisition	24,830	24,830	37,200	15,860	102,720
TOTALS	\$46,800	\$46,800	\$65,370	\$35,930	\$194,900

4. CONSULTANT shall not be paid for any service performed by OWNER or services not required to develop this Project. Costs for routine photocopy and paper reproduction, cellular phone costs, and computer time costs will not be paid as a reimbursable as these are included in the above fees and overhead costs.
5. Any permit application fees, public notice fees, or other such expenses that may be incurred by CONSULTANT in the performance of the Work under this Agreement shall be reimbursed as Other Direct Costs in accordance with the attached Hourly Billing Rates schedule.

## **II. METHOD OF PAYMENT –**

1. CONSULTANT may submit a maximum of one invoice voucher per calendar month for work covered under this Agreement. The invoice voucher shall be submitted to OWNER. The invoice voucher shall represent the value, to the OWNER, of the partially completed work as of the date of the invoice voucher. CONSULTANT shall attach thereto a summary of each pay item in Section I.2. of this Appendix, percentage completed and prior payments.
2. OWNER, for and in consideration of the rendering of CONSULTANT's services provided in Appendix "A", agrees to pay CONSULTANT for rendering such services the fee established above upon completion of the work thereunder and acceptance thereof by OWNER.
3. In the event of a substantial change in the scope, character or complexity of the Work on the Project, the maximum fee payable and the specific fee shall be adjusted in accordance with Item 7. – Changes in Work of Section VI – General Provisions, set out in this Agreement.

# East Bypass Intersection Improvements Franklin, Indiana

Estimated Budget For

<b>R/W ENGINEERING -- (1) Commerce &amp; Graham</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Preliminary T & E Report <sup>(1)</sup>	4	\$800.00	\$3,200.00
R/W Engineering	4	\$1,200.00	\$4,800.00
R/W Plats	4	\$500.00	\$2,000.00
R/W Legal Descriptions	4	\$600.00	\$2,400.00
<b>ESTIMATED FEE</b>			<b>\$12,400.00</b>

<b>R/W ENGINEERING -- (2) Arvin &amp; Commerce</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Preliminary T & E Report <sup>(1)</sup>	4	\$800.00	\$3,200.00
R/W Engineering	4	\$1,200.00	\$4,800.00
R/W Plats	4	\$500.00	\$2,000.00
R/W Legal Descriptions	4	\$600.00	\$2,400.00
<b>ESTIMATED FEE</b>			<b>\$12,400.00</b>

<b>R/W ENGINEERING -- (3) Arvin/Eastview &amp; Hurricane</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Preliminary T & E Report <sup>(1)</sup>	6	\$800.00	\$4,800.00
R/W Engineering	6	\$1,200.00	\$7,200.00
R/W Plats	6	\$500.00	\$3,000.00
R/W Legal Descriptions	6	\$600.00	\$3,600.00
<b>ESTIMATED FEE</b>			<b>\$18,600.00</b>

<b>R/W ENGINEERING -- (4) Eastview &amp; Upper Shelbyville</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Preliminary T & E Report <sup>(1)</sup>	3	\$800.00	\$2,400.00
R/W Engineering	3	\$1,200.00	\$3,600.00
R/W Plats	3	\$500.00	\$1,500.00
R/W Legal Descriptions	5	\$600.00	\$3,000.00
<b>ESTIMATED FEE</b>			<b>\$10,500.00</b>

<sup>(1)</sup> This task will be performed by a subconsultant. The fee shown here is estimated. The final cost will consist of the actual invoiced amounts from the subconsultant plus a 10% mark-up for task coordination and administrative efforts, and will be based upon the number of units of work actually performed.

# East Bypass Intersection Improvements Franklin, Indiana

Estimated Budget For

<b>R/W ACQUISITION -- (1) Commerce &amp; Graham</b>			
<b>Work Item</b>	<b>Est. Quantity</b>	<b>Unit Fee</b>	<b>Total Fee</b>
Appraisal Problem Analysis <sup>(1)</sup>	4	\$200.00	\$800.00
Value Finding Appraisal <sup>(1)</sup>	2	\$1,500.00	\$3,000.00
Short Form Appraisal <sup>(1)</sup>	2	\$2,000.00	\$4,000.00
Review Appraisal (45% of appraisal fees) <sup>(1)</sup>		---	\$3,150.00
Negotiations <sup>(1)</sup>	4	\$1,500.00	\$6,000.00
Title Updates <sup>(1)</sup>	4	\$175.00	\$700.00
Document Preparation & Title Review <sup>(1)</sup>	4	\$175.00	\$700.00
Partial Mortgage Release / Recording Fees <sup>(1)</sup>	4	\$300.00	\$1,200.00
R/W Management	4	\$700.00	\$2,800.00
Payment Processing & Deed Recordation	4	\$120.00	\$480.00
R/W Staking	4	\$500.00	\$2,000.00
<b>ESTIMATED FEE</b>			<b>\$24,830.00</b>

<b>R/W ACQUISITION -- (2) Arvin &amp; Commerce</b>			
<b>Work Item</b>	<b>Est. Quantity</b>	<b>Unit Fee</b>	<b>Total Fee</b>
Appraisal Problem Analysis <sup>(1)</sup>	4	\$200.00	\$800.00
Value Finding Appraisal <sup>(1)</sup>	2	\$1,500.00	\$3,000.00
Short Form Appraisal <sup>(1)</sup>	2	\$2,000.00	\$4,000.00
Review Appraisal (45% of appraisal fees) <sup>(1)</sup>		---	\$3,150.00
Negotiations <sup>(1)</sup>	4	\$1,500.00	\$6,000.00
Title Updates <sup>(1)</sup>	4	\$175.00	\$700.00
Document Preparation & Title Review <sup>(1)</sup>	4	\$175.00	\$700.00
Partial Mortgage Release / Recording Fees <sup>(1)</sup>	4	\$300.00	\$1,200.00
R/W Management	4	\$700.00	\$2,800.00
Payment Processing & Deed Recordation	4	\$120.00	\$480.00
R/W Staking	4	\$500.00	\$2,000.00
<b>ESTIMATED FEE</b>			<b>\$24,830.00</b>

<sup>(1)</sup> These tasks will be performed by subconsultants. The fees shown here are estimated. The final cost will consist of the actual invoiced amounts from the subconsultants plus a 10% mark-up for task coordination and administrative efforts, and will be based upon the number of units of work actually performed.

# East Bypass Intersection Improvements Franklin, Indiana

Estimated Budget For

<b>R/W ACQUISITION -- (3) Arvin/Eastview &amp; Hurricane</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Appraisal Problem Analysis <sup>(1)</sup>	6	\$200.00	\$1,200.00
Waiver Valuation Appraisal <sup>(1)</sup>	1	\$500.00	\$500.00
Value Finding Appraisal <sup>(1)</sup>	3	\$1,500.00	\$4,500.00
Short Form Appraisal <sup>(1)</sup>	1	\$2,000.00	\$2,000.00
Long Form Appraisal (w/ Relocation) <sup>(1)</sup>	1	\$3,600.00	\$3,600.00
Review Appraisal (~45% of appraisal fees) <sup>(1)</sup>		---	\$4,580.00
Negotiations <sup>(1)</sup>	6	\$1,500.00	\$9,000.00
Title Updates <sup>(1)</sup>	6	\$175.00	\$1,050.00
Document Preparation & Title Review <sup>(1)</sup>	6	\$175.00	\$1,050.00
Partial Mortgage Release / Recording Fees <sup>(1)</sup>	6	\$300.00	\$1,800.00
R/W Management	6	\$700.00	\$4,200.00
Payment Processing & Deed Recordation	6	\$120.00	\$720.00
R/W Staking	6	\$500.00	\$3,000.00
<b>ESTIMATED FEE</b>			<b>\$37,200.00</b>

<b>R/W ACQUISITION -- (4) Eastview &amp; Upper Shelbyville</b>			
Work Item	Est. Quantity	Unit Fee	Total Fee
Appraisal Problem Analysis <sup>(1)</sup>	3	\$200.00	\$600.00
Waiver Valuation Appraisal <sup>(1)</sup>	1	\$500.00	\$500.00
Value Finding Appraisal <sup>(1)</sup>	2	\$1,500.00	\$3,000.00
Review Appraisal (45% of appraisal fees) <sup>(1)</sup>		---	\$1,350.00
Negotiations <sup>(1)</sup>	3	\$1,500.00	\$4,500.00
Title Updates <sup>(1)</sup>	3	\$175.00	\$525.00
Document Preparation & Title Review <sup>(1)</sup>	3	\$175.00	\$525.00
Partial Mortgage Release / Recording Fees <sup>(1)</sup>	3	\$300.00	\$900.00
R/W Management	3	\$700.00	\$2,100.00
Payment Processing & Deed Recordation	3	\$120.00	\$360.00
R/W Staking	3	\$500.00	\$1,500.00
<b>ESTIMATED FEE</b>			<b>\$15,860.00</b>

<sup>(1)</sup> These tasks will be performed by subconsultants. The fees shown here are estimated. The final cost will consist of the actual invoiced amounts from the subconsultants plus a 10% mark-up for task coordination and administrative efforts, and will be based upon the number of units of work actually performed.



March 19, 2014

Mr. Jay Vorisek  
CrossRoad Engineers, P.C.  
3417 Sherman Drive  
Beech Grove, Indiana 46107

Re: **Revised** Proposal for Geotechnical Engineering Investigation  
**East Bypass Intersection Improvements**  
**Franklin, Indiana**  
Patriot Proposal No. P14-0134

Dear Jay:

Patriot Engineering and Environmental, Inc. (*Patriot*) appreciates the opportunity to submit this revised proposal to perform a geotechnical engineering investigation for the above referenced project. This proposal has been prepared in accordance with your request for revised proposal of March 18, 2014.

Presented in this proposal is an outline of our understanding of the proposed project, our proposed work plan, estimated fee and schedule. Please note that due to the preliminary nature of this project, the proposed scope of services provided below and attached here-in has been based on our experience with similar projects of size and type. Once more details (i.e. plans, cross-section, profiles, etc...) are available for the proposed final design, the scope of services provided here-in should be further evaluated to ensure all aspects of the project design are being covered by the proposed scope of work.

If you have any questions regarding this proposal or require any additional information, please do not hesitate to contact us.

Respectfully Submitted,  
**Patriot Engineering and Environmental, Inc.**

Ben Lauletta, E.I.  
Geotechnical Engineer

Sean Smith, P.E.  
Geotechnical Division Manager

6330 East 75<sup>th</sup> Street, Suite 216, Indianapolis, Indiana 46250  
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Louisville, KY, Dayton / Cincinnati, OH, Nashville, TN, Carmi, IL, and New Orleans, LA*

## PROJECT DESCRIPTION and OBJECTIVES

The proposed project involves the improvement of the intersections at Commerce Drive/Parkway and Graham Road, Arvin Road and Commerce Parkway/Hurricane Street, Arvin Road/Eastview Drive and Hurricane Road, and Eastview Drive and Upper Shelbyville Road in Franklin, Indiana (Johnson County). We understand that this project may receive federal highway funding. Therefore, the proposed work is subject to the review of the Indiana Department of Transportation.

The project limits for the intersection improvements extend 500 feet along each approach at each of the intersections. We understand that the improvements may include the construction of roundabouts. We also understand that the pavement treatments will include total reconstruction.

The objective of this geotechnical engineering investigation will be to assess the subsurface conditions along the referenced intersection alignment and to provide recommendations to aid in the design and reconstruction of the referenced pavement sections.

## PROPOSED WORK PLAN

*Patriot* will drill a total of twenty four (24) soil borings (six (6) at each intersection) to a depth of 7.5 feet each; for a total of 180 lineal feet of drilling. *Patriot* will also collect intact full depth pavement cores at each of the roadway soil borings. Each boring will be monitored for the presence of groundwater during and immediately following the completion of the borings. **It should be noted that traffic control will be necessary for the safe completion of the proposed soil borings along the referenced roadway alignment.**

*Patriot* will visit the project alignments prior to drilling to observe and note ground cover, existing structures and topographic conditions. During this visit, we will locate and mark boring locations. If alignment conditions require that borings be relocated from previous agreed-upon locations, the Client will be advised.

*Patriot* will be responsible for “clearing utilities” within the public domain prior to the start of any subsurface exploration. ***The “clearing of utilities” outside of the public domain shall be the responsibility of the property owner or manager and coordinated with Patriot.***

The typical drilling method will utilize hollow-stem augers to advance the borings to the required depths. Split-spoon samples and Standard Penetration Tests values (commonly referred to as the blow-count or N-value) will be obtained in advance of the augers at 2.5 feet intervals to a depth of 10 feet, and 5 feet intervals thereafter per ASTM Method D-1586.

The typical drilling methodology will utilize hollow-stem augers to advance the borings to the required depths. Split-spoon samples and Standard Penetration Tests values (commonly referred to as the blow-count or N-value) will be obtained in general accordance with INDOT Exhibit "C" requirements. In addition, two (2) bulk samples will be obtained from the shallow subgrade soils at each intersection to perform resilient modulus testing on.

After the fieldwork is completed, we will return all samples to *Patriot's* soils laboratory to perform the appropriate laboratory testing. The laboratory testing will include natural moisture contents, Atterberg Limits, grain size determinations, Standard Proctor testing and resilient modulus testing; along with other tests as requested and applicable. All laboratory testing will be performed in accordance with applicable AASHTO methodologies.

Based on the results of the fieldwork and laboratory testing, we will prepare a Geotechnical Engineering Report. The report will present all field, test boring logs and laboratory test data. The report will include recommendations to aid in the design and reconstruction of the referenced alignments along with full depth pavement design.

Upon completion of the borings, the boreholes will be backfilled with auger cuttings mixed with bentonite chips prior to demobilization for safety considerations. Any borings performed in pavement will be patched. It should be noted that it is standard practice in drilling test borings to backfill with the auger cuttings. However, sometimes the backfill will settle after the borings have been completed, requiring a return trip to backfill again. If this takes place, an additional fee will be charged for the return trip. As an alternative, for an additional fee, the holes can be backfilled with grout to reduce the potential settlement.

### **ESTIMATED PROJECT COST**

We expect to complete this work within an estimated budget of **\$38,268.50** based on the Scope of Work outlined in this proposal. This estimated budget is based on approximated quantities for work proposed and unit fees listed on the attached (Appendix "B") INDOT Appendix "D" fee schedule format.

### **SCOPE OF WORK LIMITATIONS**

***In preparation of this proposal, we have assumed that each site is accessible to a truck-mounted drilling rig. Additionally, we assume that the Client will arrange for the work to be performed at the project sites during normal working hours (i.e. no night or weekend work).***

If the borings reveal inconsistent and/or marginal soil conditions requiring additional borings, perhaps deepening the borings, additional samples, or additional laboratory testing, the Client's Project Manager will be consulted immediately with regard to the possibility of modifying the proposed subsurface investigation program. Such a modification may be considered a change in scope of the Proposed Work Plan, thereby requiring a possible adjustment to the budget of this Geotechnical Engineering Investigation.

The subsurface investigation outlined in this proposal assumes that there are no hazardous materials in the soil or in the groundwater underlying the site. This investigation is not designed to detect or identify such materials. If it becomes apparent during the field investigation that hazardous materials are present, field operations will temporarily cease. The field investigation could be resumed only after the appropriate health and safety issues are addressed and the scope of our investigation modified to address this change in condition.

Note that this proposal does not include any surveying for line or grade. Borings will be located in the field by taping from existing features, and boring elevations will be estimated from the alignment plans for the project once provided.

### **WORK SCHEDULE**

Based on our present workload, we would expect to begin work shortly after receiving authorization to proceed. The field drilling work should take three (3) to four (4) days to complete. We would expect to issue our engineering report within approximately sixty (60) to ninety (90) days after receiving authorization to proceed from CrossRoad Engineers.

### **AUTHORIZATION TO PROCEED**

As our formal authorization to proceed, please complete and sign the Proposal Acceptance Agreement form included with this proposal, indicating proper billing instructions, and return an executed copy of this acceptance agreement for our files. Also, please note the Terms and Conditions included with this proposal, which is an integral part of this proposal. Alternatively, this work may be authorized by a written purchase order or a letter instructing us to proceed, which provides for the Terms and Conditions herein.

**ATTACHMENT A**

**Proposed Boring Locations Table**

**PROPOSED BORING LOCATION TABLE  
EAST BYPASS INTERSECTION IMPROVEMENTS  
FRANKLIN, INDIANA (JOHNSON COUNTY)  
PATRIOT PROPOSAL NO.: P14-0134**

**ROADWAY BORINGS: Commerce Drive/Parkway and Graham Road**

BORING NUMBER	STATION LINE "Unknown" (FEET)	OFFSET LINE "Unknown" (FEET)	SAMPLE TYPE	MINIMUM DEPTH (FEET)	RIG TYPE	PROPOSED CONSTRUCTION
RB-1	Western Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-2	Intersection	8' L	SS	7.5	TRUCK	ROADWAY
RB-3	Eastern Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-4	Southern Limit	8' L	SS	7.5	TRUCK	ROADWAY
RB-5	Intersection	8' R	SS	7.5	TRUCK	ROADWAY
RB-6	Northern Limit	8' L	SS	7.5	TRUCK	ROADWAY

**ROADWAY BORINGS: Arvin Road and Commerce Parkway/Hurricane Street**

BORING NUMBER	STATION LINE "Unknown" (FEET)	OFFSET LINE "Unknown" (FEET)	SAMPLE TYPE	MINIMUM DEPTH (FEET)	RIG TYPE	PROPOSED CONSTRUCTION
RB-7	Eastern Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-8	Intersection	8' L	SS	7.5	TRUCK	ROADWAY
RB-9	Western Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-10	Southern Limit	8' L	SS	7.5	TRUCK	ROADWAY
RB-11	Intersection	8' R	SS	7.5	TRUCK	ROADWAY
RB-12	Northern Limit	8' L	SS	7.5	TRUCK	ROADWAY

**ROADWAY BORINGS: Arvin Road/Eastview Drive and Hurricane Road**

BORING NUMBER	STATION LINE "Unknown" (FEET)	OFFSET LINE "Unknown" (FEET)	SAMPLE TYPE	MINIMUM DEPTH (FEET)	RIG TYPE	PROPOSED CONSTRUCTION
RB-13	Eastern Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-14	Intersection	8' L	SS	7.5	TRUCK	ROADWAY
RB-15	Western Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-16	Southern Limit	8' L	SS	7.5	TRUCK	ROADWAY
RB-17	Intersection	8' R	SS	7.5	TRUCK	ROADWAY
RB-18	Northern Limit	8' L	SS	7.5	TRUCK	ROADWAY

**ROADWAY BORINGS: Eastview Drive and Upper Shelbyville Road**

BORING NUMBER	STATION LINE "Unknown" (FEET)	OFFSET LINE "Unknown" (FEET)	SAMPLE TYPE	MINIMUM DEPTH (FEET)	RIG TYPE	PROPOSED CONSTRUCTION
RB-19	Western Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-20	Intersection	8' L	SS	7.5	TRUCK	ROADWAY
RB-21	Eastern Limit	8' R	SS	7.5	TRUCK	ROADWAY
RB-22	Southern Limit	8' L	SS	7.5	TRUCK	ROADWAY
RB-23	Intersection	8' R	SS	7.5	TRUCK	ROADWAY
RB-24	Northern Limit	8' L	SS	7.5	TRUCK	ROADWAY

- 1) "SS" refers to splitspoon sample.
- 2) Two (2) bulk samples will be obtained at each intersection for resilient modulus testing.
- 3) Traffic control will be required at all roadway borings.

Mr. Jay Vorisek  
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Beech Grove, Indiana 46107  
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**ATTACHMENT B**

**Fee Schedule  
(INDOT Appendix "D" Format)**

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

Cost Estimate for:  
East Bypass Intersection Improvements #1  
Franklin, IN  
Johnson County

		<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
<b>GEOTECHNICAL FIELD</b>					
1.	Mobilization and Field Coordination				
	a. SPT Rig	Each	1.00	500.00	500.00
	b. CPT	Each		400.00	0.00
	c. Field Coordination with Utilities	Lump Sum	1.00	300.00	300.00
	d. Field Coordination with Property Owners				
	i. 1-10	Lump Sum		275.00	0.00
	ii. 11-25	Lump Sum		430.00	0.00
	iii. Over 25	Lump Sum		610.00	0.00
	e. Mileage	Per Mile	50.00	3.00	150.00
<b>HAND AND TRUCK DRILLING</b>					
2.	Truck Mounted Borings Split-Spoon Sampling				
	a. Standard	Foot	180.00	16.60	2988.00
	b. Night Time	Foot		19.60	0.00
3.	Truck Mounted Borings Using Drilling Fluid				
	a. Standard	Foot		16.50	0.00
	b. Night Time	Foot		19.50	0.00
4.	Truck Mounted Core Drilling				
	a. Standard	Foot		34.20	0.00
	b. Night Time	Foot		40.40	0.00
5.	Truck Mounted Borings				
	a. Truck Mounted Boring through Bedrock, Boulders or Concrete Pavement				
	i. Standard	Foot		31.50	0.00
	ii. Night time	Foot		37.20	0.00
	b. Bridge Deck Coring and Restoration				
	i. Standard	Each		300.00	0.00
	ii. Night time	Each		354.00	0.00
6.	Cone Penetrometer Testing				
	a. Set Up				
	i. Standard	Each		66.00	0.00
	ii. Night time	Each		77.90	0.00
	b. Subsurface Profiling				
	i. Standard	Foot		10.75	0.00
	ii. Night time	Foot		12.70	0.00
	c. Profiling with Pore Pressure Measurement				
	i. Piezometric Saturation				
	a. Standard	Each		85.00	0.00
	b. Night Time	Each		100.30	0.00
	ii. Penetration				
	a. Standard	Foot		12.75	0.00
	b. Night Time	Foot		15.05	0.00
	iii. Pore Water Dissipation Test				
	a. Standard	per Hour		200.00	0.00
	b. Night Time	per Hour		236.00	0.00

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

Franklin, IN

	iv. Hydraulic Conductivity and Consolidation			
	a. Standard	Each	64.00	0.00
	b. Night Time	Each	75.55	0.00
d.	Profiling with Shearwave Velocity Measurement			
	i. Standard	Foot	12.75	0.00
	ii. Night time	Foot	15.05	0.00
e.	Sample			
	i. Standard	Each	20.00	0.00
	ii. Night time	Each	23.60	0.00
7.	Hand or Truck Soundings			
	a. Standard	Foot	10.30	0.00
	b. Night Time	Foot	12.15	0.00
8.	Hand Auger Drilling			
	a. Standard	Foot	11.25	0.00
	b. Night Time	Foot	13.30	0.00

**SKID DRILLING**

9.	Skid Mounted Borings with Split-Spoon Sampling			
	a. Standard	Foot	25.60	0.00
	b. Night Time	Foot	30.20	0.00
10.	Skid Mounted Borings using Drilling Fluid			
	a. Standard	Foot	25.25	0.00
	b. Night Time	Foot	29.80	0.00
11.	Skid Mounted Core Drilling			
	a. Standard	Foot	37.00	0.00
	b. Night Time	Foot	43.65	0.00
12.	Skid Mounted Boring through Bedrock or Boulders			
	a. Standard	Foot	41.00	0.00
	b. Night Time	Foot	48.40	0.00
13.	Skid Mounted Soundings			
	a. Standard	Foot	15.00	0.00
	b. Night Time	Foot	17.70	0.00

**BARGE DRILLING**

14.	Furnishing of Boat	Cost	0.00	0.00
15.	Barge Set-Up Expenses			
	a. Navigable Water			
	i. Barge Set-Up	Each	4930.00	0.00
	ii. Rental of Support Equipment and/or Boat	Cost	0.00	0.00
	iii. Drill Rig Down Time	Hour	125.00	0.00
	b. Barge Set-up Non-Navigable Water	Each	4300.00	0.00
16.	Additional Disassembly and Re-assembly			
	a. Navigable Water	Each	1835.00	0.00
	b. Non-Navigable Water	Each	1660.00	0.00
17.	Barge Mounted Borings with Splitspoon Sampling	Foot	28.40	0.00

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

Franklin, IN

18.	Barge Mounted Core Drilling	Foot		38.50	0.00
19.	Barge Mounted Boring through Bedrock and Boulders	Foot		43.25	0.00
20.	Barge Mounted Soundings	Foot		17.00	0.00
21.	Casing through Water	Foot		7.50	0.00
22.	Uncased Sounding through Water	Foot		4.70	0.00
23.	Set Up for Borings and Machine Soundings				
	a. Borings and Machine Soundings less than 20 ft. Deep	Each	24.00	60.75	1458.00
	b. Rock Core Borings less than 15 ft. Deep	Each		105.00	0.00
24.	Additional 2 in. Split-Spoon Sampling	Each		18.00	0.00
25.	3 in. Split-Spoon Samples	Each		20.50	0.00
26.	3 in. Shelby Tube Samples	Each	24.00	54.00	1296.00
27.	Bag Samples				
	a. 300 lb. Sample	Each		100.00	0.00
	b. 25 lb. Sample	Each	8.00	35.00	280.00
28.	Field Vane Shear Test				
	a. Standard	Each		100.00	0.00
	b. Night Time	Each		118.00	0.00
29.	4 ½ in. Cased Hole	Foot		10.80	0.00
30.	Installation of Geotechnical Instruments				
	a. Inclinerometer Casing Installation				
	ia. Standard	Foot		13.50	0.00
	ib. Night Time	Foot		15.95	0.00
	b. Piezometer Installation – up to 25 ft. below surface	Each		230.00	0.00
	c. Piezometer Installation – deeper than 25 ft. below surface	Each		315.00	0.00
	d. Metal protective outer cover for Inclinerometer and Piezometer Casings	Each		110.00	0.00
31.	Geotechnical Engineer	Per Hour	16.00	100.00	1600.00
32.	Railroad Expenses	Cost		0.00	0.00
33.	24-Hour Water Levels				
	a. Field Measurements				
	i. Standard	Each	12.00	33.50	402.00
	ii. Night Time	Each		39.55	0.00
	b. PVC Slotted Pipe	Foot		5.10	0.00
34.	Special Backfilling of Boreholes				
	a. 0 to 30 feet				
	i. SPT				
	1. Standard	Each	24.00	95.00	2280.00
	2. Night Time	Each		112.10	0.00
	ii. CPT				

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

	Franklin, IN				
	1. Standard	Each		40.00	0.00
	2. Night Time	Each		47.20	0.00
b.	More than 30 feet				
	i. SPT				
	1. Standard	Per Foot		5.60	0.00
	2. Night Time	Per Foot		6.60	0.00
	ii. CPT				
	1. Standard	Per Foot		1.75	0.00
	2. Night Time	Per Foot		2.10	0.00
c.	Pavement Restoration				
	1. Standard	Each	24.00	52.00	1248.00
	2. Night Time	Each		61.35	0.00
35.	Dozer Rental	Cost		0.00	0.00
36.	Traffic Control				
	a. Flag Crew	Per Day		525.00	0.00
	b. Equipment Rental	Cost		0.00	0.00
	c. Flag Crew with Equipment	Per Day	4.00	800.00	3200.00
37.	Centerline Surveying	Cost		0.00	0.00
<b>GEOTECHNICAL LABORATORY</b>					
38.	Sieve Analysis	Each	12.00	43.00	516.00
39.	Hydrometer Analysis	Each	12.00	49.00	588.00
40.	Moisture Content Test	Each	72.00	5.75	414.00
41.	Liquid Limit	Each	12.00	29.75	357.00
42.	Plastic Limit & Plasticity Index	Each	12.00	21.75	261.00
43.	a. Unconfined Compression Test	Each		39.00	0.00
	b. Remolding of 3 Soil Samples with Chemical Admixtures with Chemical Soil Modification/Stabilization (3 Samples are Equal to 1 Unit)	Each		101.00	0.00
44.	Specific Gravity Test	Each	4.00	32.00	128.00
45.	Unit Weight Determination	Each	24.00	15.75	378.00
46.	Hydraulic Conductivity Test				
	a. Constant Head	Each		230.00	0.00
	b. Falling Head	Each		250.00	0.00
47.	Consolidation Test	Each		400.00	0.00
48.	Triaxial Test				
	a. Unconsolidated-Undrained (UU)	Each		300.00	0.00
	b. Consolidated-Undrained (CU)	Each		440.00	0.00
	c. Consolidated-Drained (CD)	Each		600.00	0.00
	d. Pore Pressure Measurement with a. or b. and use of Back Pressure for Saturation	Each		225.00	0.00

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

Franklin, IN					
49.	Soil Support Testing				
	a. California Bearing Ratio Test	Each		500.00	0.00
	b. Subgrade Resilient Modulus	Each	8.00	420.00	3360.00
50.	Standard Moisture-Density Relationship Test	Each	4.00	122.00	488.00
51.	Loss on Ignition Test	Each		21.25	0.00
52.	pH Test	Each	12.00	13.25	159.00
	a. Sulfate Test	Each	12.00	70.00	840.00
53	Collapse Potential Evaluation Test	Each		335.00	0.00
<b>GEOTECHNICAL ENGINEERING</b>					
54.	Geotechnical Profile and Related Work				
	a. Without Soil Subgrade Investigation				
	> 1st Mile	Lump Sum		1040.00	0.00
	> Each Additional Mile	Per Mile		480.00	0.00
	b. With Soil Subgrade Investigation				
	> 1st Mile	Lump Sum		1660.00	0.00
	> Each Additional Mile	Per Mile		550.00	0.00
	c. Soil Subgrade Investigation (only)				
	> 1st Mile	Lump Sum		320.00	0.00
	> Each Additional Mile	Per Mile		200.00	0.00
55.	Geotechnical Report				
	a. Without Soil Subgrade Investigation				
	> 1st Mile	Lump Sum		1400.00	0.00
	> Each Additional Mile	Per Mile		625.00	0.00
	b. With Soil Subgrade Investigation				
	> 1st Mile	Lump Sum	1.00	1660.00	1660.00
	> Each Additional Mile	Per Mile		710.00	0.00
	c. Soil Subgrade Investigation (only)				
	> 1st Mile	Lump Sum		540.00	0.00
	> Each Additional Mile	Per Mile		330.00	0.00
56.	Settlement Analysis and Recommendations for Embankment				
	a. Proposed Embankment	Each		450.00	0.00
	b. Proposed and Existing Embankment	Each		500.00	0.00
57.	Ground Modification Design	Each		1330.00	0.00
58.	Slope Stability Analysis				
	a. C, $\phi$ , or C and $\phi$ Analysis	Each		720.00	0.00
	b. Corrective Measures	Each		720.00	0.00
	c. Stage Construction Corrective Method	Each		1250.00	0.00
59.	Bridge Foundation Analysis and Recommendation				
	a. Shallow Foundation	Each		430.00	0.00
	b. Deep Foundation				
	i. Deep Foundation Analyses	Each		770.00	0.00
	ii. Wave Equation Analyses	Each		300.00	0.00
	c. Settlement Analysis for Bridge Pier Foundation				
	i. Bridge Pier	Each		340.00	0.00
	ii. Embankment Plus Pier	Each		380.00	0.00
	iii. Embankment Plus Pier Plus all Other Loads	Each		440.00	0.00
	d. Foundation on Bedrock	Each		330.00	0.00

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

Franklin, IN				
60.	Retaining Structure Analysis Recommendations			
	a. Conventional Retaining Structures			
	i. Shallow Foundation	Each	790.00	0.00
	ii. Deep Foundation	Each	1050.00	0.00
	iii. Settlement Analysis for Retaining Wall Foundation	Each	335.00	0.00
	b. Pile Retaining Structure Analysis and Recommendations			
	i. Free Standing Structure	Each	910.00	0.00
	ii. Retaining Structure with Tie-Back Systems	Each	1340.00	0.00
	c. Drilled-In-Pier Retaining Structure Analysis and Recommendations			
	i. Free Standing Structure	Each	940.00	0.00
	ii. Retaining Structure with Tie-Back System	Each	1360.00	0.00
	d. Soil Nailing Wall Analysis	Each	915.00	0.00
61.	Seepage Analysis	Each	1280.00	0.00
62.	Deep Dynamic Compaction Analysis	Each	1300.00	0.00

**CONSTRUCTION INSPECTION AND MONITORING**

63.	Field Inspector	Per Hour	65.00	0.00
64.	Monitoring Geotechnical Instrumentation	Per Hour	65.00	0.00
65.	Integrity Testing	Cost	0.00	0.00
66.	Dynamic Pile Analysis	Each	900.00	0.00
67.	Static Load Test	Each	900.00	0.00
68.	Dynamic Pile Load Test	Cost	0.00	0.00
69.	CAPWAP-C Analysis	Each	440.00	0.00
70.	Final Construction Inspection Report	Each	840.00	0.00

**FOUNDATION EVALUATION BY NON-DESTRUCTIVE METHODS**

71.	a. Surface Test / Pier or Foundation	Cost	0.00	0.00
	b. Borehole Test / Pier or Foundation	Cost	0.00	0.00

**GEOTECHNICAL PROJECT MANAGEMENT**

72.	Project Management			
	a. Project Coordination	Per Mile	1500.00	0.00
	b. Project Website	Lump Sum	3000.00	0.00
73.	Geotechnical Review			
	a. Structure Report	Each	300.00	0.00
	b. Roadway Report	Per Mile	250.00	0.00

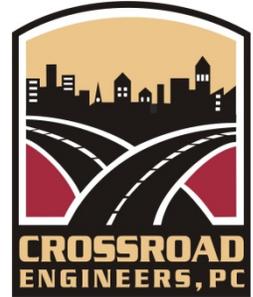
**PAVEMENT INVESTIGATION**

1.	Mobilization of Coring Equipment	Each	1.00	200.00	200.00
2.	Mobilization Mileage for Coring Equipment	Per Mile	50.00	1.55	77.50
3.	Pavement Core (Partial Depth)	Each		115.00	0.00
4.	Pavement Core (Full Depth)				

**INDOT COST ESTIMATE WORKSHEET**  
**Appendix "D"**

	Franklin, IN				
	1) Standard	Each	24.00	170.00	4080.00
	2) Night Time	Each		200.60	0.00
5.	Sub-Base Sample	Each		56.00	0.00
6.	Cement Concrete Pavement Core Density Determination	Each		30.00	0.00
7.	Cement Concrete Core Compressive Strength Test	Each		29.00	0.00
8.	Bituminous Extraction Test	Each		79.00	0.00
9.	Sieve Analysis of Extracted Aggregate Test	Each		52.00	0.00
10.	Recovery of Asphalt from Solution by Abson Method	Each		350.00	0.00
11.	Theoretical Maximum Specific Gravity Test	Each		66.00	0.00
12.	Bulk Specific Gravity Tests	Each		30.50	0.00
13.	Air Voids Calculation	Each		26.00	0.00
14.	Core Report for Partial Depth Core	Each		30.50	0.00
15.	Core Report for Full Depth Core	Each	24.00	40.00	960.00
16.	Pavement Analysis and Report	Each		700.00	0.00
17.	Pavement Design Evaluation	Each	3.00	2700.00	8100.00
				<b>TOTAL</b>	<b>\$38,268.50</b>

# HOURLY BILLING RATES



## PERSONNEL CLASSIFICATION      HOURLY RATE

### DESIGN

Principal	\$ 145.00
Director	135.00
Senior Project Manager	120.00
Project Manager	110.00
Project Engineer	90.00
Assistant Project Engineer	75.00
R/W Manager	90.00
CADD Manager	90.00
CADD Technician	80.00

### INSPECTION

Director	\$ 135.00
Resident Project Representative	105.00
Asst Resident Project Representative	95.00
Project Inspector	85.00
Assistant Project Inspector	70.00

### SURVEY

Survey Manager	\$ 110.00
Assistant Survey Manager	80.00
Survey Crew – 1 Man	100.00
Crew Chief	80.00
Field Man	60.00
Researcher	75.00
Survey Technician	75.00

### MISCELLANEOUS

Mileage (per mile)	\$ 0.50
Other Direct Costs	at cost +15%

**CrossRoad Engineers, PC**

**3417 Sherman Drive**

**Beech Grove, Indiana 46107**

**Rates Effective through December, 2014**

**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

3/19/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER <b>Shepherd Insurance, LLC.</b> 111 Congressional Boulevard Suite 100 Carmel IN 46032	CONTACT NAME: <b>Paula Crandall</b>
	PHONE (A/C No. Ext): <b>(317)846-5554</b> FAX (A/C No): <b>(317)846-5444</b>
	E-MAIL ADDRESS: <b>pcranall@shepherdins.com</b>
	INSURER(S) AFFORDING COVERAGE
	INSURER A: <b>Erie Insurance Exchange</b> NAIC # <b>26271</b>
INSURED <b>CROSSROAD ENGINEERS PC</b> 3417 SHERMAN DR BEECH GROVE IN 46107-1731	INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

**COVERAGES**CERTIFICATE NUMBER: **CL13102123696**

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC			Q46-2550270	10/25/2013	10/25/2014	EACH OCCURRENCE \$ <b>1,000,000</b> DAMAGE TO RENTED PREMISES (Ea occurrence) \$ <b>1,000,000</b> MED EXP (Any one person) \$ <b>5,000</b> PERSONAL & ADV INJURY \$ <b>1,000,000</b> GENERAL AGGREGATE \$ <b>2,000,000</b> PRODUCTS - COMP/OP AGG \$ <b>2,000,000</b>
	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			Q03-2430268	3/24/2013	3/24/2014	COMBINED SINGLE LIMIT (Ea accident) \$ <b>1,000,000</b> BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Medical payments \$ <b>2,000</b>
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB DED RETENTION \$			Q34-2570043	10/25/2013	10/25/2014	EACH OCCURRENCE \$ <b>2,000,000</b> AGGREGATE \$ <b>2,000,000</b>
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	Q94-2500256	10/25/2013	10/25/2014	<input checked="" type="checkbox"/> WC STATUTORY LIMITS E.L. EACH ACCIDENT \$ <b>500,000</b> E.L. DISEASE - EA EMPLOYEE \$ <b>500,000</b> E.L. DISEASE - POLICY LIMIT \$ <b>500,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

City of Franklin is listed as additional insured for general liability per attached CG 2010 0704 & CG 2037 0704. Insurance is primary and non-contributory.  
30 Days Written Cancellation

**CERTIFICATE HOLDER****CANCELLATION**

City of Franklin 70 E Monroe St. PO Box 280 Franklin, IN 46131	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE  Paula Crandall/DTURNÉ <i>Paula Crandall</i>

**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

3/19/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Walker & Associates 7364 E. Washington Street  Indianapolis IN 46219		<b>CONTACT NAME:</b> Peggy Armour <b>PHONE (A/C No. Ext):</b> (317) 353-8000 <b>E-MAIL ADDRESS:</b> Peggy@walkeragcy.com <b>FAX (A/C No):</b> (317) 351-7149	
<b>INSURED</b> Crossroad Engineers PC 3417 S Sherman Dr  Beech Grove IN 46107		<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: Catlin Insurance Company, Inc. INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :	

**COVERAGES**

CERTIFICATE NUMBER: CL1421302505

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	<b>GENERAL LIABILITY</b>						EACH OCCURRENCE	\$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	\$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC							\$
	<b>AUTOMOBILE LIABILITY</b>						COMBINED SINGLE LIMIT (Ea accident)	\$
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/>	<input type="checkbox"/>				BODILY INJURY (Per accident)	\$
	<input type="checkbox"/> HIRED AUTOS	<input type="checkbox"/>	<input type="checkbox"/>				PROPERTY DAMAGE (Per accident)	\$
								\$
	<b>UMBRELLA LIAB</b>						EACH OCCURRENCE	\$
	<input type="checkbox"/> EXCESS LIAB						AGGREGATE	\$
	<input type="checkbox"/> OCCUR							\$
	<input type="checkbox"/> CLAIMS-MADE							\$
	<input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$							\$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>						<input type="checkbox"/> WC STATUTORY LIMITS	<input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT	\$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$
<b>A</b>	<b>PROFESSIONAL LIABILITY</b> (claims-made form)			AED2068690214	2/15/2014	2/15/2015	Each Claim Limit	1,000,000
							Aggregate Limit	1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

City of Franklin 70 E. Monroe St. Franklin, IN 46131	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE  Peggy Armour/PMA
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