

Municipality	L O C A L A G E N C Y	 Illinois Department of Transportation	C O N S U L T A N T	Name Alfred Benesch & Company	
Township				Address 205 N Michigan Ave Suite 2400	
County Lake County – Division of Transportation		Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds		City Chicago	
Section 15-00120-06-CH				State IL	

THIS AGREEMENT is made and entered into this _____ day of _____, _____ between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Non-Motor Fuel Tax Funds, allotted to the LA by the State of Illinois, under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely or in part to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name Fairfield Road/Monaville Road

Route _____ Length 0.60 Mi. 3200.00 FT (Structure No. _____)

Termini _____

Description:

The improvement of the intersection of Fairfield Road and Monaville Road located in Lake Villa and unincorporated Lake County.

Agreement Provisions

The Engineer Agrees,

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:
 - a. ☒ Make such detailed surveys as are necessary for the preparation of detailed roadway plans
 - b. ☐ Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.
 - c. ☒ Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.
 - d. ☒ Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.
 - e. ☐ Prepare Army Corps of Engineers Permit, **Lake County Stormwater Management Commission Permit**, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
 - f. ☐ Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
 - g. ☐ Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with **one (1) copy of each document in both hardcopy and electronic format**. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at the ENGINEER's actual cost for reproduction.
 - h. ☒ Furnish the LA with survey and drafts in **duplicate** of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.
 - i. ☐ Assist the LA in the tabulation and interpretation of the contractors' proposals

- j. ☒ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
 - k. ☒ Prepare the Project Development Report when required by the DEPARTMENT.
 - l. ☒ **Services as included and/or defined in the attached Scope of Services.**
2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies ~~of the LA of the DEPARTMENT~~. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA ~~and the DEPARTMENT~~.
 3. To attend conferences at any reasonable time when requested to do so by representatives of the LA ~~or the Department~~.
 4. In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that the ENGINEER will perform such work without expense to the LA, even though final payment has been received by the ENGINEER. The ENGINEER shall give immediate attention to these changes so there will be a minimum delay to the CONTRACTOR.
 5. That basic survey notes and sketches, charts, computations and other data prepared or obtained by the ENGINEER pursuant to this AGREEMENT will be made available, upon request, to the LA ~~or the DEPARTMENT~~ without cost and without restriction or limitations as to their use.
 6. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will show the ENGINEER's professional seal where such is required by law.

The LA Agrees,

1. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT according to the following method indicated by a check mark:
 - a. ☐ A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.
 - b. ☐ A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

Awarded Cost	Percentage Fees	(see note)
Under \$50,000	_____	%
	_____	%
	_____	%

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for all services rendered in accordance with this AGREEMENT at the actual cost of performing such work plus * percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at the ENGINEER's actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided in section 1 of the ENGINEER AGREES. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus an additional service charge of up to five (5) percent.

"Cost to Engineer" to be verified by furnishing the LA ~~and the DEPARTMENT~~ copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed. ***See the CECS**

The Total Not-to-Exceed Contract Amount shall be \$277062.00

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed. ~~in accordance with the following schedule:~~

- a. ~~Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by section 1 of the ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.~~
- b. ~~Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.~~

By Mutual agreement, partial payments, ~~not to exceed 90 percent of the amount earned,~~ may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus 198 percent incurred up to the time the ENGINEER is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of the LA AGREES.
5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, ~~after they have been approved by the DEPARTMENT,~~ the LA will pay the ENGINEER for such changes on the basis of actual cost plus 198 percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.
2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.
3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA ~~and their approval by the DEPARTMENT,~~ the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA ~~and the DEPARTMENT.~~
4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER's has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in triplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

ATTEST: County of Lake of the
(Municipality/Township/County)
State of Illinois, acting by and through its
County Board
By _____
Lake County Clerk
(Seal)

By _____
Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

Paula J. Trigg, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

ATTEST:

By Glossan Adams
Title Sr. Vice President

Alfred Benesch & Company
Engineering Firm
205 N. Michigan Ave Suite 2400
Street Address
Chicago IL
City, State
By E. Gallagher
Title Senior Vice President

WORK PLAN

PHASE I ENGINEERING FOR FAIRFIELD ROAD AT MONAVILLE ROAD INTERSECTION IMPROVEMENTS

LCDOT Section 15-00120-06-CH

INTRODUCTION

The scope of work is presented to Lake County Division of Transportation for the Phase I portion of this project and includes engineering and environmental services to perform tasks associated with the preparation of the preliminary engineering report and NEPA environmental documentation for the Fairfield Road at Monaville Road Intersection Improvements project.

The project does not include IDOT jurisdictional roads, but the work and reports will be prepared in accordance with federal guidelines so as to remain eligible for federal funding.

It is anticipated that the study will be processed as a Categorical Exclusion (CE Group I) by the Illinois Department of Transportation (IDOT) and Federal Highway Administration (FHWA). This scope provides for either a CE I or CE II processing. The scope includes the necessary engineering and environmental services and reports to identify the required improvements, identify environmental impacts and any required mitigation measures, identify required permits and agency approvals, identify land acquisition requirements, provide the County with an opinion of probable cost, conduct a public involvement program for the project, and obtain Design Approval from the Illinois Department of Transportation (IDOT).

PROJECT APPROACH

The work plan is based on developing a preliminary design for the project (preliminary horizontal and vertical alignment) along with identifying environmental issues prior to conducting the required IDOT/FHWA coordination meeting. The constraints, preliminary property impacts, potential design variances and Section 4(f) impacts, need to be vetted with the County prior to formally approaching IDOT/FHWA with proposed logical termini and level of processing (CE I vs. CE II). This approach includes conducting the first public meeting prior to the IDOT/FHWA coordination meeting to gauge public sentiment towards the project. While initial IDOT Bureau of Local Roads (BLR) coordination will begin with IDOT on the project's onset for schedule and milestone purposes, formal coordination on design and environmental processing will not begin until the preliminary design has been developed. This approach is discussed in detail under the pertinent individual task items identified in the General Scope of Services section below.

PROJECT TEAM

Alfred Benesch & Company (Benesch) will serve as the prime consultant for the project and will be responsible for completing the required services. Benesch will be responsible for the management of all sub-consultants. Benesch will be assisted with the following sub-consultants:

Sub-Consultant Firm

Huff & Huff, Inc.

Rubino Engineering

MTJ Engineering, LLC

Responsibility

Wetland delineations and PESA Report

Geotechnical and CCDD Testing

Roundabout Peer Review

PROJECT STUDY LIMITS

The project study area is identified on the aerial photograph below and consists of the legs of Fairfield Road and Monaville Road.



PROJECT SCHEDULE

Project Kick-Off	March 7, 2016
Public Meeting No. 1 – Project Introduction	May 20, 2016
Workshop Meeting No. 1	July 22, 2016
Workshop Meeting No. 2	September 23, 2016
Public Meeting No. 2 – Alternatives Presentation	December 8, 2016
Workshop Meeting No. 3	January 27, 2017
Public Meeting No. 3 – Preferred Alternative Presentation	March 31, 2017
Approval	June 2, 2017

GENERAL SCOPE OF SERVICES

The scope of the Phase I preliminary engineering is divided into the following tasks:

1. Data collection and early coordination
2. Design survey
3. Utility coordination
4. Roadway Drainage Study
5. Establish Geometric Requirements
6. Environmental Studies
7. Section 4(f) Processing
8. Public Involvement Program
9. Landscape, streetscape and aesthetic elements
10. Development and Evaluation of Alternatives
11. Preferred Alternative: 30% Plans
12. Quality Control/ Quality Assurance (QA/QC) and Project Administration
13. Envision Rating System
14. Peer Review of Roundabout Designs
15. Geotechnical and CCDD services
16. PESA & Wetlands

Each task is described in detail in the following section of the Work Plan.

DETAILED WORK TASK DESCRIPTIONS

This section provides a detailed description for each of the major work tasks identified above. The tasks described below may take place at different times throughout the project or occur in parallel throughout the project.

1. Data Collection and Early Coordination

Benesch will gather, compile, organize and review the following information:

- As-built roadway and intersection plans, as available from the County
- Digital aerial photography, parcel information and GIS layers (to be supplied by County GIS)
- Crash reports- last 5 years (to be obtained from the County)
- FEMA floodplain and floodway mapping
- ROW information (plats of subdivisions)
- Future development plans and comprehensive plans
- Previous inspection reports for roadway and drainage system (if available)
- 2040 traffic projections (CMAP projections to be obtained by Benesch)
- Right-of-Way strip maps from County

In addition, Benesch will conduct intersection turning movement traffic counts (all modes) using MioVision at the following intersection:

- Fairfield and Monaville Road
- Fairfield and Old Monaville Road
- Monaville Road and Old Monaville Road

This data will be utilized in the development of 24 hour ADT and establishment of AM/PM peak hour including turning movements.

Benesch will review the project site, roadways, utilities and traffic patterns for the study area. These field reviews will occur as necessary throughout the project to make recommendations in the completed Phase I documents. Additional data obtained by sub-consultants, will be reviewed by Benesch.

The coordination effort with the County and affected agencies will be started early in the project. This early coordination will provide an opportunity to assess the potential impacts of the proposed improvements on agency facilities and operations. This assessment will be important during the alternatives analysis process and will lead to incorporating mitigation measures required in the final recommendations.

This task includes the following coordination meetings:

- Initial kick-off meeting with Lake County
- Initial kick-off meeting with Lake Villa
- Initial kick-off meeting with Lake County Forest Preserve District
- IDOT Bureau of Local Roads kick-off meeting to initiate project, establish initial schedule and discuss general project requirements
- Initial coordination meeting with Lake County Stormwater Management regarding hydraulic/ drainage analysis, wetlands/WOUS to ascertain requirements for hydraulic and environmental studies required for their approval

Deliverables: Data collected in support of the project
Records of conversation (ROC), meeting minutes, e-mails of all coordination activities with the County, various agencies and sub-consultants
STP Milestone Schedule (IDOT BLR Requirement)
IDOT District 1 Project Program Information (PPI) form (prepared by consultant- submitted to and processed by IDOT)

2. Design Survey & Plat of Highways

This project will be completed utilizing ground surveys within the boundaries identified below. The topographic survey will be conducted for use in Phase II. The survey includes the anticipated area of impacts beyond the existing right of way (ROW). Topographic information will be gathered from building face to building face and as needed to develop a suitable digital terrain model (DTM) for the project. Specific areas of additional survey (beyond building face/ ROW line) are:

- 1,800 feet linear distance on each leg of the intersection
- 50 feet beyond ROW along all legs

Benesch will perform survey work required to provide design data for this project. Design will be performed utilizing Illinois State Plane Coordinates, East Zone. Survey information will be generated using traditional survey equipment (when required for accuracy) and RTK-GPS equipment where conditions and requirements permit. Benesch will tie the survey into County benchmark (station 1505) if present at time of survey.

Design survey tasks will include:

- Traverse and level circuit - USGS Benchmarks in the vicinity will be researched and recovered and used to control the vertical components of the design.
- Cross-sections –50’ intervals for the project corridor. Additional sections will be taken at critical locations such as driveways and culverts.
- Existing Right-of-Way Determination – The apparent existing ROW will be determined from readily available visible data (marked property corners, monumented section corners, iron pipes/rods, etc.) and from a review record sources (plans, plats, etc. This task items does not include researching property records (title commitments) or establishment of section corners and other land survey monuments.
- Datum Correlation of Flood Insurance Data - Benesch shall obtain available FIRM maps and research and recover as many RMS benchmarks as possible. These RMS benchmarks will be tied to the design vertical control system established for the project
- Will be completed in accordance with LCDOT survey procedures which has been made as an attachment to the proposal.

Deliverables: Plat of Highways, electronic survey, and copies of field books.

3. Utility Coordination

Utility coordination will begin early on and continue throughout the project as designs are advanced. It is anticipated that this coordination will include:

- a) Preliminary: Benesch will gather utility atlases and field verify locations where possible as part of the initial design and survey tasks. Affected utilities will be identified. Existing conditions plan and profile sheets (with atlas/ survey information) will be sent to the utilities to refine the location of their facilities.
- b) Proposed Improvement: Preliminary proposed design information (plan and profile sheets) will be transmitted to the utility companies to identified specific conflicts. If potential conflicts are identified, Benesch will coordinate with each utility to locate the vertical and horizontal position of utilities. Benesch will field survey exposed vertical elevations of public and private utilities (“pot holes” by utility companies.) Benesch will coordinate with individual utilities to establish conceptual parameters for relocation.
- c) Easements: Benesch will review existing easements which may be present for determination of cost participation which may be required for relocations.

Benesch will identify if additional easements are required for potential relocation of utilities.

Deliverables: Documentation of utility coordination process

4. Roadway Drainage Studies

This task will consist of the required roadway drainage studies as confirmed with Lake County SMC. Initial coordination with Lake County is included under Task 1.

Roadway Drainage Study- Existing drainage areas, patterns and facilities (storm sewers, ditches/swales, agricultural drain tile etc.) will be reviewed and analyzed for their capacity to convey required storm frequency drainage. Coordination will be conducted with the County to identify existing drainage problems and concerns. Based on an evaluation of the existing drainage conditions, a proposed drainage plan will be developed to accommodate the roadway and right-of-way drainage. The proposed drainage will include storm sewer sizing and routing. A drainage report (abbreviated Location Drainage Study) will be produced and submitted to the County for review. As part of the Roadway Drainage Study, potential BMP's (Best Management Practices) will be identified.

Deliverables: Abbreviated LDS,.

5. Establish Geometric Requirements

Prior to formally establishing the logical termini for the project with IDOT and FHWA, Benesch will analyze existing and forecasted year 2040 traffic and determine geometric requirements for the project (horizontal and vertical alignments).

This task includes the traffic and preliminary geometric design analyses including establishment of geometric design parameters (design speed), development of preliminary geometric designs (horizontal and vertical) and preliminary identification of required Design Variances. Intersection Design Studies (IDS's) of the intersection will be prepared (superimposed on aerial photography).

This task also includes the crash analyses required for the project. Crash reports from the last 5 years (provided by the County) will be reviewed and crash summary and collision diagrams produced. This task also includes analysis of crash trends and development of proposed countermeasures.

This task includes a progress/coordination meeting with the County as well as preparation for, and attendance at, the IDOT/FHWA/BLR coordination meeting to establish project termini, anticipated level of processing and to gain concurrence on Section 4(f) processing (see also Task 7.)

Deliverables: Technical Memorandum summarizing results of preliminary design and recommendation cross-section based on roadway and

intersection capacity analyses (preliminary profile, horizontal geometric and preliminary impacts)
Identification of anticipated design variances
Crash analyses summaries, collision diagrams
IDOT/FHWA/BLR coordination meeting exhibits and minutes

6. Environmental Studies

Environmental Survey Request

It is anticipated that this project will be processed by the Federal Highway Administration (FHWA) as a Categorical Exclusion. The Environmental Survey Request Form (ESRF) will be submitted to obtain signoffs on biological, wetlands and cultural issues. This work effort will consist of preparation of an aerial base photo with existing right-of-way and areas for screening (conservative estimate of future right-of-way/easements) identified. IDOT requirements include submittal of general ground level photos and individual photos of all structures over 50 years old. The ESRF and support documents will be submitted electronically to IDOT Bureau of Local Roads for processing. This task will also include incidental coordination related to the ESR submittal and review.

7. Section 4(f) Processing

The project has the potential to involve construction impacts (temporary and permanent) to Grants Woods – North (Lake County Forest Preserve). All of these facilities are classified as 4(f) properties (recreational facilities open to the public.) This task includes the additional coordination, documentation and processing through IDOT of the section 4(f) impacts. Impacts may either be “Temporary Occupancy” or be classified as “De Minimis” (minor impacts). Documenting the minor impacts, including documenting support of the project by the Lake County Forest Preserve will support processing the project as a Categorical Exclusion Group I.

Deliverables: Exhibits, memorandums and other documentation (including coordination with Lake County Forest Preserve) necessary to document impacts and obtain approval of 4(f) impacts from IDOT/FHWA.

8. Public Involvement Program

The scope includes two formal public meetings, three workshop meetings with local homeowners/groups/Lake Villa officials, providing support to County staff for their coordination activities,

- Public Meeting No. 1 – Project Introduction, solicit community input on needs and desires, solicit and identify areas and issues of concern for the project that will require further specific coordination. Identify those parties for additional follow up in workshop meetings
- Workshop Meeting No. 1 – Attendees to be determined
- Workshop meeting No. 2: – Attendees to be determined

- Public Meeting No. 2- Presentation of alternatives, summarize study process, present impacts (including property acquisition) and anticipated construction staging.
- Workshop Meeting No. 3: – Attendees to be determined
- Public Meeting No. 3- Presentation of Preferred Alternative, summarize study process, present impacts (including property acquisition) and anticipated construction staging.

Deliverables: Exhibits, handouts, support material for County staff and meeting minutes/summaries in support of the project. Publication of meeting notices in local newspapers as required by IDOT.

9. Landscape, streetscape and aesthetic elements

This task will consist of developing streetscape/ gateway and aesthetic elements as well as landscaping treatments for the intersection. This task will also include identification and estimating of participating (eligible) costs under IDOT/FHWA funding and what costs would be 100 percent locally funded. Presentation of options and design alternatives, coordination with stakeholder groups will occur within the public involvement process (Task 8).

A coordination meeting with Lake Villa to discuss landscape, streetscape, and aesthetic elements.

Deliverables: Exhibits/ renderings, handouts, meeting minutes/summaries, etc. and cost estimates (participating/ non-participating).

10. Development and Evaluation of Alternatives

This task will consist of the refinement of the preliminary intersection alternatives and the evaluation of these alternatives utilizing Benesch's Performance Acceptance Cost Evaluation methodology (P.A.C.E.) Alternatives will look at different options that will affect the vertical profile (raise) and the corresponding roadway impacts to adjacent properties, driveways and intersections. This scope item will include different cross sections treatments based on public and County input. This task will include the development of vertical and horizontal alignments for comparison and cross-sections at critical locations. This task will look at construction staging issues between alternatives as well. This work will be conducted in parallel with task item 4 and 5 and will be concluded prior to tasks 11 and 12 below.

Deliverables: Memorandum documenting evaluation process (PACE) and selection of preferred alternative. Supporting exhibits and documentation.

11. Preferred Alternative

This task will consist of development of the final plan and profile sheets, cross-sections and traffic staging exhibits for use in public involvement activities and for use in the Project Development Report (PDR).

Deliverables: Plan and profile sheets, cross-section sheets, traffic staging exhibits, and Intersection Design Study

12. Quality Control/ Quality Assurance (QA/QC) and Project Administration

Administration consists of project management responsibilities such as: development of a QA/QC Plan, project scheduling activities, invoicing, staffing resource management and internal project team meetings to provide a quality product on schedule and within budget. Benesch will prepare progress reports and invoices on a four-week cycle. These progress reports and invoices will be in a format acceptable to the County.

Benesch will prepare a project schedule, including a breakdown of the major tasks depicting the project's key milestones and deliverables for Phase I.

The development of a Quality Management Plan (QMP) is included within the proposed administration scope. The draft QMP will be submitted one week after notice to proceed and the Final QMP incorporating comments by the County will be submitted three weeks after notice to proceed.

This task will include the internal processes necessary to ensure consistency and accuracy of documents and deliverables. Deliverables will be checked by independent peer reviews prior to delivery to the County. Documentation of QA/QC procedures will be maintained, and will be furnished upon request to the County.

Deliverables: Project Work Plan, QMP, Progress Reports, Invoices and Project Schedule

13. Sustainability Initiatives

This task will include the following steps to begin the Envision and Invest rating processes:

a) The completion of the Envision Pre-Assessment Checklist in coordination with LCDOT and a staff member of the Institute for Sustainable Infrastructure (ISI). This will help determine the number of credits which may apply to an intersection project.

The completion of the Invest Project Development by Criteria Scorecard to determine the number of criteria that may apply to an intersection project.

b) The completion of a comprehensive comparison of the two programs.

Deliverables: A memo summarizing the analysis of the cost of implementation and benefit to the County for these rating systems. This will assist the county during future consideration of the implementation of these score cards for other projects. A comparison matrix of the Invest and Envision programs and anticipated preliminary scoring for each metric for this project.

14. Peer Review of Roundabout Designs

This task will include an independent peer review of Benesch's roundabout alternatives. The scope of this work is included in a separate attached proposal from MTJ Engineering, LLC.

15. Geotechnical and CCDD services

This task will be performed by Rubino Engineering. The scope of this work is included in a separate attached proposal.

16. PESA and Wetlands

This task will be performed by Huff and Huff. The scope of this work is included in a separate attached proposal.



313 Price Place, Suite 5
Madison, WI 53705
Office: 608.238.5000
Fax: 866.846.5552
www.mtjengineering.com

December 16, 2015

Laura L. McGovern, PE
Sr. Vice President
Alfred Benesch & Company
205 N. Michigan Ave., Suite 2400
Chicago, IL 60601

Re: Lake Co., IL – Fairfield & Monaville Rds. Roundabout Peer Review

Laura:

I am very pleased to provide this proposal for expert roundabout peer review services for the proposed roundabout at the intersection of *Fairfield and Monaville Roads in Lake County, IL*.

MTJ Roundabout Engineering's Mark T. Johnson, PE, with 19 years of traffic and transportation engineering experience – including 17 years of focused modern roundabout design, traffic planning with roundabouts and associated analysis – represents unparalleled breadth and depth of experience in modern roundabout applications.

Mark has been involved in approximately 400 projects across the U.S with a broad range of contexts and decision-making environments. Mark's experience encompasses all aspects of traffic and transportation engineering associated with complex roadway and intersection projects. Rather than just place a roundabout into a location, MTJ Engineering's project approach considers the entire roadway context and project objectives of the project as it relates to the proposed roundabout/intersection design. This experience and design approach allows for optimization of safety and operations for all modes, while minimizing impacts to sensitive environmental areas or other impacts leading to the achievement of appropriate design solutions. Each roundabout is specifically designed to address the traffic flows, site constraints, context, and project objectives of the particular intersection or corridor.

Mark was an author of the revised 2010 FHWA Roundabout Guide, is an authorized FHWA Peer-to-Peer Roundabout Reviewer, and works closely with many agencies and consultancies across the U.S. on roundabout policy, feasibility analysis, design, design review, pedestrian facilitation, and public outreach/presentations. Effective communication of information in an easily understood manner is the cornerstone of successful projects. Mark's experience with challenging and controversial projects and understanding of modern roundabout operations allows for communication in an easily understood manner that has proven very effective for successful project implementation addressing concerns of agencies, elected officials, business owners, and public citizens regarding this form of intersection control.

PROJECT UNDERSTANDING

As part of the Phase I feasibility analysis of this intersection MTJ will provide the roundabout application analysis and concept/preliminary design for inclusion into the feasibility study of a roundabout. This work effort will include the roundabout operational analysis, design, public involvement assistance, review and technical assistance. Also included in this proposal are 2-D and 3-D visualization services for the roundabout alternative to support the public outreach component.

As part of the roundabout design review development we anticipate developing 2-3 "sketch" level design alternatives with differing circle placements and associated impacts for evaluation. Two-D planning level graphics will be developed to provide a comparison of these sketch level alternative concepts with respect to meeting the project objectives, to include operational requirements, truck facilitation, and differing ROW impact opportunities.

It is anticipated that a preferred sketch level design will then be forwarded to a higher level of design refinement reflecting the expected horizontal impacts of the roundabout design. This "concept/preliminary" design will be used for feasibility in comparison to the signal alternatives. Three-D visual graphics will be produced for the roundabout alternative based on this design. It is also anticipated that this concept/preliminary design will incorporate interim and ultimate design provisions.

SCOPE OF WORK (TASKS)

TASK 1: EVALUATION AND REVIEW OF EXISTING ANALYSIS AND PROJECT OBJECTIVES

Review existing constraints and context to include:

- Existing roadway context
- Circulation, side street, and potential business access requirements
- Constraints including parking, ROW, major utilities
- Pedestrian and bicycle facilitation needs
- Large truck and freight movement requirements

TASK 2: OPERATIONAL ANALYSIS

MTJ will perform capacity analysis with the roundabout capacity analysis software program Rodel v1.88. This analysis will include the AM/PM peak hour analysis for the build year and the projected, long-range design year traffic flows. MTJ will perform a sensitivity analysis utilizing Rodel's analysis tools to determine an expected break down year of a single-lane roundabout to determine and when two lanes may be necessary.

Rodel's geometric capacity prediction methodology provides an excellent foundation from which to understand with a high level of certainty the expected operations, providing a level of confidence in the design decisions with respect to acceptable delay, queuing and ultimately feasibility.

Rodel's predictive capabilities have been field-verified on recent FHWA capacity data at roundabouts in the U.S. Rodel's capacity predictions output allows for a comparison to U.S. capacity data, providing a level of understanding and confidence not as easily obtained by other analysis programs. Additionally, Rodel includes the HCM 2010 Capacity Model that can be used for analysis if desired for comparisons.

TASK 3: HORIZONTAL DESIGN REVIEW & OPTIMIZATION

MTJ will review the provided horizontal design and summarize any significant findings that may pose known safety or operational issues. Based on the review findings, MTJ will provide recommendations for consideration aimed at optimization to ensure optimal vehicular comfort, and pedestrian safety, while achieving large truck accommodations and minimizing impacts.

The geometric design recommendations will include:

- Review of design treatments for vulnerable users, pedestrian/bicycle safety – Pedestrian Facilitation requirements as per NCHRP 674
- Review of overall geometry to include transitions to existing and proposed roadways and intersections to ensure optimal operations and safety
- Review of large truck/freight movement

TASK 4: DESIGN REVIEW OF SIGNING, PAVEMENT MARKINGS

Placement of signing and pavement marking details are integral components of roundabout design and can effect operations, safety and public acceptance. MTJ will review and provide redline comments for:

- Signing
- Pavement markings

TASK 5: COMMUNICATIONS

MTJ will coordinate with project team and agency staff necessary to approve the proposed roundabout design, including:

- Responses to inquiries
- Phone and email correspondence
- Net-based meetings (MTJ subscribes to GoToMeeting)
- On-site meetings available upon request (not included in current costs)

TASK 6: WRITTEN SUMMARIES

MTJ will provide a summary of critical design elements and parameters for the roundabout, to include:

- Operational analysis summary
- Fast paths
- Design vehicle truck templates
- Pedestrian facilitation

PROPOSED FEE SCHEDULE:

Project Fee Estimate for: MTJ Engineering, LLC					
Client:	Alfred Benesch& Company				
Project:	Lake County, IL – Fairfield & Monaville		Date:	12/16/2015	
Description:	Roundabout Peer Review Services		Prepared By:	MTJ	
Task No.	Task Description	Estimated Person Hours Required			Totals
		Principal Engineer (MTJ)	CAD Tech / Visual.	Tech	
1)	EVALUATE PROJECT OBJECTIVES/STUDIES AND PLANS	1			1
2)	OPERATIONAL ANALYSIS	2			2
3)	HORIZONTAL DESIGN REVIEW & OPTIMIZATION	32	14	16	62
4)	DESIGN REVIEW OF SIGNING & PAVEMENT MARKINGS	32			32
5)	COMMUNICATIONS	16			16
6)	WRITTEN SUMMARIES	16		14	30
Total Person Hours		99	14	30	143
Billing Rate/Hr		\$ 169	\$ 119	\$ 51	
Total Billable for Charged Time		\$ 16,731	\$ 1,666	\$ 1,530	\$ 19,927
Fee Proposal for:			Direct Expenses (at actual):		
MTJ Engineering, LLC			FLIGHT HOTEL CAR		
313 Price Place, Suite 11					
Madison, WI 53705			Total Project Fees		\$ 19,927

On behalf of MTJ Roundabout Engineering, thank you for this opportunity and I look forward to working with you to develop this exciting and challenging project. If you require further information, please do not hesitate to contact me.

Sincerely,



Mark T. Johnson, P.E.
 (WI, MI, OH, IN, MN, CO, TX, ME, FL, AZ, AR, GA, NE, OR, NH, AB)
 Principal Engineer
 MTJ Engineering, LLC

January 21, 2016

To: Laura L. McGovern, PE
Alfred Benesch & Company
205 N. Michigan Avenue, Ste 2400
Chicago, IL 60601
Phone: 312-565-0450

Re: Proposal – Cores + IBV Testing
Proposed Intersection Improvements
Fairfield Road and Monaville Road
Lake County, IL

Proposal No. Q15.426g_REV2

Via email: lmcgovern@benesch.com

Dear Ms. McGovern,

Rubino Engineering, Inc. (Rubino) is pleased to submit the following proposal to provide geotechnical engineering services for the above referenced project.

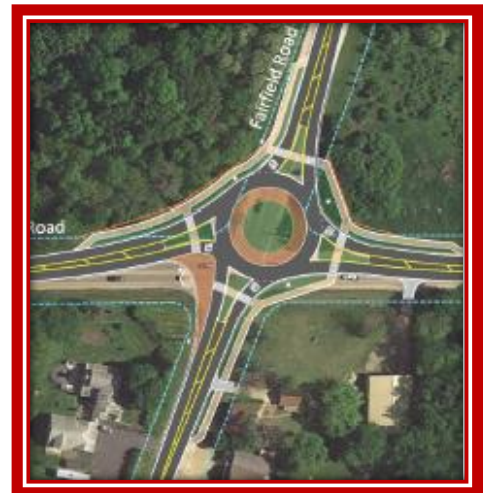
Rubino received a request for proposal from you via email on December 15th, 2015.

PROJECT UNDERSTANDING

Rubino understands that Lake County is planning to reconstruct and possibly reconfigure the intersection of Fairfield Road and Monaville Road. Reconfiguration may include converting the traditional four way intersection into a roundabout intersection. Four different intersection configurations have been proposed. Rubino understands per conversations with you that hydric soils have been found on the north and east legs and under the intersection pavement with possible remediation areas needing to be identified.

Information received:

- Intersection configuration options – Southeast Roundabout, Northeast Roundabout, Northwest Roundabout and Traditional Intersection (prepared by Benesch)





Should any of the information on which this proposal has been based, including as described above, be inconsistent with the planned construction, Rubino requests to be contacted immediately in order to make any necessary changes to this proposal and scope of work.

SCOPE OF SERVICES

The following sections outline the scope of services developed based on the information provided by the client and the information listed above in order to provide a geotechnical exploration the planned project. The exploration will be performed in general accordance with both the requested proposal information and Rubino's current understanding of the project.

Site Access and Traffic Control

Based on current site topography, surface conditions, and project discussions, Rubino anticipates that the proposed core locations will be within existing paved areas and will therefore be accessible to a pickup truck.

Traffic control will consist of cones, Approach signage, and flaggers. Rubino anticipates that the drill rig will require partial lane closure.

Coring, DCP and Hand Auger Scope

Pavement cores will be taken with a Milwaukee Drill and a two foot diamond-bit core barrel.

As an option, soil strength can be determined by performing dynamic cone penetrometer (DCP) testing and hand auger sampling in the pavement core locations. Grab samples will be taken from the hand augers for this option.

SPT Soil Sampling

As an option, soil sampling will include split-barrel samples (ASTM D 1586) or thin-walled tube samples on cohesive soils (ASTM D 1587) at 2 ½ - foot intervals to a depth of 10 feet and 5 - foot intervals thereafter.

If unsuitable bearing soils are encountered within the borings as proposed herein, the borings will be extended an additional 5 feet to attempt to end the borings in suitable soils. If unsuitable soils persist at the end of an additional 5 feet the client will be contacted prior to demobilizing.

Unsuitable soils will be defined by field personnel using the following criteria:

- Cohesive soils with an N value less than or equal to 6.
- Granular soils with an N-value less than 10.
- Black cohesive or silty soil with visible signs of organic matter and / or organic odor and low blow counts as described above.

Quantity of sampling locations

To obtain data to evaluate subsurface conditions within the proposed development/construction areas, Rubino proposes the following scope:

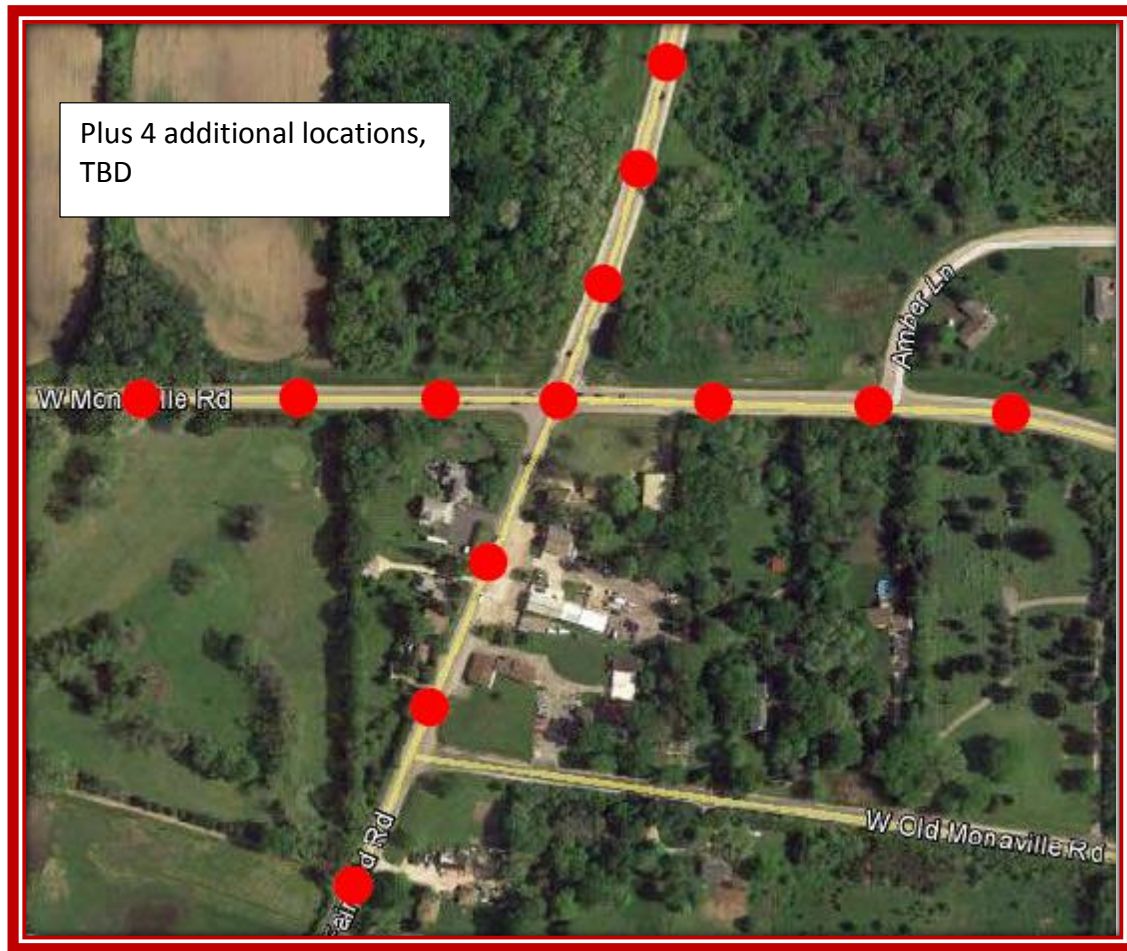
NUMBER OF CORES	IBV TESTING METHOD	DEPTH (FEET BEG*)	LOCATION
13	DCP / SPT	3 – 5 feet	Monaville Road and Fairfield Road (500 FT Spacing) – See Core Locations for approximate locations. Final locations TBD by Benesch prior to mobilization
4	DCP / SPT	3 – 5 feet	Hydric soil areas, TBD

*BEG = below existing surface grade

Core / Boring Locations

Rubino recommends that the borings be located and surveyed for elevation by others prior to drilling. If the borings cannot be surveyed, Rubino will locate the borings in the field by measuring distances from known, fixed site features.

Approximate locations shown below, 500 Foot spacing between the core locations. Final locations to be confirmed with Benesch prior to mobilization. Four (4) borings have been added to obtain additional information in hydric areas per request by LCDOT.



Sampling and Soil Classification

Soil classification will be performed by observing the soil on the auger flights. Soil sampling will include grab-sampling off the auger flights.

Completion of Cores

Upon completion of sampling, the cores will be backfilled with soil cuttings and capped with Quikrete. Some damage to ground surface may result from the drilling operations near the work areas and along ingress/egress pathways. Rubino will attempt to minimize such damage, but no restoration other than backfilling the soil test borings is included.

It should be noted that over time, some settlement may occur in the bore hole. If Rubino is requested to return to the site for the purpose of filling any bore holes that may have settled, additional time and material charges may apply.

Laboratory Testing

The soil samples obtained during the field exploration program will be transported to the laboratory for classification and a limited number of laboratory tests. The nature and extent of the

laboratory testing program is at the discretion of Rubino Engineering, Inc. and will depend upon the subsurface conditions encountered during drilling.

Laboratory testing will be performed in accordance with ASTM procedures and may include examination of selected samples to evaluate the soils' index properties and relative strength characteristics.

LABORATORY TEST	ESTIMATED QUANTITY	SAMPLE TYPE
Atterberg Limits	4	Split spoon, bulk, or Shelby Tube
Hydrometer	2	Split spoon, bulk, or Shelby Tube
Natural Moisture Content	13	Shelby Tube, Cohesive Samples
Organic Content	4	Split spoon, bulk, or Shelby Tube

CCDD Testing – PIP and pH

Rubino will retain an environmental engineering firm to perform a "Potential Impacted Property" (PIP) evaluation of the area near the project area.

Composite soil samples from each borehole will be tested in the laboratory for pH for use with IEPA form LPC-662 to be signed by others.

If the PIP evaluation indicates further testing is needed for form LPC-663, Rubino will order one set of laboratory analytical tests in general compliance with the IEPA CCDD requirements. Laboratory testing will be at the discretion of the Environmental Professional based on knowledge of the project area.

If the analytical testing indicates the soils are contaminated, additional testing and an additional disposal source may be necessary.

Field and Laboratory Testing - CCDD

Rubino will subcontract an environmental professional to perform PID testing on the soil samples and one set of laboratory analytical tests in general compliance with the IEPA CCDD requirements. Laboratory testing will be at the discretion of the environmental professional based on knowledge of the location of the borings. If testing indicates the soils are contaminated, additional testing and an additional disposal source may be necessary.

- PIP Evaluation (Historical & Regulatory)
- Soil Analytical:
 - Volatile Organic Compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PNAs), Resource Conservation Recovery Act (RCRA) Metals, pH – 1 sample
 - Various Locations within non PIP areas (residential) – pH performed by Rubino
 - TCLP / SPLP RCRA Metal (**only if necessary**)
 - Composite Non-Hazardous Non-Special Waste Analytical (if necessary for landfill disposal, **only if necessary**)

- PE Review & Certification (LPC #663)

GEO REPORT

Upon completion of field and laboratory work, Rubino will prepare a geotechnical engineering report using the collected data. The geo report will include the following:

- *Summary of client-provided project information and report basis*
- *Overview of encountered subsurface conditions*
- *Overview of field and laboratory tests performed including results*
- *Geotechnical recommendations pertaining to:*
 - *Subgrade Stability*
 - *Estimated IBV value at each boring location*
- *Construction considerations, including temporary excavation and construction control of water*

An electronic copy of the report will be provided. The report will be addressed to Alfred Benesch & Company.

PROJECT SCHEDULE

Rubino proposes to initiate work on this project within 3 working days after receiving written authorization to proceed and we will follow the schedule below in order to complete the project:

Task	Number of Working Days
Utility clearance and rig mobilization	5
Field work including site layout and drilling	5
Laboratory Testing (Geo and CCDD)	5-15
Preparation of the Geotechnical Report	10

Project schedules can be affected by weather conditions and changes in scope. If the report needs to be delivered by a specific day, please notify us as soon as possible. Preliminary verbal recommendations can be made to appropriate parties upon completion of the field investigation and laboratory testing. Rubino will need to receive a signed copy of this proposal intact prior to mobilizing the drill rig.

SPECIAL INSTRUCTIONS

Rubino will coordinate contacting the Utility "One-Call" for public utility clearance prior to the start of drilling activities. It is Rubino's experience that this service does not mark the locations of privately owned utilities. This proposal is based on private utility lines and other subsurface appurtenances being located in the field by others prior to our mobilization.

FEES

Rubino proposes to charge the fee for performance of the outlined scope of services on a lump-sum basis. Based on the scope of services outlined above, the lump-sum fee will be:

Geotechnical	Coring and Report Preparation:	\$4,900.00	Lump sum
Traffic Control	Flaggers and approach signage (estimate 2 days)	\$2,000.00	Lump sum
CCDD	PIP Evaluation and pH testing at each boring:	\$1,000.00	Lump sum
	OR		
	Soil Analytical testing for form 663 (estimate 4)	\$2,400.00	Lump sum
	Form LPC 663 and Report:	\$1,500.00	Lump sum
	TCLP / SPLP RCRA Metal (estimate 4)	\$800	Lump sum

Please see the attached fee schedule for additional unit rates for services requested after issuing the geotechnical report (drawing / spec review, scope or site layout change, etc.).

Scope Limitations

Project services do not include a site evaluation to determine the presence or absence of wetlands, hazardous substances, or toxic materials.

Rock coring is not included in the scope of this exploration, therefore, the character and continuity of refusal materials, if encountered, can be determined only with a more comprehensive scope of services. Therefore, the borings will be advanced to the depths referenced above, or to refusal, whichever is shallower.

Coring, sampling and testing requirements are a function of the subsurface conditions encountered. The proposed lump-sum fee is based on the existence of adequate bearing materials being encountered within the proposed boring depths. Should conditions be encountered which require a deepening of borings or additional investigation, Rubino will notify you to discuss modifying the outlined scope of services. Additional work beyond the lump-sum fee will not be performed without your prior authorization.

AUTHORIZATION

If this proposal is acceptable to you, Rubino will perform the work in accordance with the attached General Conditions that are incorporated into and made a part of this proposal. Please sign below as notice to proceed and return one copy of this proposal intact to our office. Rubino will proceed with the work upon receipt of authorization.

Rubino appreciates the opportunity to offer our services for this project and we look forward to working with your company. Please contact Rubino with questions pertaining to this proposal or requests for additional services.

Respectfully submitted,

RUBINO ENGINEERING, INC.



Michelle A. Lipinski, PE
President

RUBINO ENGINEERING, INC. IS:
AN AASHTO-ACCREDITED LABORATORY
IDOT PREQUALIFIED
IDOT DBE-CERTIFIED (100% WOMAN-OWNED)

MAL/file

Attachments: Proposal Acceptance and Data Sheet
 Schedule of Services and Fees
 General Conditions

**This is an electronic copy. Hard Copies of this proposal are available upon request.

PROPOSAL ACCEPTANCE:

AGREED TO, THIS _____ DAY OF _____, 2015.
BY (please print): _____
TITLE: _____
COMPANY: _____
SIGNATURE: _____

PROJECT INFORMATION:

1. Project Name: _____
2. Project Location: _____
3. Your Job No: _____ Purchase Order No.: _____
4. Project Manager: _____ Telephone No.: _____
5. Site Contact: _____ Telephone No.: _____
6. Number and Distribution of Reports:

() Copies To: _____ _____ _____ Attn: _____ Email: _____	() Copies To: _____ _____ _____ Attn: _____ Email: _____
() Copies To: _____ _____ _____ Attn: _____ Email: _____	() Copies To: _____ _____ _____ Attn: _____ Email: _____
7. Invoicing Address: _____

Attn: _____
Email: _____
8. Other Pertinent Information Or Previous Subsurface Information Available:

Rubino Engineering, Inc.
2015 Schedule of Geotechnical Services & Fees

CORING SERVICES

Project Engineer/Manager	Per Hour	\$	100.00
Staff Engineer	Per Hour	\$	85.00
Material Tester 1 (Coring)	Per Hour	\$	85.00
Coring Equipment (vehicle, Milwaukee core rig, generator)	Per Day	\$	200.00

LABORATORY TESTING

Moisture Content Test / Visual Classification	Each	\$	6.00
Atterberg Limits Determination (LL, PL)	Each	\$	85.00
Combined Hydrometer & Sieve Analysis	Each	\$	130.00
Sieve Analysis (washed)	Each	\$	85.00

REMARKS

- 1) All fees and services are provided in accordance with the attached Rubino General Conditions.
- 2) Unit prices/rates are in effect for 12 months from the date of this proposal and are subject to change without notice thereafter.
- 3) Overtime rates are applicable for services performed in excess of 8 hours per day Monday through Friday, before 8:00 AM or after 5:00 PM, and for all hours worked on Saturdays, Sundays and holidays. The overtime rate is 1.5 times the applicable hourly rate.
- 4) All rates are billed on a portal-to-portal basis.
- 5) Standby time due to delays beyond Rubino's control will be charged at the applicable hourly rate.
- 6) Transportation and per diem are charged at the applicable rates.
- 7) Rates involving mileage (including transportation, mobilization, vehicle and trip charges) are subject to change based upon increases in the national average gasoline price.
- 8) A minimum charge of 4 hours applies to field testing and observation services.
- 9) Scheduling or cancellation of field testing and observation services is required no less than the working day prior to the date the services are to be performed. Services cancelled without advance and/or inadequate notice will be assessed a minimum charge of 4 hours.
- 10) For all Rubino services, a project management/engineering review charge will be billed for all reports issued for the scheduling/supervision of personnel and the evaluation/review of data and reports.
- 11) The minimum billing increment for time is a half hour.
- 12) A project set-up charge of a minimum of two hours applies to all projects.
- 13) Professional services rates are exclusive of expert deposition or testimony time.
- 14) Drilling and field service rates are based on OSHA Level D personnel protection.
- 15) For sites where drilling is to occur that are not readily accessible to a truck mounted drill rig, rates for rig mobility, site clearing, crew stand-by time, etc. will be charged as applicable.
- 16) If applicable the prevailing wage fees charged under this agreement will be adjusted if there is any change in the applicable prevailing wage rate established by the Illinois Department of Labor.
- 17) Services and fees not listed on this schedule may be quoted on request.



915 Harger Road, Suite 330
Oak Brook, IL 60523
Phone (630) 684-9100
Fax (630) 684-9120
Website: <http://huffnhuff.com>

December 16, 2015

Ms. Laura McGovern, P.E.
Senior Vice President
Alfred Benesch & Company
205 North Michigan Avenue
Suite 2400
Chicago, Illinois 60601

**Re: Environmental Services
Fairfield Road at Monaville Road
Unincorporated Lake County and Lake Villa, Illinois
Proposal No.: 81.PT00150.16**

Dear Ms. McGovern:

Huff & Huff, Inc., a subsidiary of GZA GeoEnvironmental, Inc. (Consultant) is pleased to submit this proposal to Alfred Benesch & Company (Client) to initiate Phase I environmental services in conjunction with the proposed intersection improvement of Fairfield Road at Monaville Road in Unincorporated Lake County and Lake Villa, Illinois.

1. PROJECT UNDERSTANDING

Lake County Division of Transportation is requesting services in preparation of Phase I preliminary engineering, and an option to perform Phase II design engineering, in accordance with the Illinois Department of Transportation's Bureau of Local Roads & Streets Policies & Procedures, for an intersection improvement of Fairfield Road and Monaville Road in Unincorporated Lake County and Lake Villa, Illinois. This project will include studying both a roundabout intersection and a conventional signalized intersection for this location. Consultant has been requested to provide Phase I environmental services including wetland delineation / reporting and completion of a Preliminary Environmental Site Assessment (PESA).

2. SCOPE OF SERVICES

Consultant is pleased to provide this scope of services for conducting environmental services for the referenced project in Unincorporated Lake County, Illinois. This proposal presents our project understanding, the scope of services, and cost for completing the project.

Task 1 – Preliminary Environmental Site Assessment (PESA)

Consultant will prepare separate Preliminary Environmental Site Assessment for the Project Corridor. The process will follow general protocols associated with ASTM E1527-13, which is a standard environmental site assessment methodology and IDOT procedures. These protocols are consistent with the "Preliminary Site Assessment (PESA)" procedures outlined by the Illinois Department of Transportation (IDOT) in BDE #66-10A and the "Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects." No soil sampling is included in this task. Soil management and CCDD issues will be investigated during Phase 2 and is not included in this scope of services.

A. Historical Research

The project corridors historical land use/ownership records will be developed from standard historical sources. Historical aerial photographs or historical maps, such as Sanborn Fire Insurance Maps, will be reviewed, as available. The review will identify land use over time and potential areas of environmental concern, such as areas of surface disturbance and outside storage.

B. Site Evaluation

Current environmental features and conditions of sites adjacent to the right-of-way/project areas will be evaluated. A site walkover of potential right-of-way/project areas designated for excavation and/or acquisition will be conducted for first-hand evaluation of current environmental conditions within the project limits. All of the features and conditions listed above will be investigated and, as appropriate, documented in photographs. The land-use and housekeeping practices of adjacent properties also will be evaluated in accordance with ASTM protocols.

C. Records Review

A records review will be conducted to determine potential environmental concerns within the study areas. The reviews will include a search of standard state and federal environmental record databases in accordance with the specifications of ASTM standards. The searches are based on the outline of the study areas.

Specifically, Consultant will search each database to identify any potential sources requiring further investigation. As appropriate, Freedom of Information Act (FOIA) requests will be filed with the Illinois Environmental Protection Agency (IEPA) to obtain additional data pertaining to identified sites.

D. Report Preparation

A PESA report summarizing the results of the evaluation will be prepared for each of the project corridors. The following information will be included in these reports:

- a) The project location and description
- b) Historical uses of corridor.
- c) The area geology and hydrology.
- d) The environmental status of sites adjacent to the corridor regarding chemical use

- and storage, underground and aboveground storage tanks, solid waste, special waste, and hazardous waste, wastewater, and PCBs.
- e) An analysis of the site inspection.
 - f) A summary of the findings regarding any environmental concerns. This will include IDOT's per Memo 66-10 and identification of Potentially Impacted Properties (PIPs) per Subpart F, Section 1100, 35 IAC, related to Clean Construction Demolition Debris management.

Task 2 - Wetland/WOUS Delineation

Consultant will conduct a wetland and WOUS delineation using current methods and guidance and methodologies from the U.S. Army Corps of Engineers (COE). The assessment will include a document review (soils, topographic, wetlands, hydric soils, floodplain, and aerial photography mapping), an on-site field investigation, and a report summarizing findings, including mapping.

A. Off-site Record/Document Review

The following records/documents will be reviewed prior to conducting the field investigation. Soils information will be reviewed to determine the soil types encountered during the delineation procedures. The maps reviewed and to be used include:

- U.S. Geological Survey Topographic Maps
- National Wetlands Inventory (NWI) Maps
- Lake County Soil Survey
- Lake County Wetland Inventory Maps
- Lake County ADID Wetland Maps
- Flood Insurance Rate Maps
- Aerial Photography

B. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by Consultant staff experienced in Federal methods for conducting wetland delineations. Consultant will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed in the field by Consultant using GPS. As there is a Lake County Forest Preserve site adjacent to the project, Consultant will request permission to enter the Forest Preserve District site, if necessary prior to conducting fieldwork. Recently, the Lake County Forest Preserve requires a Certificate of Insurance listing them as additionally insured before work can be conducted on site.

A wetland and WOUS delineation of the project site will be conducted to meet the requirements of Executive Order 11990, "Protection of Wetlands;" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (COE, Section 404 Permit) and Illinois Environmental Protection Agency (IEPA, Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to

privately as well as publicly-owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and approximate boundaries of all wetlands and WOUS.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland and WOUS boundaries will be defined using the 2010 "*COE Midwest Region Manual*" (COE, 2010). Each potential wetland and WOUS area will be evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology. Functions of wetlands will be evaluated from field observations as well. All areas exhibiting wetland and WOUS characteristics within the project limits will be investigated.

The entire area within the proposed project limits will be investigated in the event that unmapped wetlands are present. As the wetland maps are developed to be used as a general planning tool, detailed field investigations are required to ascertain whether or not wetlands are present. All areas exhibiting wetland characteristics within the project limits will be investigated.

Consultant will flag the wetland perimeters and pick up the survey using GPS. Consultant will download the data and provide a file to Client with wetland and data point locations.

This task includes time for a boundary verification and preliminary jurisdictional determination with the Lake County Stormwater Management Commission; however, fees for the boundary verification and jurisdictional determination are not included in this cost estimate as the fees are based on the amount of wetlands present which is not known at this time.

Task 3. Wetland Report

A wetland and WOUS delineation report will be prepared summarizing the findings of the fieldwork. Based on reviewed information, wetlands and WOUS are present and this report will be needed.

Specific items to be included are as follows:

- a) Map showing the wetland/WOUS boundaries and project boundaries
- b) COE data sheets with color photos
- c) Written description of wetland functional classification
- d) Floristic Quality Index Rating assessment
- e) Permitting Summary
- f) Jurisdictional Summary Table
- g) Identification of 303d impaired waterways

Upon completion of the wetland report, Consultant will complete the Wetland Impact Evaluation (WIE) Forms and submit online through the IDOT website if the project is being processed through IDOT Bureau of Local Roads. It is anticipated only two WIE forms will be required.

Wetland permitting will be conducted in Phase 2 and is not included in this scope of work. The preliminary jurisdictional determination and boundary verification will be conducted during this phase of the project to provide a completed delineation document for Phase 2 permitting.

Task 4 – Project Management

Time under this task includes preparation of status reports, coordination with CLIENT, and QA/QC time for the wetland and PESA reports as described above.

3. PROJECT COST

The project cost is provided in the CECS Form attached to this proposal. Costs will be invoiced as a cost plus fixed fee

4. SCHEDULE

The scope is based on wetland delineation to be scheduled during the growing season (approximately April 15 to October 15). If the delineation is completed outside of the growing season, additional field visits would be required and is not included in this scope of services. The PESA will be scheduled within 10 days of the notice to proceed with an anticipated completion within six (6) weeks.

5. TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

These Terms and Conditions, together with Huff & Huff's Proposal, make up the Agreement between with Huff & Huff, Inc. and Alfred Benesch & Company, Inc., named above.

1. Services. H&H will perform the services set forth in its Proposal and any amendments or change orders authorized by you. Any request or direction from you that would require extra work or additional time for performance or would result in an increase in H&H's costs will be the subject of a negotiated amendment or change order.

2. Standard of Care. H&H will perform the services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time under similar conditions in the same or similar locality. **NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE OR INTENDED BY H&H'S PROPOSAL OR BY ANY OF H&H'S ORAL OR WRITTEN REPORTS.**

3. Payment.

- a. Except as otherwise stated in the Proposal, you will compensate H&H for the services at the rates set forth in the applicable Proposal, amendment or change order; reimburse its expenses, which will include a communication fee calculated as a percentage of labor invoiced; and pay any sales or similar taxes thereon.

- b. Any retainer specified in H&H's Proposal shall be due prior to the start of services and will be applied to the final invoice for services.
- c. H&H will submit invoices periodically, and payment will be due within 20 days from invoice date. Overdue payments will bear interest at 1½ percent per month or, if lower, the maximum lawful rate. H&H may terminate its services upon 10 days' written notice anytime your payment is overdue on this or any other project and you will pay for all services through termination, plus termination costs. You will reimburse H&H's costs of collecting overdue invoices, including reasonable attorneys' fees.

4. Your Responsibilities.

- a. Except as otherwise agreed, you will secure the approvals, permits, licenses and consents necessary for performance of the services. If you are the owner or operator of the Site, you will provide H&H with all documents, plans, information concerning underground structures (including but not limited to utilities, conduits, pipes, and tanks), information related to hazardous materials or other environmental or geotechnical conditions at the site and other information that may be pertinent to the services or, if you are not the owner or operator of the Site, you agree to make reasonable efforts to obtain these same documents and provide them to H&H. Unless otherwise indicated in writing, H&H will be entitled to rely on documents and information you provide.
- b. If you use the services of a construction contractor at the Site, you agree to use best and reasonable efforts to include in your agreement(s) with the construction contractor provisions obligating the latter:
 - (i) to indemnify, defend and hold harmless, to the fullest extent permitted by law, you and H&H, its officers, employees and principals, for or on account of any claims, liabilities, costs and expenses, including attorneys' fees, arising out of or relating to the design or implementation of construction means, methods, procedures, techniques, and sequences of construction, including safety precautions or programs, of the contractor, or any of its subcontractors or any engineer engaged by it;
 - (ii) to name you and H&H as additional insureds under general liability and builder's risk insurance coverages maintained by the contractor, or any of its subcontractors; and
 - (iii) to require that all of its subcontractors agree and be bound to the obligations set forth in (i) and (ii) above.
- c. In the event that you are unable to secure such provisions in the agreement(s) with the construction contractor, you shall promptly notify H&H and H&H shall have the opportunity to negotiate with you reasonable substitute risk allocation and insurance indemnities and protections.

5. Right of Entry. You grant H&H and its subcontractor(s) permission to enter the site to perform the services. If you do not own the site, you represent and warrant that the owner has granted permission for H&H to enter the site and perform the services; you will provide reasonable verification on request; and you will indemnify H&H for any claims by the site owner related to alleged trespass by H&H or its subcontractors.

6. Reliance. The services, information, and other data furnished by you shall be at your expense, and H&H may rely upon all information and data that you furnish, including the accuracy and completeness thereof. You acknowledge that the quality of the services provided by H&H is directly related to the accuracy and completeness of the information and data that you furnish to H&H. **H&H's REPORTS ARE PREPARED FOR AND MADE AVAILABLE FOR YOUR SOLE USE. YOU ACKNOWLEDGE AND AGREE THAT USE OF OR RELIANCE UPON THE REPORT OR THE FINDINGS IN THE REPORT BY ANY OTHER PARTY, OR FOR ANY OTHER PROJECT OR PURPOSE, SHALL BE AT YOUR OR SUCH OTHER PARTY'S SOLE RISK AND WITHOUT ANY LIABILITY TO H&H.**

7. H&H Professionals. H&H employees or consultants may act as licensed, certified or registered professionals (including but not limited to Professional Engineers, Licensed Site or Environmental Professionals, or Certified Industrial Hygienists, collectively referred to in this section as "H&H Professionals") whose duties may include the rendering of independent professional opinions. You acknowledge that a federal, state or local agency or other third party may audit the services of H&H or other contractor/consultant(s), which audit may require additional services, even though H&H and such H&H Professionals have each performed such services in accordance with the standard of care set forth herein. You agree to compensate H&H for all services performed in response to such an audit, or to meet additional requirements resulting from such an audit, at the rates set forth in the applicable Proposal, amendment or change order.

8. Hazardous Materials; H&H "Not a Generator". Before any hazardous or contaminated materials are removed from the site, you will sign manifests naming you as the generator of the waste (or, if you are not the generator, you will arrange for the generator to sign). You will select the treatment or disposal facility to which any waste is taken. H&H will not be the generator or owner of, nor will it possess, take title to, or assume legal liability for any hazardous or contaminated materials at or removed from the site. H&H will not have responsibility for or control of the site or of operations or activities at the site other than its own. H&H will not undertake, arrange for or control the handling, treatment, storage, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the site, other than any laboratory samples it collects or tests. You agree to defend, indemnify and hold H&H harmless for any costs or liability incurred by H&H in defense of or in payment for any legal actions in which it is alleged that H&H is the owner, generator, treater, storer or disposer of hazardous waste.

9. Limits on H&H's Responsibility. H&H will not be responsible for the acts or omissions of contractors or others at the site, except for its own subcontractors and employees. H&H will not supervise, direct or assume control over or the authority to stop any contractor's work, nor shall H&H's professional activities or the presence of H&H or its employees and subcontractors be construed to imply that H&H has authority over or responsibility for the means, methods, techniques, sequences or procedures of construction, for work site health or safety precautions or programs, or for any failure of contractors to comply with contracts, plans, specifications or laws. Any opinions by H&H of probable costs of labor, materials, equipment or services to be furnished by others are strictly estimates and are not a guarantee that actual costs will be consistent with the estimates.

10. Changed Conditions.

- a. You recognize the uncertainties relating to the furnishing of professional services, which often require a phased or exploratory approach, with the need for additional services becoming apparent during the initial services. You also recognize that actual conditions encountered may vary significantly from those anticipated, that laws and regulations are subject to change, and that the requirements of regulatory authorities are often unpredictable.
- b. If changed or unanticipated conditions or delays make additional services necessary or result in additional costs or time for performance, H&H will notify you and the parties will negotiate appropriate changes to the scope of services, compensation and schedule.
- c. If no agreement can be reached, H&H will be entitled to terminate its services and to be equitably compensated for the services already performed. H&H will not be responsible for delays or failures to perform due to weather, labor disputes, intervention by or inability to get approvals from public authorities, acts or omissions on your part or any other causes beyond H&H's reasonable control, and you will compensate H&H for any resulting increase in its costs.

11. Documents and Information. All documents, data, calculations and work papers prepared or furnished by H&H are instruments of service and will remain H&H's property. Designs, reports, data and other work product delivered to you are for your use only, for the limited purposes disclosed to H&H. Any delayed use, use at another site, use on another project, or use by a third party will be at the user's sole risk, and without any liability to H&H. Any technology, methodology or technical information learned or developed by H&H will remain its property. Provided H&H is not in default under this Agreement, H&H's designs will not be used to complete this project by others, except by written agreement relating to use, liability and compensation.

12. Electronic Media. In accepting and utilizing any drawings, reports and data on any form of electronic media generated by H&H, you covenant and agree that all such electronic files are instruments of service of H&H, who shall be deemed the author, and shall retain all common law, statutory law and other rights, including copyrights. In the event of a conflict between the signed documents prepared by H&H and electronic files, the signed documents shall govern. You agree not to reuse these electronic files, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Any transfer of these electronic files to others or reuse or modifications to such files by you without the prior written consent of H&H will be at the user's sole risk and without any liability to H&H.

13. Confidentiality; Subpoenas. Information about this Agreement and H&H's services and information you provide to H&H regarding your business and the site, other than information available to the public and information acquired from third parties, will be maintained in confidence and will not be disclosed to others without your consent, except as H&H reasonably believes is necessary: (a) to perform its services; (b) to comply with professional standards to protect public health, safety and the environment; and (c) to comply with laws and court orders. H&H will make reasonable efforts to give you prior notice of any disclosure under (b) or (c) above. You will reimburse H&H for responding to any subpoena or governmental inquiry or audit related to the services, at the rates set forth in the applicable Proposal, amendment or change order.

14. Insurance. During performance of the services, H&H will maintain workers compensation, commercial general liability, automobile liability, and professional liability insurance. H&H will furnish you certificates of such insurance on request.

15. Indemnification. You agree to hold harmless, indemnify, and defend H&H and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "H&H") against all claims, suits, fines and penalties, including mandated cleanup costs and attorneys' fees and other costs of settlement and defense, which claims, suits, fines, penalties or costs arise out of or are related to this Agreement or the services, except to the extent they are caused by H&H's negligence or willful misconduct.

16. Limitation of Remedies.

- a. Any claim will be deemed waived unless received by H&H within one year of substantial completion of the services.
- b. H&H will not be liable for lost profits, loss of use of property, delays, or other special, indirect, incidental, consequential, punitive, exemplary or multiple damages.
- c. H&H will not be liable to you or the site owner for injuries or deaths suffered by H&H's or its subcontractors' employees.
- d. You will look solely to H&H for your remedy for any claim arising out of or relating to this Agreement, including any claim arising out of or relating to alleged negligence or errors or omissions of any H&H principal, officer, employee or agent.

17. Disputes.

- a. All disputes between you and H&H shall be subject to non-binding mediation.
- b. Either party may demand mediation by serving a written notice stating the essential nature of the dispute, the amount of time or money claimed, and requiring that the matter be mediated within forty-five (45) days of service of notice.
- c. The mediation shall be administered by the American Arbitration Association in accordance with its most recent Construction Mediation Rules, or by such other person or organization as the parties may agree upon.
- d. No action or suit may be commenced unless mediation has occurred but did not resolve the dispute, or unless a statute of limitation period would expire if suit were not filed prior to such forty-five (45) days after service of notice.

18. Miscellaneous.

- a. Massachusetts law shall govern this Agreement.
- b. The above terms and conditions regarding Limitation of Remedies and Indemnification shall survive the completion of the services under this Agreement and the termination of the contract for any cause.
- c. Any amendment to these Terms and Conditions must be in writing and signed by both parties.

- d. Having received these Terms and Conditions, your oral authorization to commence services, your actions, or your use of the Report or Work Product constitutes your acceptance of them.
- e. This Agreement supersedes any contract terms, purchase orders or other documents issued by you.
- f. Neither party may assign or transfer this Agreement or any rights or duties hereunder without the written consent of the other party.
- g. Your failure or the failure of your successors or assigns to receive payment or reimbursement from any other party for any reason whatsoever shall not absolve you, your successors or assigns of any obligation to pay any sum to H&H under this agreement.
- h. These Terms and Conditions shall govern over any inconsistent terms in H&H's Proposal.
- i. The provisions of this Agreement are severable; if any provision is unenforceable it shall be appropriately limited and given effect to the extent it is enforceable.
- j. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.

BOTH PARTIES HERETO WARRANT AND REPRESENT that they have full right, power, and authority to execute this Contract.

IN WITNESS THEREOF, the parties hereto have executed this Agreement as of the day and year first specified above.

CONSULTANT
HUFF & HUFF, INC.

CLIENT
ALFRED BENESCH & COMPANY, INC.



Signature

Signature

By Linda L. Huff, P.E.

Typed Name

Typed Name

Principal

Officer's Title

Officer's Title

December 16, 2015

Date

Date



Payroll Escalation Table
Fixed Raises

FIRM NAME Huff & Huff, Inc.
PRIME/SUPPLEMENT Alfred Benesch & Company

DATE 12/16/2015
PTB NO. _____

CONTRACT TERM 12 MONTHS
START DATE 1/30/2016
RAISE DATE 3/1/2016

OVERHEAD RATE 148.09%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

1/30/2016 - 3/1/2016 1 12	3/2/2016 - 2/1/2017 11 12			
= 8.33%	= 94.42%			
= 1.0275				

The total escalation for this project would be:

2.75%



**Illinois Department
of Transportation**

Payroll Rates

FIRM NAME Huff & Huff, Inc. DATE #####
 PRIME/SUPPLEMENT Alfred Benesch & Company
 PTB NO. _____

ESCALATION FACTOR 2.75%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Principal	\$70.00	\$70.00
Senior Geotechnical Cons.	\$56.96	\$58.53
Senior Consultant	\$52.89	\$54.34
Senior Geologist PM	\$53.26	\$54.72
Senior Engineering PM	\$38.48	\$39.54
Senior Scientist PM	\$41.11	\$42.24
Senior Planning PM	\$43.51	\$44.71
Engineering PM	\$37.02	\$38.04
Geologist PM	\$38.47	\$39.53
Scientist PM II	\$32.94	\$33.85
Scientist PM I	\$39.67	\$40.76
Asst. PM Engineer II	\$36.54	\$37.54
Asst. PM Engineer I	\$28.85	\$29.64
Asst. PM Planning	\$30.77	\$31.62
Sr. Technical Specialist	\$41.83	\$42.98
Sr. CADD Specialist	\$30.29	\$31.12
Environmental Engineer	\$31.74	\$32.61
Environmental Scientist E1	\$24.04	\$24.70
Environmental Scientist E2	\$22.12	\$22.73
Administrative Managers	\$37.26	\$38.28
Sr. Administrative Asst.	\$26.00	\$26.72
Administrative Assistant	\$21.16	\$21.74
Senior PM II	\$57.69	\$59.28
Senior PM I	\$38.70	\$39.76
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00



**Cost Estimate of
Consultant Services
(CPFF)**

Firm	Huff & Huff, Inc.
Route	Fairfield Road at Monaville
Section	Lake Villa
County	Lake
Job No.	
PTB & Item	

Date 12/16/2015

Overhead Rate 148.09%

Complexity Factor 0

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
PESA	46	1,549.12	2,294.09	95.90	571.17	270.00	0.00	4,780.28	46.22%
Wetland Delineation	14	473.84	701.71	94.90	184.22	100.00	0.00	1,554.67	15.03%
Wetland Report	32	1,052.47	1,558.60	21.50	381.72	20.00	0.00	3,034.29	29.34%
QA/QC PM	6	342.48	507.18	0.00	123.20	0.00	0.00	972.87	9.41%
TOTALS	98	3,417.91	5,061.59	212.30	1,260.31	390.00	0.00	10,342.11	100.00%



Average Hourly Project Rates

Sheet 1 OF 1

Payroll Classification	Avg Hourly Rates	Total Project Rates			PESA			Wetland Delineation			Wetland Report			QA/QC PM					
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	70.00	1	1.02%	0.71										1	16.67%	11.67			
Senior Geotechnical Cons.	58.53	0																	
Senior Consultant	54.34	3	3.06%	1.66										3	50.00%	27.17			
Senior Geologist PM	54.72	2	2.04%	1.12										2	33.33%	18.24			
Senior Engineering PM	39.54	0																	
Senior Scientist PM	42.24	2	2.04%	0.86	2	4.35%	1.84												
Senior Planning PM	44.71	0																	
Engineering PM	38.04	0																	
Geologist PM	39.53	0																	
Scientist PM II	33.85	38	38.78%	13.12				14	100.00%	33.85	24	75.00%	25.38						
Scientist PM I	40.76	0																	
Asst. PM Engineer II	37.54	0																	
Asst. PM Engineer I	29.64	0																	
Asst. PM Planning	31.62	0																	
Sr. Technical Specialist	42.98	4	4.08%	1.75	4	8.70%	3.74												
Sr. CADD Specialist	31.12	6	6.12%	1.91	0						6	18.75%	5.84						
Environmental Engineer	32.61	38	38.78%	12.65	38	82.61%	26.94												
Environmental Scientist E1	24.70	0																	
Environmental Scientist E2	22.73	0																	
Administrative Managers	38.28	0																	
Sr. Administrative Asst.	26.72	4	4.08%	1.09	2	4.35%	1.16				2	6.25%	1.67						
Administrative Assistant	21.74	0																	
Senior PM II	59.28	0																	
Senior PM I	39.76	0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		98	100%	\$34.88	46	100%	\$33.68	14	100%	\$33.85	32	100%	\$32.89	6	100%	\$57.08	0	0%	\$0.00

HUFF & HUFF, INC.
SUMMARY OF INHOUSE DIRECT COSTS
Project: Benesch - Fairfield at Monaville - Lake County, IL

										<u>DIRECT</u>
<i>Task 1 - PESA</i>										
Trips - Company	35 miles	x	2	x	\$	0.575	=	\$	40.25	
Tolls			4	x	\$	1.80	=	\$	7.20	
Reproduction	3 sets	x	150	x	\$	0.03	=	\$	13.50	
Color copies	3 sets	x	15	x	\$	0.11	=	\$	4.95	
Task Total									\$ 95.90	
<i>Task 2 - Wetland Delineation</i>										
Trips - Company	35 miles	x	4	x	\$	0.575	=	\$	80.50	
Tolls			8	x	\$	1.80	=	\$	14.40	
Task Total									\$ 94.90	
<i>Task 3 - Wetland Report</i>										
Reproduction	5 sets	x	70	x	\$	0.03	=	\$	10.50	
Color copies	5 sets	x	10	x	\$	0.11	=	\$	5.50	
Photo sheets	5 sets	x	10	x	\$	0.11	=	\$	5.50	
Task Total									\$ 21.50	
<i>Task 4 - QA/QC PM</i>										
Task Total									\$ -	
GRAND TOTAL									\$ 212.30	

HUFF & HUFF, INC.
SUMMARY OF OUTSIDE DIRECT COSTS
Project: Benesch - Fairfield at Monaville - Lake County, IL

					<u>OUTSIDE</u>
<i>Task 1 - PESA</i>					
Federal Express	1	x	\$	20.00	= \$ 20.00
Records Search	1	x	\$	250.00	= \$ 250.00
				Task Total	\$ 270.00
<i>Task 2 - Wetland Delineation</i>					
Maps/Aerials	10	x	\$	10.00	= \$ 100.00
				Task Total	\$ 100.00
<i>Task 3 - Wetland Report</i>					
Federal Express	1	x	\$	20.00	= \$ 20.00
				Task Total	\$ 20.00
<i>Task 4 - QA/QC PM</i>					
				Task Total	\$ -
				GRAND TOTAL	\$ 390.00

DESIGN SURVEY PROCEDURES (Revised 12/4/14)

HORIZONTAL ALIGNMENT

Unless otherwise specified in the services contract, the CONSULTANT is to provide the horizontal alignment. The CONSULTANT will conduct all surveying, stationing, and preparation of required plans using English units of measure and the U.S. Survey Foot. The CONSULTANT'S SURVEYOR will try to re-establish the original horizontal alignment as shown on the recorded R.O.W. plats. The CONSULTANT shall contact LCDOT's Land Surveyor to obtain R.O.W. plats and field notes before establishing the horizontal alignment and stationing. The CONSULTANT shall notify LCDOT's Surveyor immediately if the alignment cannot be reproduced or if in the CONSULTANT'S opinion the existing alignment information is in error.

The CONSULTANT'S SURVEYOR, prior to construction, shall stake the PCs, PIs, PTs, and POTs so that the alignment location can be verified before construction staking is initiated. The CONSULTANT'S SURVEYOR will provide four reference ties to all U.S. Public Land Survey Monuments that are located within the construction limits. The reference points should be located outside of the anticipated construction limits if practical, so that they can be used after construction to replace the monuments. The CONSULTANT shall record Monument Records for all Section and Quarter Section corners set or found within the construction limits.

The CONSULTANT will mark all 100-foot interval station locations on the survey base line for construction when on paved surfaces with a P.K. or Mag nail and spray paint. The baseline for relocated alignments when off pavement will be marked at the PCs, PTs, and POTs with iron rods. The rods shall be set one foot below the surface in farmed land. The CONSULTANT will advise the County of any pavement alignment variations. In cases where the proposed centerline of construction or survey baseline is different from the existing centerline of R.O.W., both shall be shown and the relationship between them shall be indicated on an Alignment & Tie sheet.

ALIGNMENT & TIE SHEET

An Alignment & Tie Sheet shall be provided as part of the final plans. The plans are to be prepared using English units of measure and the U.S. Survey Foot. The station, offset, and coordinates of the alignment points (PCs, PTs, PIs, and POTs) and survey control (traverse) points shall be shown. Coordinates for all projects shall be on the Illinois State Plane Coordinate System, - East zone, NAD83 (Adjustment). The grid (combination) factor for the project shall be shown. A list of traverse points with station, offset, and coordinates shall be provided.

VERTICAL ALIGNMENT

The North American Vertical Datum of 1988 (NAVD 88) shall be used for vertical control. Lake County Mapping Benchmarks are available on-line (<http://gis.lakeco.org/maps/>). NAVD88 benchmarks are available on-line from the National Geodetic Survey. LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The primary benchmarks and site benchmarks shall be listed and described on the Alignment & Tie Sheet. The location of the site

benchmarks shall also be shown on the plan sheets with a symbol. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

All benchmarks shall be located on stable objects. LCDOT prefers these objects to be outside the construction limits. Some acceptable benchmark examples are, spikes in poles, bolts on fire hydrant rings, and concrete foundations.

TOPOGRAPHY

The CONSULTANT shall cut cross-sections at 50-foot intervals and at all points needing clarification. For areas of superelevation or requiring greater detail, cross-sections shall be cut at 25-foot intervals. The cross section interval should be defined in the engineering services contract.

Full cross-section profiles will be taken at all cross streets, alleys, cross road culverts, and entrances (commercial, private, and field). Half cross-sections will not be accepted because they skew the computer terrain model.

The CONSULTANT will locate and identify all trees (6 inches in diameter or greater) within the area either side of the centerline, defined by the proposed ROW or construction limits (whichever is greater) plus an additional 10 feet. The trees shall be identified by species and size. The trees shall be located by station/offset and have a ground elevation.

Streams, tributaries, or major drainage ditches located within a lateral distance of 250 feet from centerline (upstream and downstream) shall be surveyed. Alignment, profiles, and cross-sections shall be taken. The stream width shall be shown as the distance measured between the tops of the stream banks. Profile elevations along the bottom of the watercourse shall be taken at a minimum of 50-foot intervals.

The survey shall extend a minimum of 200 feet beyond the roadway construction limits. Cross-sections shall be taken a minimum of 10 feet beyond the proposed R.O.W. or construction limits (whichever is greater). Cross-sections will extend 30 feet beyond the proposed R.O.W. at entrances and 150 feet at minor side roads.

All survey data shall be collected in Illinois State Plane Coordinates – East Zone. The collected survey data for the existing topography shall have a minimum of 3rd Order Accuracy horizontally with readings to the nearest 0.1 feet for vertical on gravel or ground and readings to the nearest 0.01 feet for vertical on all other surfaces.

RAILROAD INSURANCE

The CONSULTANT will comply with the railroad's requirements when conducting a survey on the railroad's R.O.W. Usually, this includes obtaining a permit, paying a fee, obtaining Railroad Protective Liability Insurance, notification of a flagman to be present near the rails during the

survey operations, and any other requirements of the railroad. The CONSULTANT is responsible for all of the foregoing requirements.

DELIVERABLES

- I. Copies from the CONSULTANT'S field books, showing benchmarks, level circuits, & structure details, such as size and inverts etc.
- II. Base Drawing at 1:1. All the topographic information shall be plotted electronically. The data shall be in Illinois State Plane Coordinates – East Zone and be recorded in a MICROSTATION .DGN format. All CAD work shall be according to LCDOT CAD Standards. ASCII files, gpk files, and/or InRoads files containing all point information as described below shall be included. A filename “ID” acronym explanation sheet shall be provided. Backup CDs shall be provided.
- III. Point Information:
 - (1) Point number
 - (2) Northing and Easting coordinate values
 - (3) "Z" elevations
 - (4) Point identification by code
 - (5) Notes



PLAT OF HIGHWAYS & LEGAL DESCRIPTION CHECKLIST

REVISED 5/29/2015

A copy of this initialed and dated checklist shall be submitted to Lake County Division of Transportation along with the Plats of Highway and Legal Descriptions.

	<u>Initials</u> <u>or N/A</u>	<u>Date</u>
1. Plat of Highways sheet size is 22" x 34".	_____	_____
2. A project cover sheet is required.	_____	_____
3. All lettering should be 1/10 th inch or greater.	_____	_____
4. Complete the project box in the lower right-hand corner.	_____	_____
5. Show survey company name, address and/or logo (if applicable) above the title box.	_____	_____
6. Show North Arrow, up or to the right and appropriate scale bar on each page.	_____	_____
7. Coordinates for all projects should be based on Illinois State Plane Coordinate System, East zone, NAD83 (Adjustment). The referenced NGS monumentation should be noted on the plat.	_____	_____
8. Plat will include the following notes:	_____	_____
• Bearings and distances shown hereon reference the Illinois State Plane Coordinate System, East Zone, North American Datum of 1983 (adjustment year) "grid". NOTE: added "grid" for those who look at the plats, such as appraisers, and are not aware that state plane and grid are synonymous and it ties into the next statement.		
• All measured and calculated distances are "grid" not "ground". To obtain ground distances, divide grid distances shown by the combination factor of 0.000001.		
• Areas shown on this plat are "ground".		
9. Label the Section, Township, Range, Principal meridian and County at the top of each applicable sheet.	_____	_____
10. Label all subdivisions, (incl. recording date and document number), blocks, and lots on the plat of highways.	_____	_____
11. All known recording dates and document numbers (subdivision, right-of-way, deed, etc.) will be included in the legal descriptions.	_____	_____
12. Show all section/quarter section corners and ties on the Plat of Highway. These should relate to the ties on the corresponding monument records. Label the monument recording date and document number.	_____	_____
13. Show necessary land lines with proper line types (section lines, lot lines, property lines, etc.)	_____	_____
14. Indicate and label the following lines (use the proper line types):	_____	_____
• Existing and proposed right-of-way lines (use the proper line types)		
• Existing and proposed access control lines		
• Existing roadway easements lines and proposed IDPT easement lines		
15. Show width of existing right-of way at least once per sheet.	_____	_____

16. Reference the documents which established the existing right-of-way or "As monumented and occupied" on the plat of highway. _____
17. Show all distances and bearings as used in the legal descriptions. _____
18. Show the radius (R), length (L), chord length (CH) and chord bearing (CB) for all curves as used in the legal descriptions (Use curve tables as applicable). _____
19. Label the Point of Commencing (P.O.C.) and Point of Beginning (P.O.B.) for every parcel when applicable. _____
20. Total holding property (including contiguous property) should be shown and labels (bearings, distances, angles, etc.) will be identical to the title report legal description. _____
21. Use land hooks to show common lines of ownership for contiguous property. _____
22. The property line symbol should be shown on all sides of the total holding parcel. _____
23. Indicate any land locked remainders. _____
24. Parcel numbers are to be shown as four (4) digits and boxed in a rectangle. Use the suffix "PE" for Permanent easement "TE" for temporary easement and "AC" for access control. No suffix is needed for a parcel being conveyed. _____
25. Areas shall be shown to the nearest 0.001 Acre. All parcels 0.010 of an acre or less should also be shown to the nearest square foot. _____
26. Complete the Parcel Table: _____
 - Parcel Number
 - Total Holdings Acres
 - Part Taken Acres (Include Square Feet when 0.010 of an acre or less)
 - Areas in existing R.O.W. Acres (prescription, monumented, occupied or common law)
 - Remainder Area Acres
 - Easement Area Acres (Include Square Feet when 0.010 of an acre or less)
 - Parcel Index Number (List all P.I.N.'s for the total holdings)
27. Complete the Index Table on cover or as 2nd sheet if too many parcels for cover: _____
 - Parcel Number
 - Owners' Name (as listed in the title commitment)
 - Sheet Number
 - Property Acquired By
28. Legal Description Heading to be on right side & on each sheet: _____
 - Route
 - Section
 - County
 - Parcel Number
 - Beginning to ending station (Both stations should be from same center line)
 - Parcel Index Number (List only P.I.N.'s for the affected parcel)
29. Legal Descriptions will include the following: _____
 - CAPTION FORMAT: "... In (Name) County, Illinois, bearings and distances Based on the Illinois State Plane Coordinate System, East Zone, NAD83 (Adjustment year), with a combined factor of _____", described as follows..."
 - ...BODY OF LEGAL...
 - END WITH AREA STATEMENT: Said parcel Containing X.XXX acres, more or less, of which X.XXX acres, more or less, was previously dedicated or used for highway purposes.
30. The type and use of all buildings on the total holding should be indicated. _____
 - All buildings within 100 feet of the proposed right-of-way or easement should be dimensioned and tied perpendicular to the proposed right-of-way.
 - All buildings beyond 100 feet from the proposed right-of-way or easement should just be outlined on the plat.

- | | | | |
|-----|---|--|--|
| 31. | Show and label all private improvements in the proposed/existing Right-of-Way and proposed easement lines in the parcel. This includes fences, signs, light standards, private utilities, canopies, driveways, parking lots, etc. | | |
| 32. | Show all fuel pump islands with perpendicular ties to the proposed right-of-way or proposed easements. | | |
| 33. | Show all encroachments within the existing right of way.
(This would include parking areas) | | |
| 34. | Label the route and street name designation once per sheet. | | |
| 35. | Label the project's beginning and ending stations | | |
| 36. | Show the proposed centerline and label with IDOT stationing for State highways and LCDOT stationing for County highways, including all station equations. | | |
| 37. | Label the station and offset at the following points: | | |
| | <ul style="list-style-type: none"> • All proposed take and easement corners.
 • Intersection of all property lines with the proposed right-of-way lines and easement lines. | | |
| 38. | The station of the intersection of the proposed centerline with all Section and Quarter Section lines should be shown. | | |
| 39. | The bearing and distance of all section and quarter section lines measured for the project shall be shown. | | |
| 40. | Show all found monumentation with reference to true corner location. (Note: Following the completion of construction, all property corner monumentation found where new R.O.W. was not acquired shall be verified to still be in place. Any property corner monumentation destroyed during construction is to be replaced in the previously located positions. This will be coordinated with the Resident Engineer). | | |
| 41. | Show all set monumentation. (Note: Monumentation for proposed R.O.W. is to be placed after completion of construction in areas that may be disturbed during construction, e.g., temporary construction easements. The consultant will be notified by the Resident Engineer). | | |
| 42. | List in tabular form the state plane coordinates for: | | |
| | <ul style="list-style-type: none"> • All centerline control points • P.C., P.I., P.T. • Station equations • Project begin and project end points • Proposed right of way monuments • All found monumentation • All section/quarter section corners utilized. • Header for coordinate table text box. | | |

PROJECT COORDINATES Illinois State Plane, East Zone, NAD 83 (Adjustment Year)
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Items 43 and 44 shall be completed after initial approval.

- | | | | |
|-----|--|--|--|
| 43. | Monument Record Documents should be prepared and recorded for Section/Quarter Section corners utilized for which no Monument Record exists. New Monument Records should be prepared and recorded for those documents which show ties within the proposed right-of-way. | | |
| 44. | Submit one complete set of signed and sealed mylars, a MicroStation file (.dgn), a .pdf file of the signed Plat of Highways, and the legal descriptions in Microsoft Word format and in a .pdf file. | | |

**Lake County
Fairfield Road & Monaville Road Phase I
Estimate of Hours**

TASK	DESCRIPTION	HOURS
1	Data Collection & Early Coordination	Benesch
	Initial kick-off meeting with County (two people) includes minutes	8
	Benesch will gather, compile, organize and review the following information: Record plans, plats, development plans, roadway plans, prior engineering studies, etc.	16
	Obtain, compile and summarize crash data (last 5 years)	16
	Initial Kick-off meeting with Lake Villa	8
	Initial kick-off meeting with Lake County Forest Preserve District	8
	Initial kick-off meeting with IDOT BLR includes attendance and minutes	8
	Initial coordination meeting with Lake County SMC	8
	Conduct intersection turning movement counts at Fairfield and Old Monaville (MioVision direct cost) labor hours to compile results, balance volumes, determine peak hours.	16
	Conduct intersection turning movement counts at Fairfield and Monaville (MioVision direct cost) labor hours to compile results, balance volumes, determine peak hours.	16
	Conduct intersection turning movement counts at Monaville and Old Monaville (MioVision direct cost) labor hours to compile results, balance volumes, determine peak hours.	16
	Coordination with CMAP to obtain 2040 traffic projection (includes letter submittal with exhibits)	6
	Sub-Total Task 1 =	126

2	Design Survey	Benesch
	Obtain plats of subdivison, monument records (DuPage County Recorder's Office) research benchmarks, set up survey project	10
	In field property/section corner seach	16
	init. Control/ties/level run (2 man crew)	16
	Topography (2 man crew)	124
	Stake/tie Centerline (2 man crew)	16
	Office - download survey data, review, translate into CAD, property tie-in	32
	Utility coordination (pick up of depths for pot-holes, pick up JULIE markings	18
	Property - Establish existing, take computations and legal descriptions	50
	Plat of Highways	200
	Stake out new ROW (rods and plastic Caps, one time)	16
	Sub-Total Task 2 =	498

3	Utility Coordination	Benesch
	Prepare and submit preliminaray JULIE utility record research. Compile received infromation into design files (Plan and profile sheets)	24
	Submit proposed improvement plans to utility companies with record utility information. (draft letter and transmit with plan set)	8
	Identify conflicts, coordinate with utiliies to refine locations, develop relocation plans	32
	Sub-Total Task 3=	64

4	Roadway Drainage Study	Benesch
	Analyze existing drainage, develop GeoPak Drainage proposed Model	16
	Develop Phase I level conceptual routing and layout (structure spacing, location, etc.)	40
	Prepare report with exhibits, submit, revise per comments and finalize	24
	Sub-Total Task 4=	80

5	Establish Geometric Requirements	Benesch
	Analyze traffic data	12
	Determine Roadway Cross-section (number of lanes)	2
	Obtain, compile and summarize crash data (last 5 years)	16
	Develop horizontal and vertical geometry concepts	40
	Prepare Technical Memorandum, submit and coordinate with LCDOT (meeting)	32
	Prepare for (required IDOT meeting materials and exhibits) and attend IDOT/FHWA coordination meeting (includes minutes and preparation)	12
	Sub-Total Task 5=	114

6	Environmental Studies	Benesch
	Prepare and submit Environmental Survey Request (ESR) package of forms and exhibits. Includes exhibit and resource database reviews (HARGIS, wetlands, etc.) Address IDOT comments and resubmit if required.	16
	PESA (Benesch hours for coordination and review Huff n Huff)	2
	Environmental Borings (Benesch Hours for Coordination for review of Rubinos)	2
	Wetlands and WOTUS delineations and JD Determination (Coordination and review of Huff n Huff)	2
	Vegetation/Tree condition survey and memorandum	8
	Sub-Total Task 6=	30

7	Section 4(f) Processing	Benesch
	Analyze impacts and develop strategy for IDOT/FHWA meeting. Coordinate with LCDOT/Forest Preserve, prepare summary memorandum and exhibits for presentation.	12
	Sub-Total Task 7=	12

8	Public Involvement Program	Benesch
	Public Meeting No. 1	
	Exhibits, handouts, meeting materials, prepare newspaper ads	40
	Dry-run	4
	Revise and final printing/ duplication	16
	Meeting attendance (3 Bensch) and follow-up summaries	24
	Workshop Meeting No. 1	
	Exhibits, handouts, meeting materials	16
	Workshop Attendance (2 Benesch) and follow up activities	8
	Workshop Meeting No. 2	
	Exhibits, handouts, meeting materials	16
	Workshop Attendance (2 Benesch) and follow up activities	8
	Public Meeting No. 2	
	Exhibits, handouts, meeting materials, prepare newspaper ads	24
	Dry-run	4
	Revise and final printing/ duplication	8
	Meeting attendance (3 Bensch) and follow-up summaries	24
	Workshop Meeting No. 3	
	Exhibits, handouts, meeting materials	16
	Workshop Attendance (2 Benesch) and follow up activities	8
	Public Meeting No. 3	
	Exhibits, handouts, meeting materials, prepare newspaper ads	24
	Dry-run	4
	Revise and final printing/ duplication	8
	Meeting attendance (3 Benesch) and follow-up summaries	24
	Sub-Total Task 8=	276

9	Landscape, Streetscape and Aesthetic Elements	Benesch
	Concept Sketch of Alternatives	16
	Perpsective View Illustrations of Alternatives	16
	Preferred Alternative Refinement	16
	Coordination meeting with Lake Villa	8
	Sub-Total Task 9 =	56

10	Development and Evaluation of Alternatives	Benesch
	Benesch Evaluation of Alternatives	24
	Performance, Acceptance and Cost Evaluation (PACE) of alternatives	16
	Document evaluation process and recommendations for preferred alternative	40
	Independent Roundabout Review and Development (See MTJ Proposal)	
	Sub-Total Task 10 =	80

11	Preferred Alternative (30% Plans)	Benesch
	Develop plan and profile sheets, cross-section sheets, traffic staging exhibits for proposed design	80
	Intersection Design Study	40
	Sub-Total Task 11=	120

12	Quality Control/ Quality Assurance (QA/QC and project documentation) and Administration	Benesch
	Project administration, management and general coordination (2 hrs per month)	36
	QA/QC (3% of total hours)	40
	Sub-Total Task 12 =	76

13	Sustainability Initiatives	Benesch
	Gather documents and research Envision Credits and Invest Criteria to prepare for initial meeting	8
	Initial kick-off meeting with County (two people) to complete Envision Pre-Assessment Checklist and Invest Scorecard including minutes	16
	Summarize each of the 60 Envision credits and 29 Invest criteria and analyze the cost of implementation and benefit to the County of each. This will be summarized in memo format to better assist the County during future consideration of implementation of these score cards for other projects. A comparison matrix of the Invest and Envision programs and anticipated preliminary scoring for each metric for this project.	56

	Sub-Total Task 13=	80
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14	Peer Review of Roundabout Designs	MTJ
15	Geotechnical and CCDD Services	Rubino
16	PESA & Wetlands	Huff n Huff

TASK	Description	Benesch
1	Data Collection & Early Coordination	126
2	Design Survey	498
3	Utility Coordination	64
4	Roadway Drainage Study	80
5	Establish Geometric Requirements	114
6	Environmental Studies	30
7	Section 4(f) Processing	12
8	Public Involvement Program	276
9	Landscape, Streetscape and Aesthetic Elements	56
10	Development and Evaluation of Alternatives	80
11	Preferred Alternative (30% Plans)	120
12	Quality Control/ Quality Assurance (QA/QC and project documentation) and Administration	76
13	Envision Rating System	80
	GRAND TOTAL ALL TASKS =	1,612

COST ESTIMATE OF CONSULTANT SERVICES

Sheet: 1 of 1

Project: Phase I Engineering (Fairfield Road at Monaville Road)

Section: 15-00120-06-CH

Firm: ALFRED BENESCH & COMPANY

Date: January 15, 2016

County: Lake

Overhead Rate: 159.91

Complexity Factor: 0

Job No.: _____

Estimate Prepared By: _____ State _____ Firm X

Item	Number of Staff hours (A)	Estimated Cost In Dollars									Percent Of Grand Total (I)
		Adjusted Hourly Rate (A1)	Payroll (B)	Overhead Fringe Benefits (C)	Eligible Direct Costs (D)	Subtotal (E)	Profit (F)	Ineligible Direct Costs (D1)	Services By Others* (G)	Total (H)	
PROJECT TASKS											
1 Data Collection & Early Coordination	126	45.00	5,670	9,067	0	14,737	2,137	6,195		23,069	8.3
2 Design Survey & Plats	498	45.00	22,410	35,836	0	58,246	8,446	3,675		70,366	25.4
3 Utility Coordination	64	45.00	2,880	4,605	0	7,485	1,085	115		8,686	3.1
4 Roadway Drainage Study	80	45.00	3,600	5,757	0	9,357	1,357	560		11,273	4.1
5 Establish Geometric Requirements	114	45.00	5,130	8,203	0	13,333	1,933	115		15,382	5.6
6 Environmental Studies	30	45.00	1,350	2,159	0	3,509	509	1,460		5,478	2.0
7 Section 4(f) Processing	12	45.00	540	864	0	1,404	204	41		1,648	0.6
8 Public Involvement Program	276	45.00	12,420	19,861	0	32,281	4,681	4,650		41,612	15.0
9 Landscape, Streetscape and Aesthetic Elements	56	45.00	2,520	4,030	0	6,550	950	415		7,914	2.9
10 Development and Evaluation of Alternatives	80	45.00	3,600	5,757	0	9,357	1,357	50		10,763	3.9
11 Preferred Alternative (30% Plans)	120	45.00	5,400	8,635	0	14,035	2,035	730		16,800	6.1
12 Quality Control/ Quality Assurance (QA/QC and project documentation) and Administration	76	45.00	3,420	5,469	0	8,889	1,289	310		10,488	3.8
13 Sustainability Initiatives	80	45.00	3,600	5,757	0	9,357	1,357	0		10,713	3.9
14 Peer Review of Roundabout Designs (MTJ)*									19,927	19,927	7.2
15 Geotechnical and CCDD (Rubinos)*									12,600	12,600	4.5
16 PESA and Wetlands (Huff n Huff)*									10,342	10,342	3.7
Sub-totals	1,612		72,540	115,999	0	188,539	27,338	18,316	42,869	277,062	100.0

* See attached sheets for Cost Estimate of Sub-consultant Services

Lake County
Division of Transportation
Fairfield Road at Monaville Road Intersection Improvements
Estimate of Direct Costs Phase I

	Unit	Unit Cost	1 Data Collection		2 Design Survey & Plats		3 Utility Coordination	
			Quantity	Cost	Quantity	Cost	Quantity	Cost
I. CADD & REPRODUCTION								
A. COMPUTER AIDED DESIGN AND DRAFTING								
1 CADD PLOTTING MEDIUM; BOND* (6 sq. ft.x \$1/sq.ft.)=\$6.00/plot	PLOT	\$6.00	0	\$0	0	\$0	0	\$0
B. REPORTS AND REPRODUCTIONS								
1. PRINTS FOR SUBMITTAL	SQ FT	\$0.10	0	\$0	0	\$0	0	\$0
2. COLOR COPIES	SHT	\$0.80	0	\$0	0	\$0	0	\$0
3. REPRODUCTIONS	RPT	\$100.00	0	\$0	0	\$0	0	\$0
C. MESSENGER MISCELLANEOUS SUPPLIES								
1. OVERNIGHT DELIVERY	PACKAGES	\$25.00	0	\$0	0	\$0	2	\$50
2 SURVEY SUPPLIES	LUMP SUM	\$200.00	0	\$0	1	\$200	0	\$0
SUBTOTAL				\$0		\$200		\$50
II. TRAVEL & LODGING								
A. TRAVEL								
1 VEHICLE	DAY	\$65.00	3	\$195	35	\$2,275	1	\$65
SUBTOTAL				\$195		\$2,275		\$65
III. MISCELLANEOUS								
A. PUBLIC MEETING NOTICES	EACH	\$250.00	0	\$0	0	\$0	0	\$0
B. COURT REPORTER	MEETING	\$500.00	0	\$0	0	\$0	0	\$0
C. MEETING SUPPLIES	MEETING	\$200.00	0	\$0	0	\$0	0	\$0
D. EXHIBIT MOUNTING	EA	\$20.00	0	\$0	0	\$0	0	\$0
E. PARCEL INFORMATION	PARCELS	\$200.00	0	\$0	6	\$1,200	0	\$0
F. MioVision/Tube Counters	EACH	\$2,000.00	3	\$6,000	0	\$0	0	\$0
G. SWC - JURISDICTIONAL DETERMINATION	LUMP SUM	\$900.00	0	\$0	0	\$0	0	\$0
SUBTOTAL				\$6,000		\$1,200		\$0
TOTAL				\$6,195		\$3,675		\$115

Lake County
Division of Transportation
Fairfield Road at Monaville Road Intersection Improvements
Estimate of Direct Costs Phase I

	Unit	Unit Cost	4 Roadway Drainage Study		5 Establish Geometric		6 Environmental Studies		7 Section 4(f) Processing	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
I. CADD & REPRODUCTION										
A. COMPUTER AIDED DESIGN AND DRAFTING										
1 CADD PLOTTING MEDIUM; BOND* (6 sq. ft.x \$1/sq.ft.)=\$6.00/plot	PLOT	\$6.00	0	\$0	0	\$0	0	\$0	0	\$0
B. REPORTS AND REPRODUCTIONS										
1. PRINTS FOR SUBMITTAL	SQ FT	\$0.10	1000	\$100	0	\$0	1000	\$100	0	\$0
2. COLOR COPIES	SHT	\$0.80	100	\$80	0	\$0	100	\$80	20	\$16
3. REPRODUCTIONS	RPT	\$100.00	2	\$200	0	\$0	2	\$200	0	\$0
C. MESSENGER MISCELLANEOUS SUPPLIES										
1. OVERNIGHT DELIVERY	PACKAGES	\$25.00	2	\$50	2	\$50	2	\$50	1	\$25
2 SURVEY SUPPLIES	LUMP SUM	\$200.00	0	\$0	0	\$0	0	\$0	0	\$0
SUBTOTAL				\$430		\$50		\$430		\$41
II. TRAVEL & LODGING										
A. TRAVEL										
1 VEHICLE	DAY	\$65.00	2	\$130	1	\$65	2	\$130	0	\$0
SUBTOTAL				\$130		\$65		\$130		\$0
III. MISCELLANEOUS										
A. PUBLIC MEETING NOTICES	EACH	\$250.00	0	\$0	0	\$0	0	\$0	0	\$0
B. COURT REPORTER	MEETING	\$500.00	0	\$0	0	\$0	0	\$0	0	\$0
C. MEETING SUPPLIES	MEETING	\$200.00	0	\$0	0	\$0	0	\$0	0	\$0
D. EXHIBIT MOUNTING	EA	\$20.00	0	\$0	0	\$0	0	\$0	0	\$0
E. PARCEL INFORMATION	PARCELS	\$200.00	0	\$0	0	\$0	0	\$0	0	\$0
F. MioVision/Tube Counters	EACH	\$2,000.00	0	\$0	0	\$0	0	\$0	0	\$0
G. SWC - JURISDICTIONAL DETERMINATION	LUMP SUM	\$900.00	0	\$0	0	\$0	1	\$900	0	\$0
SUBTOTAL				\$0		\$0		\$900		\$0
TOTAL				\$560		\$115		\$1,460		\$41

Lake County
Division of Transportation
Fairfield Road at Monaville Road Intersection Improvements
Estimate of Direct Costs Phase I

	Unit	Unit Cost	8 Public Involvement Program		9 Landscape, Streetscape and		10 Development and Evaluation		11 Preferred Alternative (30%)	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
I. CADD & REPRODUCTION										
A. COMPUTER AIDED DESIGN AND DRAFTING										
1 CADD PLOTTING MEDIUM; BOND* (6 sq. ft.x \$1/sq.ft.)=\$6.00/plot	PLOT	\$6.00	50	\$300	0	\$0	0	\$0	50	\$300
B. REPORTS AND REPRODUCTIONS										
1. PRINTS FOR SUBMITTAL	SQ FT	\$0.10	0	\$0	0	\$0	0	\$0	1000	\$100
2. COLOR COPIES	SHT	\$0.80	0	\$0	0	\$0	0	\$0	100	\$80
3. REPRODUCTIONS	RPT	\$100.00	0	\$0	0	\$0	0	\$0	2	\$200
C. MESSENGER MISCELLANEOUS SUPPLIES										
1. OVERNIGHT DELIVERY	PACKAGES	\$25.00	2	\$50	2	\$50	2	\$50	2	\$50
2 SURVEY SUPPLIES	LUMP SUM	\$200.00	0	\$0	0	\$0	0	\$0	0	\$0
SUBTOTAL				\$350		\$50		\$50		\$730
II. TRAVEL & LODGING										
A. TRAVEL										
1 VEHICLE	DAY	\$65.00	10	\$650	1	\$65	0	\$0	0	\$0
SUBTOTAL				\$650		\$65		\$0		\$0
III. MISCELLANEOUS										
A. PUBLIC MEETING NOTICES	EACH	\$250.00	3	\$750	0	\$0	0	\$0	0	\$0
B. COURT REPORTER	MEETING	\$500.00	1	\$500	0	\$0	0	\$0	0	\$0
C. MEETING SUPPLIES	MEETING	\$200.00	6	\$1,200	1	\$200	0	\$0	0	\$0
D. EXHIBIT MOUNTING	EA	\$20.00	60	\$1,200	5	\$100	0	\$0	0	\$0
E. PARCEL INFORMATION	PARCELS	\$200.00	0	\$0	0	\$0	0	\$0	0	\$0
F. MioVision/Tube Counters	EACH	\$2,000.00	0	\$0	0	\$0	0	\$0	0	\$0
G. SWC - JURISDICTIONAL DETERMINATION	LUMP SUM	\$900.00	0	\$0	0	\$0	0	\$0	0	\$0
SUBTOTAL				\$3,650		\$300		\$0		\$0
TOTAL				\$4,650		\$415		\$50		\$730

Lake County
Division of Transportation
Fairfield Road at Monaville Road Intersection Improvements
Estimate of Direct Costs Phase I

	Unit	Unit Cost	12 Quality Control/ Quality		TOTAL COST
			Quantity	Cost	
I. CADD & REPRODUCTION					
A. COMPUTER AIDED DESIGN AND DRAFTING					
1 CADD PLOTTING MEDIUM; BOND* (6 sq. ft.x \$1/sq.ft.)=\$6.00/plot	PLOT	\$6.00	0	\$0	\$600
B. REPORTS AND REPRODUCTIONS					
1. PRINTS FOR SUBMITTAL	SQ FT	\$0.10	0	\$0	\$300
2. COLOR COPIES	SHT	\$0.80	0	\$0	\$256
3. REPRODUCTIONS	RPT	\$100.00	0	\$0	\$600
C. MESSENGER MISCELLANEOUS SUPPLIES					
1. OVERNIGHT DELIVERY	PACKAGES	\$25.00	2	\$50	\$475
2 SURVEY SUPPLIES	LUMP SUM	\$200.00	0	\$0	\$200
SUBTOTAL				\$50	\$2,431
II. TRAVEL & LODGING					
A. TRAVEL					
1 VEHICLE	DAY	\$65.00	4	\$260	\$3,835
SUBTOTAL				\$260	\$3,835
III. MISCELLANEOUS					
A. PUBLIC MEETING NOTICES	EACH	\$250.00	0	\$0	\$750
B. COURT REPORTER	MEETING	\$500.00	0	\$0	\$500
C. MEETING SUPPLIES	MEETING	\$200.00	0	\$0	\$1,400
D. EXHIBIT MOUNTING	EA	\$20.00	0	\$0	\$1,300
E. PARCEL INFORMATION	PARCELS	\$200.00	0	\$0	\$1,200
F. MioVision/Tube Counters	EACH	\$2,000.00	0	\$0	\$6,000
G. SWC - JURISDICTIONAL DETERMINATION	LUMP SUM	\$900.00	0	\$0	\$900
SUBTOTAL				\$0	\$12,050
TOTAL				\$310	\$18,316