DRAFT

Municipality	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name: Civiltech Engineering
Township				Address: 450 E. Devon Avenue, Suite 300
County: Lake		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City: Itasca
Section: 12-00138-02-ES				State: IL 60143-1297

THIS AGREEMENT is made and entered into this _____ day of March , 2014 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 Fremont Center Road Phase I Study

Route CH 65 Length - Mi. - FT (Structure No.)

Termini The project area is bounded by IL Route 60, Peterson Road, and IL Route 83 (Ivanhoe Road)

Description:
Improvement of Fremont Center Road in the area bounded by IL Route 60, Peterson Road, and IL Route 83 (Ivanhoe Road)

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
Under $50,000	_____ (see note)
	_____ %
	_____ %
	_____ %

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 184.26 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.

   The Total Not-to-Exceed Contract Amount shall be $ 671,758

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 184.26 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 184.26 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:

County of Lake of the
(~~Municipality/Township/~~County)

ATTEST:

By _____

Lake County Clerk

(Seal)

State of Illinois, acting by and through its

County Board

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:

Civiltech Engineering, Inc.
Engineering Firm
450 E. Devon Ave., Suite 300
Street Address
Itasca, IL 60143
City, State

ATTEST:

By _____

Title _____

By _____

Title _____

Note: Three (3) Original Executed Contracts – (2) LCDOT; (1) Consultant

DRAFT

Fremont Center Road Phase I Study
Lake County Division of Transportation

SCOPE OF SERVICES

I. PROJECT APPROACH

In 2012, LCDOT retained the services of Civiltech Engineering, Inc. to perform Phase II engineering for the extension of Fremont Center Road from IL Route 60 on a new alignment north to a new intersection with the recently re-aligned Peterson Road. This improvement included a new traffic signal at the Fremont Center Road and Il Route 60 intersection. It was anticipated that the project would be constructed entirely with local funding and as such, was being processed through IDOT as a Permit Project. Although, this did not require that a complete Federal-aid Phase I Study be completed, many Phase I tasks were included in the project scope including data collection, environmental documentation, traffic analyses, crash analyses, agency coordination, and stakeholder coordination.

During the course of the engineering services, it became apparent that a broader study should be completed to evaluate how the extension of Fremont Center Road would fit into a future roadway network in an area bounded by IL Route 60, Peterson Road, and IL Route 83 (Ivanhoe Road). This area is shown on Exhibit 1. The original engineering services were put on hold and LCDOT developed a revised Project Scoping Report reflecting the need to conduct this planning level study. The following Scope of Services is based upon the updated Project Scoping Report as well as a scoping meeting held with LCDOT on January 15, 2014.

The following Scope of Services presents a tiered approach to conducting this study. The initial stage will be a Feasibility Study to take a “big picture” look at the future County roadway network needs in the study area. Alternatives will be developed and evaluated based on a planning level analyses and will include the development of alternatives for the extension of Fremont Center Road. The planning level analyses will use as much existing information as possible from the existing topographic survey, Lake County GIS website, other agency websites, existing plans and maps to develop and analyze the range of alternatives for the study, and the existing data and analyses that were performed as part of the initial Fremont Center Road study.

The second stage of the project will focus on the area near the intersection of IL Route 60 and Fremont Center Road and possible extension of Fremont Center Road. The limits of the improvement will be determined upon completion of the feasibility study portion of the project.

It is anticipated that stakeholder involvement will occur throughout the course of the project. All work will be performed according to the Lake County Division of Transportation (LCDOT) and the Illinois Department of Transportation (IDOT) standards and guidelines.

II. SCOPE OF SERVICES

The scope of services is broken up into two parts including the Feasibility Study and the Fremont Center Road Improvement.

PART I - FEASIBILITY STUDY

The goal of this portion of the project is to develop a future County roadway network that will serve the anticipated future land uses and travel demands within the area shown on Exhibit 1. Studies will include developing future roadway alignments as well as estimating right-of-way needs along corridors and at intersections.

Item 1 - Early Coordination and Environmental Data Collection – Much of the information relating to the IL Route 60 and Fremont Center Road intersection has been collected. This work item will include collecting available information for the additional project area as follows:

a. Collect and review previous studies, existing roadway plans and available traffic counts.
b. Collect Land Use, Zoning, School District, Park District, etc. maps and plans.
c. Obtain public and private utility atlases. This work will be coordinated with LCDOT's utility coordinator.
d. Perform project area reconnaissance and prepare a photolog.
e. Perform a Special Waste Screening to determine parcels that have the potential for Special Waste remediation.
f. Determine any historic or archaeological significant sites within the project area.
g. Perform preliminary traffic highway noise analyses.
h. Perform preliminary geotechnical investigation of soils to determine the general types and if areas should be avoided due to bad soils.

Item (e) will be performed by Stuedemann Environmental Consulting, Inc. and a copy of their detailed scope of services is included in Attachment D.

Item (h) will be performed by Midland Standard Engineering & Testing, Inc. as a subconsultant to perform the geotechnical studies for this project. A copy of their scope of services is included in Attachment C.

Item 2 – Digital Terrain Models and Preparation of Base Maps – The project area includes a large area and performing a full topographic survey would be cost prohibitive. For the Feasibility Study portion of the project, we plan to use data from the Illinois State Geological Survey to develop a Digital Terrain Model (DTM). The data was developed through the Illinois Height Modernization Program and guided by the National Geodetic Survey by using Light Detection and Ranging (LiDAR) technology. The DTM will be downloaded from the ISGS website for Lake County, the project area will be clipped using ArcGIS and it will be exported as a TIFF. The TIFF will be converted to a surface model using the Survey tools of GeoPak SS2. We have used this method to supplement existing topographic survey on past projects. Lake County contour information will be used to verify the accuracy of the DTM and surface model. It may be possible to use the LCGIS 3D model to develop the surface model for the project. A determination will be made once the project has commenced.

The Lake County GIS data will be used to determine the presence and locations of environmental resources including wetlands and floodplains. The data will also be used to determine existing right-of-way and land use within the project area. The resulting surface model will be used for the development and analysis of alternatives for the feasibility study.

Base sheets will be developed to include aerial photography, the information obtained from the ISGS, the Lake County GIS website, and other maps and plans. This information will be put into a Microstation design file. Existing cross section information will be generated from the surface model to aid in the preliminary roadway profile.

Item 3 - Traffic Analyses – Defining existing traffic patterns and predicting future traffic patterns will be an important step in the development and analysis of the alternatives for this project. Much of the land in the study area is currently undeveloped. However, over the next 20 years, it could reasonably be expected that land uses will change dramatically. This is particularly true because the proposed IL Route 53/IL Route 120 extension runs along the eastern border of the study area and an interchange is proposed at Peterson Road. The construction of this facility could dramatically change the landscape and travel demand in this area. Development of alternatives will consider the implications of the IL Route 53/IL Route 120 extension.

The traffic analyses will include:

a. Obtain 14-hour turning movement traffic counts using video counting units (VCU) at the following locations:
   - IL Route 83 (Ivanhoe Road)/Winchester Road
   - IL Route 83 (Ivanhoe Road)/Peterson Road
   - IL Route 83/IL Route 60
   - Peterson Road/Alleghany Road
   - Peterson Road/IL Route 60
   - Erhart Road/IL Route 60
   - Erhart Road/Fremont Center Road
   - Fremont Center Road/IL Route 60

b. Reduce and tabulate traffic count data and prepare traffic volume exhibits.

c. Request 2040 traffic projections from CMAP. Sometimes planned or potential development is not accurately accounted for in CMAP's regional transportation model. This is particularly true on the outer fringes of the urbanized area and when new roadways are being considered. Therefore, prior to requesting year 2040 traffic projections from CMAP, the following items will be completed:
   - An analysis of land use and zoning maps for the study area will be conducted to determine the magnitude of potential development in the area.
   - A large scale trip generation analysis will be conducted based on overall development potential and trips will be assigned to a potential roadway network.
   - This information will be supplied to CMAP to aid in their development of 2040 traffic projections.

d. Develop design hourly traffic volumes (DHV's) at major intersections for each alternative based on 2040 projections.

e. Roundabout alternatives will be analyzed using Sidra software.

f. Signalized intersections will be analyzed using Syncro software.

Item 4 - Alternate Geometric Studies - This item will include an evaluation of up to five potential roadway network alternatives. Alternatives will not only evaluate future County

highways but also the impact of those highways on the local roadway network as well as access to adjacent properties. This will include concept horizontal and vertical geometrics, along with a cursory review of roadway cross sections. Within the major roadway alternatives, evaluations and supporting documentation of bicycle accommodations will be completed as well as identifying environmental impacts on a macroscopic level. This item will also include developing planning level cost estimates.

The goal of these analyses is to develop the centerlines of future roadways and define approximate right-of-way needs and not detailed design plans.

This work task will include the following:

a. Prepare concept horizontal geometrics on aerial base sheets for up to five alternatives.
b. Define concept vertical geometrics including preliminary review of proposed roadway cross sections.
c. Analyze pedestrian/bicycle accommodation alternates which include a potential connection from Behm Homestead Park to the Ray Lake Forest Preserve.
d. Identify preliminary right-of-way acquisition.
e. Identify areas of potential environmental concern.
f. Revise concepts based upon review comments.
g. Prepare order of magnitude cost estimates for each alternative and refine cost estimate for preferred roadway network.

Item 5 - Drainage Study – An overall investigation of the existing drainage patterns as well as the requirements for detention and water quality treatments to comply with the Lake County Watershed Ordinance for five alternatives will be evaluated as part of this item. These analyses are intended to determine impacts to the surrounding environment, define right-of-way needs, and develop order of magnitude cost estimates. The following items will be performed as part of this task:

a. Evaluation of Existing Drainage Patterns
    - Prepare General Location Drainage Map.
    - Determine watershed divides and identify drainage features on a macroscopic level.
    - Identify outlets and determine interpreted divides on a macroscopic level.
    - Identify mapped floodplains within the project area.
b. Proposed Drainage
    - Quantify floodplain encroachments.
    - Quantify amount of stormwater detention required for each alternative.
    - Develop preliminary locations for detention and the required proposed right-of-way.

Item 6 - Agency Coordination – It is assumed that most of the agency officials will be part of a Stakeholder Involvement Group (SIG) that is discussed in Item 8 below. However, it is likely that it will be necessary to meet with some of the jurisdictional agencies outside the formal Stakeholder Involvement Group process. Therefore, this item includes up to nine jurisdictional agency meetings as well as four coordination meetings with LCDOT.

Item 7 - Draft Feasibility Study Report – This work task will involve integration of project data and engineering studies into a Draft Feasibility Study Report. Specifically this work item will include the following:

a. Prepare report exhibits including location and land use maps, typical sections, and plan exhibits, etc.
b. Write, proofread and edit the Draft Feasibility Study Report.
c. Print, bind and deliver the Draft Feasibility Study Report in paper and PDF.
d. Attend review meeting with County, if required.

Item 8 - Public Involvement - The purpose of the public involvement process is to promote a proactive and responsive approach that seeks the input of all concerned stakeholders early and often, and that provides for appropriate input at key points in the project decision making process. It is recommended that for this project a Stakeholder Involvement Group (SIG) be created. This group would consist of agencies and individuals that may be affected by the proposed project. It is assumed that four SIG Meetings will occur throughout the course of the study.

In addition, it is anticipated that the study process will include three general public involvement opportunities. The first will be a public information meeting that will present the existing conditions. The second will be a public meeting that will occur once various roadway network alternatives have been developed. The third meeting will be a Public Hearing and will occur upon selection of a preferred roadway network and the definition of detailed geometric improvements near the Fremont Center Road and IL Route 60 intersection.

The following public involvement items are anticipated during the course of the Feasibility Study:

a. Public Information Meeting (Assume one meeting)
    - Selection of and coordination with meeting venue.
    - Preparation of invitation letters to area residents and businesses.
    - Preparation of public meeting newspaper display advertisement.
    - Preparation of public meeting brochure.
    - Preparation and distribution of public meeting notification letters to area residents and businesses.
    - Preparation of public meeting exhibits.
        - Exhibits
        - Typical section renderings for up to 4 cross sections of the proposed conditions.
    - Preparation of PowerPoint presentation (if necessary).
    - Preparation for and attendance at public meeting dry run with County staff.
    - Attendance at public information meeting.
    - Preparation of meeting minutes and disposition of comments.
    - Provide text and exhibits for County website.
b. Stakeholder Involvement Group (SIG) Meetings (Assume four meetings)
    - Selection of and coordination with meeting venue.

- Preparation of meeting exhibits.
- Preparation of SIG meeting PowerPoint presentations.
- Preparation for and attendance at SIG meeting dry run with County staff.
- Attendance at SIG meetings.
- Preparation of meeting minutes and disposition of comments.

c. Public Meeting (Assume one meeting)
   - Selection of and coordination with meeting venue.
   - Preparation of invitation letters to area residents and businesses.
   - Preparation of public meeting newspaper display advertisement.
   - Preparation of public meeting brochure.
   - Preparation and distribution of public meeting notification letters to area residents and businesses.
   - Preparation of public meeting exhibits.
     - Exhibits
     - Typical section renderings for up to 4 cross sections of the proposed conditions.
   - Preparation of PowerPoint presentation (if necessary).
   - Preparation for and attendance at public meeting dry run with County staff.
   - Attendance at public information meeting.
   - Preparation of meeting minutes and disposition of comments.
   - Provide text and exhibits for County website.

d. Publication Materials - Although a standalone website is not proposed for this project, this item includes providing content (exhibits and text) to the County for inclusion on their website.

Note: The tasks associated with the Public Hearing are contained in Part II.

Item 9 - Final Feasibility Study Report - Based on the outcome of the draft report review, the public involvement activities and local agency input, the Final Feasibility Study Report will be prepared. This work item will include the following tasks:

a. Revise Draft Feasibility Study exhibits.
b. Revise Draft Feasibility Study Report text.
c. Revise construction cost estimate for the improvements.
d. Print, bind and deliver Pre-Final Feasibility Study Report in paper and PDF.
e. Revise Pre-final report, proofread and edit.
f. Print, bind and deliver Final Feasibility Study Report in paper and PDF.

Item 10 - Supervision, Administration and Project Coordination - This item includes project setup, monthly invoicing and preparation of status reports, client coordination meetings as needed and in-house coordination meetings. This item also includes implementation of Civiltech's quality control/quality assurance in-house review process.

PART II - FREMONT CENTER ROAD IMPROVEMENT

Once a preferred roadway network has been selected, the second stage of the project will focus on the area near the intersection of IL Route 60 and Fremont Center Road. The limits of the improvement will be determined upon completion of the feasibility study portion of the project. The scope below assumes that a portion of the north leg of the Fremont Center Road and IL Route 60 intersection will be completed as part of this project. It is also assumed that this project will be constructed using local dollars and thus, will be processed through IDOT as a Permit Project. Therefore, a complete Federal-aid Phase I Study is not required. The following scope contains the preliminary engineering items necessary to obtain concurrence from IDOT on the proposed improvement at the Fremont Center Road/IL Route 60 intersection. It does not include Phase II Design Engineering. See Exhibit 2 for the assumed project area for Part II.

Item 1 - Field Survey, Preparation of Base Maps, and Plats & Legals – As much of the previously completed topographic survey will be used as possible to develop geometrics for the proposed improvement. However, depending on the outcome of the Feasibility Study, additional areas of survey may be needed. It is assumed that 1,800 feet of supplemental topographic survey will be needed to develop horizontal and vertical geometrics for the preferred improvement plan.

The preparation of the base sheets will include identification and "plotting" of all existing utilities within the project limits. Existing cross section information will be generated from the survey data to aid in the review of the existing roadway profile and completion of the drainage analysis.

In addition, this item will also include the preparation of plats and legal descriptions for this project. It is assumed that up to 7 parcels of easements and/or right-of-way acquisition may be required as part of this project. If preliminary engineering studies indicate that additional parcels are required, we reserve the right to renegotiate this agreement.

Field survey and plats & legals will be performed by a subconsultant, Jorgensen & Associates, Inc. and a copy of their detailed proposal is contained in Attachment B.

Item 2 - Crash Analyses – In order to satisfy County and IDOT requirements, it will be necessary to gather and review crash data to determine the existence of any safety hazards. The crash data that was collected as part of the previous project will be updated. Therefore, this work item will include:

a. Collect 5 years of crash data from Lake County.
b. Tabulate data and plot collision diagrams.
c. Prepare wet/dry crash analysis.
d. Prepare roadway lighting warrant analysis.
e. Identify 5% and High Accident Locations.
f. Evaluate safety improvement needs, identify countermeasures and write crash analysis text.

Item 3 - Traffic Analyses – Depending on the preferred improvement, it may be necessary to update the traffic signal warrant analysis that has already been completed for the intersection of IL Route 60 and Fremont Center Road and resubmit it to IDOT for approval.

Item 4 – Preferred Alternative Geometric Studies – After a preferred improvement plan has been selected, the preliminary geometric design will be refined based upon detailed survey, wetlands, and geotechnical studies.

a. Prepare detailed horizontal geometrics on topographic base sheets.
b. Define vertical roadway geometrics including detailed analysis of proposed roadway cross sections.
c. Determine right-of-way acquisition and grading easement limits.
d. Quantify environmental impacts.
e. Design vehicle turning-template analyses will also be completed using AutoTURN software.
f. Prepare plan and profile exhibits.
g. Submit Preliminary Traffic and Geometric package that details geometrics, traffic and crash data, and environmental impacts to the County and IDOT. It is assumed that these geometrics will be revised up to three times prior to presentation at the Public Hearing.
h. Prepare and submit an Intersection Design Study (IDS) to LCDOT and IDOT for the intersection of IL Route 60 and Fremont Center Road.
i. Revise and submit IDS based upon review comments to IDOT and LCDOT.
j. Submit Final IDS to LCDOT and IDOT for approval

Item 5 - Subsurface Soils and Pavement Investigation – A factor which often contributes to project cost increases during the implementation of an improvement is the inaccuracy of cost estimates for pavement rehabilitation and treatment of unsuitable subgrade soils. Pavement cores and soil borings were completed as part of the original project. However, a geotechnical report was not completed. Therefore, this item includes the preparation of a geotechnical report. This work item also includes the preparation of two pavement designs and the presentation of those designs in a pavement type analysis memorandum. This memorandum will include preliminary costs for each type of pavement structure as well as analysis of the life-cycle cost for each pavement design. A paper and PDF copy of the draft and final reports will be submitted to LCDOT.

We propose to use Midland Standard Engineering & Testing, Inc. as a subconsultant to perform the geotechnical studies for this project. A copy of their scope of services is included in Attachment C. Recommendations will be developed for the pavement structure in the design year (based upon a 20-year design life). This item will also include two meetings with the County. The first meeting will be held to discuss locations of the proposed pavement cores and borings and the second meeting will be to discuss the findings and recommendations of the geotechnical studies.

Item 6 - Preliminary Environmental Site Assessment – A PESA was performed and a report, dated August 28, 2012, was developed for the original project. It may be necessary to expand the original limits of the PESA study area. Therefore, it is assumed that an addendum will be necessary for the PESA to include the expanded area. The PESA will be used to identify areas of remediation and develop a construction cost estimate. This work will be performed by Stuedemann Environmental Consulting, Inc. and a copy of their detailed scope of services is included in Attachment D. Submit a paper and PDF copy to the LCDOT.

Item 7 - Drainage Study - A drainage study and Technical Memorandum will be prepared based on the Lake County Watershed Development Ordinance and Illinois Department of Transportation Drainage Manual requirements. Because IL Route 60 is under the maintenance and jurisdiction of IDOT, it will be necessary to show the impact the improvement will have on IL Route 60. It is anticipated that an Existing and Proposed Drainage Plan will be prepared and coordination with the Lake County Stormwater Management Commission (LCSMC) and reviews by IDOT will occur during the Phase I Study. It is not anticipated that an IDOT Location Drainage Study will be required, but that a Technical Memorandum will be required for approval by IDOT.

Existing Drainage Plan

a. Define watershed divides and identify additional drainage features.
b. Send letters to local officials requesting existing information.
c. Define outlets and interpreted divides based on the updated survey.
d. Perform field reconnaissance to review existing drainage structures and patterns.
e. Develop preliminary Existing Drainage Plan.
f. Submit Existing Drainage Plan to IDOT, LCDOT, and LCSMC for review in paper and PDF.
g. Meet with IDOT and LCSMC to discuss existing drainage plans.
h. Meet with the local officials to define existing drainage patterns and identify existing drainage problems.
i. Prepare and submit Pre-Final Existing Drainage Plan to IDOT and LCDOT for review in paper and PDF.
j. Prepare and submit Final Existing Drainage Plan to IDOT, LCSMC, and LCDOT in paper and PDF.

Proposed Drainage Plan

a. Determine existing and proposed runoff coefficients.
b. Refine flood plain encroachments.
c. Identify R.O.W. requirements for ditches, drainage outlets, and detention facilities.
d. Prepare Draft Concept Proposed Drainage Plan and submit to LCDOT and IDOT for review in paper and PDF.
e. Meet with LCDOT, IDOT and LCSMC to review Concept Proposed Drainage Plan.
f. Meet with local officials to discuss Concept Proposed Drainage Plan.
g. Develop stormwater detention plan.
h. Develop preliminary storm sewer sizing.
i. Develop preliminary drainage calculations.
j. Prepare and submit Pre-Final Proposed Drainage Plan to IDOT and LCDOT for review in paper and PDF.
k. Prepare and submit Final Proposed Drainage Plan to LCDOT, LCSMC, and IDOT in paper and PDF.

Technical Memorandum

a. Prepare report exhibits.
b. Write, proofread and edit the Draft Technical Memorandum.
c. Print, bind and deliver the Draft Technical Memorandum in paper and PDF.
d. Attend review meeting with IDOT, if required.
e. Revise draft report exhibits.
f. Revise Draft Technical Memorandum.
g. Print, bind and deliver Pre-Final Technical Memorandum in paper and PDF.
h. Revise Pre-final Technical Memorandum, proofread and edit.

i. Print, bind and deliver Final Technical Memorandum in paper and PDF.

A drain tile survey will be performed as part of this project by Stuedemann Environmental Consulting. A copy of their detailed proposal is contained in Attachment D.

Item 8 - Wetland Study – A wetland investigation of the site, including an additional 100 feet outside the project corridor limits, is required by the Lake County Watershed Development Ordinance (LCWDO). This investigation will include the identification and/or delineation of on-site, adjoining, and adjacent wetlands, wetland buffer areas, riparian environment areas, and high quality aquatic resources. The scope of this task includes an off-site record/document review followed by an on-site investigation. Investigation activities include on-site testing for the presence of hydric soils, hydrophytic vegetation, and sufficient hydrology. These activities will follow the standards outlined in the 1987 Corps of Engineers Wetlands Delineation Manual and in the LCWDO. This work will be performed by Stuedemann Environmental Consulting, Inc. and a copy of their detailed scope of services is included in Attachment D. Submit a paper and PDF copy to the LCDOT.

Item 9 - Draft Project Report - This work task will involve integration of project data and engineering studies into a Draft Project Report. Specifically this work item will include the following:

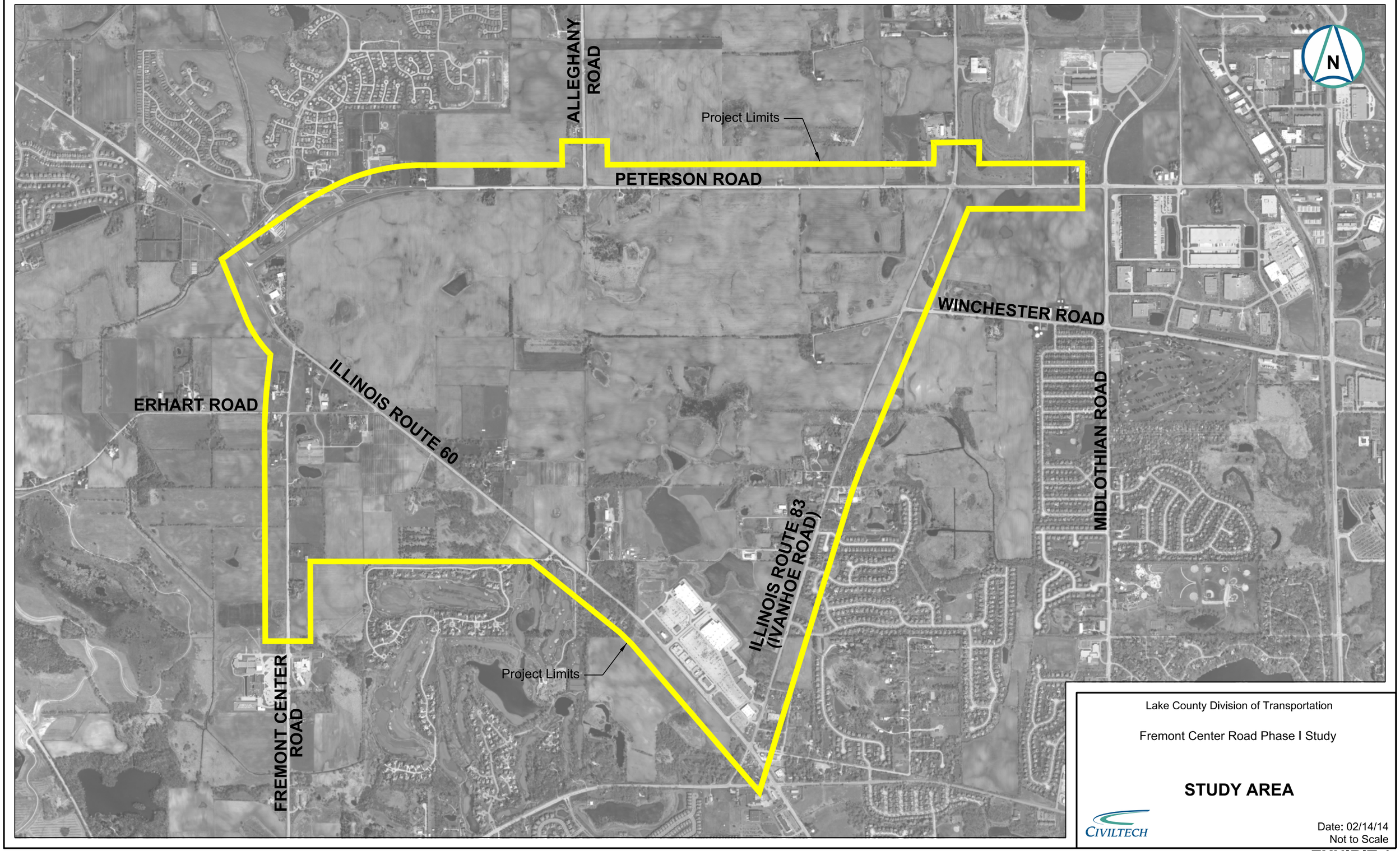
a. Prepare report exhibits including location and land use maps, typical sections, and plan exhibits, etc.
b. Write, proofread and edit the Draft Project Report.
c. Print, bind and deliver the Draft Project Report in paper and PDF.
d. Attend review meeting with County, if required.

Item 10 – Public Hearing – A public hearing will be conducted for the preferred improvement plan. This work item will include:

a. Selection of and coordination with meeting venue.
b. Preparation of public hearing newspaper display advertisement.
c. Preparation of public hearing brochure.
d. Preparation and distribution of public meeting notification letters to area residents and businesses.
e. Preparation of public hearing exhibits.
    - Exhibits
    - Typical section renderings for up to 4 cross sections of the proposed conditions.
f. Preparation of public hearing PowerPoint presentation (if necessary).
g. Preparation for and attendance at public hearing dry run with County staff.
h. Attendance at public hearing.
i. Preparation of public hearing transcript (By court reporter).
j. Disposition of public hearing comments.
k. Provide exhibits and text to County for inclusion on their website.

Item 11 - Final Project Report - Based on the outcome of the draft report review, the public involvement activities and local agency input, the Final Project Report will be prepared. This work item will include the following tasks:

a. Revise draft report exhibits.
b. Revise Draft Project Report text.
c. Revise construction cost estimate for the improvements.
d. Print, bind and deliver Pre-final Project Report in paper and PDF.
e. Revise Pre-final report, proofread and edit.
f. Print, bind and deliver Final Project Report in paper and PDF.



Lake County Division of Transportation

Fremont Center Road Phase I Study

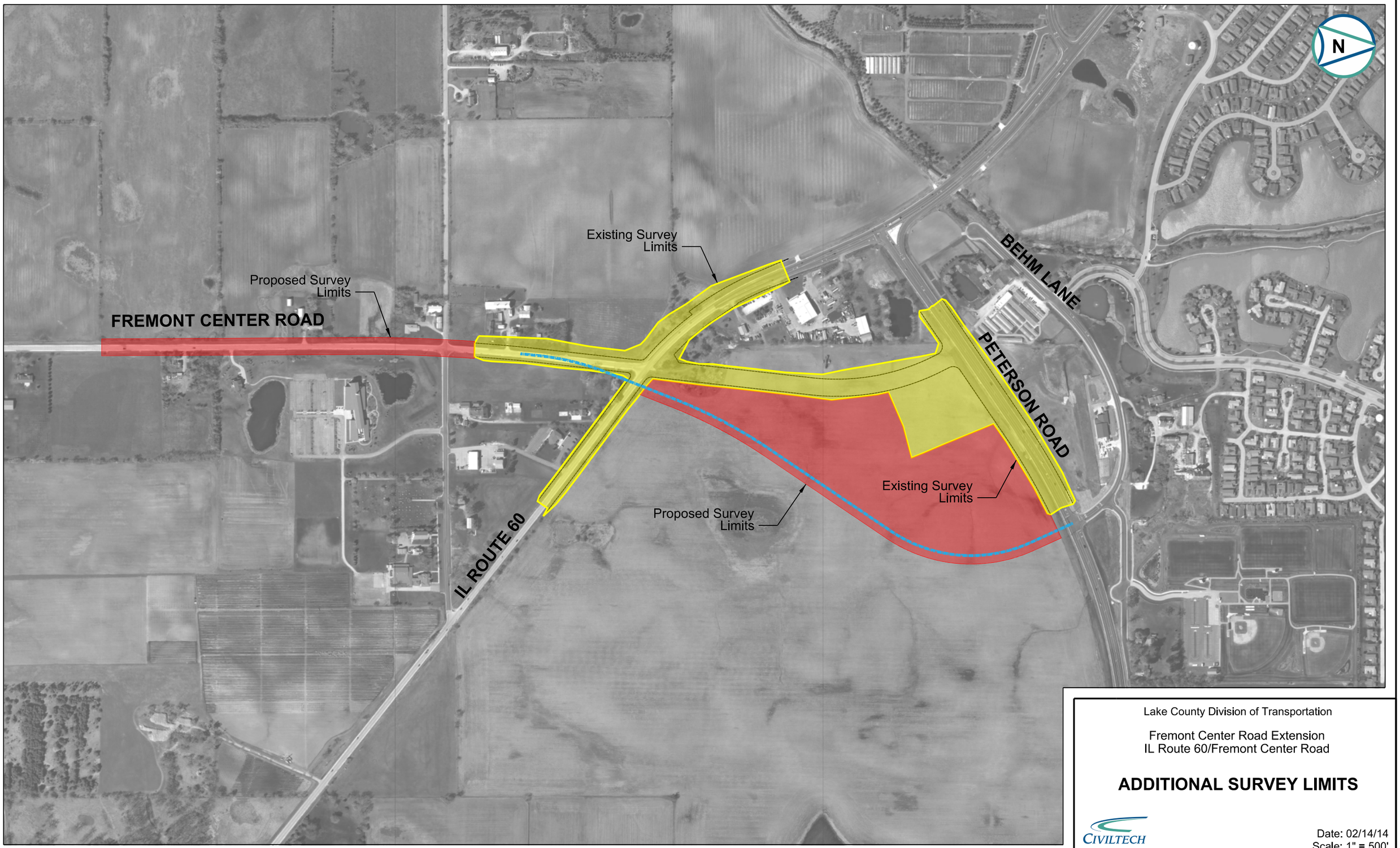
STUDY AREA

CIVILTECH

Date: 02/14/14
Not to Scale

J:\2603\CAD\Project Limits.dgn

EXHIBIT 1



Lake County Division of Transportation

Fremont Center Road Extension
IL Route 60/Fremont Center Road

ADDITIONAL SURVEY LIMITS

CIVILTECH

Date: 02/14/14
Scale: 1" = 500'

$FILEL$

EXHIBIT 2

Fremont Center Road Phase I Study
Lake County Division of Transportation

COST ESTIMATE OF CONSULTANT SERVICES
PHASE I ENGINEERING

	Personnel & Hours								Total Hours	% of Hours	Labor Cost
	Principal/Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.			
	$70.00	$47.00	$36.00	$30.00	$65.00	$30.00	$30.00	$20.00			
Task											
PART I - FEASIBILITY STUDY											
1 Early Coordination and Data Collection											
	2	18	38	24	0	0	0	0	82	1.7%	$ 3,074
2 Digital Terrain Models and Preparation of Base Maps											
	0	6	8	4	0	0	40	0	58	1.2%	$ 1,890
3 Traffic Analyses											
	22	38	104	100	0	0	80	0	344	7.3%	$ 12,470
4 Alternate Geometric Studies											
	32	72	232	240	0	0	64	0	640	13.5%	$ 23,096
5 Drainage Study											
	0	4	0	0	20	126	0	0	150	3.2%	$ 5,268
6 Agency Coordination											
	104	52	0	0	0	0	0	0	156	3.3%	$ 9,724
7 Draft Feasibility Study Report											
	4	20	40	28	0	0	16	16	124	2.6%	$ 4,300
8 Public Involvement											
	166	148	208	106	0	0	382	36	1046	22.1%	$ 41,424
9 Final Feasibility Study Report											
	6	52	64	104	0	0	16	32	274	5.8%	$ 9,408
10 Supervision, Administration, and Project Coordination											
	52	76	12	12	0	0	12	0	164	3.5%	$ 8,364
PART II - FREMONT CENTER ROAD IMPROVEMENT											
1 Field Survey, Preparation of Base Maps, and Plats and Legals											
	0	10	4	4	0	0	16	0	34	0.7%	$ 1,214
2 Crash Analyses											
	0	2	8	16	0	0	0	0	26	0.5%	$ 862
3 Traffic Analyses											
	0	2	4	0	0	0	0	0	6	0.1%	$ 238
4 Preferred Alternative Geometric Studies											
	4	22	74	136	0	0	40	4	280	5.9%	$ 9,338
5 Subsurface Soils and Pavement Investigation											
	2	12	26	16	0	0	0	0	56	1.2%	$ 2,120
6 Preliminary Environmental Site Assessment											
	0	0	4	0	0	0	0	0	4	0.1%	$ 144
7 Drainage Study											
	0	58	2	0	108	422	124	36	750	15.8%	$ 26,918
8 Wetland Study											
	0	10	2	0	0	0	0	0	12	0.3%	$ 542

Fremont Center Road Phase I Study
Lake County Division of Transportation

COST ESTIMATE OF CONSULTANT SERVICES
PHASE I ENGINEERING

		Personnel & Hours											
		Principal/Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.		Total Hours	% of Hours	Labor Cost
		$70.00	$47.00	$36.00	$30.00	$65.00	$30.00	$30.00	$20.00				
	Task												
9	**Draft Project Report**												
		4	12	22	14	0	0	8	16		76	1.6%	$ 2,616
10	**Public Hearing**												
		58	74	58	0	0	0	92	20		302	6.4%	$ 12,786
11	**Final Project Report**												
		6	20	40	60	0	0	4	28		158	3.3%	$ 5,280
	Sub-Total	**462**	**708**	**950**	**864**	**128**	**548**	**894**	**188**		**4742**		
	% of Hours	9.7%	14.9%	20.0%	18.2%	2.7%	11.6%	18.9%	4.0%			100.0%	
	Total Labor Cost	$32,340	$33,276	$34,200	$25,920	$8,320	$16,440	$26,820	$3,760				$181,076
	Direct Costs (See Exhibit A-4)												$13,851
	OH Rate												$268,463
	Fixed Fee												$67,192
	Subconsultants (See Exhibit A-4)												$141,176
										Total Engineering Cost:			**$671,758**

R = Complexity Factor = 0
DL = Direct Labor
OH = Overhead = 148.26%
FF = Fixed Fee = 36.00%
where FF = 14.5%[DL + R(DL)+OH(DL)+IHDC]

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
PART I - FEASIBILITY STUDY											
1	**Early Coordination and Data Collection**										
A.	Collect and review previous studies and existing roadway plans and available traffic counts.			4						**4**	4.9%
B.	Collect Land Use, Zoning, School District, Park District maps and plans.				2					**2**	2.4%
C.	Obtain public and private utility atlases.			2	4					**6**	7.3%
D.	Perform project area reconnaissance and prepare photolog.			10	10					**20**	24.4%
E.	Perform a Special Waste Screening (by subconsultant).		4							**4**	4.9%
F.	Determine any historic or archaeological significant sites within the project area.	2	4	6						**12**	14.6%
G.	Perform preliminary highway traffic noise analysis.		6	16	8					**30**	36.6%
H.	Perform preliminary geotechnical investigation (by subconsultant).		4							**4**	4.9%
	Sub-total Item 1	**2**	**18**	**38**	**24**	**0**	**0**	**0**	**0**	**82**	**100.0%**
2	**Digital Terrain Models and Preparation of Base Maps**										
A.	Obtain, download, and develop existing surface model.		2	2				16		**20**	34.5%
B.	Development of project base sheets.		2	2	4			16		**24**	41.4%
C.	Establish and draft existing right-of-way and private property boundaries.		2	4				8		**14**	24.1%
	Sub-total Item 2	**0**	**6**	**8**	**4**	**0**	**0**	**40**	**0**	**58**	**100.00%**
3	**Traffic Analyses**										
A.	Obtain 14-hr. video turning movement traffic counts at 8 intersections.			8	8			48		**64**	18.6%
B.	Reduce and tabulate count data and prepare traffic volume exhibits.			4	8					**12**	3.5%
C.	Obtain 2040 projections from CMAP.		2	2						**4**	1.2%
i.	Analysis of land use and zoning maps for the study area will be conducted.	4	4	6						**14**	4.1%
ii.	Large scale trip generation analysis will be conducted. Assign trips to the potential roadway network.		2	16	8					**26**	7.6%
iii.	Information supplied to CMAP to aid in their development of 2040 traffic projections.	2	2	4						**8**	2.3%
F.	Develop 2040 intersection DHV's at major intersections for up to five alternatives.	2	6	12	20					**40**	11.6%
G,	Analyze the proposed roundabouts using Sidra software.	2	2	12	16					**32**	9.3%
H.	Analyze the proposed signalized intersections using Syncro software.	12	20	40	40			32		**144**	41.9%
	Sub-total Item 3	**22**	**38**	**104**	**100**	**0**	**0**	**80**	**0**	**344**	**100.0%**
4	**Alternate Geometric Studies**										
Preliminary Alternative Concepts											
A.	Prepare concept horizontal geometrics on aerial base sheets for up to five alternatives.	10	12	60	100			16		**198**	30.9%
B.	Define concept vertical roadway geometrics including preliminary cross sections for all alternatives.	4	12	32	52			16		**116**	18.1%

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
C.	Analyze pedestrian/bicycle accommodation alternates.	4	8	16	24			8		**60**	9.4%
D.	Identify preliminary R.O.W. acquisition and grading easements.		4	16	24					**44**	6.9%
E.	Identify areas of potential environmental concern.	2	4	8						**14**	2.2%
F.	Revised concepts based upon review comments.	8	8	40	40			24		**120**	18.8%
G.	Prepare order of magnitude cost estimates for each alternative and refine cost estimate for preferred roadway network.	4	24	60						**88**	13.8%
	Sub-total Item 4	**32**	**72**	**232**	**240**	**0**	**0**	**64**	**0**	**640**	**100.0%**
5	**Drainage Study**										
Evaluation of Existing Drainage Patterns											
A.	Prepare General Location Drainage Map.					2	2			**4**	2.7%
B.	Determine watershed divides and identify drainage features on a macroscopic level.					2	4			**6**	4.0%
C.	Identify outlets and determine interpreted divides on a macroscopic level.		2			2	20			**24**	16.0%
D.	Identify mapped floodplains within the project area.					2	4			**6**	4.0%
Proposed Drainage											
A.	Quantify floodplain encroachments.					4	16			**20**	13.3%
B.	Quantify amount of stormwater detention for each alternative.					4	40			**44**	29.3%
C.	Develop preliminary locations for detention and required right-of-way.		2			4	40			**46**	30.7%
	Sub-total Item 5	**0**	**4**	**0**	**0**	**20**	**126**	**0**	**0**	**150**	**100.0%**
6	**Agency Coordination**										
A.	Preparation for and attendance at 9 meetings with jurisdictional agencies.	72	36							**108**	69.2%
B.	Preparation for and attendance at 4 meetings with LCDOT.	32	16							**48**	30.8%
	Sub-total Item 6	**104**	**52**	**0**	**0**	**0**	**0**	**0**	**0**	**156**	**100.0%**
7	**Draft Feasibility Study Report**										
A.	Prepare report exhibits, including a location and land use maps, typical sections, and plan exhibits, etc.			4	12			16		**32**	25.8%
B.	Write, proofread, and edit the Draft Feasibility Study Report.		16	32	16					**64**	51.6%
C.	Print, bind and deliver Draft Feasibility Study Report in paper and PDF.								16	**16**	12.9%
D.	Attend review meeting with County, if required.	4	4	4						**12**	9.7%
	Sub-total Item 7	**4**	**20**	**40**	**28**	**0**	**0**	**16**	**16**	**124**	**100.0%**
8	**Public Involvement**										
Public Information Meeting (Assume One Meeting)											
A.	Selection of and coordination with meeting venue.		4							**4**	0.4%
B.	Preparation of invitation letters to area residents and businesses.		2							**2**	0.2%
C.	Preparation of public meeting newspaper display advertisement.		2	2						**4**	0.4%
D.	Preparation of public meeting brochure.	4	4	4				2	2	**16**	1.5%
E.	Preparation and distribution of public meeting notification letters.		2	4	4				16	**26**	2.5%
F.	Preparation of public meeting exhibits (includes 4 typical section renderings).	4	8	16	12			80		**120**	11.5%

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
G.	Preparation for and attendance at dry run with County staff.	20	10	10				4		**44**	4.2%
H.	Attendance at public meeting.	8	4	4						**16**	1.5%
I.	Preparation of meeting minutes and disposition of public meeting comments.		4	4						**8**	0.8%
J.	Provide exhibits and text to County for inclusion on their website.			12	12			12		**36**	3.4%
Stakeholder Involvement Group Meetings (Assume Four Meetings)											
A.	Selection of and coordination with meeting venue.		4							**4**	0.4%
B.	Preparation of meeting exhibits.	8	6	8	8			160		**190**	18.2%
C.	Preparation of SIG meeting presentation.	8	8	16	16					**48**	4.6%
D.	Preparation for and attendance at dry run with County staff.	38	18	20				6		**82**	7.8%
E.	Attendance at meeting.	40	24	24						**88**	8.4%
F.	Preparation of meeting minutes.		8	12	10					**30**	2.9%
Public Meeting (Assume One Meeting)											
A.	Selection of and coordination with meeting venue.		4							**4**	0.4%
B.	Preparation of invitation letters to area residents and businesses.		2							**2**	0.2%
C.	Preparation of public meeting newspaper display advertisement.		2	2						**4**	0.4%
D.	Preparation of public meeting brochure.	4	4	4				2	2	**16**	1.5%
E.	Preparation and distribution of public meeting notification letters.		2	4	4				16	**26**	2.5%
F.	Preparation of public meeting exhibits (includes 4 typical section renderings).	4	8	16	12			80		**120**	11.5%
G.	Preparation for and attendance at dry run with County staff.	20	10	10				4		**44**	4.2%
H.	Attendance at public meeting.	8	4	4						**16**	1.5%
I.	Preparation of meeting minutes and disposition of public meeting comments.		4	4						**8**	0.8%
J.	Provide exhibits and text to County for inclusion on their website.			12	12			12		**36**	3.4%
Publication Materials											
A.	Provide exhibits and text to County for inclusion on their website.			16	16			20		**52**	5.0%
	Sub-total Item 8	**166**	**148**	**208**	**106**	**0**	**0**	**382**	**36**	**1046**	**100.0%**

9	**Final Feasibility Study Report**										
A.	Revise Draft Feasibility Study Report exhibits.			4	12			16		**32**	11.7%
B.	Revise Draft Feasibility Study Report.	2	16	8	16					**42**	15.3%
C.	Revise construction cost estimate for the improvements.		16	16	32					**64**	23.4%
D.	Print, bind, and deliver Pre-final Feasibility Study Report in paper and PDF.		4	8	16				16	**44**	16.1%
E.	Revise Pre-final Feasibility Study Report, proofread, and edit.	2	8	16	16					**42**	15.3%
F.	Print, bind, and deliver Final Feasibility Study Report in paper and PDF.	2	8	12	12				16	**50**	18.2%
	Sub-total Item 9	**6**	**52**	**64**	**104**	**0**	**0**	**16**	**32**	**274**	**100.0%**

10	**Supervision, Administration, and Project Coordination**										
A.	Project setup, monthly invoicing, status reports & schedule monitoring.		24							**24**	14.6%
B.	Client Coordination.	40	40							**80**	48.8%
C.	In-House coordination meetings.	12	12	12	12			12		**60**	36.6%
	Sub-total Item 10	**52**	**76**	**12**	**12**	**0**	**0**	**12**	**0**	**164**	**100.0%**

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
PART II - FREMONT CENTER ROAD IMPROVEMENT											
1	**Field Survey, Preparation of Base Maps, and Plats and Legals**										
A.	Development of project base sheets.		2	4	4			16		**26**	76.5%
B.	Coordination with subconsultant.		8							**8**	23.5%
	Sub-total Item 1	**0**	**10**	**4**	**4**	**0**	**0**	**16**	**0**	**34**	**100.0%**
2	**Crash Analyses**										
A.	Collect 5 years of crash data. (To be provided by the County).			2						**2**	7.7%
B.	Tabulate and plot collision diagrams.			2	8					**10**	38.5%
C.	Prepare wet/dry crash analysis.				2					**2**	7.7%
D.	Prepare roadway lighting warrant analysis.				2					**2**	7.7%
E.	Identify 5% and High Accident Locations.				2					**2**	7.7%
F.	Evaluate safety improvement needs and write crash analysis text.		2	4	2					**8**	30.8%
	Sub-total Item 2	**0**	**2**	**8**	**16**	**0**	**0**	**0**	**0**	**26**	**100.0%**
3	**Traffic Analyses**										
A.	Submit and receive approval on the traffic signal warrant study for IL Route 60 and Fremont Center Road.		2	4						**6**	100.0%
	Sub-total Item 3	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**100.0%**
4	**Preferred Alternative Geometric Studies**										
A.	Prepare detailed horizontal geometrics on topographic base sheets.	2	2	8	24			4		**40**	14.3%
B.	Define vertical roadway geometrics including detailed analysis of proposed roadway cross sections.	2	2	16	24			4		**48**	17.1%
C.	Determine right-of-way acquisition and grading easement limits.		2	8	12					**22**	7.9%
D.	Quantify environmental impacts.		2	4	16					**22**	7.9%
E.	Perform design vehicle turning-template analyses using AutoTURN software.		2	4	12					**18**	6.4%
F.	Prepare plan and profile exhibits.		2	4	16			12		**34**	12.1%
G.	Submit Preliminary Traffic and Geometric package that details geometrics, traffic and crash data, and environmental impacts to the County and IDOT.		2	4	4			4	4	**18**	6.4%
H.	Prepare and submit an Intersection Design Study to LCDOT and IDOT.		4	16	16			8		**44**	15.7%
I.	Revise and submit IDS based upon review comments to IDOT and LCDOT.		2	8	8			4		**22**	7.9%
J.	Submit Final IDS to LCDOT and IDOT for approval.		2	2	4			4		**12**	4.3%
	Sub-total Item 4	**4**	**22**	**74**	**136**	**0**	**0**	**40**	**4**	**280**	**100.0%**
5	**Subsurface Soils and Pavement Investigation**										
	The geotechnical investigations will be conducted by a subconsultant - Midland Standard Engineering and Testing, Inc.										
A.	Review Soils Report.		2	2						**4**	7.1%

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
B.	Meetings with LCDOT.		4	4						**8**	14.3%
C.	Pavement Type Analysis Memorandum.	2	4	12						**18**	32.1%
D.	Pavement design.		2	8	16					**26**	46.4%
	Sub-total Item 5	**2**	**12**	**26**	**16**	**0**	**0**	**0**	**0**	**56**	**100.0%**
6	**Preliminary Environmental Site Assessment**										
A.	Identify areas of remediation to aid in development of construction cost estimate.			4						**4**	100.0%
	Sub-total Item 6	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**100.0%**
7	**Drainage Study**										
Existing Drainage Plan											
A.	Refine watershed divides and identify drainage features.						8			**8**	1.1%
B.	Send letters to local officials requesting existing information.		2	2						**4**	0.5%
C.	Refine outlets and interpreted drainage divides.						8			**8**	1.1%
D.	Perform field reconnaissance of existing drainage structures.					8	8			**16**	2.1%
E.	Develop preliminary Existing Drainage Plan.		4			8	32	32		**76**	10.1%
F.	Submit Existing Drainage Plan to IDOT, LCDOT and LCSMC for review.		2			2		4	4	**12**	1.6%
G.	Meet with IDOT and LCSMC to discuss existing drainage plans.		8			8	8			**24**	3.2%
H.	Meet with local officials to identify existing drainage problems.		8			8	16			**32**	4.3%
I.	Prepare and submit Pre-final Existing Drainage Plan to IDOT for review.		2			4	24	24		**54**	7.2%
J.	Prepare and submit Final Existing Drainage Plan to IDOT, LCSMC, and IDOT.		2			4	16	16	4	**42**	5.6%
Concept Proposed Drainage Plan										**0**	0.0%
A.	Determine existing and proposed runoff coefficients.						4			**4**	0.5%
B.	Refine floodplain encroachments.						8			**8**	1.1%
C.	Identify R.O.W. requirements for ditches, drainage outlets, and detention facilities.						40			**40**	5.3%
D.	Prepare Draft Concept Proposed Drainage Plan and submit to IDOT, LCDOT and LCSMC for review.		4			8	32	32		**76**	10.1%
E.	Meet with IDOT, LCDOT and LCSMC to review Concept Proposed Drainage		4			4	4			**12**	1.6%
F.	Meet with local officials to discuss Concept Proposed Plan.		8			8	8			**24**	3.2%
G.	Develop stormwater detention plan.		2			8	40			**50**	6.7%
H.	Develop preliminary storm sewer sizing.		2			8	32			**42**	5.6%
I.	Develop preliminary drainage calculations.					8	40			**48**	6.4%
J.	Prepare and submit Pre-final Concept Proposed Drainage Plan to IDOT for review.		2			8	40			**50**	6.7%
K.	Prepare and submit Final Concept Proposed Drainage Plan and submit to IDOT, LCDOT and LCSMC in paper and PDF.		2			4	24	16	4	**50**	6.7%
Technical Memoradum											
A.	Prepare report exhibits.						2			**2**	0.3%
B.	Write, proofread, and edit the Draft Technical Memorandum.		2			2	8			**12**	1.6%

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
C.	Print, bind and deliver Draft Technical Memorandum in paper and PDF.						2		8	**10**	1.3%
D.	Attend review meeting with IDOT, if required.		4			4	4			**12**	1.6%
E.	Revise Draft Technical Memorandum exhibits.						2			**2**	0.3%
F.	Revise Draft Technical Memorandum.					2	6			**8**	1.1%
H.	Print, bind, and deliver Pre-final Technical Memorandum in paper and PDF.								8	**8**	1.1%
I.	Revise Pre-final Technical Memorandum, proofread, and edit.					2	6			**8**	1.1%
J.	Print, bind, and deliver Final Technical Memorandum in paper and PDF.								8	**8**	1.1%
	Sub-total Item 7	**0**	**58**	**2**	**0**	**108**	**422**	**124**	**36**	**750**	**100.0%**
8	**Wetland Study**										
	The wetland study will be conducted by a subconsultant - Stuedemann Environmental Consulting, Inc.										
A.	Review wetland report.		2	2						**4**	33.3%
B.	Coordination with subconsultant.		8							**8**	66.7%
	Sub-total Item 8	**0**	**10**	**2**	**0**	**0**	**0**	**0**	**0**	**12**	**100.0%**
9	**Draft Project Report**										
A.	Prepare report exhibits, including a location map, a land use exhibit, existing and proposed typical sections and a Maintenance of Traffic exhibit.			2	6			8		**16**	21.1%
B.	Write, proofread, and edit the Draft Project Report.		8	16	8					**32**	42.1%
C.	Print, bind and deliver Draft Project Report in paper and PDF.								16	**16**	21.1%
D.	Attend review meeting with County, if required.	4	4	4						**12**	15.8%
	Sub-total Item 9	**4**	**12**	**22**	**14**	**0**	**0**	**8**	**16**	**76**	**100.0%**
10	**Public Hearing**										
Public Hearing											
A.	Selection of and coordination with meeting venue.		4							**4**	1.3%
B.	Preparation of public hearing newspaper display ad.		2	2						**4**	1.3%
C.	Preparation of public hearing brochure.	4	4					4	4	**16**	5.3%
D.	Distribution of public meeting notification letters.		4	4					16	**24**	7.9%
E.	Preparation of public hearing exhibits (includes 4 typical section renderings).	18	24	16				80		**138**	45.7%
F.	Preparation of public hearing PowerPoint presentation.	4	8	16						**28**	9.3%
G.	Preparation for and attendance at public hearing dry run with County staff.	12	8	8				4		**32**	10.6%
H.	Attendance at public hearing.	16	8	8						**32**	10.6%
I.	Preparation of public hearing transcript (by court reporter).		2							**2**	0.7%
J.	Disposition of public hearing comments.	4	8							**12**	4.0%
K.	Provide exhibits and text to County for inclusion on their website.		2	4				4		**10**	3.3%
	Sub-total Item 10	**58**	**74**	**58**	**0**	**0**	**0**	**92**	**20**	**302**	**100.0%**
11	**Final Project Report**										
A.	Revise Draft Project Report exhibits.			2	4			4		**10**	6.3%
B.	Revise Draft Project Report.	2	4	6	8					**20**	12.7%
C.	Revise construction cost estimate for the improvements.		8	16	32					**56**	35.4%

Fremont Center Road Phase I Study
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

Item No.	Task	Principal/ Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Sr. Drainage Engineer	Drainage Engineer	Design Technician	Admin. Asst.	Total Hours	% of Hours
D.	Print, bind, and deliver Pre-final Project Report in paper and PDF.								16	**16**	10.1%
E.	Revise Pre-final Project Report, proofread, and edit.	2	4	8	8					**22**	13.9%
F.	Print, bind, and deliver Final Project Report in paper and PDF.	2	4	8	8				12	**34**	21.5%
	Sub-total Item 11	**6**	**20**	**40**	**60**	**0**	**0**	**4**	**28**	**158**	**100.0%**

Total Hours:	**462**	**708**	**950**	**864**	**128**	**548**	**894**	**188**	**4742**	
% of Hours:	**9.7%**	**14.9%**	**20.0%**	**18.2%**	**2.7%**	**11.6%**	**18.9%**	**4.0%**	**100.0%**	

Fremont Center Road Phase I Study
Lake County Division of Transportation

PHASE I ENGINEERING
DIRECT COSTS AND SUBCONSULTANT SERVICES

				Direct Cost	Subconsultant Expense
PART I - FEASIBILITY STUDY					
Item 1	**Early Coordination and Data Collection**				
Mileage					
2 trips @	80 miles @	$0.560		$89.60	
Special Waste Screening					
Subconsultant Expense - Stuedemann Environmental Consulting, LLC					
See Attachment D					$3,126.00
Preliminary Geotechnical Investigation					
Subconsultant Expense - Midland Standard Engineering and Testing, Inc.					
See Attachment C					$3,213.73
Item 4	**Traffic Analyses**				
Video Count Data Reduction	Lump Sum			$2,800.00	
Mileage					
8 trips @	80 miles @	$0.560		$358.40	
Item 5	**Alternate Geometric Studies**				
Printing (Assume 10 copies)					
125 sheets @	$0.50			$62.50	
300 sheets @	$0.15			$45.00	
Postage					
3 packages @	$25.00			$75.00	
Item 7	**Agency Coordination**				
Mileage					
9 trips @	40 miles @	$0.560		$201.60	
4 trips @	80 miles @	$0.560		$179.20	
Item 8	**Draft Feasibility Study Report**				
Printing (Assume 5 copies)					
125 sheets @	$0.50			$62.50	
300 sheets @	$0.15			$45.00	
Postage					
2 packages @	$25.00			$50.00	
Item 9	**Public Involvement**				
Display Ad	2 each @	$250.00		$500.00	
Location Rental Fee	6 each @	$500.00		$3,000.00	
Court Reporter	1 each @	$500.00		$500.00	
Printing	1,200 sheets @	$0.50		$600.00	
Public Meeting Supplies (foam core board, easels, etc.)				$200.00	
SIG Meeting Supplies (binders, refreshments)				$150.00	
Postage					
2 meetings @ 500 letters					
1000 letters	$0.49			$490.00	
Mileage					
30 trips @	80 miles @	$0.560		$1,344.00	
Item 10	**Final Feasibility Study Report**				
Printing (Assume 10 copies)					
250 sheets @	$0.50			$125.00	
600 sheets @	$0.15			$90.00	
Postage					
4 packages @	$25.00			$100.00	

Fremont Center Road Phase I Study
Lake County Division of Transportation

PHASE I ENGINEERING
DIRECT COSTS AND SUBCONSULTANT SERVICES

PART II - FREMONT CENTER ROAD IMPROVEMENT

					Direct Cost	Subconsultant Expense
Item 1	**Field Survey, Preparation of Base Maps, and Plats and Legals**					
Subconsultant Expense - Jorgensen and Associates, Inc.						
Supplemental Topographic Survey						$ 20,899.52
Plats and Legals						$ 58,718.94
See Attachment B						
Item 5	**Subsurface Soils and Pavement Investigation**					
Subconsultant Expense - Midland Standard Engineering and Testing, Inc.						
See Attachment C						$10,309.45
Item 6	**Preliminary Environmental Site Assessment**					
Subconsultant Expense - Stuedemann Environmental Consulting, LLC						
See Attachment D						$7,844.00
Item 7	**Drainage Study**					
Mileage						
2	trips @	80	miles @	$0.560	$89.60	
Printing (Assume 10 copies)						
50	sheets @	$0.50			$25.00	
100	sheets @	$0.15			$15.00	
Postage						
4	packages @	$25.00			$100.00	
Subconsultant Expense - Stuedemann Environmental Consulting, LLC						
Drain Tile Survey						$14,509.00
See Attachment D						
Item 8	**Wetland Study**					
Subconsultant Expense - Stuedemann Environmental Consulting, LLC						
See Attachment D						$22,555.00
Item 9	**Draft Project Report**					
Printing (Assume 5 copies)						
25	sheets @	$0.50			$12.50	
100	sheets @	$0.15			$15.00	
Postage						
2	packages @	$25.00			$50.00	
Item 10	**Public Hearing**					
Display Ad		2	each @	$250.00	$500.00	
Location Rental Fee		1	each @	$500.00	$500.00	
Court Reporter		1	each @	$500.00	$500.00	
Printing		400	sheets @	$0.50	$200.00	
Public Meeting Supplies (foam core board, easels, etc.)					$200.00	
Postage						
1 meeting @ 500 letters						
500	letters	$0.45			$225.00	
Mileage						
5	trips @	80	miles @	$0.560	$224.00	
Item 11	**Final Project Report**					
Printing (Assume 10 copies)						
25	sheets @	$0.50			$12.50	
100	sheets @	$0.15			$15.00	
Postage						
4	packages @	$25.00			$100.00	
TOTAL:					**$13,851**	**$141,176**

ATTACHMENT B

Subconsultant Proposal
Jorgensen & Associates, Inc.

JORGENSEN & ASSOCIATES, INC.
CONSTRUCTION and LAND SURVEYORS
Est. 1990

February 18, 2014

Mr. Joel E. Christell, P.E.
Civiltech Engineering, Inc.
450 E. Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Fremont Center Road Survey Proposal

Dear Mr. Christell:

Enclosed, please find our revised proposal to prepare a statutory plat of highways with legal descriptions and a supplemental topographic survey for the referenced project.

I would like to thank you for considering Jorgensen & Associates for this project. We look forward to developing a working relationship with your firm. Should you have any questions, comments or require any further information concerning our proposal, please feel free to call me at (847)356-3371.

Respectfully submitted,
Jorgensen & Associates, Inc.

Christian H. Jorgensen, P.L.S.
President

CHJ/pt

Enclosures

E:\Civiltech\Lake\Fremont Center Rd\Supplement\LTR

Route: Freemont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Exhibit "A"

Hourly Rate Range - Consultant's Regular Staff

Classification	From	To
Principal, Manager, P.L.S.	41.00	43.00
Supervisor, Project Surveyor	39.00	41.00
Cadd Supervisor, Survey Party Chief, S.I.T., Survey Party Chief	21.50	29.50
Instrument Operator, Cadd Operator, assignable Clerical and Secretarial Labor	14.00	20.00

Route: Freemont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Exhibit "B"

Payroll Burden & Fringe Costs

	% of Direct Productive Payroll
Federal Insurance Contributions Act	11.84%
State Unemployment Compensation	3.59%
Federal Unemployment Compensation	0.12%
Workmen's Compensation Insurance	0.94%
Paid Holidays, Vacation, Sick Leave, Personal Leave	8.78%
Bonus	4.59%
Pension	0.83%
Group Insurance	36.56%
Total Payroll Burden & Fringe Costs	67.25%

Route: Freemont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Exhibit "C"

Overhead and Indirect Costs

	% of Direct Productive Payroll
Business Insurance	3.23%
Depreciation	10.17%
Indirect wages and salaries	46.70%
Reproductive and printing costs	0.05%
Office Supplies	3.04%
Computer Costs	0.66%
Professional Fees	1.60%
Telephone	2.11%
Fees, license & dues	1.09%
Repairs and maintenance	0.52%
Business space rent	5.18%
Facilities - capital	0.44%
Travel - Meals	0.03%
Survey Supplies	2.09%
Automobile/travel expense	4.79%
Equipment Rental	0.97%
Miscellaneous Expense	0.81%
State Income Tax	0.62%
Postage	0.26%
Educational & Professional Registrations	0.10%
Total Overhead	84.46%

Route: Fremont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 43.00
B. Supervisor, P.L.S. ……. $ 41.00
C. Survey Party Chief, S.I.T. …….. $ 23.50
D. Instrument Operator …….. $ 19.00
E. Cadd Supervisor …….. $ 28.50

Route: Fremont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$43.00/hour	=	$ 86.00
Supervisor, P.L.S.	15 hours	@	$41.00/hour	=	$ 615.00
Survey Party Chief, S.I.T.	104 hours	@	$23.50/hour	=	$ 2,444.00
Instrument Operator	104 hours	@	$19.00/hour	=	$ 1,976.00
Cadd Supervisor	74 hours	@	$28.50/hour	=	$ 2,109.00
	299 hours				$ 7,230.00

Average Hourly Rate = $\frac{\$7,230.00}{299}$ = $24.18/hour

Route: Freemont Center Road
Section: Illinois Route 60 to Peterson Road
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 18, 2014
Description: Supplemental Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	208	$4,420.00	$6,705.58	$214.50	$11,340.08	$1,505.17	N/A	$12,845.25	61.46%
2) Office - Compile Field Data	27	$819.50	$1,243.26	$0.00	$2,062.76	$273.30	N/A	$2,336.07	11.18%
3) Office - Create Existing Topography Base Sheets	56	$1,708.50	$2,591.97	$0.00	$4,300.47	$569.78	N/A	$4,870.25	23.30%
4) Office - Create T.I.N. & Contours	6	$196.00	$297.35	$0.00	$493.35	$65.37	N/A	$558.72	2.67%
5) Coordination Meetings	2	$86.00	$130.47	$38.50	$254.97	$34.26	N/A	$289.23	1.38%
TOTALS	299	$7,230.00	$10,968.63	$253.00	$18,451.63	$2,447.89	$0.00	$20,899.52	100.00%

Route: Fremont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Manhour Breakdown
Supplemental Topographic Survey Estimate

Peterson Road	± 160'	= ± 0.030 mile
Illinois Route 60	± 125'	= ± 0.024 mile
Fremont Center Road	± 5,100'	= ± 0.966 mile
Total Length	± 5,385'	= ± 1.020 miles

1. Field – Topographic Survey

   a. Establish horizontal & vertical control points
      13 hours x 2 men = 26 MH

   b. Locate wetlands
      20 hours x 2 men = 40 MH

   c. Locate existing topography
      71 hours x 2 men = 142 MH

   Sub-total Item #1 208 MH

2. Office - Compile Field Data

   a. Compute control points
      4 hours x 1 man = 4 MH

   b. Edit & compile topographic survey
      23 hours x 1 man = 23 MH

   Sub-total Item #2 27 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      47 hours x 1 man = 47 MH

   b. Check topographic survey
      9 hours x 1 man = 9 MH

Sub-total Item #3 56 MH

4. Office - Create T.I.N. & Contours

   a. Compute contours
      4 hours x 1 man = 4 MH

   b. Check contours
      2 hours x 1 man = 2 MH

Sub-total Item #4 6 MH

5. Coordination Meetings
   1 meeting @ 2 hours = 2 MH

Total All Items 299 MH

Route: Fremont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	104
	Instrument Operator	104
2. Office - Compile Field Data	Supervisor, P.L.S.	4
	Cadd Supervisor	23
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	9
	Cadd Supervisor	47
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	2
	Cadd Supervisor	4
5. Coordination Meetings	Principal/Officer	2

Route: Fremont Center Road
Section: Illinois Route 60 to Peterson Road
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 13 ea.
    ± 30 miles/trip x 13 trips = ± 390 miles
    ± 390 miles @ $0.55/mile = $ 214.50

5. Coordination Meetings

    a. Meetings at Civiltech's office - 1 ea.
    ± 70 miles/trip x 1 trip = ± 70 miles
    ± 70 miles @ $0.55/mile = $ 38.50

Total All Items $ 253.00

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

F. Secretarial

Classification Rates used for Calculation of Fee

A. Principal/Officer ……..……... $ 43.00
B. Supervisor, P.L.S. …… $ 41.00
C. Survey Party Chief, S.I.T. …….. $ 23.50
D. Instrument Operator …….. $ 19.00
E. Cadd Supervisor ……..…… $ 28.50
F. Secretarial …… $ 18.50

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$43.00/hour	=	$ 86.00
Supervisor, P.L.S.	137 hours	@	$41.00/hour	=	$ 5,617.00
Survey Party Chief, S.I.T.	183 hours	@	$23.50/hour	=	$ 4,300.50
Survey Party Chief	5 hours	@	$23.50/hour	=	$ 117.50
Instrument Operator	183 hours	@	$19.00/hour	=	$ 3,477.00
Instrument Operator	5 hours	@	$19.00/hour	=	$ 95.00
Cadd Supervisor	202 hours	@	$28.50/hour	=	$ 5,757.00
Secretarial	4 hours	@	$18.50/hour	=	$ 74.00
	721 hours				$ 19,524.00

Average Hourly Rate = $\frac{\$19,524.00}{721}$ = $27.08/hour

Route: Freemont Center Road
Section: @ Illinois Route 60
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 18, 2014
No. of Parcels: 7
Cost Plus Fixed Fee = 14.5% [(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-house Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Pre-Survey Phase	5	$132.50	$201.02	$86.50	$420.02	$56.73	$2,240.00	$2,716.75	4.63%
2) Survey Reconnaissance	14	$297.50	$451.34	$0.00	$748.84	$99.22	N/A	$848.05	1.44%
3) Project Survey Plan	4	$114.00	$172.95	$0.00	$286.95	$38.02	N/A	$324.97	0.55%
4) First Submittal Plat of Highways and Descriptions	162	$4,842.00	$7,345.80	$65.00	$12,252.80	$1,624.23	N/A	$13,877.03	23.63%
5) Survey (Field)	362	$7,692.50	$11,670.29	$379.50	$19,742.29	$2,620.48	N/A	$22,362.77	38.08%
6) Survey (Office)	73	$2,793.00	$4,237.26	$0.00	$7,030.26	$931.47	N/A	$7,961.73	13.56%
7) Final Submittal Plat of Highways and Descriptions	34	$1,014.00	$1,538.34	$150.00	$2,702.34	$359.92	N/A	$3,062.26	5.22%
8) Coordination Meetings	2	$86.00	$130.47	$38.50	$254.97	$34.26	N/A	$289.23	0.49%
9) QC/QA	65	$2,552.50	$3,872.40	$0.00	$6,424.90	$851.26	N/A	$7,276.16	12.39%
TOTALS	721	$19,524.00	$29,619.86	$719.50	$49,863.36	$6,615.58	$2,240.00	$58,718.94	100.00%

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Manhour Breakdown
Land Acquisition Estimate

Length of Project

Illinois Route 60	=	± 2,000'	=	± 0.379 mile
Fremont Center Road	=	± 6,000'	=	± 1.136 miles
Total Length	=	± 8,000'	=	± 1.515 miles

7 Parcels: 7 Fee Simple & Temporary Easement

1. Pre-Survey Phase
   Research available records

a.	Title Co.	)	3 MH
b.	Recorder's Office	)	
c.	I.D.O.T.	)	
d.	Utilities	)	
e.	Private Surveyors	)	
f.	Land Owners	)	1 MH
		Sub-total Item # 1	5 MH

2. Reconnaissance Survey

   7 hours x 2 men = 14 MH

3.	Project Survey Plan			± 2,640'/sheet-4 sheets	
	a.	Alignment info	)		
			)		
	b.	Existing R.O.W. info	)		
			)		
	c.	Land line data	)		
	d.	Subdivision data	)	1.0 hr./sht. x 4 =	4 MH
				Sub-total Item #3	4 MH
4.	First Submittal Plat of Highways & Descriptions				
	a.	Ownership info	)		
			)		
	b.	Total holding boundaries	)		
			)		
	c.	Total holding area listing	)		4 MH
			)		
	d.	Private survey info	)		
			)		
	e.	Deed calculated closures	)		
	f.	Layout and drafting	± 800'/sht. ± 9 sheets		
		126 hours x 1 man =			126 MH
		Total Holding sheets	4 hours/sheet x 3 =		12 MH
		Alignment & Tie sheets	6 hours/sheet x 1 =		6 MH
	g.	Legal descriptions	14 descriptions		14 MH
				Sub-total Item #4	162 MH

5. Survey (Field)

a. Monument center line alignments at 100 foot intervals

Fremont Center Road	-	6,000'	- 33 hrs. x 2 men =	66 MH
Illinois Route 60	-	2,000'	- 5 hrs. x 4 men =	20 MH

b. Reference center line alignments
8 hours x 2 men = 16 MH

c. Measure existing R.O.W., property & section lines
84 hours x 2 men = 168 MH

d. Appraisal topography
28 hours x 2 men = 56 MH

e. Monument & reference proposed right of way
18 hours x 2 men = 36 MH

Sub-total Item #5 362 MH

6. Survey (Office)

a. Compute traverse
9 hours x 1 man = 9 MH

b. Compute existing R.O.W., property & section lines
50 hours x 1 man = 50 MH

c. Compile appraisal topography
7 hours x 1 man = 7 MH

d. Compute center line alignments
2 hours x 1 man = 2 MH

e. Compute proposed right of way
5 hours x 1 man = 5 MH

Sub-total Item #6 73 MH

7.	Final Submittal Plat of Highways & Descriptions			
	a.	Final drafting ± 13 sheets 19 hours x 1 man =		19 MH
	b.	Final descriptions 14 descriptions		3 MH
	c.	Prepare & record Monument Records 3 Monument Records @ 3 hours each =		9 MH
	d.	Assembly of final papers		3 MH
			Sub-total Item #7	34 MH
8.	Coordination Meetings			
		1 meeting @ 2 hours =		2 MH
9.	QC/QA			
	a.	Check preliminary plats 13 sheets		44 MH
	b.	Check preliminary legal descriptions 14 legal descriptions		7 MH
	c.	Check final plats 13 sheets		12 MH
	d.	Check final legal descriptions 14 legal descriptions		2 MH
			Total All Items	721 MH

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1) Pre-Survey	Cadd Supervisor	4
	Secretarial	1
2) Survey Reconnaissance	Survey Party Chief, S.I.T.	7
	Instrument Operator	7
3) Project Survey Plan	Cadd Supervisor	4
4) First Submittal Plat of Highways & Descriptions	Supervisor, P.L.S.	18
	Cadd Supervisor	144
5) Survey (Field)	Survey Party Chief, S.I.T.	176
	Survey Party Chief	5
	Instrument Operator	176
	Instrument Operator	5
6) Survey (Office)	Supervisor, P.L.S.	57
	Cadd Supervisor	16
7) Final Submittal Plat of Highway & Descriptions	Supervisor, P.L.S.	6
	Cadd Supervisor	25
	Secretarial	3
8) Coordination Meetings	Principal/Officer	2
9) QC/QA	Surveyor, P.L.S.	56
	Cadd Supervisor	9

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item		
1. Pre-Survey Phase		
a. Trip to Recorder's Office - 1 ea. ± 30 miles/trip x 1 trip = ± 30 miles ± 30 miles @ $0.55/mile =		$ 16.50
b. Records from Recorder's Office		$ 70.00
	Sub-total Item #1	$ 86.50
4. First Submittal Plat of Highways & Descriptions		
a. Plat of Highways Mylars 13 sheets @ $5.00/sheet =		$ 65.00
5. Survey (Field)		
a. Trips to project site - 23 ea. ± 30 miles/trip x 23 trips = ± 690 miles ± 690 miles @ $0.55/mile =		$ 379.50
7. Final Submittal Plat of Highways & Descriptions		
a. Record Monuments 3 Monument Records @ $39 each =		$ 117.00
b. Deliver Final Papers to I.D.O.T. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.55/mile =		$ 33.00
	Sub-total Item #7	$ 150.00

8. Coordination Meetings

a. Meetings at Civiltech's office – 1 ea.
± 70 miles/trip x 1 trip = ± 70 miles
± 70 miles @ $0.55/mile = $ 38.50

Total All Items $ 719.50

Route: Fremont Center Road
Section: @ Illinois Route 60
County: Lake
Job No.:

Breakdown of
Services By Others

Item

1. Pre-Survey Phase

    a. Commitments for Title Insurance
    7 Commitments @ $320.00 each = $ 2,240.00

ATTACHMENT C

Subconsultant Proposal
Midland Standard Engineering & Testing, Inc.

MIDLAND STANDARD ENGINEERING & TESTING, INC.
558 PLATE DRIVE UNIT 6
EAST DUNDEE, ILLINOIS 60118
(847)844-1895 f(847)844-3875

February 17, 2014

Mr. Joel E. Christell, P.E.
Civiltech Engineering, Inc.
450 E. Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Proposal for Geotechnical Analysis
Fremont Center Road Phase 1 Study
Lake County, Illinois

Dear Mr. Christell:

We are pleased to have the opportunity to submit the following proposal for performance of a Roadway Soil Report for the proposed project.

Project Description and Scope of Work

The proposed project includes the development of a comprehensive plan for roadway improvements and possible extensions in the area of IL Route 60 and Fremont Center Road.

Method of Performance - Analysis and Report

The boring information will be used to develop soils profile drawings or boring logs as required which will be prepared showing the soil types and test data in accordance with applicable specifications. We understand that electronic copies of the plan and profile showing existing and proposed grade will be provided by Civiltech for our plotting of the soil profile.

The results of this field exploration and laboratory testing would be used in an analysis and formulation of our recommendations. Major subject areas for our analysis, recommendations and report would include:

1. Identification of soil treatment areas.
2. General earthwork recommendations.
3. Foundation recommendations
4. Soils criteria for input to the pavement design being done by the Design Engineer.

A bound written report and an electronic (.pdf) copy summarizing and presenting the data and recommendations will be prepared by a Professional Engineer, licensed in the State of Illinois.

Comments and Timing

The work is planned to be conducted in two stages. The first phase would take place after studies completed by Lake County and Civiltech to determine possible alignments. At that point, a limited exploration would be conducted by making hand auger probes to determine the presence of problem soil deposits. The next phase would include additional exploration and preparation of a Roadway Geotechnical Report as needed for alternative roadway extensions. Final reports will be coordinated with Civiltech Engineering, Inc..

Fee

We propose to provide this work at the unit rates quoted on the attached Schedule of Services and Fees, Attachments 1 and 2. These estimated quantities and unit rates are based on information as outlined in this proposal and experience on past projects.

On the basis of the above information, we estimate that these services can be provided for a fee of:

Phase 1	**$ 3,213.73**
Phase 2	**$ 10,309.45**

As requested we have prepared our cost estimate using estimates using Direct Salaries with multipliers; Unit Work Cost and Direct Cost tabulations.

Closure

For this project, Mr. William J. Wyzgala, P.E. as Principal in Charge. He and our staff are acquainted with the local subsurface conditions and have participated in the planning, development and execution of numerous highway soil explorations in this area.

We appreciate the opportunity to provide our services and look forward to working with you on this project. If this proposal is satisfactory, would you please execute the agreement and return one copy, for our files. If you have any questions concerning our proposed scope of work or fees, please contact us.

Very truly yours,
MIDLAND STANDARD ENGINEERING & TESTING, INC.

William D. Prigge. P.E.
President

WDP/mlj
Attachments 1 and 2
DLM with Unit Prices, BDE 424.

Area near IL Route 60 and
Fremont Center Road
Lake County,IL

Midland Standard Engineering Testing, Inc.
East Dundee, Illinois

Roadway alignments near Fremont Center Road and IL Route 60

Scope: Four to five hand auger probes to verify soil conditions along proposed alignments during the conceptual design phase of the project. Probes would be located after consideration of alignment alternatives and review of surficial soil mapping. Hand auger probes would extend to a depth of approximately 5 feet, obtain samples for laboratory testing and summay report.

Work Description	Units	Unit Cost		Extension
Field Services				
Mobilization of Auger Equipment and Crew, each	1	$ 200.00	$	200.00
Hand Auger borings, per hour	8	$ 150.00	$	1,200.00
			$	-
Laboratory Services			$	-
Moisture Content, Visual Classification, each	25	$ 15.00	$	375.00
Engineering Services				
Review alignments and soil mapping				
Boring Layout and Utility Clearance				
Boring log preparation, analysis and summary report			$	1,438.73
		Project Subtotal	$	3,213.73

Attachment 1

Illinois Department of Transportation

DLM WITH UNIT PRICES INVOICE

Date: _____ Invoice No. 1

Work Order No. 1

To: From:

Firm Address:

PTB / Item # 001 Project

Route County Lake

Section Job No.

Phase

Consultant's Job Number

For Professional Sevices performed as set forth in the Agreement dated: _____

& Supplemental Agreement(s) dated: _____

1) Invoice Period From: _____ To: _____

2) Complexity Factor 1.035 DLM Multiplier 1.20

	This Invoice	Previously Invoiced	Earned to Date	Max allowable
3) Maximum Payable				$3,213.73
4) Direct Salaries	$444.74	$0.00	$444.74	$444.74
5) QC/QA	$0.00	$0.00	$0.00	$0.00
6) Direct Labor Cost with Multiplier	$993.99	$0.00	$993.99	$993.99
7) Unit of Work per Attached Tabulation	$375.00	$0.00	$375.00	$375.00
8) Direct Costs Prime	$1,400.00	$0.00	$1,400.00	$1,400.00
9) Services by others				

		Percent Complete
10) Total invoiced for project including this invoice	$3,213.73	100.0000%
11) Previously Invoiced	$0.00	
12) Payment Due this invoice	$3,213.73	

I have reviewed the invoice and found it in compliance with "The Simple Guide To Consultant Payments" published on the Consultant Engineering Sharepoint site. The percent of work shown as completed on this invoice matches the attached Progress Report signed by the project engineer.

I certify the costs included in this invoice have been expended and the percent of work shown as completed on this invoice is correct. As the prime consultant, work invoices included in this invoice for work done by others were reviewed and approved.

Approved IDOT Rep. _____ Date: _____ Consultant: _____

Accepted By: _____ Date: _____ By / Date: _____

(Name)

Checked _____ Date: _____ (Title)

Distribution: 2 complete packages plus 2 copies of invoice form to Liaison Engineer.

Illinois Department of Transportation

Preliminary Engineering Progress Report

PTB/Item # 001
Route
Section
Project No.
County Lake
Job No.

Date February 17, 2014
Month Ending March, 2014
Invoice No. 1
Work Order No. 1

Item	% Complete		% of Project	% of Project Complete	Date Due	Remarks
	Last Report	During This Period				
Soil Report	0.0000%	100.0000%	100.0000%	100.0000%		
Total for Prime Consultant		**100.0000%**	100.0000%	100.0000%		
Subconsultants						
Total for Subconsultants				0.0000%		
Total Project	**0.0000%**	**100.0000%**	**100.0000%**	**100.0000%**		

(For District Use Only)

☐ On Schedule

☐ Behind Schedule

☐ Comments (Use reverse side)

Signed _____
(District Project Manager/Engineer)

Submitted By _____

Representing _____

For Subconsultant's Progress Report :

Approved By _____

Prime Consultant _____

Work this period : _____

Anticipated work next period : _____

Original to Regional Engineer
Copy to Consultant's File

Illinois Department of Transportation

DLM With Unit Prices
Personnel Summary
for Period

Firm Name ______________________ From: __________ To: __________

PTB / Item # 001 Invoice No. 1

Route ______________________

Section ______________________ Work Order No. 1

County Lake

Job No. ______________________

Employee	Classification	Regular Hours	Overtime Premium Hours	Hours	Rate**	Direct Salaries Total
W. Prigge	Principal	2.00		2.00	$60.10	$120.20
W. Wyzgala	Geotechnical Engineer	3.00		3.00	$60.10	$180.30
M. Prigge	Project/Staff Engineer	4.00		4.00	$36.06	$144.24
Total Labor excluding QC/QA		9.00	0.00	9.00		**$444.74**
QC/QA						
Total Labor for QC/QA		0.00		0.00		**$0.00**
TOTAL LABOR						**$444.74**

Premium Rate Portion	Overtime Premium Cost
Total	$0.00

** For employee's not receiving benefits, the approved reduced rates must be used.

Illinois Department of Transportation

DLM With Unit Prices
Unit of Work Summary
for Period

Firm Name _____ From: _____ To: _____

PTB/Item # 001 Invoice No. 1

Route _____

Section _____ Work Order No. 1

County Lake

Job No. _____

Item	Max Allowable Rate	Rate	Quantity	Total	Remarks
Moisture Content, each	$6.00	$6.00	25.00	$150.00	
Visual Classification, each	$10.00	$9.00	25.00	$225.00	
Total for period				$375.00	

Illinois Department of Transportation

DLM With Unit Prices
Direct Cost Summary
for Period

Firm Name _____ From: _____ To: _____

PTB/Item # 001 Invoice No. 1

Route _____

Section _____ Work Order No. 1

County Lake

Job No. _____

Item	Max Allowable Rate	Rate	Quantity	Total	Remarks
Overtime Premium (See Personnel Summary)				$0.00	
Mileage					
Mobilization	$500.00	$200.00	1.00	$200.00	
Drilling and Sampling, per hr	$275.00	$150.00	8.00	$1,200.00	
Total for period				**$1,400.00**	

Area near IL Route 60 and
Fremont Center Road
Lake County,IL

Midland Standard Engineering Testing, Inc.
East Dundee, Illinois

Alternate Fremont Center Road Alignment

Scope: Soil borings made along the proposed alternative alignment of Fremont Center Road extension, anticpated lenth 2,800± lineal feet between IL Erte 60 and Peterson Road. A total of 10 borings are anticipated, spaced at 300 ft intervals, extended to a depth of 10 feet with split spoon samples and standard penetration tests at 2-1/2 ft intervals. If unsuitable materials are encountered, peat probes will be extended to determine the depth and extent of the deposit, spaced at 50 ft. intervals.

Work Description	Units	Unit Cost		Extension
Field Services				
Mobilization of ATV Mounted Drilling Equipment and Personnel, each	1	$ 500.00	$	500.00
Drilling & Split-Spoon Sampling, per l.f.	100	$ 18.00	$	1,800.00
Peat Probes, per lineal ft.	80	$ 14.00	$	1,120.00
Laboratory Services				
Moisture Content, each	40	$ 6.00	$	240.00
Atterberg Limit Determination., each	2	$ 84.00	$	168.00
Hydrometer Analysis, each	2	$ 95.00	$	190.00
Total Organic Matter, each	5	$ 70.00	$	350.00
pH of Soil, each	10	$ 20.00	$	200.00
Engineering Services				
Meetings with Civiltech & Lake County				
Boring Layout and Utility Clearance				
Monitor Drilling Operation				
Review Laboratory and Field Data				
Prepare Boring Logs and laboratory data reports				
Prepare written Roadway Geotechnical Report				
Review and Sign Report			$	5,741.45
		Project Subtotal	$	10,309.45
		PROJECT TOTAL		$ 13,523.18

Attachment 2

Illinois Department of Transportation

DLM WITH UNIT PRICES INVOICE

Date: _____ Invoice No. 1

Work Order No. 1

To: From:

Firm Address:

PTB / Item # 001 Project

Route County Lake

Section Job No.

Phase

Consultant's Job Number

For Professional Sevices performed as set forth in the Agreement dated: _____

& Supplemental Agreement(s) dated: _____

1) Invoice Period From: _____ To: _____

2) Complexity Factor 1.035 DLM Multiplier 1.20

	This Invoice	Previously Invoiced	Earned to Date	Max allowable
3) Maximum Payable				$10,309.45
4) Direct Salaries	$1,774.79	$0.00	$1,774.79	$1,774.79
5) QC/QA	$0.00	$0.00	$0.00	$0.00
6) Direct Labor Cost with Multiplier	$3,966.66	$0.00	$3,966.66	$3,966.66
7) Unit of Work per Attached Tabulation	$1,148.00	$0.00	$1,148.00	$1,148.00
8) Direct Costs Prime	$3,420.00	$0.00	$3,420.00	$3,420.00
9) Services by others				

		Percent Complete
10) Total invoiced for project including this invoice	$10,309.45	100.0000%
11) Previously Invoiced	$0.00	
12) Payment Due this invoice	$10,309.45	

I have reviewed the invoice and found it in compliance with "The Simple Guide To Consultant Payments" published on the Consultant Engineering Sharepoint site. The percent of work shown as completed on this invoice matches the attached Progress Report signed by the project engineer.

I certify the costs included in this invoice have been expended and the percent of work shown as completed on this invoice is correct. As the prime consultant, work invoices included in this invoice for work done by others were reviewed and approved.

Approved IDOT Rep. _____ Date: _____

Consultant: _____

Accepted By: _____ Date: _____

By / Date: _____

(Name)

Checked _____ Date: _____

(Title)

Distribution: 2 complete packages plus 2 copies of invoice form to Liaison Engineer.

Illinois Department of Transportation

Preliminary Engineering Progress Report

PTB/Item # 001
Route
Section
Project No.
County Lake
Job No.

Date February 17, 2014
Month Ending March, 2014
Invoice No. 1
Work Order No. 1

Item	% Complete		% of Project	% of Project Complete	Date Due	Remarks
	Last Report	During This Period				
Soil Report	0.0000%	100.0000%	100.0000%	100.0000%		
Total for Prime Consultant		**100.0000%**	100.0000%	100.0000%		
Subconsultants						
Total for Subconsultants				0.0000%		
Total Project	**0.0000%**	**100.0000%**	**100.0000%**	**100.0000%**		

(For District Use Only)

☐ On Schedule

☐ Behind Schedule

☐ Comments (Use reverse side)

Signed _____
(District Project Manager/Engineer)

Submitted By _____

Representing _____

For Subconsultant's Progress Report :

Approved By _____

Prime Consultant _____

Work this period : _____

Anticipated work next period : _____

Original to Regional Engineer
Copy to Consultant's File

Illinois Department of Transportation

DLM With Unit Prices Personnel Summary for Period

Firm Name ______ From: ______ To: ______

PTB / Item # 001

Route

Section

County Lake

Job No.

Invoice No. 1

Work Order No. 1

Employee	Classification	Regular Hours	Overtime Premium Hours	Hours	Rate**	Direct Salaries Total
W. Prigge	Principal	1.00		1.00	$60.10	$60.10
W. Wyzgala	Geotechnical Engineer	8.00		8.00	$60.10	$480.80
M. Prigge	Project/Staff Engineer	15.50		15.50	$36.06	$558.93
M. Prigge	Field Engineer	16.00		16.00	$36.06	$576.96
M, Sterricker	Technician	4.00		4.00	$24.50	$98.00
Total Labor excluding QC/QA		44.50	0.00	44.50		**$1,774.79**
QC/QA						
Total Labor for QC/QA		0.00		0.00		**$0.00**
TOTAL LABOR						**$1,774.79**

Premium Rate Portion	Overtime Premium Cost
Total	$0.00

** For employee's not receiving benefits, the approved reduced rates must be used.

Printed 2/17/2014

BDE 424 (Rev. 03/29/10)
Attachment B

Illinois Department of Transportation

DLM With Unit Prices
Unit of Work Summary
for Period

Firm Name _____ From: _____ To: _____

PTB/Item # 001 Invoice No. 1

Route _____

Section _____ Work Order No. 1

County Lake

Job No. _____

Item	Max Allowable Rate	Rate	Quantity	Total	Remarks
Moisture Content, each	$6.00	$6.00	40.00	$240.00	
Atterberg Limits, each	$84.00	$84.00	2.00	$168.00	
Hydrometer Analysis, each	$95.00	$95.00	2.00	$190.00	
Total Organic Matter, each	$70.00	$70.00	5.00	$350.00	
pH of Soil, each	$20.00	$20.00	10.00	$200.00	
Total for period				$1,148.00	

Illinois Department of Transportation

DLM With Unit Prices
Direct Cost Summary
for Period

Firm Name _____ From: _____ To: _____

PTB/Item # 001 Invoice No. 1

Route _____

Section _____ Work Order No. 1

County Lake

Job No. _____

Item	Max Allowable Rate	Rate	Quantity	Total	Remarks
Overtime Premium (See Personnel Summary)				$0.00	
Mileage					
Mobilization	$500.00	$500.00	1.00	$500.00	
Drilling and Sampling, per ft	$18.00	$18.00	100.00	$1,800.00	
Peat Probes, per ft	$14.00	$14.00	80.00	$1,120.00	
Total for period				**$3,420.00**	

ATTACHMENT D

Subconsultant Proposal
Stuedemann Environmental Consulting, Inc.

STUEDEMANN
ENVIRONMENTAL CONSULTING

February 18, 2014

Joel E. Christell, P.E.
Project Manager
Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

SUBJECT: Proposal to Provide Environmental Science Services
Fremont Center Road Extension, IL Route 60 to Peterson Road
Unincorporated Lake County, Illinois

Dear Mr. Christell:

Stuedemann Environmental Consulting, LLC (SEC) is pleased to present Civiltech Engineering, Inc. (Civiltech) with this proposal to provide environmental science services for the Lake County Division of Transportation (LCDOT) Fremont Center Road Extension, IL Route 60 to Peterson Road project (Fremont Center Road Project) located in Unincorporated Lake County, Illinois. Services presented herein coincide with the Fremont Center Road Project Phase I transportation engineering related services provided by Civiltech to LCDOT. SEC presents this proposal in the following sections: project understanding, limitations and reliability, scope of work, project team, project schedule, project costs, and proposal acceptance.

PROJECT UNDERSTANDING

SEC understands that Civiltech has been retained by LCDOT to perform Phase I transportation related feasibility and design services for improvements to Fremont Center Road near IL Route 60 and Peterson Road. Through e-mail correspondence, Civiltech presented the project area to SEC on February 14, 2014, in two exhibits: Exhibit 1 Study Area defines the total area considered for the Feasibility Study; and Exhibit 2 Survey Limits defines the additional survey area for the Phase I Study. SEC herein refers to the study area defined in Exhibit 1 as Study Area for the proposed services under Task 1 Special Waste Screening (SWS) Memorandum. SEC herein refers to the survey areas defined in Exhibit 2 as Project Corridor for the proposed services under Tasks 2 Preliminary Environmental Site Assessment (PESA) Addendum Report, Task 3 Wetland Delineation Report and Preliminary Endangered Species Act (ESA) Consultation, Task 4 Preliminary U.S. Army Corps of Engineers (USACE) and Lake County Stormwater Management Commission (LCSMC) Permitting, and Task 5 Drain Tile Survey. This Project Corridor also includes an additional 100 feet outside the survey area limits per the July 10, 2012, Lake County Watershed Development Ordinance (LCWDO) requirements.

In preparing this proposal, SEC has made the following assumptions:

1. The Fremont Center Road Project is not an Illinois Department of Transportation (IDOT) federally funded pass-through project. Therefore, the scope of services for this proposal does not include IDOT related coordination;

2. There are no Lake County Advanced Identification (ADID) wetlands or high-quality aquatic resources (HQAR) within, adjoining, or adjacent to the Project Corridor;
3. There are no additional environmental concerns within the Study Area that are not referenced in this proposal that would impede the USACE and LCSMC permit process, such as the presence of state and federal endangered and threatened species, protected historical and cultural sites, and environmental due diligence. Should additional environmental concerns be determined through the execution of the proposed scope of work, SEC will consult Civiltech regarding the appropriate course of action;
4. USACE and LCSMC permitting is not included in this scope of work; and
5. Wetland mitigation design, plan preparation, monitoring, and management are not included in this proposal.

LIMITATIONS AND RELIABILITY

SEC understands that the Fremont Center Road Project must conform to IDOT procedures for property acquisitions. SEC will utilize methods and procedures consistent with good commercial or customary practices referenced in the *Manual for Conducting Preliminary Environmental Site Assessments (PESA) for IDOT Highway Projects (Open File Series 1996-5)*. SEC proposes to prepare a PESA to identify environmental conditions and levels of risk associated with the Fremont Center Road Project. SEC proposes to apply the IDOT rating system for risk assessment at each identified site. This PESA is limited to the information available at the time that services are rendered. Information sought may include: visual observations made on the day of inspection; review of readily available and relevant data/reports; and statements made and information provided by the client, agents, lands-owners, and tenants within the Study Area, Project Corridor, and adjacent properties.

SCOPE OF WORK

SEC proposes to complete the requested wetland services in five tasks as follows.

Task 1 – Special Waste Screening (SWS) Memorandum

Under *Section 20-12 Special Waste* of the *IDOT Bureau of the Local Roads and Streets Manual* (BLR&S), all local agency projects must be screened in order to determine whether further documentation is necessary regarding special waste contamination on sites otherwise potentially impacted by regulated substances. As part of this task, SEC proposes to conduct an SWS for the Study Area in accordance with *Section 20-12.03 Special Waste Screening* of the *BLR&S*. This SWS will conform to the Special Waste Assessment (SWA) Screening Criteria process outlined in the BLR&S, and will include a review of potential special waste databases, identification of boundary criteria, and determination of further analysis. Findings from this SWA will determine whether a Preliminary Environmental Site Assessment (PESA) is required. Findings from this screening will be included in a Special Waste Screening (SWS) Memorandum. A draft and the final SWS Memorandum in Adobe PDF format file will be forwarded to Civiltech for review and distribution.

Task 2 – Preliminary Environmental Site Assessment (PESA) Addendum Report

Under *Section 20-12 Special Waste* of the BLR&S, a PESA is conducted based on recommendations from the SWS to determine the environmental condition of all properties within a project corridor prior to the acquisition of ROW or improvements to existing ROW. As part of this task, SEC proposes to prepare an

Addendum Report to the August 28, 2012, Preliminary Environmental Site Assessment (PESA) Report prepared by Cardno ENTRIX and ATC Associates, Inc. (Original PESA Report). The proposed Addendum Report will include areas of the Project Corridor that were not included in the Original PESA Report. PESA services performed by SEC will be completed in accordance with *Section 20-12.03 Special Waste Screening* of the *BLR&S*. SEC proposes to identify areas of concern (risks) that may exist from current or past uses of the additional properties within the Project Corridor. SEC assumes that current owners of identified properties will be available and cooperative in providing full disclosure regarding any known environmental matters/concerns about areas of concern within the Project Corridor and/or adjacent properties.

SEC proposes to conduct a records review to collect environmental related information associated with the additional properties within the Project Corridor. Records will be obtained from reasonably ascertainable sources, including, but not limited to:

- Locational Resources - topographic maps, street maps, and city maps;
- Geological and Hydrologic Information Resources - soil surveys, geologic maps, and hydrogeologic maps;
- Land Use Documentation - plat maps, fire insurance maps, city directories, historical topographic maps, and aerial photographs;
- Government Lists and Databases -
    - Federal Agency Databases (NPL Site List, RCRA CORRACTS, and non-CORRACTS TSD Lists),
    - State Agency Databases (State-sponsored Priority Sites List, Registered USTs, and Leaking USTs Lists), and
    - Local Agency Records (landfill and solid waste disposal sites, public wells, registered USTs, zoning maps);
- Natural Hazards - flood maps, national wetlands inventories, landslide inventories, and seismic risk; and
- Alternative Historical Information Resources - local libraries, building permits, zoning records, records of environmental liens, and title records.

SEC proposes to conduct a site reconnaissance that will include a walkover of the additional properties within the Project Corridor to identify parcels of environmental interest. This site reconnaissance will include a review of site features, such as topography, surface water quality, wildlife, vegetation, building use, building condition, surrounding building features, tank debris, drums, and odors. Utilities, such as transformers and capacitors, railways, natural gas pipelines, will also be viewed for potential sources and dumping areas. Photographic documentation of the site, parcels of environmental interest, and concerning features will be included in the PESA Report.

SEC proposes to conduct interviews with owners of parcels identified within the Project Corridor to validate information obtained from the records review. An owner, manager, tenant, or individual with good knowledge of the uses and physical characteristics of the parcel will be interviewed. Owners or occupants may provide information not identifiable in the records review and site reconnaissance that would indicate areas of environmental concern. Findings from the interview are dependent on the

cooperation and availability of the owner or parcel representative. If personal interviews are not possible, SEC will attempt to conduct the interview over the phone or submit requests in writing. SEC will request information from the owner or parcel representative prior to the interview, which may include: environmental audit reports; environmental site assessment; environmental permits; current and historic waste disposal practices; drinking water test results; and septic system records.

SEC proposes to prepare an Addendum PESA Report that summarizes information obtained in the records review, site reconnaissance, and parcel interviews for the additional areas in the Project Corridor. This Addendum PESA Report will present levels of risk associated with man-made and natural hazards that may impact the Fremont Center Road Project. The Addendum PESA Report will contain information gathered during the investigation and will rate the identified potential areas of concern with a PESA risk designation in accordance with the BLR&S methodology. SEC will prepare and submit a draft and final Addendum PESA Report to Civiltech for review. Two copies of the final Addendum PESA Report and an Adobe PDF format file will be forwarded to Civiltech for review and distribution.

Task 3 – Wetland Delineation Report and Preliminary ESA Consultation

SEC proposes to conduct a wetland delineation for all areas within the Project Corridor in accordance with the requirements presented in the LCWDO and the August 2010, USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0 (Supplemental Wetland Manual). Proposed wetland field investigations include all areas within the Project Corridor and any additional areas within 100 feet of the proposed roadway right-of-way (ROW), per requirements of the LCWDO. This additional area ensures that all potential Lake County ADID wetlands and their 100-foot buffer areas are identified within the roadway ROW of the Fremont Center Road Project.

The scope of work for this task includes an off-site records/document review followed by an on-site investigation. Proposed wetland services include the identification and delineation of on-site wetlands, documentation of adjacent wetlands, delineation of farmed wetlands, determination and delineation of wetland buffer areas, and determination of HQARs. Field investigation activities include on-site testing for the presence of hydric soils, hydrophytic vegetation, and sufficient hydrology. A floristic quality assessment (FQA) will be conducted for each identified wetland, as required by the LCWDO. All wetland investigation activities will follow the standards outlined in the LCWDO and the Supplemental Wetland Manual. SEC also proposes to conduct a farmed wetland determination of agricultural lands within the Project Corridor in accordance with Natural Resources Conservation Service's Illinois 1998 Wetland Mapping Conventions (NRCS Procedures). This farmed wetland investigation includes a preliminary resource review, a Food Security Act (FSA) slide review, and an on-site analysis for the presence of hydric soils and sufficient hydrology. SEC's Lake County Certified Wetland Specialist will lead all wetland field investigation activities.

SEC proposes to flag USACE "Waters of the U.S." (WOUS) and LCSMC Isolated Waters of Lake County (IWLC) jurisdictional wetland limits within the Project Corridor. SEC will coordinate with Civiltech and their surveyors to ensure that all wetland and soil pit flags are surveyed. SEC proposes that Civiltech provide wetland survey information to SEC in AutoCAD format for inclusion in the wetland delineation report figures. One meeting with LCSMC is included under this task to discuss the wetland delineation findings and the potential wetland permitting process.

For planning and preliminary permitting coordination, SEC proposes to provide Endangered Species Act (ESA) consultation regarding potential state and federal listed endangered and threatened species within the Project Corridor. SEC proposes to submit an Ecological Compliance Assessment Tool (EcoCAT)

request to the Illinois Department of Natural Resources (IDNR) for identification of state listed endangered and threatened species and Natural Areas within, adjoining, or adjacent to the Project Corridor. SEC will also prepare the preliminary Section 7 consultation memorandum to the U.S. Fish and Wildlife Service (USFWS) for identification of federally listed endangered and threatened species within, adjoining, or adjacent to the Project Corridor.

SEC proposes to prepare a Wetland Delineation Report that will include findings from the field investigations. Two copies of the final Wetland Delineation Report and an Adobe PDF format file will be forwarded to Civiltech for review and distribution.

Task 4 – Preliminary USACE and LCSMC Permitting

This task includes a pre-application meeting, an on-site meeting, and coordination with the USACE, LCSMC, and Civiltech. SEC will submit the wetland delineation report to LCSMC for preliminary jurisdictional determination (PJD) and boundary verification (BV) of IWLC. SEC will also submit the wetland delineation report to USACE for concurrence and jurisdictional determination of WOUS, including wetlands. Any fees required for these submittals have not been included in this scope of services as the number of wetlands has not yet been determined. These fees are the responsibility of LCDOT and Civiltech, and will be paid directly to the appropriate permitting agencies. SEC will continue coordination with both the USACE and LCSMC until all jurisdictional determinations and boundary verifications are completed.

Task 5 – Drain Tile Survey

SEC proposes to conduct a drain tile survey for the Project Corridor. Findings from this survey will be presented in a Drain Tile Survey Report. SEC proposes to utilize Huddleston McBride Land Drainage Co. (Huddleston McBride), or similar provider, to locate drain tiles according to the methodologies proposed in the LCWDO. Proposed services include a desktop survey and map review, field investigation, surveyed field locations of drain tiles within the Project Corridor, and preparation of a technical report. The desktop survey and map review includes: coordination with the Natural Resources Conservation Service (NRCS) or other agencies as appropriate; and a review of historical aerials, topography, soil surveys, hydrology, and other resources that may identify potential drain tile locations. An on-site field investigation to identify, locate, and flag drain tile locations and corridors in the field will be conducted by Huddleston McBride, or similar provider. This field investigation will utilize appropriately sized equipment, and will locate drain tiles by slit trenching methodology within the Project Corridor. Construction equipment will dig, locate, and/or repair drain tiles when found. SEC will coordinate with Civiltech and their surveyors to ensure that drain tile locations are surveyed. Findings of no drain tiles identified or encountered in the field will also be noted in the technical report. Documentation from the drain tile survey may include site conditions, type, estimated depth, and estimated size of drain tiles. These findings will be detailed in the Drain Tile Survey Report and four copies of this memorandum and an Adobe PDF format file will be forwarded to Civiltech for review and distribution.

PROJECT TEAM

SEC proposes to manage this project out of our Geneva, Illinois office with a support network of scientists and engineers who have experience in conducting environmental science services in Lake County. Mr. Barry Stuedemann, P.E., P.W.S. will serve as the Environmental Engineer and Professional Wetland Scientist.

PROJECT SCHEDULE

SEC will proceed with the scope of work presented in this proposal immediately upon authorization from Civiltech. Specific schedules for each task are unknown at this time and will be coordinated with Civiltech throughout the duration of the Fremont Center Road Project. Wetland field investigations, wetland field meetings with the USACE and/or LCSMC, and the final floristic quality assessment work must be completed during the Lake County growing season, from May 15th to October 1st, as required by the LCWDO. The schedule to complete each task is influenced by the responses, concerns, and requests of Civiltech and the pertaining agencies.

PROJECT COSTS

SEC estimates the cost to complete tasks outlined in this proposal to be a maximum "not-to-exceed" fee of $48,034. An itemization of these costs is presented in Table 1, Cost Estimate for Consulting Services. The following is a summary of these costs:

	SCOPE OF WORK	COSTS
Task 1:	Special Waste Screening (SWS) Memorandum	$3,126
Task 2:	Preliminary Environmental Site Assessment (PESA) Addendum Report	$7,844
Task 3:	Wetland Delineation Report and Preliminary ESA Consultation	$18,730
Task 4:	Preliminary USACE and LCSMC Permitting	$3,825
Task 5:	Drain Tile Survey	$14,509
Total:		**$48,034**

PROPOSAL ACCEPTANCE

To indicate your acceptance of this proposal, please sign and date below, and return to me by mail or e-mail. If you would like to authorize services by task, please indicate which tasks you are authorizing at this time. SEC will assume this signature and date as our authorization to proceed with the tasks presented in this proposal.

SEC appreciates this opportunity to provide environmental science services to Civiltech. If you have any questions, please do not hesitate to contact me at your convenience.

Sincerely,

Baron H. Stuedemann, P.E., P.W.S.
Technical Director | Managing Member
Stuedemann Environmental Consulting, LLC
Mobile: 630-664-4550
E-Mail: bstuedemann@stuedenv.com

Joel E. Christell, P.E.
Project Manager
Civiltech Engineering, Inc.
Phone: 630-773-3900
E-Mail: jchristell@civiltechinc.com

TABLE 1
Cost Estimate for Consulting Services

ENVIRONMENTAL SCIENCE SERVICES
FREMONT CENTER ROAD EXTENSION, IL ROUTE 60 TO PETERSON ROAD
UNINCORPORATED LAKE COUNTY, IL

Prepared for Civiltech Engineering, Inc.
Prepared by Stuedemann Environmental Consulting, LLC

February 18, 2014

FREMONT CENTER ROAD PROJECT ENVIRONMENTAL SCIENCE SERVICES TASK DESCRIPTION	Project Manager $64.00	Project Coordinator $24.00	Total Hours	Direct Labor (DL)	Overhead of 150% OH(DL)	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Other Direct Costs	Not-to-Exceed Costs
Task 1: Special Waste Screening (SWS) Memorandum	16	2	18	$1,072.00	$1,608.00	$50.40	$395.91	$0.00	$3,126.31
Task 2: Preliminary Environmental Site Assessment (PESA) Addendum Report	32	8	40	$2,240.00	$3,360.00	$1,250.80	$993.37	$0.00	$7,844.17
Task 3: Wetland Delineation Report and Preliminary ESA Consultation	96	4	100	$6,240.00	$9,360.00	$758.20	$2,371.94	$0.00	$18,730.14
Task 4: Preliminary USACE and LCSMC Permitting	18	2	20	$1,200.00	$1,800.00	$340.40	$484.36	$0.00	$3,824.76
Task 5: Drain Tile Survey	24	2	26	$1,584.00	$2,376.00	$100.40	$588.76	$9,860.00	$14,509.16
TOTAL:	**186**	**18**	**204**	**$12,336.00**	**$18,504.00**	**$2,500.20**	**$4,834.33**	**$9,860.00**	**$48,034.53**

DL (Direct Labor) = Hours x Hourly Rate
R (Complexity Factor) = 0
OH (Overhead Rate) = 150%
IHDC (In-House Direct Costs) = See Table Below for Itemization
FF (Fixed Fee) = 14.5% [DL + R(DL) + OH(DL) + IHDC]
Other Direct Costs = Drain Tile Report

FREMONT CENTER ROAD PROJECT ENVIRONMENTAL SCIENCE SERVICES IN-HOUSE DIRECT COSTS BY TASK	Mileage ($0.560/mile)		Delivery ($25/package)		Copies ($0.60/page)		EDR ($800/search)		Field Supplies ($250/unit)		In-House Direct Costs (IHDC)
	Miles	$	Packages	$	Pages	$	Reports	$	Each	$	
Task 1: Special Waste Screening (SWS) Memorandum	90	$50.40	0	$0.00	0	$0.00	0	$0.00	0.0	$0.00	$50.40
Task 2: Preliminary Environmental Site Assessment (PESA) Addendum Report	180	$100.80	2	$50.00	500	$300.00	1	$800.00	0.0	$0.00	$1,250.80
Task 3: Wetland Delineation Report and Preliminary ESA Consultation	720	$403.20	2	$50.00	300	$180.00	0	$0.00	0.5	$125.00	$758.20
Task 4: Preliminary USACE and LCSMC Permitting	90	$50.40	2	$50.00	400	$240.00	0	$0.00	0.0	$0.00	$340.40
Task 5: Drain Tile Survey	90	$50.40	2	$50.00	0	$0.00	0	$0.00	0.0	$0.00	$100.40
TOTAL:	**1170**	**$655.20**	**8**	**$200.00**	**1200**	**$720.00**	**1**	**$800.00**	**0.5**	**$125.00**	**$2,500.20**

Mileage (miles) = 90 miles Round Trip to Site
Delivery (packages) = UPS, FedEx, or USPS
Copies (pages) = Average Cost for Black and White, Color, 8" x 11.5", and 11" x 17"
EDR (each) = Environmental Data Report (EDR) Search
Field Equipment (each) = Pin Flags, Ribbon, Tags, and General Field Equipment