LOCAL AGENCY		CONSULTANT
Local Agency Lake County Division of Transportation	Illinois Department of Transportation	Consultant Civiltech Engineering, Inc.
County Lake		Address 450 E. Devon Avenue, Suite 300
Section 08-00090-12-ES		City Itasca
Project No.	**Preliminary Engineering Services Agreement For Federal Participation**	State Illinois
Job No.		Zip Code 60143
Contact Name/Phone/E-mail Address Chuck Gleason 847.362.3950 cgleason@co.lake.il.us		Contact Name/Phone/E-mail Address Mary L. Young, P.E., PTOE 630.735.3943 myoung@civiltechinc.com

THIS AGREEMENT is made and entered into this _____ day of _____, 2009 between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the PROJECT. Federal-aid funds allotted to the LA by the state of Illinois under the general supervision of the Illinois Department of Transportation (STATE) will be used entirely or in part to finance engineering services as described under AGREEMENT PROVISIONS.

Project Description

Name Quentin Road Phase I Study Route CH 5 Length 2 miles Structure No. _____

Termini U.S. Route 12 (Rand Road) to IL Route 22

Description This project includes Phase I Engineering Services for widening Quentin Road from 2 lanes to 4 lanes from U.S. Route 12 (Rand Road) to IL Route 22.

Agreement Provisions

I. THE ENGINEER AGREES,

1. To perform or be responsible for the performance, in accordance with STATE approved design standards and policies, of engineering services for the LA for the proposed improvement herein described.

2. To attend any and all meetings and visit the site of the proposed improvement at any reasonable time when requested by representatives of the LA or STATE.

3. To complete the services herein described within 720 calendar days from the date of the Notice to Proceed from the LA, excluding from consideration periods of delay caused by circumstances beyond the control of the ENGINEER.

4. The classifications of the employees used in the work should be consistent with the employee classifications and estimated man-hours shown in EXHIBIT A. If higher-salaried personnel of the firm, including the Principal Engineer, perform services that are indicated in Exhibit A to be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the payroll rate for the work performed.

5. That the ENGINEER is qualified technically and is entirely conversant with the design standards and policies applicable for the PROJECT; and that the ENGINEER has sufficient properly trained, organized and experienced personnel to perform the services enumerated herein.

6. That the ENGINEER shall be responsible for the accuracy of the work and shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of work by the STATE will not relieve the ENGINEER of the responsibility to make subsequent correction of any such errors or omissions or for clarification of any ambiguities.

7. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will affix the ENGINEER's professional seal when such seal is required by law. Plans for structures to be built as a part of the improvement will be prepared under the supervision of a registered structural engineer and will affix structural engineer seal when such seal is required by law. It will be the ENGINEER's responsibility to affix the proper seal as required by the Bureau of Local Roads and Streets manual published by the STATE.

8. That the ENGINEER will comply with applicable federal statutes, state of Illinois statutes, and local laws or ordinances of the LA.

9. The undersigned certifies neither the ENGINEER nor I have:

   a. employed or retained for commission, percentage, brokerage, contingent fee or other considerations, any firm or person (other than a bona fide employee working solely for me or the above ENGINEER) to solicit or secure this AGREEMENT,
   b. agreed, as an express or implied condition for obtaining this AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT or
   c. paid, or agreed to pay any firm, organization or person (other than a bona fide employee working solely for me or the above ENGINEER) any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT.
   d. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency,
   e. have not within a three-year period preceding the AGREEMENT been convicted of or had a civil judgment rendered against them for commission of fraud or criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or local) transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property,
   f. are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (e) and
   g. have not within a three-year period preceding this AGREEMENT had one or more public transactions (Federal, State or local) terminated for cause or default.

10. To pay its subconsultants for satisfactory performance no later than 30 days from receipt of each payment from the LA.

11. To submit all invoices to the LA within one year of the completion of the work called for in this AGREEMENT or any subsequent Amendment or Supplement.

12. To submit BLR 05613, Engineering Payment Report, to the STATE upon completion of the project (Exhibit B).

13. Scope of Services to be provided by the ENGINEER:

☒ Make such detailed surveys as are necessary for the planning and design of the PROJECT.

☒ Make stream and flood plain hydraulic surveys and gather both existing bridge upstream and downstream high water data and flood flow histories.

☐ Prepare applications for U.S. Army Corps of Engineers Permit, Lake County Stormwater Management Commission Permit, Illinois Department of Natural Resources Office of Water Resources Permit and Illinois Environmental Protection Agency Section 404 Water Quality Certification.

☐ Design and/or approve cofferdams and superstructure shop drawings.

☒ Prepare Bridge Condition Report and Preliminary Bridge Design and Hydraulic Report, (including economic analysis of bridge or culvert types and high water effects on roadway overflows and bridge approaches).

☒ Prepare the necessary environmental and planning documents including the Project Development Report, Environmental Class of Action Determination or Environmental Assessment, State Clearinghouse, Substate Clearinghouse and all necessary environmental clearances.

☒ Make such soil surveys or subsurface investigations including borings and soil profiles as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations to be made in accordance with the current Standard Specifications for Road and Bridge Construction, Bureau of Local Roads and Streets Administrative Policies, Federal-Aid Procedures for Local Highway Improvements or any other applicable requirements of the STATE.

☒ Analyze and evaluate the soil surveys and structure borings to determine the roadway structural design and bridge foundation.

☒ Prepare preliminary roadway and drainage structure plans and meet with representatives of the LA and STATE at the site of the improvement for review of plans prior to the establishment of final vertical and horizontal alignment, location and size of drainage structures, and compliance with applicable design requirements and policies.

☒ 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.

☐ Complete the general and detailed plans, special provisions and estimate of cost. Contract plans shall be prepared in accordance with the guidelines contained in the Bureau of Local Roads and Streets manual. The special provisions and detailed estimate of cost shall be furnished in quadruplicate.

☒ Furnish the LA with survey and drafts in quadruplicate all necessary right-of-way dedications, construction easements and borrow

pit and channel change agreements including prints of the corresponding plats and staking as required.

☒ Furnish the LA with all final reports in Portable Document Format (.pdf) in addition to paper copies.

☒ To perform all engineering services as outlined in the Scope of Services included as Exhibit A.

II. THE LA AGREES,

1. To furnish the ENGINEER all presently available survey data and information
2. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT, on the basis of the following compensation formulas: Total Not-to-Exceed Contract Amount shall be $683,383

Cost Plus Fixed Fee
- ☒ CPFF = 14.5%[DL + R(DL) + OH(DL) + IHDC], or
- ☐ CPFF = 14.5%[DL + R(DL) + 1.4(DL) + IHDC], or
- ☐ CPFF = 14.5%[(2.3 + R)DL + IHDC]

Where:
- DL = Direct Labor
- IHDC = In House Direct Costs
- OH = Consultant Firm's Actual Overhead Factor
- R = Complexity Factor

Specific Rate ☐ (Pay per element)

Lump Sum ☐

3. To pay the ENGINEER using one of the following methods as required by 49 CFR part 26 and 605 ILCS 5/5-409:

☒ With Retainage

a) The maximum retainage shall not exceed 10 percent of the Total Agreement Amount. The retainage shall be 10 percent of the sums earned and held until the LA approves the Project Development Report, and then reduced to zero.

☐ Without Retainage

a) **For progressive payments** – Upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LA, monthly payments for the work performed shall be due and payable to the ENGINEER, such payments to be equal to the value of the partially completed work minus all previous partial payments made to the ENGINEER.
b) **Final Payment** – Upon approval of the work by the LA but not later than 60 days after the work is completed and reports have been made and accepted by the LA and STATE, a sum o money equal to the basic fee as determined in this AGREEMENT less the total of the amounts of partial payments previously paid to the ENGINEER shall be due and payable to the ENGINEER.

4. The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this AGREEMENT. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as violation of this AGREEMENT. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31U.S.C. 3801 et seq.).

III. IT IS MUTALLY AGREED,

1. That no work shall be commenced by the ENGINEER prior to issuance by the LA of a written Notice to Proceed.

2. That tracings, plans, specifications, estimates, maps and other documents prepared by the ENGINEER in accordance with this AGREEMENT shall be delivered to and become the property of the LA and that basic survey notes, sketches, charts and other data prepared or obtained in accordance with this AGREEMENT shall be made available, upon request, to the LA or to the STATE, without restriction or limitation as to their use.

3. That all reports, plans, estimates and special provisions furnished by the ENGINEER shall be in accordance with the current Standard Specifications for Road and Bridge Construction, Bureau of Local Roads and Streets Administrative Policies, Federal-Aid Procedures for Local Highway Improvements or any other applicable requirements of the STATE, it being understood that all such furnished documents shall be approved by the LA and the STATE before final acceptance. During the performance of the engineering services herein provided for, the ENGINEER shall be responsible for any loss or damage to the documents herein enumerated while they are in the ENGINEER's possession and any such loss or damage shall be restored at the ENGINEER's expense.

4. That none of the services to be furnished by the ENGINEER shall be sublet, assigned or transferred to any other party or parties without written consent of the LA. The consent to sublet, assign or otherwise transfer any portion of the services to be furnished by the ENGINEER shall not be construed to relieve the ENGINEER of any responsibility for the fulfillment of this AGREEMENT.

5. To maintain, for a minimum of 3 years after the completion of the contract, adequate books, records and supporting documents to verify the amounts, recipients and uses of all disbursements of funds passing in conjunction with the contract; the contract and all books, records and supporting documents related to the contract shall be available for review and audit by the Auditor General and the STATE; and to provide full access to all relevant materials. Failure to maintain the books, records and supporting documents required by this section shall establish a presumption in favor of the STATE for the recovery of any funds paid by the STATE under the contract for which adequate books, records and supporting documentation are not available to support their purported disbursement.

6. The payment by the LA in accordance with numbered paragraph 3 of Section II will be considered payment in full for all services rendered in accordance with this AGREEMENT whether or not they are actually enumerated in this AGREEMENT.

7. That the ENGINEER shall be responsible for any and all damages to property or persons arising out of an error, omission and/or negligent act in the prosecution of the ENGINEER's work and shall indemnify and save harmless the LA, the STATE, and their officers, agents and employees from all suits, claims, actions or damages of any nature whatsoever resulting there from. These indemnities shall not be limited by the listing of any insurance policy.

8. 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 drawings, plats, surveys, reports, permits, agreements, soils and foundation analysis, provisions, specifications, partial and completed estimates and data, if any from soil survey and subsurface investigation with the understanding that all such material becomes the property of the LA. The LA will be responsible for reimbursement of all eligible expenses to date of the written notice of termination.

9. This certification is required by the Drug Free Workplace Act (30ILCS 580). The Drug Free Workplace Act requires that no grantee or contractor shall receive a grant or be considered for the purpose of being awarded a contract for the procurement of any property or service from the State unless that grantee or contractor will provide a drug free workplace. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of contract or grant payments, termination of a contract or grant and debarment of the contracting or grant opportunities with the State for at least one (1) year but no more than five (5) years.

   For the purpose of this certification, "grantee" or "contractor" means a corporation, partnership or other entity with twenty-five (25) or more employees at the time of issuing the grant, or a department, division or other unit thereof, directly responsible for the specific performance under a contract or grant of $5,000 or more from the State, as defined in the Act.

   The contractor/grantee certifies and agrees that it will provide a drug free workplace by:
   a. Publishing a statement:
      (1) Notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance, including cannabis, is prohibited in the grantee's or contractor's workplace.
      (2) Specifying the actions that will be taken against employees for violations of such prohibition.
      (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:
         (a) abide by the terms of the statement; and
         (b) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.
   b. Establishing a drug free awareness program to inform employees about:
      (1) The dangers of drug abuse in the workplace;
      (2) The grantee's or contractor's policy of maintaining a drug free workplace;
      (3) Any available drug counseling, rehabilitation and employee assistance program; and
      (4) The penalties that may be imposed upon an employee for drug violations.
   c. Providing a copy of the statement required by subparagraph (a) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
   d. Notifying the contracting or granting agency within ten (10) days after receiving notice under part (B) of paragraph (3) of subsection (a) above from an employee or otherwise receiving actual notice of such conviction.
   e. Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by,
   f. Assisting employees in selecting a course of action in the event drug counseling, treatment and rehabilitation is required and indicating that a trained referral team is in place.
   g. Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act.

10. The ENGINEER or subconsultant shall not discriminate on the basis of race, color, national origin or sex in the performance of this AGREEMENT. The ENGINEER shall carry out applicable requirements of 49 CFR part 26 in the administration of DOT assisted contracts. Failure by the ENGINEER to carry out these requirements is a material breach of this AGREEMENT, which may result in the termination of this AGREEMENT or such other remedy as the LA deems appropriate.

Agreement Summary

Prime Consultant:	TIN Number	Agreement Amount
Civiltech Engineering, Inc.		

Sub-Consultants:	TIN Number	Agreement Amount
Jorgensen & Associates, Inc.		
Midland Standard Engineering & Testing, Inc.		
ENTRIX, Inc.		
Teng		

Sub-Consultant Total:
Prime Consultant Total:
Total for all Work:

Executed by the LA:

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

ATTEST:

By:

Lake County Clerk

(SEAL)

By:

Title: Chairman of the County Board

RECOMMENDED FOR EXECUTION

Martin G. Buehler, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

ATTEST:

By:
John L. Breitsameter, P.E.
Title: President

By:
Robert J. Andres, P.E., PTOE
Title: Treasurer

ATTACHMENT A

Scope of Services, Cost Estimate of Consultant Services, Work Hours & Direct Costs

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

SCOPE OF SERVICES

I. PROJECT APPROACH

The Phase I Engineering Study for this project will include environmental and location-design studies needed to develop and refine feasible alternatives for the improvement, evaluate costs and impacts, and undertake coordination with jurisdictional agencies and the public. The primary objective of the Phase I Engineering Study is to develop a conceptual improvement plan which provides the desired level of traffic safety and operation, minimizes impacts to adjacent properties and which fulfills all of the requirements for processing and funding of this project by the Lake County Division of Transportation (LCDOT), the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA).

In order to speed IDOT coordination and reviews, all of the reports and documents that are prepared for this study will follow IDOT criteria and format. Due to the length of improvement proposed for Quentin Road and the potential for impacts to adjacent properties, it is not obvious that this project would be classified as a Categorical Exclusion. Therefore, this Scope of Services assumes that an Environmental Class of Action Determination (ECAD) Journal will be prepared to ascertain the appropriate level of environmental precessing. However, the Scope further assumes that the improvement will ultimately be classified as a Categorical Exclusion - Type II, resulting in the preparation of a Project Development Report (PDR) rather than an Environmental Assessment and Combined Design Report.

II. SCOPE OF SERVICES

The proposed improvement along Quentin Road will extend from U.S. Route 12 to IL Route 22. Because the intersection of Quentin Road with IL Route 22 has been recently improved by IDOT and an Intersection Design Study for the Quentin Road/U.S. Route 12 intersection has been recently approved as part of a separate Phase I Study, it is assumed that these intersections will be omissions to the project. Therefore, no additional studies will be conducted at these intersections. Following is the proposed scope of services for the Quentin Road Phase I Engineering Study:

Item 1 - Early Coordination and Data Collection - This work item will include collecting available existing information as follows:

a. Collect and review previous studies and existing roadway plans.
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. This work will also involve having the utility companies perform field "locates" to be captured by the topographic survey.

d. Obtain right-of-way data.
e. Perform project area reconnaissance and prepare a photolog.
f. Obtain recent digital aerial photography of study area at a scale of 1" = 50'.
g. Prepare and process Design Stage Clearinghouse Project Notifications.
h. Prepare and process Hazardous Waste Survey & Assessment Request forms.
i. Prepare and process Environmental Survey Request forms.

Item 2 - Field Survey, Preparation of Base Maps, and Plats & Legals - In order to develop accurate construction costs and limits of right-of-way acquisition, a complete design topographic survey will be conducted as part of the Phase I study. This survey will include topographic information, cross sections and a drainage and utility survey. Cross sections will also be taken at all intersecting side streets and driveways to aid in the final design. An attempt will be made to recover as many property and/or other survey monuments as can be located. This item also includes all field survey required to identify stream and lake profiles and culvert openings that may be needed for hydraulic modeling discussed in Item 7.

This work item will also include inputting topographic information into a computer-aided design (CAD) workstation. The preparation of the base sheets would include identification and "plotting" of all existing utilities within the project limits. Existing cross section information would be generated from the survey data and plotted on cross section sheets to aid in the review of the existing roadway profile and completion of the drainage analysis.

This item will also include the preparation of plats and legal descriptions for this project. It is assumed that no more than twenty (20) parcels of right-of-way acquisition will be acquired 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 Exhibit F.

Item 3 - Crash Analyses - In order to satisfy County, IDOT and FHWA requirements, it will be necessary to gather and review crash data for the study area to determine the existence of any safety hazards. Therefore, this work item will include:

a. Collect 3 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. Evaluate safety improvement needs, identify countermeasures and write crash analysis.

Item 4 - Traffic Analyses - The traffic analyses will include:

a. Obtain 24-hour video turning movement traffic counts using video counting unit (VCU) at the following locations:
    - Quentin Road/Cuba Road (North)
    - Quentin Road/Cuba Road (South)
b. Reduce and tabulate traffic count data; prepare traffic volume exhibits.
c. Obtain 2030 traffic projections from CMAP for study area roadways.
d. Develop design hourly traffic volumes (DHV's) at signalized intersections.

e. Perform existing and 2030 intersection capacity analyses at signalized intersections.
f. Analyze traffic signal warrants.
g. Prepare Intersection Design Studies for the preferred improvement plan at the following locations:
    - Quentin Road/Cuba Road (North)
    - Quentin Road/Cuba Road (South)

Item 5 - Alternate Geometric Studies - This work task will include the following:

a. Prepare preliminary horizontal geometrics on topographic base sheets.
b. Investigate up to three alternatives for providing a continuous bikepath throughout the corridor.
c. Define vertical roadway geometrics including preliminary analysis of proposed roadway cross sections.
d. Identify right-of-way acquisition and grading easement limits.
e. Identify retaining wall requirements.
f. Submit preliminary geometrics to LCDOT and IDOT for review.
g. Refine horizontal and vertical geometrics based upon review comments.

Item 6 - 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. We propose to use Midland Standard Engineering & Testing, Inc. as a subconsultant to perform the pavement coring and highway soils survey for this project. A copy of their proposal is included in Exhibit F. 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 7 - Hydraulic Modeling -This item will include the following items for each of the two roadway crossings:

a. Complete hydraulic analysis for each roadway crossing for existing and proposed conditions.
b. Coordination with LCDOT, LCSMC and IDOT.
c. Recommend structure opening and identify permit requirements.
d. Recommend floodplain compensatory storage locations based on permitting requirements.
e. Prepare summary report for each crossing and submit to LCDOT and IDOT for review.

Hydraulic Modeling will be performed by a subconsultant, Teng & Associates, Inc. and a copy of their detailed proposal is contained in Exhibit F.

Item 8 - Drainage Study - A drainage study will be prepared in accordance with IDOT and County requirements. The requirements of the Lake County Watershed Development Ordinance will also be met. The following items will be performed as part of this task.

a. Existing Drainage Plan

- Prepare General Location Drainage Map.
- Obtain contour mapping of study area.
- Develop watershed divides and identify drainage features .
- Identify outlets and determine interpreted divides.
- Determine base floodplains (includes datum correlation).
- Perform field reconnaissance of existing drainage structures.
- Develop preliminary existing drainage plan.
- Meet with local officials to identify existing drainage plans.
- Meet with LCSMC to discuss existing drainage plans.
- Refine preliminary Existing Drainage Plan and submit to LCDOT and IDOT for review.

b. Proposed Drainage Plan
   - Determine existing and proposed runoff coefficients
   - Identify and quantify flood plain encroachments.
   - Identify R.O.W. requirements for ditches, drainage outlets and detention facilities.
   - Develop stormwater detention plan.
   - Develop preliminary storm sewer sizing.
   - Prepare preliminary Proposed Drainage Plan and submit to LCDOT and IDOT for review.
   - Meet with the County, IDOT and/or LCSMC to review Proposed Drainage Plan.
   - Prepare drainage study report text and exhibits.

Item 9 - Wetland Study – ENTRIX will conduct a wetland investigation of the site, including an additional 100 feet outside the project corridor limits, as 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.

When applicable, ENTRIX will flag Isolated Waters of Lake County and U.S. Army Corps of Engineers (USACE) jurisdictional wetland boundaries within the project corridor. ENTRIX understands that Civiltech will survey these flags and provide a CAD file to ENTRIX. ENTRIX will also estimate wetland boundaries within 100 feet of the project corridor, per LCWDO requirements. Both the surveyed wetland boundaries and the estimated wetland boundaries will be included in the final Wetland Delineation Report. Potential wetland mitigation alternatives will not be included in the Wetland Delineation Report.

a. Wetland Regulatory Agency Coordination for preliminary JD and BV - This task includes a pre-application meeting, an on-site meeting, and coordination with Civiltech, LCSMC, and USACE. ENTRIX will submit the wetland delineation report to LCSMC for concurrence and preliminary jurisdictional determination of Isolated Waters of Lake County. ENTRIX will also submit the wetland delineation report to USACE for concurrence and jurisdictional determination of Waters of the U.S., including wetlands. ENTRIX will follow through with both USACE and LCSMC for all jurisdictional determinations and boundary

verifications.

As part of this task, ENTRIX will submit an Ecological Compliance Assessment Tool (EcoCAT) request to the Illinois Department of Natural Resources (IDNR) for identification of state listed threatened or endangered (T&E) species and Natural Areas within, adjoining, or adjacent to the project corridor. ENTRIX will also request a consultation from the U.S. Fish and Wildlife Service for identification of federal listed T&E species within, adjoining, or adjacent to the project corridor.

Item 10 - Section 4(f) Evaluation and Documentation - The proposed improvement may require grading into or possibly drainage easements from one publicly owned recreational facility, Warwick Park, located on the west side of Quentin Road just south of Cuba Road (North). It is anticipated, however, that park impacts will be found to be minor and that a Programmatic Section 4(f) Evaluation will ultimately be prepared. The evaluation will include the following work tasks:

a. Prepare the preliminary 4(f) Evaluation Questionnaire.
b. Analyze roadway improvement alternatives and quantify potential impacts. Determine if avoidance of park property is prudent or feasible.
c. If avoidance is not prudent or feasible, evaluate measures to minimize harm.
d. Attend an IDOT/FHWA coordination meeting to determine the level of environmental documentation required. Prepare meeting minutes.
e. Write draft Programmatic Section 4(f) Evaluation report.
f. Prepare report exhibits.
g. Present Section 4(f) Evaluation at a second IDOT/FHWA coordination meeting. Prepare meeting minutes.
h. Print, bind and deliver draft Programmatic Section 4(f) Evaluation report to IDOT for review and comment.
i. Revise report based upon review comments and prepare final Programmatic Section 4(f) Evaluation.
j. Process final Programmatic Section 4(f) Evaluation for signature.

Item 11 - Highway Noise Analysis - As part of the environmental impact evaluation process, it is necessary to determine if highway noise impacts will be created by the proposed improvement and, if so, to determine if it is feasible and reasonable to mitigate those impacts. In order to make those determinations, this work item will include the following tasks:

a. Predict existing highway noise levels at sensitive receptors using the FHWA Traffic Noise Model.
b. Perform highway noise analysis for 2030 No-Action Alternative.
c. Perform highway noise analysis for 2030 preferred improvement plan.
d. Identify highway noise impacts and consider various abatement measures.
e. Evaluate the need for and feasibility of noise barriers.
f. Write Highway Noise Analysis Technical Memorandum and submit for review and comment. Revise if necessary.

Item 12 - Air Quality Analysis - This work item will include preparation of input data for IDOT to run a COSIM pre-screening analysis to quantify the likelihood of air quality impacts. This work item will include:

a. Prepare COSIM input data sheets and submit to IDOT for analysis.
b. Document MSAT and PM 2.5/PM 10 Requirements
c. Write air quality analysis text.

Item 13 - Environmental Class of Action Determination Journal - This work item will include preparing and completing the Environmental Class of Action Determination (ECAD) Journal which documents the analyses of potential environmental impacts, the findings of the analyses and the jurisdictional agency concurrences in those findings. The following tasks will be completed for this item:

a. Determine comprehensive impacts of the proposed improvement on land use and economic development; public facilities and services; community cohesion; cultural, water and natural resources; pedestrian and bicycle facilities; and right-of-way acquisition impacts and displacements.
b. Identify measures to minimize harm.
c. Prepare and update ECAD Journal as impact evaluations are developed and jurisdictional agency sign-offs are obtained.
d. Attend review meeting with IDOT and County if required.

Item 14 – Structural Studies - No existing structures (bridges or culverts over 20 ft in length) were found on a field visit to the project site on December 10, 2008. Therefore no Bridge Condition Reports (BCR) are anticipated for this project.

Due to the proposed widening of the roadway and the existing topography it is anticipated that retaining walls may be required. For the purpose of this proposal, it is assumed that up to six walls, of approximately 400 ft each in length will be required along the project corridor. A Wall Type Study will be prepared for the proposed walls to determine an appropriate wall type based on economic, aesthetic, site and geotechnical considerations. Type, Size & Location (TS&L) plans will be required for any walls exceeding 10 feet in retained height. TS&L plans will be prepared based on the conclusions from the Wall Type Study. The TS&L's will show a plan view, elevation view and typical section of the proposed walls. The preparation of up to six TS&L's is included in the scope.

Any proposed retaining walls will be designed in accordance with the AASHTO Standard Specifications for Highway Bridges, 17th Edition and the 2008 IDOT Bridge Manual.

Item 15 - Draft Project Development Report - It is anticipated that the result of the ECAD Journal process will be a determination that the proposed improvement will in fact cause no significant environmental impacts and thus, would meet the requirements of a Categorical Exclusion - Type II. For a CE-Type II, a Project Development Report (PDR) can be prepared in lieu of an Environmental Assessment and a Combined Design Report. Therefore, this work task will involve integration of project data and engineering studies into a Draft Project Development Report that meets IDOT requirements as contained in BLR Form 22110. Specifically this work item will include the following:

a. Prepare report exhibits, including a location map, a land use exhibit, existing and proposed typical sections and a Maintenance of Traffic exhibit.
b. Prepare a detailed construction cost estimate for proposed improvements.
c. Write, proofread and edit the Draft PDR.
d. Print, bind and deliver Draft PDR.
e. Attend review meeting with IDOT and County if required.

f. Revise Draft PDR.

Item 16 - Agency Coordination - The efficiency and timeliness of executing a project can hinge on the level and frequency of coordination with IDOT officials. In order to avoid delays and costly multiple design revisions, we believe it will be helpful to have regular coordination meetings with IDOT to review design issues, environmental impact findings and the project's overall progress. These meeting would held at regular IDOT/FHWA coordination meetings. In addition to a kick-off meeting with the LCDOT, IDOT and the Lake County CMAP Liaison, we propose to schedule up to 4 meetings with IDOT.

This item will also include two meetings with the Village of Kildeer as well as two meeting with the Village of Lake Zurich.

Item 17 - Public Involvement - It is anticipated that two public information meetings will be held for this project. The first public meeting will present existing conditions, the needs for improvement, and concept plans. The second public meeting will be a formal Public Hearing at which the proposed improvement plan will be presented to the public. Following are the specific public involvement tasks that are anticipated:

a. Public Information Meeting #1
   - Selection of and coordination with meeting venue.
   - Preparation of public meeting newspaper display ad.
   - Preparation of public meeting brochure.
   - Preparation of public meeting exhibits.
   - Preparation of public meeting presentation.
   - Preparation for and attendance at public meeting dry run with County staff. (Assume 1 meeting.)
   - Attendance at public information meeting.
   - Preparation of meeting minutes and disposition of comments

b. Public Hearing
   - Selection of and coordination with meeting venue.
   - Preparation of public hearing newspaper display ad.
   - Preparation of public hearing brochure.
   - Preparation of public hearing exhibits.
   - Preparation of public hearing presentation.
   - Preparation for and attendance at public hearing dry run with County staff. (Assume 1 meeting.)
   - Attendance at public hearing.
   - Preparation of public hearing transcript (By court reporter).
   - Disposition of public hearing comments.

Item 18 - Final Project Development Report - Based on the outcome of the draft report review, the public involvement activities and municipal input, the final Project Development Report will be prepared and printed. Design Approval would be requested from IDOT. This work item will include the following tasks:

a. Revise draft PDR exhibits.
b. Revise construction cost estimate for improvements.
c. Revise draft PDR report, proofread and edit.
d. Print, bind and deliver final PDR Report.

e. Preparation and publication of Design Approval legal notices.

Item 19 - Supervision, Administration and Project Coordination - This item includes project setup, monthly invoicing and preparation of status reports, quarterly 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.

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

COST ESTIMATE OF CONSULTANT SERVICES
PHASE I ENGINEERING

		Personnel & Hours							Total Hours	% of Hours	Labor Cost
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.			
		$70.00	$60.00	$38.00	$28.00	$60.00	$29.50	$17.00			
	Task										
1	Early Coordination and Data Collection										
		0	0	24	20	0	24	0	68	1.7%	$ 2,180
2	Field Survey, Base Maps and Plats & Legals										
		0	8	28	0	0	48	0	84	2.1%	$ 2,960
3	Crash Analyses										
		0	2	8	56	0	0	0	66	1.7%	$ 1,992
4	Traffic Analyses										
		0	30	46	74	0	52	16	218	5.5%	$ 7,426
5	Alternate Geometric Studies										
		10	28	126	236	0	56	16	472	11.8%	$ 15,700
6	Subsurface Soils and Pavement Investigation										
		0	4	16	16	0	0	0	36	0.9%	$ 1,296
7	Hydraulic Modeling										
		0	4	8	0	0	0	0	12	0.3%	$ 544
8	Drainage Study										
		0	32	278	126	0	68	12	516	12.9%	$ 18,222
9	Wetland Investigation										
		0	4	8	0	0	0	0	12	0.3%	$ 544
10	Section 4(f) Evaluation and Documentation										
		2	26	56	0	0	16	12	112	2.8%	$ 4,504
11	Highway Noise Analysis										
		0	2	136	184	0	4	0	326	8.2%	$ 10,558
12	Air Quality Analysis										
		0	0	12	0	0	0	0	12	0.3%	$ 456
13	Environmental Class of Action Determination Journal										
		4	144	52	0	0	0	0	200	5.0%	$ 10,896
14	Structural Studies										
		0	0	324	0	180	168	0	672	16.8%	$ 28,068
15	Draft Project Development Report										
		4	40	72	60	0	36	16	228	5.7%	$ 8,430
16	Agency Coordination										
		48	48	48	0	0	0	0	144	3.6%	$ 8,064
17	Public Involvement										
		44	64	114	36	0	180	4	442	11.1%	$ 17,638
18	Final Project Development Report										
		0	32	56	60	0	16	16	180	4.5%	$ 6,472
19	Supervision, Administration & Project Coordination										
		52	100	20	12	0	12	0	196	4.9%	$ 11,090
	Sub-Total	**164**	**568**	**1432**	**880**	**180**	**680**	**92**	**3996**		
	% of Hours	4.1%	14.2%	35.8%	22.0%	4.5%	17.0%	2.3%		100.0%	
	Total Cost	$11,480	$34,080	$54,416	$24,640	$10,800	$20,060	$1,564			$157,040
	Multiplier*	**2.79**									$438,142
	Direct Costs (See Exhibit A-3)										$6,143
	Subconsultants (See Exhibit A-3)										$239,099
								Total Engineering Cost:			**$683,383**

* Multiplier = (DL + OH + FF)
DL = Direct Labor
OH = Overhead = 143.56%
FF = Fixed Fee = 35.32%
where FF = 14.5%[DL + OH(DL)]

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	**Task**									
1	**Early Coordination and Data Collection**									
A.	Collect and review previous studies and existing roadway plans.			4					**4**	5.9%
B.	Collect Land Use, Zoning, School District, Park District, etc.maps and plans.				2				**2**	2.9%
C.	Obtain public and private utility atlases.			2	4				**6**	8.8%
D.	Obtain right-of-way data.						2		**2**	2.9%
E.	Perform project area reconnaissance and prepare photolog.			4	6		4		**14**	20.6%
F.	Obtain aerial photography.			2					**2**	2.9%
G.	Prepare Design Stage Clearinghouse Project Notifications.			2					**2**	2.9%
H.	Prepare Hazardous Waste Survey and Assessment.			6			2		**8**	11.8%
I.	Prepare Environmental Survey Request forms.			4	8		16		**28**	41.2%
	Sub-total Item 1	**0**	**0**	**24**	**20**	**0**	**24**	**0**	**68**	**100.0%**
2	**Field Survey, Base Maps and Plats & Legals**									
	Field Survey and Plats & Legals will be conducted by a subconsultant - Jorgensen & Associates, Inc.									
A.	Development of project base sheets.			8			48		**56**	66.7%
B.	Coordination with subconsultant.		8	20					**28**	33.3%
	Sub-total Item 2	**0**	**8**	**28**	**0**	**0**	**48**	**0**	**84**	**100.00%**
3	**Crash Analyses**									
A.	Collect 3 years of crash data. (To be provided by the County.)			1					**1**	1.5%
B.	Tabulate data and plot collision diagrams.			1	40				**41**	62.1%
C.	Prepare wet/dry crash analysis.			1	4				**5**	7.6%
D.	Prepare roadway lighting warrant analysis.			1	4				**5**	7.6%
E.	analysis.		2	4	8				**14**	21.2%
	Sub-total Item 3	**0**	**2**	**8**	**56**	**0**	**0**	**0**	**66**	**100.00%**
4	**Traffic Analyses**									
A.	Obtain 24-hr. video turning movement traffic counts at the 2 Cuba Road intersections.						10		**10**	4.6%
B.	Reduce count data and prepare traffic volume exhibit.				4		2		**6**	2.8%
C.	Obtain 2030 projections from CMAP.			4					**4**	1.8%
D.	Develop intersection DHVs.		2	2	2				**6**	2.8%
E.	Perform existing and 2030 A.M./P.M. capacity analyses at signalized intersections.		4	6	10				**20**	9.2%
F.	Analyze traffic signal warrants.			2	2				**4**	1.8%
G.	Prepare IDS's at the 2 Cuba Road intersections.		24	32	56		40	16	**168**	77.1%
	Sub-total Item 4	**0**	**30**	**46**	**74**	**0**	**52**	**16**	**218**	**100.0%**

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	**Task**									
5	**Alternate Geometric Studies**									
A.	Prepare preliminary horizontal geometrics on topographic base sheets.	4	8	40	80		20		**152**	32.2%
B.	Develop up to 3 alternatives for providing a continuous bikepath along the corridor.	2	2	6	24				**34**	7.2%
C.	Define preliminary vertical roadway geometrics including preliminary cross sections.	4	8	40	80		20		**152**	32.2%
D.	Identify R.O.W. acquisition and grading easements.		4	8	16				**28**	5.9%
E.	Identify retaining wall requirements		2	8	4				**14**	3.0%
F.	Submit preliminary geometrics to LCDOT and IDOT for review.		2	8	8			16	**34**	7.2%
G.	Refine horizontal and vertical geometrics based upon review comments.		2	16	24		16		**58**	12.3%
	Sub-total Item 5	**10**	**28**	**126**	**236**	**0**	**56**	**16**	**472**	**100.0%**
6	**Subsurface Soils and Pavement Investigation**									
	The geotechnical studies will be conducted by a subconsultant - Midland Standard Engineering & Testing, Inc.									
A.	Subconsultant Coordination.		4	8					**12**	33.3%
B.	Pavement Design.			8	16				**24**	66.7%
	Sub-total Item 6	**0**	**4**	**16**	**16**	**0**	**0**	**0**	**36**	**100.0%**
7	**Hydraulic Modeling**									
	The hydraulic modeling will be conducted by a subconsultant - Teng & Associates, Inc.									
A.	Subconsultant Coordination.		4	8					**12**	100.0%
	Sub-total Item 7	**0**	**4**	**8**	**0**	**0**	**0**	**0**	**12**	**100.0%**

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	**Task**									
8	**Drainage Study**									
Existing Drainage Plan									**0**	0.0%
A.	Prepare General Location Drainage Map.			4			4		**8**	1.6%
B.	Obtain contour mapping of study area.			2					**2**	0.4%
C.	Develop watershed divides and identify drainage features			2	4				**6**	1.2%
D.	Identify outlets and determine interpreted divides.			2	4				**6**	1.2%
E.	Determine base floodplains (includes datum correlation).			8	4				**12**	2.3%
F.	Perform field reconnaissance of existing drainage structures.			8	8				**16**	3.1%
G.	Develop preliminary existing drainage plan.		4	32	16		16		**68**	13.2%
H.	Meet with local officials to identify existing drainage plans.		4	4					**8**	1.6%
I.	Meet with LCSMC to review existing drainage plans.		4	4					**8**	1.6%
J.	Refine Existing Drainage Plan and submit to LCDOT and IDOT for review.		2	16	8		8	4	**38**	7.4%
Proposed Drainage Plan									**0**	0.0%
A.	Determine existing and proposed runoff coefficients			4	2				**6**	1.2%
B.	Identify and quantify flood plain encroachments.			16	8				**24**	4.7%
C.	Identify R.O.W. requirements for ditches, drainage outlets and detention facilities.			24	8				**32**	6.2%
D.	Develop stormwater detention plan.			24	16				**40**	7.8%
E.	Develop preliminary storm sewer sizing.			24	8				**32**	6.2%
F.	Prepare preliminary Proposed Drainage Plan and submit to LCDOT and IDOT for review.		2	48	24		24	4	**102**	19.8%
G.	Meet with Village, County, IDOT and/or LCSMC to review Proposed Drainage Plan.		16	16					**32**	6.2%
H.	Prepare drainage study report text and exhibits.			40	16		16	4	**76**	14.7%
	Sub-total Item 8	**0**	**32**	**278**	**126**	**0**	**68**	**12**	**516**	**100.0%**
9	**Wetland Investigation**									
	The wetland investigations will be conducted by a subconsultant - ENTRIX, Inc.									
A.	Subconsultant Coordination.		4	8					**12**	100.0%
	Sub-total Item 9	**0**	**4**	**8**	**0**	**0**	**0**	**0**	**12**	**100.0%**

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	Task									
10	**Section 4(f) Evaluation and Documentation**									
A.	Prepare the preliminary 4(f) Evaluation Questionnaire.		4	6					**10**	8.9%
B.	Analyze roadway improvement alternatives and quantify potential impacts. Determine if avoidance of park property is prudent or feasible.		4	4					**8**	7.1%
C.	If avoidance is not prudent or feasible, evaluate measures to minimize harm.		4	4					**8**	7.1%
D.	Attend an IDOT/FHWA coordination meeting to determine the level of environmental documentation required. Prepare meeting minutes.		2	6					**8**	7.1%
E.	Write draft Programmatic Section 4(f) Evaluation report.	2	8	16					**26**	23.2%
F.	Prepare report exhibits.			4			16		**20**	17.9%
G.	Present Section 4(f) Evaluation at a second IDOT/FHWA coordination meeting. Prepare meeting minutes.		2	6					**8**	7.1%
H.	Print, bind and deliver draft Programmatic Section 4(f) Evaluation report to IDOT for review and comment.							8	**8**	7.1%
I.	Revise report based upon review comments and prepare final Programmatic Section 4(f) Evaluation.			8					**8**	7.1%
J.	Process final Programmatic Section 4(f) Evaluation for signature.		2	2				4	**8**	7.1%
	Sub-total Item 10	**2**	**26**	**56**	**0**	**0**	**16**	**12**	**112**	**100.0%**
11	**Highway Noise Analysis**									
A.	Predict existing highway noise levels at sensitive receptors using the FHWA Traffic Noise Model.			16	40				**56**	17.2%
B.	Perform highway noise analysis for 2030 No-Action Alternative.			12	24				**36**	11.0%
C.	Perform highway noise analysis for 2030 preferred improvement plan.			12	24				**36**	11.0%
D.	Identify highway noise impacts and consider various abatement measures.			6	16				**22**	6.7%
E.	Evaluate the need for and feasibility of noise barriers.		2	18	40				**60**	18.4%
F.	Write Highway Noise Analysis Technical Memorandum and submit for review and comment. Revise if necessary.			72	40		4		**116**	35.6%
	Sub-total Item 11	**0**	**2**	**136**	**184**	**0**	**4**	**0**	**326**	**100.0%**
12	**Air Quality Analysis**									
A.	Prepare COSIM input data sheets and submit to IDOT for analysis.			4					**4**	33.3%
B.	Document MSAT and PM 2.5/PM 10 Requirements			4					**4**	33.3%
C.	Write air quality analysis text.			4					**4**	33.3%
	Sub-total Item 12	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**12**	**100.0%**

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	**Task**									
13	**Environmental Class of Action Determination Journal**									
A.	Determine comprehensive impacts of the proposed improvement on land use and economic development; public facilities and services; community cohesion; cultural, water and natural resources; pedestrian and bicycle facilities; and right-of-way acquisition impacts and displacements.		40	16					**56**	28.0%
B.	Identify measures to minimize harm.		40	16					**56**	28.0%
C.	Prepare and update ECAD Journal as impact evaluations are developed and jurisdictional agency sign-offs are obtained.		60	16					**76**	38.0%
D.	Attend review meeting with IDOT and County if required.	4	4	4					**12**	6.0%
	Sub-total Item 13	**4**	**144**	**52**	**0**	**0**	**0**	**0**	**200**	**100.0%**
14	**Structural Studies**									
A.	Wall Type Study considering geotechnical data, aesthetics and cost			132		72	60		**264**	39.3%
B.	Wall Type Size & Location (TSL) Plan			192		108	108		**408**	60.7%
	Sub-total Item 14	**0**	**0**	**324**	**0**	**180**	**168**	**0**	**672**	**100.0%**
15	**Draft Project Development Report**									
A.	Prepare report exhibits, including a location map, a land use exhibit, existing and proposed typical sections and a Maintenance of Traffic exhibit.			4	12		16		**32**	14.0%
B.	Prepare a detailed construction cost estimate for proposed improvements.		16	16	32				**64**	28.1%
C.	Write, proofread and edit the Draft Project Report.		16	32	16				**64**	28.1%
D.	Print, bind and deliver Draft Project Report.							16	**16**	7.0%
E.	Attend review meeting with IDOT and County, if required.	4	4	4					**12**	5.3%
F.	Revise Draft Project Report.		4	16			20		**40**	17.5%
	Sub-total Item 15	**4**	**40**	**72**	**60**	**0**	**36**	**16**	**228**	**100.0%**
16	**Agency Coordination**									
A.	Preparation for and attendance at 4 meetings with IDOT.	16	16	16					**48**	33.3%
B.	Preparation for and attendance at 4 meetings with local agencies.	32	32	32					**96**	66.7%
	Sub-total Item 16	**48**	**48**	**48**	**0**	**0**	**0**	**0**	**144**	**100.0%**

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

WORKHOUR ESTIMATE
PHASE I ENGINEERING

		Personnel & Hours								
		Principal in Charge QC/QA	Project Manager	Project Engineer	Design Engineer	Sr. Structural Engineer	Senior Design Technician	Admin. Asst.	Total Hours	% of Hours
Item No.	**Task**									
17	**Public Involvement**									
Public Information Meeting										
A.	Selection of and coordination with meeting venue.			4					**4**	0.9%
B.	Preparation of public meeting newspaper display ad.			2	2				**4**	0.9%
C.	Preparation of public meeting brochure.	2	4	4			4	4	**18**	4.1%
D.	Preparation of public meeting exhibits.	8	12	24	16		80		**140**	31.7%
E.	Preparation for and attendance at dry run with County staff.	6	6	8			4		**24**	5.4%
F.	Attendance at public meeting.	6	6	6					**18**	4.1%
G.	Disposition of public meeting comments.		4	8					**12**	2.7%
									0	0.0%
Public Hearing									**0**	0.0%
A.	Selection of and coordination with meeting venue.			4					**4**	0.9%
B.	Preparation of public hearing newspaper display ad.			2	2				**4**	0.9%
C.	Preparation of public hearing brochure.	2	4	4			8		**18**	4.1%
D.	Preparation of public hearing exhibits.	8	12	24	16		80		**140**	31.7%
E.	Preparation for and attendance at public hearing dry run with City staff.	6	6	8			4		**24**	5.4%
F.	Attendance at public hearing.	6	6	6					**18**	4.1%
G.	Preparation of public hearing transcript (by court reporter).			2					**2**	0.5%
H.	Disposition of public hearing comments.		4	8					**12**	2.7%
	Sub-total Item 17	**44**	**64**	**114**	**36**	**0**	**180**	**4**	**442**	**100.0%**
18	**Final Project Development Report**									
A.	Revise draft Project Report exhibits.			4	12		16		**32**	17.8%
B.	Revise construction cost estimate for improvements.		16	16	32				**64**	35.6%
C.	Revise draft Project Report, proofread and edit.		16	32	16				**64**	35.6%
D.	Print, bind and deliver final PDR Report.							16	**16**	8.9%
E.	Preparation and publication of Design Approval legal notices.			4					**4**	2.2%
	Sub-total Item 18	**0**	**32**	**56**	**60**	**0**	**16**	**16**	**180**	**100.0%**
19	**Supervision, Administration & Project Coordination**									
A.	Project setup, monthly invoicing, status reports & schedule monitoring.		48						**48**	24.5%
B.	Client Coordination.	40	40	8					**88**	44.9%
C.	In-House coordination meetings.	12	12	12	12		12		**60**	30.6%
	Sub-total Item 19	**52**	**100**	**20**	**12**	**0**	**12**	**0**	**196**	**100.0%**
	Total Hours:	**164**	**568**	**1432**	**880**	**180**	**680**	**92**	**3996**	
	% of Hours:	**4.1%**	**14.2%**	**35.8%**	**22.0%**	**4.5%**	**17.0%**	**2.3%**	**100.0%**	

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

PHASE I ENGINEERING
DIRECT COSTS AND SUBCONSULTANT SERVICES

					Direct Cost	Subconsultant Expense
Item 1	**Early Coordination and Data Collection**					
Mileage						
	1 trips @	50 miles @	$0.585		$29.25	
Item 2	**Field Survey, Base Maps and Plats & Legals**					
Subconsultant Expense - Jorgensen & Associates, Inc.						
See Attachment B						$124,017.35
Item 4	**Traffic Analyses**					
Video Count Data Reduction		Lump Sum			$1,440.00	
Mileage						
	2 trips @	50 miles @	$0.585		$58.50	
Item 5	**Alternate Geometric Studies**					
Printing (Assume 10 copies)						
	250 sheets @	$0.50			$125.00	
	600 sheets @	$0.15			$90.00	
Postage						
	4 packages @	$25.00			$100.00	
Item 6	**Subsurface Soils and Pavement Investigation**					
Subconsultant Expense - Midland Standard Engineering & Testing, Inc.						
See Attachment C						$34,735.00
Item 7	**Hydraulic Modeling**					
Subconsultant Expense - Teng & Associates, Inc.						
See Attachment D						$31,986.28
Item 8	**Drainage Study**					
Mileage						
	2 trips @	50 miles @	$0.585		$58.50	
Printing (Assume 10 copies)						
	50 sheets @	$0.50			$25.00	
	200 sheets @	$0.15			$30.00	
Postage						
	4 packages @	$25.00			$100.00	
Item 9	**Wetland Investigation**					
Subconsultant Expense - ENTRIX, Inc.						
See Attachment E						$48,360.00
Item 10	**Section 4(f) Evaluation and Documentation**					
Printing (Assume 10 copies)						
	100 sheets @	$0.50			$50.00	
	200 sheets @	$0.15			$30.00	
Postage						
	2 packages @	$25.00			$50.00	

Quentin Road Phase I
U.S. Route 12 to IL Route 22
Lake County Division of Transportation

PHASE I ENGINEERING
DIRECT COSTS AND SUBCONSULTANT SERVICES

						Direct Cost	Subconsultant Expense
Item 11	**Highway Noise Analysis**						
Mileage							
	3 trips @		40 miles @		$0.585	$70.20	
Printing (Assume 10 copies)							
	50 sheets @	$0.50				$25.00	
	100 sheets @	$0.15				$15.00	
Postage							
	2 packages @	$25.00				$50.00	
Item 15	**Draft Project Development 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 16	**Agency Coordination**						
Mileage							
	4 trips @		20 miles @		$0.585	$46.80	
	4 trips @		50 miles @		$0.585	$117.00	
Item 17	**Public Involvement**						
Display Ad			2 each @		$250.00	$500.00	
Location Rental Fee			2 each @		$500.00	$1,000.00	
Court Reporter			2 each @		$500.00	$1,000.00	
Printing		300	sheets @		$0.50	$150.00	
Meeting Supplies (foam core board, easels, etc.)						$200.00	
Mileage							
	8 trips @		50 miles @		$0.585	$234.00	
Item 18	**Final Project 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 19	**Supervision, Administration & Project Coordination**						
Mileage							
	8 trips @		50 miles @		$0.585	$234.00	
TOTAL:						**$6,143**	**$239,099**

ATTACHMENT B

Subconsultant Proposal

Jorgensen & Associates, Inc.

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

December 12, 2008

Mr. Sven D. Zimdahl, P.E.
Civiltech Engineering, Inc.
450 East Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Quentin Road Survey Proposal

Dear Mr. Zimdahl:

Enclosed, please find our proposal to prepare a complete topographic survey of Quentin Road and parts of Cuba Road as contained in your emails of this past week, including the location of trees 6" and larger 75 feet either side of center line. Also included in our proposal is the preparation of a statutory plat of highways with legal descriptions for 20 fee simple parcels. We reserve the right to adjust our fee should additional parcels or easements be required.

I would like to thank you for considering Jorgensen & Associates for this project. We look forward to continuing our 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:\Civilted\Lake\QuentinRd.LTR

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Exhibit "A"

Hourly Rate Range - Consultant's Regular Staff

Classification	From	To
Principal, Manager, P.L.S.	38.00	40.00
Supervisor, Project Surveyor	37.00	39.00
Cadd Supervisor, S.I.T., Survey Party Chief	21.00	25.00
Instrument Operator, Cadd Operator, assignable Clerical and Secretarial Labor	14.00	18.00

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Exhibit "B"

Payroll Burden & Fringe Costs

	% of Direct Productive Payroll
Federal Insurance Contributions Act	11.42%
State Unemployment Compensation	0.53%
Federal Unemployment Compensation	0.29%
Workmen's Compensation Insurance	2.16%
Paid Holidays, Vacation, Sick Leave, Personal Leave	12.23%
Bonus	2.86%
Pension	1.21%
Group Insurance	25.05%
Total Payroll Burden & Fringe Costs	55.75%

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Exhibit "C"

Overhead and Indirect Costs

	% of Direct Productive Payroll
Taxes except Federal Income	0.75%
Business Insurance, except key-man insurance, insurance including accident, liability and valuable papers	7.97%
Depreciation and amortization	6.16%
Administrative, unassignable staff time, recruiting, training and education, severance, negotiating new business, and office accounting, clerical and secretarial wages and salaries	37.53%
Reproductive and printing costs	0.06%
Office and Survey supplies	5.23%
Computer costs	0.76%
Professional services including specialists, legal, auditing, etc.	1.32%
Employees travel expenses not assigned to clients and excluding costs outside Illinois	5.45%
Telephone, telegraph and postage	2.90%
Recruiting and relocating expense	0.41%
Fees, licenses, dues, publications (technical and professional)	1.30%
Utilities and maintenance	0.67%
Business space rent	5.72%
Facilities - Capital	1.00%
Miscellaneous expense	0.89%
Equipment rental	0.69%
Bank charges	0.00%
Total Overhead	78.81%

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

TOPOGRAPHIC SURVEY
Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief

D. Instrument Operator

E. Cadd Supervisor, S.I.T.

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 39.00
B. Supervisor, P.L.S. …… $ 38.00
C. Survey Party Chief ……. $ 21.00
D. Instrument Operator …….. $ 17.00
E. Cadd Supervisor, S.I.T. …….. $ 24.50

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

TOPOGRAPHIC SURVEY
Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$39.00/hour	=	$ 78.00
Supervisor, P.L.S.	42 hours	@	$38.00/hour	=	$ 1,596.00
Survey Party Chief	336 hours	@	$21.00/hour	=	$ 7,056.00
Instrument Operator	336 hours	@	$17.00/hour	=	$ 5,712.00
Cadd Supervisor, S.I.T.	228 hours	@	$24.50/hour	=	$ 5,586.00
	944 hours				$ 20,028.00

Average Hourly Rate = $\frac{\$20,028.00}{944}$ = $21.22/hour

Route: F.A.P. 364 (Quentin Road)
Section:
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: December 12, 2008
Description: 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	672	$12,768.00	$17,180.62	$691.20	$30,639.82	$4,358.35	N/A	$34,998.17	64.23%
2) Office - Compile Field Data	76	$1,970.00	$2,650.83	$0.00	$4,620.83	$657.00	N/A	$5,277.83	9.69%
3) Office - Create Existing Topography Base Sheets	180	$4,815.00	$6,479.06	$0.00	$11,294.06	$1,605.80	N/A	$12,899.87	23.68%
4) Office - Create T.I.N. & Contours	14	$397.00	$534.20	$0.00	$931.20	$132.40	N/A	$1,063.60	1.95%
5) Coordination Meetings	2	$78.00	$104.96	$33.60	$216.56	$30.89	N/A	$247.44	0.45%
TOTALS	944	$20,028.00	$26,949.68	$724.80	$47,702.48	$6,784.43	$0.00	$54,486.91	100.00%

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

West Cuba Road	±	500'	=	0.095 mile
East Cuba Road	±	500'	=	0.095 mile
Quentin Road	+	8,650'	=	1.638 miles
Total Length	±	9,650'	=	1.828 miles

1. Field – Topographic Survey

   a. Measure traverse
      16 hours x 2 men = 32 MH

   b. Measure level circuit
      6 hours x 2 men = 12 MH

   c. Locate existing topography
      314 hours x 2 men = 628 MH

   Sub-total Item #1 672 MH

2. Office - Compile Field Data

   a. Compute traverse
      8 hours x 1 man = 8 MH

   b. Compute level circuit
      2 hours x 1 man = 2 MH

   c. Edit & compile topographic survey
      66 hours x 1 man = 66 MH

   Sub-total Item #2 76 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      150 hours x 1 man = 150 MH

   b. Check topographic survey
      30 hours x 1 man = 30 MH

Sub-total Item #3 180 MH

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

   a. Compute contours
      10 hours x 1 man = 10 MH

   b. Check contours
      4 hours x 1 man = 4 MH

Sub-total Item #4 14 MH

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

Total All Items 944 MH

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief	336
	Instrument Operator	336
2. Office - Compile Field Data	Supervisor, P.L.S.	8
	Cadd Supervisor, S.I.T.	68
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	30
	Cadd Supervisor, S.I.T.	150
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	4
	Cadd Supervisor, S.I.T.	10
5. Coordination Meetings	Principal/Officer	2

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field – Topographic Survey

    a. Trips to project site - 36 ea.
    ± 40 miles/trip x 36 trips = ± 1,440 miles
    ± 1,440 miles @ $0.48/mile = $ 691.20

5. Coordination Meetings

    a. Meetings at Civiltech office - 1 ea.
    ± 70 miles/trip x 1 trip = ± 70 miles
    ± 70 miles @ $0.48/mile = $ 33.60

Total All Items $ 724.80

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

PLAT OF HIGHWAYS
Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief

D. Instrument Operator

E. Cadd Supervisor, S.I.T.

F. Survey Technician

G. Secretarial

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 39.00
B. Supervisor, P.L.S. ……. $ 38.00
C. Survey Party Chief ……..…… $ 21.00
D. Instrument Operator …….. $ 17.00
E. Cadd Supervisor, S.I.T. …….. $ 24.50
F. Survey Technician ……..…….. $ 17.00
G. Secretarial……... $ 15.50

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

PLAT OF HIGHWAYS
Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$39.00/hour	=	$ 78.00
Supervisor, P.L.S.	208 hours	@	$38.00/hour	=	$ 7,904.00
Survey Party Chief	201 hours	@	$21.00/hour	=	$ 4,221.00
Instrument Operator	201 hours	@	$17.00/hour	=	$ 3,417.00
Cadd Supervisor, S.I.T.	311 hours	@	$24.50/hour	=	$ 7,619.50
Survey Technician	9 hours	@	$17.00/hour	=	$ 153.00
Secretarial	2 hours	@	$15.50/hour	=	$ 31.00
	934 hours				$ 23,423.50

Average Hourly Rate = $\frac{\$23,423.50}{934}$ = $25.08/hour

Route: F.A.P. 364 (Quentin Road)
Section:
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: December 12, 2008
No. of Parcels: 20
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	8	$178.00	$239.52	$64.40	$481.92	$68.70	$6,000.00	$6,550.62	9.42%
2) Survey Reconnaissance	30	$570.00	$766.99	$0.00	$1,336.99	$190.10	N/A	$1,527.09	2.20%
3) Project Survey Plan	4	$68.00	$91.50	$0.00	$159.50	$22.68	N/A	$182.18	0.26%
4) First Submittal Plat of Highways and Descriptions	370	$10,415.00	$14,014.42	$75.00	$24,504.42	$3,484.28	N/A	$27,988.70	40.25%
5) Survey (Field)	372	$7,068.00	$9,510.70	$384.00	$16,962.70	$2,412.86	N/A	$19,375.56	27.87%
6) Survey (Office)	110	$3,937.00	$5,297.63	$0.00	$9,234.63	$1,312.99	N/A	$10,547.62	15.17%
7) Final Submittal Plat of Highways and Descriptions	38	$1,109.50	$1,492.94	$121.20	$2,723.64	$387.59	N/A	$3,111.24	4.47%
8) Coordination Meetings	2	$78.00	$104.96	$33.60	$216.56	$30.89	N/A	$247.44	0.36%
TOTALS	934	$23,423.50	$31,518.66	$678.20	$55,620.36	$7,910.08	$6,000.00	$69,530.44	100.00%

Route : F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.

Manhour Breakdown
Land Acquisition Estimate

Length of Project

West Cuba Road	± 500'	= 0.095 mile
East Cuba Road	± 500'	= 0.095 mile
Quentin Road	+ 8,650'	= 1.638 miles
Total Length	± 9,650'	= 1.828 miles

20 Parcels: 20 Fee Simple

1. Pre-Survey Phase
   Research available records

a.	Title Co.	)	1 man	6 MH
b.	Recorder's Office	)		
c.	I.D.O.T.	)		
d.	Utilities	)		
e.	Private Surveyors	)		
f.	Land Owners	)	1 man	2 MH
			Sub-total Item # 1	8 MH

2. Reconnaissance Survey — 2 Men — 30 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	)	10 MH
		)	
d.	Private survey info	)	
		)	
e.	Deed calculated closures	)	
f.	Layout and drafting	± 600'/sht. ± 15 sheets 18 hrs./sheet x 15 =	270 MH
g.	Check plats		60 MH
h.	Legal descriptions	20 descriptions	20 MH
i.	Check legal descriptions		10 MH
		Sub-total Item #4	370 MH

5. Survey (Field)

a.	Center line alignments & ties						
	West Cuba Road	-	500'	-	4 hrs. x 2 men	=	8 MH
	East Cuba Road	-	500'	-	4 hrs. x 2 men	=	8 MH
	Quentin Road	-	8,650'	-	20 hrs. x 2 men	=	40 MH
b.	Measure existing R.O.W., property & section lines 80 hours x 2 men =						160 MH
c.	Appraisal topography 40 hours x 2 men =						80 MH
d.	Monument & tie proposed right of way 38 hours x 2 men =						76 MH
					Sub-total Item #5		372 MH

6. Survey (Office)

a. Compute traverse
8 hours x 1 man = 8 MH

b. Compute existing R.O.W., property & section lines
80 hours x 1 man = 80 MH

c. Compile appraisal topography
10 hours x 1 man = 10 MH

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

e. Compute proposed right of way
10 hours x 1 man = 10 MH

Sub-total Item #6 110 MH

7. Final Submittal Plat of Highways & Descriptions

a. Final drafting ± 15 sheets
1 hr./sheet x 15 = 15 MH

b. Prepare & record "Monument Record"
2 Monument Records @ 2 hrs. each = 4 MH

c. Plat checking
15 sheets 8 MH

d. Final descriptions 20 descriptions 5 MH

e. Check final descriptions 3 MH

f. Assembly of final papers 3 MH

Sub-total Item #7 38 MH

8. Coordination Meetings

1 meeting @ 2 hrs. = 2 MH

Total All Items 934 MH

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1) Pre-Survey	Cadd Supervisor, S.I.T.	6
	Secretarial	2
2) Survey Reconnaissance	Survey Party Chief	15
	Instrument Operator	15
3) Project Survey Plan	Survey Technician	4
4) First Submittal Plat of Highways	Supervisor, P.L.S.	100
	Cadd Supervisor, S.I.T.	270
5) Survey (Field)	Survey Party Chief	186
	Instrument Operator	186
6) Survey (Office)	Supervisor, P.L.S.	92
	Cadd Supervisor, S.I.T.	18
7) Final Submittal Plat of Highways	Supervisor, P.L.S.	16
	Cadd Supervisor, S.I.T.	17
	Survey Technician	5
8) Coordination Meetings	Principal/Officer	2

Route: F.A.P. 364 (Quentin Road)
Section:
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 @ $0.48/mile =		$ 14.40
b. Miscellaneous Records from Recorder's Office		$ 50.00
	Sub-total Item #1	$ 64.40
4. First Submittal Plat of Highways & Descriptions		
a. Plat of Highways Mylars 15 sheets @ $5.00/sheet =		$ 75.00
5. Survey (Field)		
a. Trips to project site - 20 ea. ± 40 miles/trip x 20 trips = ± 800 miles ± 800 miles @ $0.48/mile =		$ 384.00
7. Final Submittal Plat of Highways & Descriptions		
a. Trip to Recorder's Office – 1 ea. ± 30 miles/trip x 1 trip = ± 30 miles ± 30 miles @ $0.48/mile =		$ 14.40
b. Record “Monument Record” 2 each @ $39.00 =		$ 78.00
c. Deliver Final Mylars to I.D.O.T. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.48/mile =		$ 28.80
	Sub-total Item #7	$ 121.20

8. Coordination Meetings

a. Meetings at Civiltech office – 1 ea.
± 70 miles/trip x 1 trip = ± 70 miles
± 70 miles @ $0.48/mile = $ 33.60

Total All Items $ 678.20

Route: F.A.P. 364 (Quentin Road)
Section:
County: Lake
Job No.:

Breakdown of
Services By Others

Item

1. Pre-Survey Phase

    a. Commitment for Title Insurance Letters
    20 Letters @ $300.00 each = $ 6,000.00

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

December 12, 2008

Mr. Sven D. Zimdahl, P.E.
Civiltech Engineering, Inc.
450 E. Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Proposal for Geotechnical Investigation
Quentin Road – US Route 12 to IL Route 22
Lake County, Illinois
Revised from December 10, 2008

Dear Mr. Zimdahl:

We are pleased to have the opportunity to submit the following proposal for performance of a geotechnical investigation for the proposed improvements on the referenced project.

Project Description and Scope of Work

The project consists of widening and rehabilitation of Quentin Road from 2,000 feet north of US Route 12 to IL Route 22. The project will consider reconstruction with the potential of widening and resurfacing between US Route 12 to W. Cuba Road. The proposed project from a soils exploration standpoint, will require the scope of work outlined:

Thirty (30) subgrade soil borings and nineteen (15) pavement cores to determine the existing pavement section, along the 9,000± ft (1.7± mile) alignment.

Five (5) retaining wall locations requiring a total of thirty (30) structure borings to a average depth of 15 feet below the ground surface.

Method of Performance - Field Work

The typical subgrade soil survey exploration will be accomplished by performing soil borings with split-spoon sampling spaced at approximately 300 foot intervals along the proposed alignment, on alternate sides of the existing alignment in the proposed widening and at other points where significant problem areas are observed.

a) Soil survey borings will be extended to a depth of seven – one half (7-1/2) to ten (10) feet sampling at 30 inch intervals or more frequently if required to sample all soil strata.

b) Pavement cores will be made along the alignments at 600± feet intervals along the alignments to be rehabilitated.

c) Laboratory testing will include moisture content determinations, consistency (penetrometer value), determination on cohesive soil samples and classification tests as required to identify major subgrade soil types and determine the subgrade support rating (SSR). The predominant subgrade soil types will be tested to determine the Illinois Bearing Ratio for pavement design.

d) Structure borings, where required will be extended to the depth required by the guidelines set forth in the Illinois Department of Transportation estimated at 10 to 20 feet below the ground surface at the boring locations.

The soil survey and structure borings will be performed in compliance with the current State of Illinois, Geotechnical Manual' January 1999.

Method of Performance - Analysis and Report

The boring information will be used to develop soils profile drawings and boring logs as required which will be prepared showing the soil types and test data in accordance with applicable specifications. We understand that digital 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. Existing pavement sections.
4. Foundation and construction recommendations for retaining walls and culverts-if required.
4. Soils criteria for input to the pavement design being done by the Design Engineer.

A written report summarizing and presenting the data and recommendations will be prepared by a Professional Engineer, licensed in the State of Illinois.

Comments and Timing

We have assumed that Prevailing Wage rules will apply to this project We will begin on work after notice to proceed. We plan on mobilizing and doing all the borings concurrently. Final reports and profiles will be coordinated with Civiltech as the base plan and profile drawings and other designs are completed.

Fee

We propose to provide this work at the unit rates quoted on the attached Schedule of Services and Fees, Attachments 1.1 through 1.4. 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:

Roadway Soil Survey	**$ 17,805.00**
Retaining Wall Borings	**$ 16,930.00**

Closure

For this project, Mr. William J. Wyzgala, P.E.. as Project Manager. 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 are looking forward to working with you on this project.

Respectfully Submitted,

MIDLAND STANDARD ENGINEERING & TESTING, INC.

William D. Prigge, P.E.
Principal

WDP/mlw
Enclosure: Attachments 1.1 through 1.4

ATTACHMENT 1.1

SCHEDULE OF SERVICES AND FEES

QUENTIN ROAD
US ROUTE 12 TO IL ROUTE 22
Lake County, Illinois

ROADWAY GEOTECHNICAL INVESTIGATION

Item	Estimated Quantity	Unit Cost	Extension
Field Services			
Mobilization of Drilling and Coring equipment, and personnel, lump sum	1	$ 400.00	$ 400.00
Profile Borings, per lineal foot	300	$ 17.50	$ 5,250.00
Pavement Cores, each	15	$ 150.00	$ 2,250.00
Traffic Control, per day	3	$ 350.00	$ 1,050.00
Laboratory Services			
Moisture Content Determinations, ea.	135	$ 5.00	$ 675.00
Unconfined Compressive Strength, ea.	120	$ 4.00	$ 480.00
Atterberg Limit Determination, ea.	7	$ 80.00	$ 560.00
Grain Size including Hydrometer, ea.	7	$ 90.00	$ 630.00
Total Organic Matter, ea.	2	$ 60.00	$ 120.00
Illinois Bearing Ratio including MDR, ea.	1	$ 300.00	$ 300.00
Engineering Services for Soil Boring and Pavement Coring Including:			
Layout Coordination Utility Clearance and Permits Field Engineer/Geologist to Monitor Drilling Preparation of Core Logs and Boring Logs Report Preparation Consultation			
Estimated Cost (@ Unit Rates Listed on Attachment 1.2)			$ 6,090.00
		SUBTOTAL	**$ 17,805.00**

ATTACHMENT 1.2

ENGINEERING SERVICES

Our fees for Engineering Services will be based on the actual number of hours required to complete the work, and will be determined on a Unit Rate Basis at these rates for each classification of personnel:

	Est. Quantity	Rate/Hour	Extension
Principal Engineer, per hour	4	$ 135.00	$ 540.00
Project Engineer, per hr.	10	$105.00	$ 1,050.00
Staff Engineer, per hr.	16	$ 95.00	$ 1,520.00
Field Engineer/ Geologist, per hr.	20	$ 85.00	$ 1,700.00
Technician, per hour	16	$ 80.00	$ 1,280.00
		SUBTOTAL:	$ 6,090.00

ATTACHMENT 1.3

SCHEDULE OF SERVICES AND FEES

QUENTIN ROAD
US ROUTE 12 TO IL ROUTE 22
Lake County, Illinois

STRUCTURE BORINGS

Item	Estimated Quantity	Unit Cost	Extension
Field Services			
Mobilization of ATV mounted rig, and personnel, lump sum	1	$ 600.00	$ 600.00
ATV Use, per day	4	$ 310.00	$ 1,240.00
Structure Borings, including Moisture and strength tests, per lineal foot			
Retaining Walls-30 borings@ 15' deep	450	$ 21.00	$ 9,450.00
Engineering Services for Soil Boring and Pavement Coring Including:			
Layout Coordination Utility Clearance and Permits Field Engineer/Geologist to Monitor Drilling Preparation of Structure Boring Logs Report Preparation Consultation			
Estimated Cost (@ Unit Rates Listed on Attachment 1.4)			$ 5,640.00
	SUBTOTAL		**$ 16,930.00**

ATTACHMENT 1.4

ENGINEERING SERVICES

Our fees for Engineering Services will be based on the actual number of hours required to complete the work, and will be determined on a Unit Rate Basis at these rates for each classification of personnel:

	Est. Quantity	Rate/Hour	Extension
Principal Engineer, per hour	4	$ 135.00	$ 540.00
Project Engineer, per hr.	10	$105.00	$ 1,050.00
Staff Engineer, per hr.	14	$ 95.00	$ 1,330.00
Field Engineer/ Geologist, per hr.	32	$ 85.00	$ 2,720.00
		SUBTOTAL:	$ 5,640.00

ATTACHMENT D

Subconsultant Proposal

Teng & Associates, Inc.

TENG

205 North Michigan Avenue
Chicago, Illinois 60601-5924

312. 616. 0000
312. 616. 6069 fax

December 12, 2008

Ms. Mary Young, P.E.
Civiltech Engineering Inc
450 E Devon Ave, Suite 300
Itasca, Illinois 60143

Re: Proposal for Engineering Services
Quentin Road – Lake County Illinois
Proposal #P00210.001

Dear Ms. Young:

Teng & Associates, Inc. (Teng) is pleased to present this proposal for engineering services related to the proposed Quentin Road improvement from US Route 12 to IL Route 22 in Lake County Illinois. The following is Teng's understanding of the project based on discussions with Civiltech Engineering, Inc. (Civiltech) staff.

The proposed roadway improvement includes the widening of Quentin Road. The existing and proposed roadway crosses the South Fork of Tributary B to Buffalo Creek, Tributary B to Buffalo Creek, and Buffalo Creek. Teng will complete a Hydraulic Report for these three crossings.

SCOPE OF BASIC SERVICES

Civiltech will provide the survey required to complete the Hydraulic Reports in electronic format. Teng will provide the following services.

- Complete a hydraulic analysis for existing and proposed conditions using HEC-RAS software. Recommend structure opening and identify permit requirements. Floodplain compensatory storage locations will be recommended based on permitting requirements.
- Provide a Hydraulic Report for the proposed roadway crossing of South Fork of Tributary B to Buffalo Creek, Tributary B to Buffalo Creek, and Buffalo Creek.
- Attend two meetings with Civiltech and/or outside parties.

COMPENSATION

BASIC SERVICES: For Basic Services as defined above, Teng & Associates, Inc. shall be compensated according to the attached CECS form with a not to exceed fee of $31,986.28.

TERMS AND CONDITIONS

This Proposal and the Terms and Conditions (dated 5/1/2006) attached hereto shall form the basis of the Agreement between Teng & Associates, Inc. and Civiltech Engineering Inc.

We welcome the opportunity to work with you and your team and are ready to commence services. Please contact the undersigned at 312-616-0000 if you have any questions or need additional information.

Very truly yours,

TENG & ASSOCIATES, INC.

Thomas Liliensiek, P.E.
Water Resource Manager

Donna M. Floerchinger
Senior Vice President

Enclosure (s)

xc: Exec File - ML

Cost Estimate of Consultant Services
(Direct Labor Multiple)

Firm: Teng & Associates	Teng & Associates	Date	12/12/08
Route	Quentin Road		
Section		Overhead Rate	**0.00%**
County	Lake		
Job No.		Complexity Factor	**0.003**
PTB & Item:			

ITEM	MANHOURS (A)	PAYROLL (B)	(3+R) TIMES PAYROLL (C)	DIRECT COSTS (D)	SERVICES BY OTHERS (E)	DBE TOTAL (C+D+E)	TOTAL (C+D+E)	% OF GRAND TOTAL
Major Waterway Crossing Analyis (3)	240	9,486.92	28,489.21	450.00			28,939.21	90.47%
Meetings	12	578.83	1,738.24	100.00			1,838.24	5.75%
Administration, Management	8	385.89	1,158.83	50.00			1,208.83	3.78%
TOTALS	260	10,451.64	31,386.28	600.00	0.00	0.00	31,986.28	100.00%

BDE 028 (Rev. 2/06)

TERMS AND CONDITIONS (Revised 5-01-06)

GENERAL. The Terms and Conditions set forth herein and in the attached cover letter constitute an offer by Teng & Associates, Inc., ('Teng') to perform for the Company to whom this cover letter is addressed ("Client'), the professional design services identified in said cover letter as Scope of Services ("Services') for Client's project as defined therein ("Project"). Teng's offer becomes a contract on these same terms and conditions when accepted or acknowledged by Client or by Teng's commencing performance of the Services. This contract supersedes all previous understandings or writings, if any, and constitutes the entire agreement between Teng and Client relating to the Services. Pre-printed terms and conditions on Client purchase orders are not accepted regardless of when issued. Teng shall have the right, at its sole option, to rescind its offer if the Services have not commenced within ninety (90) days of the date of Teng's offer.

TENG'S OBLIGATIONS. Teng will endeavor to perform its Services using that degree of care and skill ordinarily exercised by reputable members of its profession under similar circumstances. No other warranty express or implied is made or intended.

CLIENT'S OBLIGATIONS. Client shall, at his expense, provide full, complete and correct information, including, but not by way of limitation: a program of objectives, constraints, criteria, and budget; a legal description and current certified land survey of the property; geotechnical surveys such as soil borings, ground corrosion, evaluations of hazardous materials, resistivity tests, and the like, with appropriate professional recommendations; Laboratory and environmental tests of air and water pollution, hazardous materials, and other such inspections and reports required by law or otherwise; all legal, accounting and insurance counseling services required for the Project. Teng shall be entitled to rely upon the accuracy of such Client-furnished information.

CONSULTANT SERVICES. Where Teng procures consultant services such as, subsurface engineers, pollution engineers, and other similar specialists required for the Project, on behalf of Client, Teng does so as an administrative/invoicing convenience to Client and such consultants shall be considered Client's Independent Consultants. Teng makes no representation of, and does not assume responsibility or liability for, the work or services for Client's Independent Consultants. Teng shall be entitled to rely upon the accuracy of services, including reports or surveys, provided by Clients independent consultants.

OPINIONS OF PROBABLE COST. Teng's opinions of probable construction cost represent its best judgment as a design professional familiar with the construction industry and are not guarantees by Teng of actual construction cost. Teng has no control over material cost, labor, methods of construction or bid procedures. Accordingly, Teng does not warrant or represent that contractor bids will not vary from the Project budget or Teng's opinion of probable construction cost. If Client desires greater assurance of cost, Client shall engage the services of an independent construction cost estimator.

CONSTRUCTION PHASE SERVICES. If so specified in the attached cover letter, Teng shall provide certain construction phase services, but in any event subject to the following limitations:

(A) On-Site Observations. Teng shall visit the site periodically to become generally familiar with the progress and quality of the construction work (Work) and to determine in general if the Work is being performed in a manner indicating that the Work when completed will be in accordance with the Contract Documents. However, Teng shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of Work. On the basis of such on-site observations as an architect or engineer, Teng shall keep Client informed of the progress and quality of the Work. Teng shall in no event have control or charge of the construction and shall not be responsible for construction means, methods, techniques, sequence or procedures, or for safety precautions or the acts or omissions of the Contractor or any other persons performing Work or their failure to perform. Teng shall not have the authority to stop the construction Work. Teng shall not be responsible for the Contractor's schedules or failure to carry out the Work in accordance with the contract documents;

(B) Full-Time On-Site Representative (Project Representative). The duties, responsibilities and limitations of authority of Teng's full-time on-site Project Representative shall be as described in AIA Document B352, 1993 edition, incorporated herein;

(C) Submittal Review. Teng shall review and take appropriate action upon those contractor submittals specifically required under the Contract Documents such as shop drawings, product data, samples, etc., but only for the limited purpose of reviewing for conformance with information given and the design concept expressed in the Contract Documents. Review is not for the purpose of (a) determining accuracy and completeness of other details such as dimension or quantities (b) for substantiating instructions or performance of equipment or systems designed by Contractor nor (c) review or approval of safety precautions, construction means, methods, techniques, sequence or procedures. Teng's approval of a specific item shall not indicate approval of an assembly of which the item is a component. When professional certification of performance characteristics of materials, systems or equipment is required by the Contract Documents, Teng shall be entitled to rely upon such certification to establish that the materials, systems, or equipment will meet the performance criteria required by the Contract Documents;

(D) Payment Request Review. Based on Teng's on-site observations of the Work, Teng shall review contractor applications for payment and shall advise Client if the Work has progressed to the point indicated on the payment application;

(E) As-Built or Record Drawings. Teng shall provide drafting of changes to plans based on Contractor-supplied information which is impossible to verify.

ADDITIONAL SERVICES. Changes in scope or extent of Services may be made from time to time by mutual written or oral agreement. Any Additional Services required because of such changes will be charged at Teng's customary rates in effect at that time. Unless otherwise agreed in writing all Terms and Conditions of this contract shall apply. Changes in these Terms and Conditions can only be made by written consent of Teng. Services not completed before the completion date stated in the cover letter, through no fault of Teng, shall be considered Additional Services. Projects suspended for more than thirty (30) days through no fault of Teng shall be subject to a re-mobilization fee compensated as Additional Services.

COMPENSATION AND PAYMENT. Client shall compensate Teng the amounts stipulated in the cover letter, however such amounts shall be subject to adjustment for escalation if, through no fault of Teng, the Services are not completed within the time stipulated in the cover letter, In addition to the amounts for Services, Teng shall be compensated for reimbursable expenses such as travel, duplication, plotting, prints, messenger services, additional insured provisions or increased limits of insurance, and other reasonably identifiable costs incurred in connection with the Services. Such reimbursable expenses shall be invoiced at cost or Teng's customary rate, plus 10% handling and, unless specifically stated otherwise in the cover letter, are in addition to any amounts stated as maximum compensation. The amount of any excise, Value Added Tax (VAT), gross receipts tax or other tax (excepting taxes on Teng's income) may be imposed by any Authority having jurisdiction shall be added to compensation due hereunder and shall be in addition to any amounts agreed to as maximum compensation.

Teng shall be entitled to payment for Services rendered on the basis of Teng's invoices submitted monthly. Invoices shall be due and payable within 20 days after receipt. Past due invoices shall accrue interest at the rate of one and one-half percent per month. No retention shall be withheld. All accounts receivable must be current before Teng shall seal drawings, issue drawings to contractors for bidding, or issue drawings for permit application. Teng reserves the right to stop Services and/or withhold documents for reasons of non-payment and Teng shall not be liable for delays which may result from such stoppage.

In the case of lump-sum fee arrangements, invoices shall reflect the percentage of work completed as estimated by Teng to the date indicated on the invoice. For all other fee arrangements, invoices shall indicate the fees earned on the basis of effort expended. A service charge of 5% of the invoice amount shall be added to all invoices prepared on special Client forms or requiring back-up such as time sheets, copies of receipts, and the like. Waivers of Lien will be provided, upon request, after receipt by Teng of monies due.

OWNERSHIP OF WORK PRODUCT. Any and all documents, plans or materials in whatever form, including electronic media (software, disks, tapes, telecommunication, etc.) prepared pursuant to or otherwise resulting from this contract are instruments of professional service and shall be and at all times remain the sole property of Teng. Client shall be entitled to retain hard copy of such documents and plans for informational use and references in connection with Client's use and occupancy of this specific property only. Computer diskettes of project documents will not be released by Teng without agreement in writing stipulating the terms and restriction of usage. Client shall have the non-exclusive license to use all software for Client's internal business use only. All raw data or Client information furnished by Client to Teng which are incorporated in or processed by the software will continue to be owned by the Client, and not Teng. Teng will not be responsible for any consequence of re-use, other use, or adaptation of such documents without Teng's express written approval.

INSURANCE. Teng is protected by Professional Liability Insurance, Worker's Compensation Insurance and Comprehensive General Liability Insurance and will furnish certificates upon request. Any additional insurance or limits or "additional insured endorsement" shall be provided as a reimbursable expense at actual cost or Teng's scheduled charge. Client agrees to cause the Contractor to (a) provide Comprehensive General Liability Insurance for the Project naming Teng & Associates, Inc. and Client as Additional Insureds; (b) to defend, indemnify, and hold harmless Teng & Associates, Inc. and Client from any and all loses, cost, damages, and expenses resulting from the Contractors Work on the Project, including without limitation claims arising out of or in connection with construction worker injuries. Client agrees to notify Teng of the existence of any Project-Specific Professional Liability Policy applicable to the Project which includes Teng as an Insured by name or reference so that Teng may, in a timely and effective manner coordinate its own insurance program. Should such a Project-Specific Professional Liability Policy be purchased by Client or Client's contractors, Client agrees to make available to Teng a certified copy of the Policy and to cooperate with Teng in obtaining data with respect to possible claims against that Policy.

DISPUTES. If a dispute arises out of or relates to this contract and if said dispute cannot be settled through direct discussions, the parties hereto agree to first endeavor to settle the dispute in an amicable manner by mediation through the Construction Mediation Service before having recourse to arbitration or a judicial forum.

ASBESTOS/HAZARDOUS MATERIALS DISCLAIMER. Client is hereby notified that asbestos is prevalent in building constructed prior to 1978. Client acknowledges that Teng has no expertise in detecting the presence of, or specifying removal or disposal or containment of asbestos or hazardous materials at the Project site. Client shall solely have the responsibility to determine the presence of, and specify the removal, disposal or containment of asbestos or other hazardous materials at the Project site. Client agrees to employ an industrial hygienist or other qualified specialist for such purpose, and acknowledges that Teng has not been contracted to provide such services, Client agrees to defend, indemnify and hold harmless Teng from any and all asbestos, pollution, and/or hazardous waste-related claims arising against Teng relative to the presence, detection, removal or disposal of asbestos and or other hazardous wastes at the Project site.

"ADA" COMPLIANCE. For Projects of new construction, Teng shall endeavor to design the Project in conformity with the Americans with Disabilities Act ('ADA") Accessibility Guidelines, 28 CFR Part 36 (July 26, 1991) (hereinafter the 'Act') and advise Client if any accommodation is structurally impractical. For modifications to an existing facility of any type, Teng shall endeavor to identify existing barriers and needed accommodations as those terms are used in the Act, and inform Client of the existence of these barriers and needed accommodations. It is Client's sole responsibility to determine whether to exclude a specific accommodation because the accommodation is not readily achievable or unduly burdensome. Teng shall not be responsible to determine whether it is necessary to remove all barriers identified in order to comply with the Act. Such determination shall be made by Client. If Client requests Teng to prepare alternate design documents or specifications with the intent of ascertaining or demonstrating that certain aspects of the Project are unduly burdensome or not readily available, such services shall be Additional Services.

COMPLIANCE WITH CODES. Teng's design shall conform to local applicable codes in effect, and as interpreted by building officials, at the time the design is prepared; however, Teng shall not be responsible for changes to the Project resulting from changes in local or applicable codes or changes in interpretation thereof by authorities having jurisdiction. Mechanical Engineering design for environmental conditioning shall be designed in accordance with ASHRAE and local applicable standards subject to the conditions above; however, Teng shall not be responsible to perform tests of existing systems, outdoor/indoor air quality, building material performance (existing or new), nor other similar environmental conditions having an effect on air quality.

LIMITATION OF LIABILITY. Client recognizes the inherent risks, rewards, and benefits of the Project. Accordingly, Client agrees that, to the fullest extent permitted by law, Client shall defend, indemnify, and hold harmless Teng from and against any claims, damages, losses, costs, injuries, and expenses, including attorney's fees, (hereinafter 'Claims") arising out of the Project hereunder excepting from the indemnity and hold harmless obligation only those claims or portions thereof which are determined by a court to arise from the negligence of Teng. **IN NO EVENT SHALL CLIENT BE ENTITLED TO OBTAIN FROM TENG, ITS AGENTS, REPRESENTATIVES, OFFICERS, EMPLOYEES, OR INDEPENDENT CONTRACTORS, 'DAMAGES' ARISING FROM TENG'S BREACH OF THIS AGREEMENT, OR FOR ITS FAILURE TO PERFORM ITS SERVICES IN ACCORDANCE WITH THE STANDARD OF CARE PROVIDED FOR HEREIN, IN EXCESS OF FIFTY THOUSAND DOLLARS OR THE TOTAL FEE AMOUNT PAID BY CLIENT, WHICHEVER IS LESS.** "Damages" as used herein, shall include tort damages, contract damages, strict liability damages, liquidated damages, economic losses, penalties, fines and attorney's fees. No Claims shall be made more than two years after substantial completion of the Project.

SOFTWARE WARRANTY. Teng warrants that with respect to software it has created and supplies under this contract, if any, that for a period of six (6) months after installation the software will perform in material conformance with the specifications agreed to in the statement of work. In the event of a breach of this warranty, Client shall promptly notify Teng in writing of the perceived defect and provide Teng with access to the software. This warranty will not apply to the extent the defect is caused by a modification of the software by Client, the failure of Client's system or third party software not embedded in Teng's software. In the event that Teng determines that it has, in fact, breached any of its warranties, Teng shall either (a) correct the defect; (b) replace the software without charge; or (c) refund to Client the portion of its fees associated with the software. With respect to software developed by a third party, if permitted by the third party, Teng will pass-through whatever warranty it receives from third party to Client. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY AND NON-INFRINGEMENT, SUCH OTHER WARRANTIES BEING SPECIFICALLY DISCLAIMED BY TENG.

APPLICABLE LAW. The rights and obligations of the parties under this contract shall be interpreted in accordance with and governed in all respects by the State of Illinois.

TERMINATION OR CANCELLATION. This contract may be terminated by either party upon seven days prior written notice. In the event of termination, Teng shall be compensated by Client for all Services performed up to and including the termination date, including reimbursable expenses, and/or the completion of such Services and records as are necessary to place Teng's files in order and/or protect its professional reputation. In the event of bankruptcy or insolvency of Client or if the financial condition of Client at any times does not, in the judgment of Teng, justify continuance of the work, Teng shall be entitled to cancel this contract and receive reimbursement for its reasonable and proper cancellation charges.

END OF DOCUMENT

ATTACHMENT E

Subconsultant Proposal

ENTRIX, Inc.

ENTRIX, Inc.
1000 Hart Road, Suite 130
Barrington, IL 60010
(847) 277-2850 | (Fax (847) 381-6679
www.entrix.com

December 11, 2008

Ms. Mary L. Young, P.E., P.T.O.E.
Director of Traffic, Environmental and Design Studies
Civiltech Engineering, Inc.
450 East Devon Ave., Suite 300
Itasca, Illinois 60143

Re: Proposal to Provide Phase I Wetland Science and Tree Survey Services
Quentin Road Improvements, U.S. Route 12 to IL Route 22
Lake County, Illinois

Dear Ms. Young:

ENTRIX, Inc. (ENTRIX) is pleased to present Civiltech Engineering, Inc. (Civiltech) with this proposal to conduct Phase I wetland science and tree survey services for the Quentin Road Improvements, U.S. Route 12 to IL Route 22 project (Quentin Road Project) located in Lake Zurich, Kildeer, and Unincorporated Lake County, Illinois. The wetland science and tree survey services included herein coincide with Phase I transportation engineering related services and include preparation of a wetland delineation report and a tree survey report. Proposed services also include preliminary coordination with the Illinois Department of Transportation (IDOT), the United States Army Corps of Engineers (USACE) and the Lake County Stormwater Management Commission (LCSMC). This proposal presents a project description, scope of work, project team, project schedule, and project costs.

PROJECT DESCRIPTION

ENTRIX understands that Civiltech is preparing to provide Phase I transportation engineering services for the Quentin Road Project. These proposed improvements include reconstruction and widening of Quentin Road from north of U.S. Route 12 near Boschome Drive to IL Route 22. ENTRIX understands the defined limits of the Quentin Road Project are within the existing roadway and proposed access roadway right-of-way (Site) as provided by Civiltech. As the majority of these limits are located within incorporated Lake County, ENTRIX anticipates that all preliminary wetland regulatory agency coordination will be conducted with the LCSMC. ENTRIX has based services outlined in this proposal on requirements presented in the Lake County Watershed Development Ordinance (LCWDO).

ENTRIX

Civiltech has requested ENTRIX to provide this proposal for wetland science and tree survey services to include the following:

1) Wetland Delineation Report;
2) IDOT Coordination: Wetland Impact Evaluation form submittal and coordination with IDOT;
3) Preliminary Wetland Regulatory Agency Coordination with the USACE and LCSMC; and
4) Tree Survey Report.

ENTRIX has based this proposal on the following considerations and assumptions:

- No critical wetlands or high-quality aquatic resources are located within, adjoining, or adjacent to the Site.
- Even though a portion of the Site is located in Unincorporated Lake County, all County coordination will be through LCSMC rather than Lake County Planning, Building and Development.
- Wetland permit services, including permit submittals to the USACE and LCSMC have not been requested at this time. Therefore, ENTRIX has not included in this proposal the Watershed Development Permit (WDP) submittal to LCSMC.
- Wetland mitigation coordination is not included in this scope of work.
- Wetland, wetland buffer, and riparian environment mitigation design and/or monitoring are not included in this scope of work.

SCOPE OF WORK

Task 1 – Wetland Delineation Report

ENTRIX will conduct a wetland investigation of the Site, including an additional 100 feet outside the Site limits as required by the LCWDO. This investigation will include the identification and delineation of on-Site 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. A floristic quality assessment will be conducted for each identified wetland, as required by the LCWDO. All wetland investigation activities will follow the standards outlined in the 1987 Corps of Engineers Wetlands Delineation Manual, the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual Midwest Region, and the LCDWO. ENTRIX's Lake County Certified Wetland Specialist will lead these field investigation activities.

ENTRIX

When applicable, ENTRIX will flag Isolated Waters of Lake County and USACE jurisdictional wetland limits within the Site limits. ENTRIX will also estimate wetland boundaries within 100 feet of the Site, per LCWDO requirements. Both the surveyed wetland boundaries and the estimated wetland boundaries will be included in the final Wetland Delineation Report. ENTRIX will survey wetland flags using a GPS backpack unit, and will provide Civiltech with the surveyed wetland information in AutoCAD format. Four (4) copies of the Wetland Delineation Report and a .pdf format file will be forwarded to Civiltech for review and distribution. Potential wetland mitigation alternatives will not be included in this Wetland Delineation Report.

Task 2 – IDOT Coordination

ENTRIX understands that the Quentin Road Project is an IDOT pass-through funded project. Therefore, the scope of services for this task is based on IDOT Wetland Procedures for Local Agencies. That document was created to comply with the Interagency Wetland Policy Act of 1989 and the Implementing Procedures for the Interagency Wetland Policy Act.

This task includes the wetland impact coordination with IDOT. ENTRIX will submit to IDOT the wetland impact evaluation (WIE) forms for all proposed wetland impacts once those impacts are received from Civiltech. ENTRIX will coordinate with IDOT for concurrence with regard to the wetland delineation report and impacts. Should IDOT coordination be required beyond the estimated 12 hours presented herein, ENTRIX will notify Civiltech immediately.

Task 3 – Preliminary Wetland Regulatory Agency Coordination

This task includes a pre-application meeting, an on-Site meeting, and coordination with Civiltech, LCSMC, and USACE. ENTRIX will submit the wetland delineation report to LCSMC for preliminary JD and BV of Isolated Waters of Lake County. ENTRIX will also submit the wetland delineation report to USACE for concurrence and jurisdictional determination of Waters of the U.S., 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 Civiltech. ENTRIX will continue coordination with both the USACE and LCSMC until all jurisdictional determinations and boundary verifications are completed or for up to 120 days from the time of submittal.

As part of this task, ENTRIX will submit an Ecological Compliance Assessment Tool (EcoCAT) request to the Illinois Department of Natural Resources (IDNR) for identification of state listed threatened or endangered (T&E) species and Natural Areas within, adjoining, or adjacent to the Site. ENTRIX will also request a consultation from the U.S. Fish and Wildlife Service for identification of federally listed T&E species within, adjoining, or adjacent to the Site.

Task 4 - Tree Survey Report

ENTRIX proposes to conduct an on-site tree investigation and to prepare a comprehensive Tree Survey Report for the Quentin Road Project. The on-Site investigation includes a survey of all trees four (4) inches or greater in diameter within 10 feet of the Site. Based on these criteria, ENTRIX has estimated approximately 400 trees to be surveyed as part of this task. ENTRIX

ENTRIX

understands that Civiltech will provide survey of all tree locations to be analyzed, and that an AutoCAD version file of that survey will be provided to ENTRIX for use in the Tree Survey Report. ENTRIX will determine the species, diameter, approximate height, and overall condition of each surveyed tree. The overall condition rating will be determined from a comprehensive tree defect checklist that identifies characteristics such as cankers, deadwood, decay, and disease. All findings of this investigation will be included in a Tree Survey Report. Four (4) copies of the Tree Survey Report and a .pdf format file will be forwarded to Civiltech for review and distribution.

PROJECT TEAM

ENTRIX proposes to manage this project out of the Barrington, Illinois office with personnel who have significant experience in the wetland sciences and in coordinating with the USACE and LCPB&D. Mr. Barry Stuedemann, P.E. will serve as the Lake County Certified Wetland Specialist and Project Manager and Mr. Brandon Kinter will serve as the Project Scientist. ENTRIX's Barrington office has several qualified wetland scientists that will assist Mr. Stuedemann and Mr. Kinter in completing the proposed tasks outlined in this scope of work.

PROJECT SCHEDULE

Work will commence on this project immediately upon receipt of authorization to proceed from Civiltech. Final floristic quality assessment and wetland delineation work, however, must be completed during the Lake County growing season, from May 15th to October 1st, as required by the LCWDO.

The duration of ENTRIX's services is subject to the responses, concerns, and requests of the concerning agencies and the assumptions outlined in the above scope of work. ENTRIX will communicate with Civiltech on the progression of all agency coordination and will commence tasks only with written authorization from Civiltech.

PROJECT COSTS

ENTRIX estimates the cost to complete all tasks outlined in this proposal to be a maximum "not-to-exceed" fee of $48,360. An itemization of these costs is presented in Table 1, Cost Estimate for Consulting Services. ENTRIX will not proceed with any task without written authorization from Civiltech. ENTRIX will bill Civiltech on a time and material basis in accordance with the Client Agreement between ENTRIX and Civiltech, dated February 18, 2007, and will not exceed the estimated costs presented in this proposal without written authorization from Civiltech.

To indicate your acceptance of this proposal, please sign the attached Task Order and fax back to our office at 847-381-6679 as our authorization to proceed. ENTRIX appreciates this

ENTRIX

opportunity to present Phase I wetland science and tree survey services to Civiltech. If you have any questions, please do not hesitate to contact me at 847-277-2850.

Sincerely,

ENTRIX, Inc.

Baron H. Stuedemann, P.E.
Senior Consultant

ENTRIX

TASK ORDER

Task Order: **Number 1**
Date: **December 11, 2008**
Client Purchase Order No. _____
ENTRIX Project No. _____

Civiltech Engineering, Inc.
450 East Devon Ave., Suite 300
Itasca, IL 60143

Attn: Ms. Mary L. Young, P.E., P.T.O.E.

Wetland Science and Tree Survey Services
Quentin Road Improvements, US Route 12 to IL Route 22

This Task Order No.1 is issued pursuant to the Proposal dated December 12, 2008, and the Agreement dated February 18, 2007, and unless otherwise specified herein, the performance of services hereunder and the payment therefore shall be subject to the terms and conditions of said Agreement. The services authorized hereunder are described below.

DESCRIPTION OF SERVICES:	Wetland Science and Tree Survey Services
BILLING PROCEDURES:	Monthly
ESTIMATED TOTAL COST:	$48,360
ESTIMATE OF TIME SCHEDULE:	Starting Date: Upon Receipt of Authorization Completion Date: TBD
CONSULTANT'S REPRESENTATIVE:	Baron H. Stuedemann, P.E.
CLIENT'S REPRESENTATIVE:	Mary L. Young, P.E., P.T.O.E.

Yours very truly,

ENTRIX, Inc.

By: _____

Title: _____

Date: _____

ACCEPTED:

Civiltech Engineering, Inc.

By: _____

Title: _____

Date: _____

TABLE 1
Cost Estimate of Consulting Services

PHASE I WETLAND SCIENCE AND TREE SURVEY SERVICES
QUENTIN ROAD INTERSECTION IMPROVEMENTS, U.S. ROUTE 12 TO IL ROUTE 22

Prepared for Civiltech Engineering, Inc
Prepared by ENTRIX, Inc.

December 11, 2008

QUENTIN ROAD PROJECT WETLAND SCIENCE AND TREE SURVEY SERVICES TASK ITEM DESCRIPTION	PROJECT MANAGER	PROJECT SCIENTIST	STAFF SCIENTIST	ADMIN. ASSISTANT	TOTAL HOURS	TOTAL LABOR COSTS	TOTAL DIRECT COSTS*	"NOT-TO-EXCEED" COSTS
Task 1 - Wetland Delineation Report	40	72	72	16	200	$21,600	$400	$22,000
Task 2 - IDOT Coordination	8	4	4	0	16	$2,120	$50	$2,170
Task 3 - Preliminary Wetland Regulatory Agency Coordination	24	12	4	2	42	$5,780	$100	$5,880
Task 4 - Tree Survey Report	32	60	60	16	168	$17,960	$350	$18,310
TOTAL:	**104**	**148**	**140**	**34**	**426**	**$47,460**	**$900**	**$48,360**

* Mileage = $200; Deliveries = $300; Copies = $400

ATTACHMENT F

Lake County Division of Transportation

Survey Procedures

SURVEY PROCEDURES (Revised 4/21/08)

UNITS-COORDINATES

The CONSULTANT will conduct all surveying, stationing, and preparation of required plans using English units of measure and the U.S. Survey Foot. State Plane Coordinates – Illinois East Zone, NAD 83 shall be obtained for all alignment and survey control points.

HORIZONTAL ALIGNMENT

Unless otherwise specified in the services contract, the CONSULTANT is to provide the horizontal alignment. The CONSULTANT'S SURVEYOR will try to re-establish the original horizontal alignment as shown on the recorded R.O.W. plats. The CONSULTANT shall contact LCDOT's Land Surveyor to obtain R.O.W. plats and field notes and benchmarks before establishing the horizontal alignment and stationing. Notify LCDOT's Surveyor immediately if the alignment cannot be reproduced or if in the CONSULTANT'S opinion the existing alignment information is in error.

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

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

An Alignment and Tie Sheet shall be provided as part of the final product. The Alignment and Tie sheet shall be signed and sealed by the CONSULTANT'S SURVEYOR. The station, offset and coordinates of the alignment points and survey control points shall be shown. It shall be noted whether the coordinates, stationing and distances are State Plane grid or ground surface. In the case that the information shown is ground surface distances, the State Plane Coordinates still must also be shown for all alignment points and survey control points in order that they can be located with GPS and so that the project can be referenced into our GIS maps. The coordinates may be

shown in a separate table. In either case the grid (combination) factor must also be shown.

VERTICAL ALIGNMENT

Vertical control for the project shall be based on NGVD 29 or NAVD 88 benchmarks. Indicate on the plans which Datum is used. NGVD 29 Lake County Mapping Benchmarks are preferred (http://gis.lakeco.org/maps/). LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The controlling benchmarks and the site benchmarks shall be described on the plans. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

All benchmarks will be located on stable objects. LCDOT prefers these objects to be outside the construction site. Some acceptable benchmark examples are, spikes in poles, bolts on fire hydrant rings, and concrete foundations. LCDOT's surveyor can be contacted for benchmarks that may be in the area.

TOPOGRAPHY

The CONSULTANT shall cut cross sections at 50-foot intervals in urban areas (100-foot intervals in rural areas) and at all points needing clarification. The cross section interval should be defined in the engineering services contract.

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

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

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

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

The collected survey data for the existing topography shall have a minimum of 3rd Order Accuracy horizontally with readings to the nearest 0.1 feet for vertical on gravel or ground and readings to the nearest 0.01 feet for vertical on all other surfaces.

RAILROAD INSURANCE

The CONSULTANT will comply with the railroad's requirements when conducting a survey on the railroad's ROW. Usually this includes obtaining a permit, paying a fee, obtaining Railroad Protective Liability Insurance, notification of a flagman to be present near the rails during the survey operations and any other requirements of the railroad. The CONSULTANT is responsible for all of the foregoing requirements.

DELIVERABLES

I. Copies from the CONSULTANT'S field books, showing benchmarks, level circuits, & structure details, such as size and inverts etc.

II. Base Drawing at 1:1. All the topographic information shall be plotted electronically. The data shall be recorded in a MICROSTATION .DGN format. All line work defining different elements shall be completed using LCDOT's CELL and LINE LIBRARIES (see attachment). ASCII files containing all point information as described below shall be included. Backup CD's or diskettes shall be provided.

III. SUMMARY SHEETS showing:

(1) Point number
(2) Point identification by code and description
(3) Station
(4) Distance offset (right or left)
(5) Northing and Easting coordinate values
(6) "Z" elevations

* Four computer printouts shall be provided:

1. List of points referenced by stations.
2. List of points referenced by sequential point numbering.
3. List of points sorted by point identification.
4. "ID" acronym explanation sheets.

An example showing the different printouts is shown on the next page.

(LCDOT'S IDENTIFICATION CODES SHALL BE USED – see attachment)

TYPICAL PRINT-OUT FORM (EAMPLE)

BY POINT NUMBERS

POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
3331	104+23.306	-45.869	10313.993	20392.255	207.495	491.10	10 INCH TREE PINE	0
3332	104+50.475	-49.159	10323.810	20416.938	207.743	668	PAVEMENT EDGE	759
3333	104+69.987	-44.270	10261.604	20452.162	207.126	310	FL W/GRATE	774
3334	103+93.865	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TILE	836

BY STATION

STATION	POINT NUMBER	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
103+93.865	3334	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TILE	836
104+23.306	3331	-45.869	10313.993	20392.255	207.495	491.10	10 INCHTREE PINE	0
104+50.475	3332	-49.159	10323.810	20416.938	207.743	668	PAVEMENT EDGE	759
104+69.987	3333	-44.270	10261.604	20452.162	207.126	310	FL W/GRATE	774

BY POINT DESCRIPTION

POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
3331	104+23.306	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TREE PINE	0
3336	104+50.475	-45.869	10313.993	20392.255	207.495	491.10	10 INCHTREE PINE	0
2323	104+69.987	-49.159	10323.810	20416.938	207.743	668	6 INCH TREE OAK	0
2565	103+93.865	-44.270	10261.604	20452.162	207.126	310	5 INCH TREE OAK	0

(1) LCDOT CODES

LCDOT's Land Surveyor:

Steve Heuer, PLS
600 West Winchester Road
Libertyville, IL 60048
(847) 377-7488