DRAFT

Municipality	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name: Stanley Consultants
Township				Address: 8501 W Higgins Rd. Suite 730
County: Lake County – Division of Transportation		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City: Chicago
Section: 19-00125-07-CH				State: IL, 60631

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

Section Description

Name Kenosha Road at 21st Street

Route CH 67/53 Length 3.10 Mi. _____ FT (Structure No. _____)

Termini 21st St: Delany Rd to IL 173, Omission: IL 131 to W. Limit of Kenosha Rd at 21st St Int.

Description:
Improvements at the intersection of Kenosha Rd and 21st St with potential traffic signals or roundabout. 21st St will be resurfaced for limits above and the triple-cell culvert rehabilitated or replaced.

Agreement Provisions

The Engineer Agrees,

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

j. ☒ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.

k. ☐ Prepare the Project Development Report when required by the DEPARTMENT.

l. ☒ **Services as included and/or defined in the attached Scope of Services**.

2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies **of the LA and** of the DEPARTMENT. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA ~~and the DEPARTMENT~~.

3. To attend conferences at any reasonable time when requested to do so by representatives of the LA ~~or the Department~~.

4. In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that the ENGINEER will perform such work without expense to the LA, even though final payment has been received by the ENGINEER. The ENGINEER shall give immediate attention to these changes so there will be a minimum delay to the CONTRACTOR.

5. That basic survey notes and sketches, charts, computations and other data prepared or obtained by the ENGINEER pursuant to this AGREEMENT will be made available, upon request, to the LA ~~or the DEPARTMENT~~ without cost and without restriction or limitations as to their use.

6. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will show the ENGINEER's professional seal where such is required by law.

The LA Agrees,

1. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT according to the following method indicated by a check mark:

   a. ☐ A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.

   b. ☐ A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

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

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

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

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

The Total Not-to-Exceed Contract Amount shall be $1249427.00

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

   a. ~~Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by section 1 of the ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.~~

   b. ~~Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.~~

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

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus ** percent incurred up to the time the ENGINEER is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of the LA AGREES.

5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, ~~after they have been approved by the DEPARTMENT~~, the LA will pay the ENGINEER for such changes on the basis of actual cost plus ** percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.

****See the CECS**

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.

2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.

3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA ~~and their approval by the DEPARTMENT~~, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA ~~and the DEPARTMENT~~.

4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

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

Executed by the LA:

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

ATTEST:

State of Illinois, acting by and through its

By _____

County Board

Lake County Clerk

By _____

(Seal)

Title Chair, Lake County Board

RECOMMENDED FOR EXECUTION

_____

Shane E. Schneider, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

_____
Engineering Firm

_____
Street Address

ATTEST:

_____
City, State

By _____

By _____

Title _____

Title _____

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

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Road at 21st Street
Phase II Design
February 7, 2020
Scope of Services

Introduction

The Scope of Services will be broken down into the three separate PS&E projects on 21st Street with a total fee for all services summarized at the end. The scope and fees will be organized as follows:

- Resurfacing Contract
- Triple-Cell Culvert Contract
- Kenosha Road Intersection Contract

Resurfacing Contract

The maintenance resurfacing project will consist of three segments on 21st Street from Delany Road to IL 173. The project will include design engineering services for the maintenance resurfacing improvements. The major scope items will include:

- Roadway resurfacing plans
- ADA curb ramp design
- Drainage design to correct issues
- Quantities, schedules, cost estimates and specifications

We propose the following scope of services. Stanley Consultants is referred to as CONSULTANT in the scope.

1. Data Collection

   The CONSULTANT will utilize County GIS information to assist with ROW and utility locations.

   Field Checks

   Two site visits are included to review the project site and conduct a plan review.

   Utility Atlases

   A JULIE design stage utility locate will be processed to request atlases from utility companies. The utilities will be drawn in CADD where there is anticipated excavation for shoulder widening and curb ramp replacement. HBK Engineering, Ltd. will complete all utility coordination for the project.

   Topographic Survey

   Topographic survey will be necessary to locate features to complete detailed curb ramp design and address drainage deficiencies. The survey will be conducted by HBK Engineering, Ltd. See their attached scope for additional information.

Scope of Services

ROW Verification

HBK Engineering, Ltd will complete ROW verification for all intersections where ADA ramps will be constructed. See their attached scope for additional information.

Barrier Warrant Analysis

A barrier warrant analysis of the north and south sides of Culvert #861 will be performed to determine the length of need and terminal types needed to shield the drop off presented by the culvert crossing. The existing guardrail will be reviewed to determine if it meets current standards.

2. Environmental Studies

The following are the anticipated environmental studies necessary for the completion of the resurfacing project:

Clean Construction Demolition Debris (CCDD) – Completed by Wang Engineering, Inc.

The environmental studies will include conducting CCDD testing at each excavation site for LP 663 certification and include coordination with at least two dump sites, including Thelen. The services will be provided by Wang Engineering. See their attached scope for more information.

Ecological Compliance Assessment Tool (EcoCAT) and Information for Planning and Consultation (IPaC) – Online Review

According to Section 11(a) of the Illinois Endangered Species Protection Act and Section 17 of the Illinois Natural Areas Preservation Act, state and local governments should consult with the Department whether project activities are likely to jeopardize Illinois listed endangered or threatened species or modify species habitat. To evaluate whether such species are located within the project corridor, the CONSULTANT will prepare and electronically submit a consultation request to the Illinois Department of Natural Resources (IDNR) through the EcoCAT process. The CONSULTANT will also utilize the USFWS, IPaC tool to help with environmental review. The CONSULTANT will communicate the results of this review to Lake County and determine if additional avoidance areas are warranted.

Regulatory review is typically completed within 30 days upon receipt of the review package. As soon as the CONSULTANT receives the results of the regulatory review, the findings will be sent to Lake County for their use and records. If it is recommended by the IDNR that additional environmental surveys take place within the proposed project corridor, the scope and fee of those tasks will be provided upon request.

There are no anticipated wetland impacts or other additional environmental studies or permitting anticipated for the resurfacing project.

Scope of Services

3. Contract Documents

The resurfacing plans will be prepared as a stand-alone set of plans separate from the culvert and intersection projects and will include all required contract documents for the local construction letting. The target letting date for this project is June 2020.

The contract documents will include:

- Plan Preparation
- Specifications
- Cost Estimate

The contract documents will be prepared in two stages as follows:

- Prefinal – 90%
- Final – 100%

Plan Preparation

The plans will be prepared according to Lake County Division of Transportation Plan Preparation Guidelines (http://www.lakecountyil.gov/3870/Consultant-Resources).

A summary of anticipated sheets is as follows:

Description	Sheets
Cover Sheet	1
General Notes	3
Summary of Quantities	1
Typical Sections	8
Quantity Schedules	8
Alignment, Ties & Benchmarks	3
Traffic Control Plan (1"=100')	
Staging Notes	2
Plan Sheets	6
Removal/Adjustment Plan (1"=20')	13
Proposed Plan (1"=20')	13
Sidewalk Detail Sheet (1"=5')	
West Segment	0
Central Segment	3
East Segment	22
Joppa Rd Ramp Correction/Crossing	2
Standard Details	68
Total	153

Scope of Services

Specifications
Specifications including Local Roads and Streets and BDE Special Provisions will be prepared. Additional special provisions provided by the County will be included.

Cost Estimate
A Preliminary Engineer's Estimate of Cost will be completed for Prefinal and Final submittals. The estimate will be revised based on comments received by the County.

A formal disposition of comments will be prepared that addresses comments provided by the County.

4. Meetings and Coordination

It is anticipated that there will be a kick-off meeting with the County and two railroad coordination meetings with the Union Pacific Railroad. One of the meetings with the railroad is anticipated to be on-site to review the proposed scope of work. The time to complete minutes is included in the time per meeting.

5. Phase III Assistance

The CONSULTANT will assist during construction to address Request for Information (RFI's) and attend the preconstruction field meeting.

6. QA/QC

The CONSULTANT shall implement their QA/QC policy.

21st Street Resurfacing

Lake County Division of Transportation

Estimate of Hours

Task	SubTask	Notes	Sub-Total (Hrs)	Sub-Task (Hrs)	Grau	Hillegonds	Grass	Westergreen	Patel	Dalton	Brandt	Direct Cost ($)
I	Data Collection		32									$ 106
	Field Checks	1 site visit, 2 engineers, 6 hrs / visit		12	6		6					
	Utility Atlases	By HBK		0								
	Pick-up Survey	Coordinate survey and incorporate		0								
	Barrier Warrant Analysis			20	4				16			
					10	0	6	0	16	0	0	
II	Environmental Studies		6									$ 125
	CCDD	by Wang		0								
	EcoCAT			6							6	
					0	0	0	0	0	0	6	
III	Contract Documents (See tab)		985									$ 308
	Plan Preparation			913	105		240	368	80	120		
	Cost Estimate			28	4		8	16				
	Specifications			44	8		16	20				
					117	0	264	404	80	120	0	
IV	Meetings and Coordination		24									$ 98
	LCDOT Meetings	Kickoff Meeting - 2 members, 4 hours a meeting		8	4		4					
	UP RR Meetings	Two UP RR Coord, 2 members, 4 hours a meeting		16	8		8					
					12	0	12	0	0	0	0	
V	Phase III Assistance		8									$ 52
	Request for Information (RFI)	2 hrs/month for 2 months		4	2		2					
	Preconstruction Meeting	1 meeting, 4hrs/meeting, 1 staff		4	4							
					6	0	2	0	0	0	0	
VI	QA/QC		16									$ -
	Review of Submittals	8 hrs / submittal		16		16						
					0	16	0	0	0	0	0	
		SUBTOTAL	1071		145	16	284	404	96	120	6	$ 689
					13.5%	1.5%	26.5%	37.7%	9.0%	11.2%	0.6%	

21st Street Resurfacing

Lake County Division of Transportation

In-house Direct Costs

Task	SubTask	Notes	Sub-Total ($)	$	Comment
I	Data Collection		106		
	Mileage	1 trip, 90 miles roundtrip @ $0.58/mile		104	
	Printing	20 sheets 11x17 B&W @ $0.10/sheet		2	
II	Environmental Studies		125		
	EcoCAT	Online processing fees		125	
III	Contract Documents (See tab)		308		
	Mileage	None		0	
	Printing				
	Specs	2x150 sheets 8.5x11 B&W @ $0.05/sheet x 3 copies		45	2 submittals, County
	Plans	2x146 sheets 11x17 B&W @ $0.10/sheet x 3 copies		88	2 submittals, County
	Plans	2x146 sheets 22x34 B&W @ $0.30/sheet x 2 copies		175	2 submittals, County
	Permits				
IV	Meetings and Coordination		98		
	Mileage	2 trips, 55 miles roundtrip @ $0.58/mile		64	
	Printing	2x40 sheets 8.5x11 B&W @ $0.05/sheet		4	
		2x20 sheets 11x17 Color @ $0.75/sheet		30	
V	Phase III Assistance		52		
	Mileage	1 trips, 90 miles roundtrip @ $0.58/mile		52	
	Printing	None		0	
		TOTAL	$689		

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

Triple Cell Culvert Project

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Road at 21st Street
Phase II Design
February 7, 2020
Scope of Services

Triple- Cell Culvert Contract

The project involves the rehabilitation or replacement of Culvert 861 (Triple 60" CMP) under 21st Street just east of the Union Pacific Railroad. The purpose of the project is to identify what type of culvert lining will be utilized and what repairs are required for the existing headwalls or if the culvert will be replaced. The scope of work includes the following:

- Culvert Repair or Replacement Plans
- Maintenance of Traffic Plans
- Quantities, schedules, cost estimates and specifications

We propose the following scope of services. Stanley Consultants is referred to as CONSULTANT in the scope.

1. Data Collection

   The CONSULTANT will utilize data collected during Phase I and collect additional information as necessary.

   Culvert / Headwall Inspection

   One site visit is included to inspect the existing culverts and headwalls to evaluate rehabilitation needs. The CONSULTANT will update the 2016 culvert inspection report based on the findings of the inspection.

   Utility Atlases

   HBK Engineering, Ltd., will complete a JULIE design stage utility locate and request atlases from utility companies. The utilities will be drawn in CADD. See HBK Engineering, Ltd. attached scope for more details.

   Topographic Survey

   Topographic survey will be necessary for the area adjacent to the culvert for cofferdam construction and the ditch on the south side east of the culvert to address drainage issues. Topographic survey will be conducted by HBK Engineering, Ltd. See HBK Engineering, Ltd. attached scope for more details.

   Rehabilitation Technology Review

   The CONSULTANT will evaluate three different technologies that include the following methods:

   - Cured-In-Place Pipe (CIPP)
   - Centrifugally Cast Concrete Pipe (CCCP)
   - Slip Lining or alternative spray lining

The CONSULTANT will also evaluate a replacement option and include it within a matrix that highlights the methods above that includes hydraulic, environmental, constructability, and cost considerations for use in determining the preferred method of rehabilitation.

2. Environmental Studies

Based on a preliminary environmental screening, the environmental resources associated with the project may involve special waste, wetland impacts, and potential biological impacts. The following studies will be completed by the CONSULTANT:

Wetland Delineation and Report

The CONSULTANT will complete wetland delineations in accordance with USACE 1987 Manual and the August 2010 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, and will take place in Spring / Early Summer 2020. The wetland delineation will be based on soil composition, hydrology of the site, and vegetation present at the time of the site visit. Observations will be documented on approved USACE data forms and included in the final report. If wetlands are found to exist within project boundaries, their limits will be recorded using a handheld GPS device for use in Arc GIS software.

The report will include site figures depicting the location of identified wetlands, a table noting the size of each identified wetland, wetland type, and a determination of potential temporary/permanent impacts resulting from construction activities. Within four weeks of receiving Lake County's comments/edits on the draft report, Stanley Consultants will finalize the report for submittal to Lake County. The final wetland delineation report will be certified by a Lake County Certified Wetland Scientist.

Preliminary Environmental Site Assessment (PESA)

The process will follow general protocols contained within:

- A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation (IDOT) Highway Projects (Erdmann et al., 2012)
- ASTM International (ASTM) standard 1527-13
- The IDOTs Bureau of Design and Environment (BDE) Procedure Memorandum Number 10-07, Special Waste Procedures. This memo was incorporated into Chapter 27-3 of the IDOT BDE Manual in June 2012.
- IDOT Bureau of Local Roads and Streets (BLRS) Manual, Chapter 20-12, Special Waste, July 2013.
- Public Act 96-1416
- Clean Construction or Demolition Debris Fill Operations (CCDD) and Uncontaminated Soil Fill Operations: Amendments to 35 Illinois Administrative Code 1100. Effective on August 27, 2012.

The CONSULTANT will conduct a PESA in accordance with the American Society for Testing and Materials (ASTM) Practice E1527-13. The purpose of the PESA is to identify the presence or absence of Recognized Environmental Conditions (RECs) as defined by the ASTM standard. The PESA process includes a search of standard historical sources (e.g., aerial photographs, historical fire insurance maps, etc.), a review of federal and state environmental databases within applicable search radius of the project corridor, interviews with past and current owners, operators, and occupants of the property, and an on-site reconnaissance. Stanley Consultants has assumed that a title search for the properties, including any environmental liens associated with the property, will be performed by others, and is not included in this proposal.

The CONSULTANT proposes to utilize a Qualified Environmental Professional for each PESA, as defined by the standard, to conduct the PESA. For this proposal, it is assumed that the CONSULTANT personnel will be granted access to the properties within the project corridor, and project personnel and property owners will be available to promptly answer questions prior to, during, and/or following the site reconnaissance activities. Those properties for which it is uncertain that access has been granted, or if the CONSULTANTS staff is turned away, will not be field evaluated.

The CONSULTANT will make a reasonable attempt to conduct interviews with the key site manager and site occupants, past owners and occupants, state and local regulators, the local fire department(s), and other persons or agencies that may have knowledge of current or historical environmental conditions at the property. It is assumed that no more than four hours will be spent reviewing regulatory files and/or prior environmental studies obtained during this investigation for each ESA.

The CONSULTANT will prepare a PESA report generally following the format recommended in ASTM E 1527-13. The report will include a narrative of Phase I activities, supporting documentation, findings, and an opinion on the need for further assessment. The PESA services do not include an evaluation of permitting requirements or regulatory compliance issues and follow-up Phase II investigations that may be recommended in this report.

Ecological Compliance Assessment Tool (EcoCAT) and Information for Planning and Consultation (IPaC) – Online Review

According to Section 11(a) of the Illinois Endangered Species Protection Act and Section 17 of the Illinois Natural Areas Preservation Act, state and local governments should consult with the Department whether project activities are likely to jeopardize Illinois listed endangered or threatened species or modify species habitat. To evaluate whether such species are located within the project corridor, the CONSULTANT will prepare and electronically submit a consultation request to the Illinois Department of Natural Resources (IDNR) through the EcoCAT process. The CONSULTANT will also utilize the USFWS, IPaC tool to help with environmental review. The CONSULTANT will communicate the results of this review to Lake County and determine if additional avoidance areas are warranted.

Regulatory review is typically completed within 30 days upon receipt of the review package. As soon as the CONSULTANT receives the results of the regulatory review, the findings will be sent to Lake County for their use and records. If it is recommended by the IDNR that additional environmental surveys take place within the proposed project corridor, the scope and fee of those tasks will be provided upon request.

Geotechnical Studies

The geotechnical studies will include conducting CCDD testing for LP 663 certification, coordination with at least two dump sites, including Thelen and soil borings on each side of the culvert. The services will be provided by Wang Engineering, Ltd. See their attached scope for additional information.

3. Contract Documents

The triple-cell culvert plans will be prepared as a stand-alone set of plans separate from the resurfacing and intersection projects and will include all required contract documents for the local construction letting. The target letting date for this project is March 2021.

The contract documents will include:

- Plan Preparation
- Specifications
- Cost Estimate
- Permits

The contract documents will be prepared in two stages as follows

- Prefinal – 90%
- Final – 100%

Scope of Services

Plan Preparation

The plans will be prepared according to Lake County Division of Transportation Plan Preparation Guidelines (http://www.lakecountyil.gov/3870/Consultant-Resources).

A summary of anticipated sheets is as follows:

	Description	Sheets
1	Cover Sheet	1
2	General Notes	3
3	Summary of Quantities	1
4	Schedule of Quantities	1
5	Typical Sections	1
6	Alignment, Ties & Benchmarks	1
7	Removal Sheets (1"= 20')	1
8	Plan and Profile Sheets w/ drainage (1"=20')	1
9	Headwall Repair Sheets	2
10	Soil Erosion & Sediment Control	
	Notes	2
	Details	1
11	Traffic Control Plan (1"=20')	
	Staging Notes & Typical Sections	1
	TCP Plan Sheet	1
	Cofferdam Sequencing	1
12	Cross Sections	2
13	Standards and Details	24
Total		**44**

If replacement is chosen as the preferred method to address the culvert deficiencies, the CONSULTANT will prepare structural culvert plans for a precast box culvert. The anticipated sheets needed for the culvert replacement plans are as follows:

Description	Sheets
Culvert Replacement Plans	
General Plan & Elevation	1
General Notes & Total Bill of Material	1
Stage Construction	1
Bottom Slab Plan Stage I & II	1
Top Slab Plan Stage I & II	1
Wall Elevations Stage I & II	1
Culvert Details	1
Wingwalls Details	2
Pedestrian Railing	1
Bar Splicer Assembly Details	1
Soil Boring Logs	1
Total	**12**

Specifications

Specifications including Local Roads and Streets and BDE Special Provisions will be prepared. Additional special provisions provided by the County will be included.

Cost Estimate

A Preliminary Engineer's Estimate of Cost will be completed for Prefinal and Final submittals. The estimate will be revised based on comments received by the County.

Permits

The CONSULTANT will use the information outlined in the finalized environmental reports described above to prepare necessary local (Lake County), State (IDNR, Illinois Environmental Protection Agency (IEPA), and Federal (USACE, USFWS) permit packages on behalf of Lake County as directed/required. Specifically, the following permits will be addressed:

- Section 404
- Joint Application
  - IDNR-Office of Water Resources (OWR)
  - IEPA
  - USACE – Chicago District
- Lake County Watershed Development (Watershed Development Ordinance (WDO) application with Lake County Stormwater Management Commission (LCSMC)

The CONSULTANT will work closely with agency representatives to identify permits necessary for the project, and prepare the applications to be submitted, in a reasonable timeframe. It has been assumed that there will be no in-person meetings with regulatory officials, and only the cost of telephone and email correspondence with the various agencies has been anticipated.

The CONSULTANT does not anticipate any stream cross sections and/or waterway modeling will be necessary to obtain the anticipated permits. Those studies and surveys would be considered additional scope items and the CONSULTANT will prepare scope and fees to complete those services at a future time if necessary.

A disposition of comments will be prepared after each submittal for comments provided by the County.

4. Meetings and Coordination

It is anticipated that there will be one meeting with the County to determine the rehabilitation method. The CONSULTANT will provide a recommendation with a matrix of the alternatives for use in determining the preferred method. The time to complete minutes is included in the time per meeting. Two meetings are anticipated with LCSMC to discuss the project and verify permitting requirements.

5. Phase III Assistance

The CONSULTANT will assist during construction to address Request for Information (RFI's), shop drawing reviews, and attend the preconstruction field meeting.

6. QA/QC

The CONSULTANT shall implement their QA/QC policy.

Triple Cell Culvert Project

Lake County Division of Transportation

Estimate of Hours

Task	SubTask	Notes	Sub-Total (Hrs)	Sub-Sub (Hrs)	Grau	Phillips	Grass	Westergreen	Thoms	Dalton	Brandt	Eshleman	Schneider	Direct Cost ($)
I	Data Collection		74											53
	Culvert / Headwall Inspection	1 site visit, 2 engineers, 8 hrs / visit		16		8			8					
	Utility Atlases	Incorporate utilities from HBK		4			4							
	Topographic Survey	Coordinate survey and incorporate		2			2							
	Rehabiltation Technology Review	3 options + replacement + update inspection report		52	4	40	4					4		
					4	48	10	0	8	0	0	4	0	
II	Environmental Studies		72											0
	EcoCAT / iPAC			6							6			
	Wetland Delineations & Report			40							40			
	PESA			24							24			
	CCDD Coordination	by Wang		2			2							
					0	0	2	0	0	0	70	0	0	
III	Contract Documents (See tab)		520											146
	Plan Preparation (Rehab)			224	20	20	40	84	20	40				
	Culvert Replacement Design (Additional Hours for Replacement alternative)			218		108			110					
	Specifications	(Includes additional 8 hrs for replacement spec)		36	4	12	12	8						
	Cost Estimate			16	4	4	4	4						
	Permits	Section 404, Joint Application, LCSMC		26	2		8				16			
					30	144	64	96	130	40	16	0	0	
IV	Meetings and Coordination		24											121
	LCDOT Meetings	Rehab Method Mtg, 2 members, 4 hours a meeting		8	4		4							
	LCSMC Meetings	2 Meetings, 2 members, 4 hours a meeting		16	8		8							
					12	0	12	0	0	0	0	0	0	
V	Phase III Assistance		8											32
	Request for Information (RFI)	2 hrs/month for 2 months		4	2		2							
	Preconstruction Meeting	1 meeting, 4hrs/meeting, 1 staff		4	4									
					6	0	2	0	0	0	0	0	0	
VI	QA/QC		18											0
	Submittals	3 submittals, 6 hrs per submittal		18	6							6	6	
				0										
					6	0	0	0	0	0	0	6	6	352
		SUBTOTAL	716		58	192	90	96	138	40	86	10	6	
					8.1%	26.8%	12.6%	13.4%	19.3%	5.6%	12.0%	1.4%	0.8%	

Triple Cell Culvert Project

Lake County Division of Transportation

In-house Direct Costs

	Task	SubTask	Notes	Sub-Total ($)	$	Comment
I	Data Collection			53		
		Mileage	1 trip, 90 miles roundtrip @ $0.58/mile		52	
		Printing	10 sheets 11x17 B&W @ $0.10/sheet		1	
II	Environmental Studies			1375		
		EcoCAT	Online processing fees		125	
		Wetland Delineations and Report				
			3 nights lodging + mileage for 2 env staff (split w/ intersection)		900	
		PESA	Database Fees		350	
III	Contract Documents (See tab)			146		
		Mileage	None		0	
		Printing				
		Specs	2x150 sheets 8.5x11 B&W @ $0.05/sheet x 3 copies		45	2 submittals, County
		Plans	2x56 sheets 11x17 B&W @ $0.10/sheet x 3 copies		34	2 submittals, County
		Plans	2x56 sheets 22x34 B&W @ $0.30/sheet x 2 copies		67	2 submittals, County
		Permits				
			IDNR-OWR permit fee		550	
IV	Meetings and Coordination			121		
		Mileage	3 trips, 55 miles roundtrip @ $0.58/mile		96	
		Printing	60 sheets 8.5x11 B&W @ $0.05/sheet		3	
			30 sheets 11x17 Color @ $0.75/sheet		23	
V	Phase III Assistance			32		
		Mileage	1 trips, 55 miles roundtrip @ $0.58/mile		32	
		Printing	None		0	
			TOTAL	$1,727		

Triple Cell Culvert Project

Lake County Division of Transportation

Total Sheet Hours

	Description	Sheets	Hours/sht	Total	Comment
1	Cover Sheet	1	8	8	Standard 1 Cover
2	General Notes	3	4	12	Assume 3 Sheets based off of recent
3	Summary of Quantities	1	20	20	
4	Schedule of Quantities	1	12	12	
5	Typical Sections	1	8	8	Ditch Typicals for drainage problem areas
6	Alignment, Ties & Benchmarks	1	4	4	Modify Resurfacing sheet
7	Removal Sheets (1"= 20')	1	16	16	1 Removal Sheet
8	Plan and Profile Sheets w/ drainage (1"=20')	1	24	24	1 Plan Sheet
9	Headwall Repair Sheets	2	16	32	North and South Headwall Repairs
10	Culvert Replacement Plans				
	General Plan & Elevation	1	32	32	The Culvert Replacement hours are only used if replacement is selected as the proposed method. A total of 218 hours.
	General Notes & Total Bill of Material	1	12	12	
	Stage Construction	1	16	16	
	Bottom Slab Plan Stage I & II	1	24	24	
	Top Slab Plan Stage I & II	1	24	24	
	Wall Elevations Stage I & II	1	24	24	
	Culvert Details	1	16	16	
	Wingwalls Details	2	24	48	
	Pedestrian Railing	1	12	12	
	Bar Splicer Assembly Details	1	8	8	
	Soil Boring Logs	1	2	2	
11	Soil Erosion & Sediment Control				
	Notes	2	4	8	
	Details	1	4	4	
12	Traffic Control Plan(1"=20')				
	Staging Notes & Typical Sections	1	8	8	
	TCP Plan Sheet	1	8	8	Road Construction Ahead
	Cofferdam Sequencing	1	16	16	
13	Cross Sections	2	16	32	
14	Standards and Details	24	0.5	12	
	Total	**56**	Total	442	8

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

Intersection Project

Kenosha Road at 21st Street Intersection

The project involves the intersection of Kenosha Road and 21st Street and adjacent unsignalized entrances to the Zion – Benton Township High School. The study is located in the City of Zion and Village of Beach Park in Lake County and is led by Lake County Division of Transportation (LCDOT). The purpose of the project is to identify improvements at the intersection to enhance safety and improve capacity. The project is anticipated to use local funds for design engineering and construction. The scope of work includes the following:

- Data Collection and Evaluation
- Topographic Survey
- Environmental Studies and Permitting
- Public Involvement
- Crash and Safety Analysis
- Capacity Analysis and Intersection Design Studies
- Geometric Studies
- Drainage Studies
- Cost Estimates
- Contract Documents
- Meetings and Coordination
- Phase III Assistance
- Administration and Management
- QA / QC

The approximate project study limits are as follows:

- Kenosha Road: 1,200' north of 21st Street to 1,500' south of 21st Street
    - (2,700' total)
- 21st Street: 1,500' west of Kenosha Road to 1,500' east of Kenosha Road
    - (3,000' total)

The project will be designed using Microstation Geopak software with SS4 OpenRoads following Lake County DOT CAD standards and requirements. The following is a detailed description of work tasks.

1. <u>Data Collection and Evaluation</u>

   The data collection effort includes the following:

   - The CONSULTANT will obtain information from the City of Zion, Village of Beach Park and LCDOT including GIS files, land use maps, microfilm plans, flooding reports, existing right-of-way, drainage information, and utility plans.
   - The CONSULTANT will incorporate survey information from the sub consultant for use in plan and profile studies.
   - The CONSULTANT will incorporate ROW information from the sub consultant.

- Two field trips of the project area will be conducted with the CONSULTANT and LCDOT personnel.
- The CONSULTANT will make field observations during the data collection effort to evaluate queue lengths and note traffic characteristics. During this period, the school circulation will also be observed.
- The CONSULTANT will coordinate with the geotechnical sub consultant to perform soil borings and pavement cores in accordance with the latest version of the Illinois Department of Transportation's *Geotechnical Manual*. The sub consultant will also conduct the CCDD testing at each excavation site for LP 663 certification and coordinate with at least two dump sites, including Thelen. The services will be provided by Wang Engineering. See their attached scope for more information.

2. Topographic Survey

The CONSULTANT'S surveyor will perform the Topographic Survey in accordance with the Lake County Division of Transportation's *Design Survey Procedures (Revised 10/19/2018).* See attached scope by HBK Engineering, Ltd.

3. Environmental Studies and Permitting

Based on a preliminary environmental screening, the environmental resources associated with the project may involve special waste, wetland impacts, and potential biological impacts. The following studies will be completed by the CONSULTANT:

Wetland Delineations

Delineation of the proposed route will be done in accordance with USACE 1987 Manual and the August 2010 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, and will take place in Spring/Early Summer 2020; and within the US Army Corps of Engineers (USACE) – Chicago District recognized wetland growing season. The wetland delineation will be based on soil composition, hydrology of the site, and vegetation present at the time of the site visit. Observations will be documented on approved USACE data forms and included in the final report. If wetlands are found to exist within project boundaries, their limits will be recorded using a handheld GPS device for use in Arc GIS software.

The report will include site figures depicting the location of identified wetlands, a table noting the size of each identified wetland, wetland type, and a determination of potential temporary/permanent impacts resulting from construction activities. Within four weeks of receiving Lake County's comments/edits on the draft report, the CONSULTANT will finalize the report for submittal to Lake County. The final wetland delineation report will be certified by a Lake County Certified Wetland Scientist.

The Wetland delineation report is valid for five years from the date of issuance. Should project development specifications change after completion of the onsite delineation, the report expire, or there is a change in regulations, a delineation of the newly proposed development area may be required, the scope and fee of which are not addressed in this proposal.

Preparation of a mitigation plan addressing the loss of wetlands by project construction activities is not included in this scope and fee, as mitigation requirements are dependent on the outcome of the delineation. Should a mitigation plan be required, a scope and fee for plan preparation will be provided upon request.

The CONSULTANT will provide Lake County one electronic file of the draft wetland delineation report for review, and one hard copy and one electronic PDF file of the final wetland delineation report. Additional copies/files will be made available upon request, but at an additional cost.

National Pollutant Discharge Elimination System (NPDES) Stormwater Permit/Notice of Intent (NOI)

The CONSULTANT will complete the Storm Water Pollution Prevention (SWPP) Plan following BDE 2342. In addition to preparing the SWPP, the CONSULTANT will compile information needed for the NOI application for Illinois General Permit No. ILR10. This permit application requires coordination with the IDNR and State Preservation office. This coordination will be achieved through the Joint Application and Cultural Resources tasks.

Lake County will coordinate access and a knowledgeable person to answer questions and provide needed information. In addition, Lake County will provide a list of those personnel, and their contact information, who will oversee the SWPP Plan for this project.

Lake County will carefully review the draft plans to be sure facility information included is accurate and complete and that specified procedures will be followed. The CONSULTANT will rely on Lake County to obtain management and contractor certifications of the final SWPP Plan. It is assumed that the CONSULTANT will submit the NOI using IEPA's online application or hard copies prepared by the CONSULTANT.

Preliminary Environmental Site Assessment (PESA)

The process will follow general protocols contained within:

- A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation (IDOT) Highway Projects (Erdmann et al., 2012)
- ASTM International (ASTM) standard 1527-13
- The IDOTs Bureau of Design and Environment (BDE) Procedure Memorandum Number 10-07, Special Waste Procedures. This memo was incorporated into Chapter 27-3 of the IDOT BDE Manual in June 2012.
- IDOT Bureau of Local Roads and Streets (BLRS) Manual, Chapter 20-12, Special Waste, July 2013.

- Public Act 96-1416
- Clean Construction or Demolition Debris Fill Operations (CCDD) and Uncontaminated Soil Fill Operations: Amendments to 35 Illinois Administrative Code 1100. Effective on August 27, 2012.

The CONSULTANT will conduct a PESA in accordance with the American Society for Testing and Materials (ASTM) Practice E1527-13. The purpose of the PESA is to identify the presence or absence of Recognized Environmental Conditions (RECs) as defined by the ASTM standard. The PESA process includes a search of standard historical sources (e.g., aerial photographs, historical fire insurance maps, etc.), a review of federal and state environmental databases within applicable search radius of the project corridor, interviews with past and current owners, operators, and occupants of the property, and an on-site reconnaissance. The CONSULTANT has assumed that a title search for the properties, including any environmental liens associated with the property, will be performed by others, and is not included in this proposal.

The CONSULTANT proposes to utilize a Qualified Environmental Professional for each PESA, as defined by the standard, to conduct the PESA. For this proposal, it is assumed that the CONSULTANT personnel will be granted access to the properties within the project corridor, and project personnel and property owners will be available to promptly answer questions prior to, during, and/or following the site reconnaissance activities. Those properties for which it is uncertain that access has been granted, or if the CONSULTANT staff is turned away, will not be field evaluated.

The CONSULTANT will make a reasonable attempt to conduct interviews with the key site manager and site occupants, past owners and occupants, state and local regulators, the local fire department(s), and other persons or agencies that may have knowledge of current or historical environmental conditions at the property. It is assumed that no more than four hours will be spent reviewing regulatory files and/or prior environmental studies obtained during this investigation for each ESA.

The CONSULTANT will prepare a PESA report generally following the format recommended in ASTM E 1527-13. The report will include a narrative of Phase I activities, supporting documentation, findings, and an opinion on the need for further assessment. The PESA services do not include an evaluation of permitting requirements or regulatory compliance issues and follow-up Phase II investigations that may be recommended in this report.

Ecological Compliance Assessment Tool (EcoCAT) and Information for Planning and Consultation (IPaC) – Online Review

According to Section 11(a) of the Illinois Endangered Species Protection Act and Section 17 of the Illinois Natural Areas Preservation Act, state and local governments should consult with the Department whether project activities are likely to jeopardize Illinois listed endangered or threatened species or modify species habitat. To evaluate whether such species are located within the project corridor, the CONSULTANT will prepare and electronically submit a consultation request to the Illinois Department of Natural Resources (IDNR) through the EcoCAT process. The CONSULTANT will also utilize the USFWS, IPaC tool to help with environmental review. The

CONSULTANT will communicate the results of this review to Lake County and determine if additional avoidance areas are warranted.

Regulatory review is typically completed within 30 days upon receipt of the review package. As soon as the CONSULTANT receives the results of the regulatory review, the findings will be sent to Lake County for their use and records. If it is recommended by the IDNR that additional environmental surveys take place within the proposed project corridor, the scope and fee of those tasks will be provided upon request.

Local/State/Federal Permit Application Preparation

The CONSULTANT will use the information outlined in the finalized environmental reports described above to prepare necessary local (City of Zion/Lake County), State (IDNR, Illinois Environmental Protection Agency (IEPA), and Federal (USACE, USFWS) permit packages on behalf of Lake County as directed/required. Specifically, the following permits will be addressed:

- Section 404
- Joint Application
    - IDNR-Office of Water Resources (OWR)
    - IEPA
    - USACE – Chicago District
- Lake County Watershed Development (Watershed Development Ordinance (WDO) application with Lake County Stormwater Management Commission (LCSMC)
- NPDES Stormwater (NOI with IEPA)
- Endangered Species (EcoCAT and IPaC)

The CONSULTANT will work closely with agency representatives to identify permits necessary for the project, and prepare the applications to be submitted, in a reasonable timeframe. It has been assumed that there will be no in-person meetings with regulatory officials, and only the cost of telephone and email correspondence with the various agencies has been anticipated.

Permit applications will be prepared and submitted to the appropriate regulatory agencies upon completion of appropriate environmental reports. Final construction development designs must accompany the applications. Therefore, no permit applications will be submitted for regulatory review until that information is available and has been provided to the CONSULTANT. Regulatory review is typically completed within 30 - 120 days upon receipt of the application package. Note that the timeframe is dependent on the amount of project impact to regulated sources.

The CONSULTANT does not anticipate any cultural investigations will be required for this project. Phase I archaeological survey would be additional scope and is not included in this proposal.

4. Public Involvement

The public involvement scope of work includes the following:

- Draft Initiation Letters for 4 property owners and 2 local agencies
- Stakeholder involvement with the Zion – Benton Township High School
    - The CONSULTANT will review turning counts and coordinate with the school to develop alternative circulation plans to improve the school circulation. This task will include developing two alternatives with exhibits for use during the stakeholder coordination meetings.
    - The CONSULTANT will attend three coordination meetings.
    - The CONSULTANT will attend a "dry run" meeting with LCDOT prior to the stakeholder meeting to present the preliminary alternatives.
- Prepare and attend two public meetings (existing conditions, alternatives / preferred).
    - LCDOT will provide the mailing lists.
    - The CONSULTANT will prepare the invitation, postcards, advertising, meeting handout, display exhibits, and audio / visual presentation.
    - The CONSULTANT will identify and secure the location for the public meetings.
    - The CONSULTANT will attend a "dry run" for each public meeting, attend the public meetings and answer questions.
- The CONSULTANT will prepare a disposition of comments, prepare response newsletters and/or draft response letters for each of the public meetings.
- The CONSULTANT will operate, update, and maintain the project website.

5. Crash and Safety Analysis

LCDOT shall provide crash data for the previous five years at the following locations:

- Kenosha Road at 21st Street
- Kenosha Road at School Entrance
- 21st Street at Main School Entrance
- 21st Street between Kenosha Road and Main School Entrance

The CONSULTANT will review the crash data and summarize crashes by year and major type to define trends and roadway deficiencies at each of the above intersections. Areas experiencing significant crash rates will be investigated so that countermeasures can be recommended. The CONSULTANT will utilize collision diagrams provided by LCDOT for each intersection. Crash reports will be requested for crashes involving fatalities, pedestrians and bicyclists.

6. Capacity Analysis and Intersection Design Studies

The CONSULTANT will utilize the data collected by Miovision for the signal warrant analysis. A signal warrant analysis will be completed for the following intersections:

- Kenosha Road at 21st Street
- 21st Street at Main School Entrance

Upon completion of the signal warrants, an HCS model for the Weekday AM / PM peak hours will be developed that includes the proposed alternative for a traffic signal for the following intersections:

- Kenosha Road at 21st Street
- 21st Street at Main School Entrance

The roundabout alternative will be analyzed using RODEL for comparison to the signalized intersection.

The CONSULTANT will use Highway Capacity Software 2010 for use in preparing the Intersection Design Study (IDS) sheets for the preferred alternative of above intersections. The Intersection Design Study will include intersection geometry, capacity analysis results, traffic signal phasing diagrams, existing traffic volumes, and design exceptions, if needed.

7. Geometric Studies

The CONSULTANT will determine facility deficiencies based on information gathered. The CONSULTANT will develop the following concept geometric alternatives for review and discussion with LCDOT:

- Kenosha Rd at 21st Street: Traffic signal with channelization
- Kenosha Rd at 21st Street: Roundabout
  - Two sub-alternatives to evaluate alternative alignments / shifts for impact avoidance or reduction
- 21st Street at Main School Entrance: Traffic signal with channelization
- 21st Street at Main School Entrance: Roundabout
  - Two sub-alternatives to evaluate alternative alignments / shifts for impact avoidance or reduction
- Kenosha Road at ZB school entrance: Evaluate lane channelization and extension of three lane section.

The concept alternatives will include plan geometrics that will identify critical components, such as, right-of-way needs, environmental impacts, access impacts, drainage considerations, and utility impacts. The CONSULTANT will determine right-of-way impacts in this task.

The CONSULTANT will develop preliminary plan & profile sheets for the preferred alternative that will include additional details to refine the impacts and ROW needs. The CONSULTANT will prepare preliminary cross sections at 50’ intervals and preliminary typical sections for each approach.

8. Drainage Studies

The scope of work for the proposed drainage studies will be based on maintaining the existing storm sewer system, where possible. HBK Engineering, Ltd., will complete all drainage survey and coordinate storm sewer televising operations (see HBK Engineering, Ltd. scope of services). The CONSULTANT will be responsible for reviewing the storm sewer televising DVD's and providing recommendations based on the televising. The CONSULTANT will prepare exhibits indicating deficiencies and recommendations. The recommendations from the storm sewer televising will be incorporated into the Drainage plans.

LCDOT will provide existing drainage information including flooding reports for the CONSULTANT to review. The CONSULTANT will contact Zion to request additional roadway and private development record drawings within the vicinity of the project. The CONSULTANT will develop an Existing Drainage Plan (EDP) that identifies drainage problems, sewer locations, and major drainage features.

Upon completion of the EDP, the CONSULTANT will utilize StormCAD software to model the existing storm sewer for proposed roadway widening to identify undersized pipes. The new rainfall data from the updated Bulletin 70 will be used for the proposed design. The proposed ditch sections will be reviewed from the proposed cross sections. An evaluation of the cross sections will also be conducted to identify easements and/or right-of-way required to construct the proposed drainage features. Temporary drainage connections or extensions of culverts for stage construction will be identified.

The CONSULTANT will then develop a Proposed Drainage Plan to illustrate recommended improvements. The proposed drainage plan includes proposed storm sewer sizes and slopes, control structures for drainage, tributary areas, and drainage outfalls. A Control Structure Detail sheet will also be included in the submittal that will be incorporated into the contract plans.

The drainage studies scope does not include a Location Drainage Study or Technical Memorandum. Detention and hydraulic calculations will be completed for the preferred alternative to be used to develop the Proposed Drainage Plan.

9. Cost Estimates

The CONSULTANT will prepare preliminary cost estimates for two geometric design alternatives. The cost estimates will include estimated quantities for substantial pay items with estimated percentages for miscellaneous costs. The cost estimate will not include detailed pay items. A detailed estimate will be developed during the Contract Documents scope.

10. Contract Documents

The contract documents will be prepared separately from the resurfacing project and the triple-cell culvert project. The contract documents will include:

- Plans
- Specifications
- Cost Estimate

The contract documents will be prepared in three stages as follows

- Preliminary – 60%
- Prefinal – 90%
- Final -100%

Plan Preparation

The plans will be prepared according to the Lake County Division of Transportation Plan Preparations Guidelines. (http://www.lakecountyil.gov/3870/Consultant-Resources).

The following table is a summary of the anticipated sheets required for the Contract Plans.

Scope of Services

	Description	**Sheets**
1	Cover Sheet	1
2	General Notes	2
3	Summary of Quantities	6
4	Quantity Schedules	18
5	Typical Sections	4
6	Alignment, Ties & Benchmarks	2
7	Removal Sheets (1"= 20')	5
8	Plan and Profile Sheets w/ drainage (1"=20')	10
9	Traffic Control Plan (1"=50')	
	Staging Notes & Typical Sections	1
	Pre-stage	4
	Stage 1	4
	Stage 2	4
	Detour Plan	2
10	Erosion Control Plan (1"=50')	
	Notes	1
	Pre-stage	4
	Stage 1	4
	Stage 2	4
11	Intersection Paving Plan (1"=15')	3
12	Pavement Marking and Landscaping (1"=50')	3
13	Traffic Signal Plans	
	21st at Kenosha Rd Signal Plan	2
	21st at Kenosha Rd Cable Plan	1
	21st at School Entrance Signal Plan	2
	21st at School Entrance Cable Plan	1
	Traffic Signal Interconnect Plans	2
	Passage Network Plans	4
14	Street Lighting Plans	1
	Lighting System Plans	2
	Lighting System Schematic	1
	Lighting Details	1
	Controller Detail	1
15	Sidewalk Details	9
16	Cross Sections	42
17	Standards and Details	120
	Total	**271**

Specifications

Specifications including Local Roads and Streets and BDE Special Provisions will be prepared. Additional special provisions provided by the County will be included.

Cost Estimate

A Preliminary Engineer's Estimate of Cost will be completed for Prefinal and Final submittals. The estimate will be revised based on comments received by the County.

A formal disposition of comments will be prepared after each submittal to address comments received by the County.

11. Meetings and Coordination

The CONSULTANT anticipates the following meetings for this project:

- Two City of Zion meetings
- Two Village of Beach Park meetings
- Two LCDOT / Geotechnical meetings (pre-bore & post-bore)
- Two LCDOT meetings (alternatives & preferred)
- Three LCSMC Meetings
- Three LCDOT meetings for the following purposes:
  - Review Preliminary Plan Comments
  - Review ROW needs
  - Review Prefinal Plan Comments

The CONSULTANT will attend all meetings, prepare meeting minutes, and perform follow up to the meetings as needed.

12. Phase III Assistance

The CONSULTANT will assist during construction to address Requests for Information (RFI's), review shop drawings, utility permits, and attend the preconstruction meeting.

13. Administration and Management

The CONSULTANT will perform project management and administration, including staff and resource scheduling, progress monitoring, monthly invoice and progress reports. The time in this task will account for the duration of the overall contract.

14. QA/QC

The CONSULTANT shall implement their QA/QC policy.

Kenosha Rd at 21st St Intersection

Lake County Division of Transportation

Estimate of Hours

	Task SubTask	Notes	Sub-Total (Hrs)	Sub-Sub (Hrs)	Grau	Hillegonds	Grass	Westergreen	Patel	Dalton	Schneider	Gemmel	Brandt	Frank	Delves	Jovanovich	Intern	Admin	Direct Cost ($)
1	Data Collection and Evaluation			40			16	24											$100.00
2	Topographic Survey			0															$0.00
3	Environmental Studies and Permitting			140	8		16	16					100						$2,825.00
4	Public Involvement			408	104		112	112			80								$3,885.00
5	Crash and Safety Analysis			40	4		12	24											$0.00
6	Capacity Analysis and Intersection Design Studies			120	12	16	36	40								16			$0.00
7	Geometric Studies			752	120	120	140	148	60	80		4					80		$0.00
8	Drainage Studies			224	16		52	100						16	40				$0.00
9	Cost Estimates			32	4		8	16	4										$0.00
10	Contract Documents			2170	120	120	400	650	320	360					80		120		$943.00
11	Meetings and Coordination			104	52		52												$488.00
12	Phase III Assistance			52	12		20	20											$32.00
13	Administration and Management			144	72		36											36	$0.00
14	QA/QC			121	33	28					32	16		12					$0.00
		SUBTOTAL	4347		557	284	900	1150	384	440	112	20	100	28	120	16	200	36	$8,273.00
					12.8%	6.5%	20.7%	26.5%	8.8%	10.1%	2.6%	0.5%	2.3%	0.6%	2.8%	0.4%	4.6%	0.8%	

Kenosha Rd at 21st St Intersection

Lake County Division of Transportation

Printing Direct Costs

Task	SubTask	Notes	Sub-Total ($)	$	Comment
3	Environmental Studies and Permitting		2825		
	Wetland Delineations and Report				
		3 nights lodging + mileage for 2 env staff (split w/ culvert)		900	
	IDNR-OWR	Permit Fees		550	
	NPDES	Permit Fees		250	
	EcoCAT	Online processing fees		125	
	PESA	Database Fees		1000	
10	Contract Documents		943		
	Mileage	None		0	
	Printing				
	Specs	3x250 sheets 8.5x11 B&W @ $0.10/sheet x 3 copies		225	3 submittals, County
	Plans	3x269 sheets 11x17 B&W @ $0.13/sheet x 3 copies		315	3 submittals, County
	Plans	3x269 sheets 22x34 B&W @ $0.25/sheet x 2 copies		404	3 submittals, County

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Rd at 21st St
Work-hour and Direct Cost Estimate

TASK & DESCRIPTION	WORK HOURS	DIRECT COST
1 Data Collection and Evaluation		
Data Collection		$0.00
Lake County GIS, Land Use, Zoning, School, Park, Fire and Sanitary Districts, etc.	4	
Review and Analyze Data from the County		$0.00
Record Plans, Traffic Counts, Existing R.O.W., Bicycle and other information from CMAP and locals, etc.	4	
Field trips to area (includes taking photos & topo check)		$100.00
2 trips x 6 hours/trip x 2 persons	24	
Traffic Counts and Field Observations		
Field Observation (2 people x 4 hrs x 1 visit) during one of the above field trips	8	$0.00
SUBTOTALS =	**40**	**$100.00**
2 Topographic Survey		
Provided by HBK Engineering, Ltd (See Attached CECS)	0	$0.00
SUBTOTALS =	**0**	**$0.00**
3 Environmental Studies and Permitting		
Section 404 Permitting		
Wetland Delineation and Report	40	$900.00
IDNR - OWR Correspondence	4	$550.00
Lake County Watershed Development Ordinance Application	10	$0.00
NPDES Stormwater (SWPP) Notice of Intent	40	$250.00
Endangered Species (IDNR - EcoCAT and IPaC)	6	$125.00
PESA	40	$1,000.00
SUBTOTALS =	**140**	**$2,825.00**
4 Public Involvement		
Draft initiation letters to property owners & City w/ exhibits		$0.00
4 property owners + City of Zion + Village of Beach Park @ 2 hrs /each	12	
Stakeholder Involvement with the Zion - Benton Twp High School		
Develop Circulation Exhibits (Two alternatives)	32	$25.00
Attend three meetings (2 people x 6 hours)	36	$150.00
Attend three dry-run meetings (2 people x 4 hours)	24	$96.00
Preparation of Existing Conditions Public Meeting materials		
Postcards / Advertising	32	$1,000.00
Meeting Handout	32	
Display exhibits (Introduction, Location Map, ADT, Crash Summary, Schedule, etc.)	32	$75.00
Attendance at dry run for Existing Conditions Public Meeting		$32.00
2 people x 4 hours	8	
Field check and secure location for public meeting	8	$500.00
Meeting with Public to present Existing Conditions		
1 meeting x 3 people x 6 hours / meeting	18	$50.00

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Rd at 21st St
Work-hour and Direct Cost Estimate

TASK & DESCRIPTION	WORK HOURS	DIRECT COST
Preparation of Concept Alternatives / Preferred Public Meeting materials		
Postcards / Advertising	16	$1,000.00
Meeting Handout	16	
Display exhibits (Introduction, Location Map, ADT, Crash Summary, Typical Sections, Alternatives, Schedule, etc.)	24	$75.00
Attendance at "Dry Run" for Concept Alternatives / Preferred Public Meeting 2 people x 4 hours	8	$32.00
Attendance at Public Meeting 1 meeting x 3 people x 6 hours / meeting	18	$50.00
Preparation of newsletter and/or draft response letters for each public meeting	60	
Website Operation, Content and Updates (Up to 4 years of maintenance)	32	$800.00
SUBTOTALS =	**408**	**$3,885.00**
5 Crash and Safety Analysis		
Review crash data and summarize (For 5 years of data)	16	$0.00
4 hrs / intersection		
Safety analysis and counter measures	24	$0.00
SUBTOTALS =	**40**	**$0.00**
6 Capacity Analysis and Intersection Design Studies		
Traffic Signal Warrant Analysis		
4 hours x 2 intersections	8	$0.00
HCS Capacity Analysis		
4 hours x 2 peak periods x 2 intersections	16	$0.00
RODEL analysis		
4 hours x 2 peak periods x 2 intersections	16	$0.00
Intersection Design Studies		
2 intersections x 40 hrs / intersection	80	$0.00
SUBTOTALS =	**120**	**$0.00**
7 Geometric Studies		
Develop Design Criteria	4	$0.00
Determine Facility Deficiencies	8	$0.00
Develop concept alternatives - geometry to evaluate impacts		
Kenosha Rd at 21st St - One signal and one roundabout at 60 hrs each	120	$0.00
Two sub alternatives for alternative alignments / widenings @ 40 hrs each	80	$0.00
21st St at Main School Ent - One signal and one roundabout at 60 hrs each	120	$0.00
Two sub alternatives for alternative alignments / widenings @ 40 hrs each	80	$0.00
Kenosha Rd at ZB Way - Lane channelization and 3-lane extension	40	$0.00
Plan & Profile for the Preferred Alternative: Project length = 5,700 feet. One 1" = 20' sheet = 600'. 5700'/600' = 10 sheets. 10 Sheets x 20 WH/sheet	200	$0.00
Cross-section Studies for the Preferred Alternative to develop ROW needs Includes test cross-sections in critical areas and final cross-sections at every 100' plus cross streets and driveways 60 cross sections at 1 hours/ cross section	60	$0.00
Typical Cross-sections 8 typical cross-sections x 4 WH/section (EX & PR)	32	$0.00
Plot Proposed R.O.W. Line (including stations and offsets for all break points)	8	$0.00
SUBTOTALS =	**752**	**$0.00**

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Rd at 21st St
Work-hour and Direct Cost Estimate

TASK & DESCRIPTION	WORK HOURS	DIRECT COST
8 Drainage Studies		
Storm Sewer Televising		
Review DVD and prepare recommendations w/ exhibits	24	$0.00
Existing Drainage System		
General Location Drainage Map		
Existing Drainage Plan (1 sht / approach)	48	$0.00
Identified Drainage Problems	4	$0.00
Major Drainage Features		
Proposed Drainage System		
Design Criteria	4	$0.00
Outlet Evaluation	4	$0.00
Storm Sewer Capacity (HGL)	16	$0.00
Stormwater Detention Analysis	16	$0.00
Cross Section Review	16	$0.00
Proposed Drainage Plan (1 sht / approach)	80	$0.00
Temporary Drainage Connections (Identify)	8	$0.00
Control Structure Exhibit	4	$0.00
Draft LDS Technical Memorandum		
Narrative	N/A	$0.00
Water Quality BMP White Paper	N/A	$0.00
Erosion and Sediment Control Data References	N/A	$0.00
Tabulate Calculations	N/A	$0.00
Wetland / FIRM Exhibits	N/A	$0.00
Study Assembly	N/A	$0.00
Final LDS Technical Memorandum		
Revisions / Disposition	N/A	$0.00
Study Assembly	N/A	$0.00
SUBTOTALS =	**224**	**$0.00**
9 Cost Estimates		
Prepare preliminary cost estimates for 2 alternatives	32	$0.00
2 alternatives @ 16 hrs / alternative		
SUBTOTALS =	**32**	**$0.00**
10 Contract Documents		
Plan Preparation		
See breakdown of hours on attached Sheet Hours	2070	$718.00
Specifications		
Develop project specific special provisions	60	$225.00
Cost Estimate		
Prefinal	20	$0.00
Final	20	$0.00
SUBTOTALS =	**2170**	**$943.00**

Lake County Division of Transportation
Section # 19-00125-07-CH
Kenosha Rd at 21st St
Work-hour and Direct Cost Estimate

TASK & DESCRIPTION	WORK HOURS	DIRECT COST
11 Meetings and Coordination		
City of Zion Meetings Kickoff Meeting (2 people x 4 hours) Present Alternatives (2 people x 4 hours)	16	$100.00
LCDOT Meetings Pre-boring geotech meeting (1 person x 4 hours) Post-boring geotech meeting (1 person x 4 hours) Present Alternatives (2 people x 4 hours) Present Preferred Geometry (2 people x 4 hours)	24	$128.00
Village of Beach Park Meetings Kickoff Meeting (2 people x 4 hours) Present Alternatives (2 people x 4 hours)	16	$100.00
LCSMC 2 people x 4 hours x 3 meeting	24	$96.00
Preliminary, ROW, and Prefinal Plans Review Meeting 2 people x 4 hours x 3 meeting	24	$64.00
SUBTOTALS =	**104**	**$488.00**
12 Phase III Assistance		
Respond to RFI (Assume 4 hrs / month for 6 months)	**24**	$0.00
Shop Drawing Review	**16**	$0.00
Utility Permit Review	**8**	$0.00
Preconstruction Meeting (1 person x 4 hrs)	**4**	$32.00
SUBTOTALS =	**52**	**$32.00**
13 Administration and Management		
Administration (4 hrs/month x 36 months)	**144**	$0.00
SUBTOTALS =	**144**	**$0.00**
14 QA/QC		
Review of milestone submittals (3% of total)	**121**	$0.00
SUBTOTALS =	**121**	**$0.00**
TOTAL =	**4347**	**$8,273.00**

Stanley Consultants INC

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

Wang Engineering, Ltd.

Geotechnical Services

Wang Engineering

1145 North Main Street
Lombard, Illinois 60148
Phone (630) 953-9928
www.wangeng.com

February 5, 2020

Mr. Tyler Grau, P.E.
Stanley Consultants, Inc.
8501 W Higgins Road
Suite 730
Chicago IL 60631-2815

Re: Proposal for Geotechnical and Environmental Engineering Services
21st Street from Delany Road to IL Rte 173
Rehabilitation of 21st Street
Lake County
Wang P200101

Dear Mr. Grau:

Wang Engineering, Inc. (Wang) is pleased to submit this proposal for geotechnical and environmental engineering services to support the rehabilitation of the 21st Street from Delany Road to IL 173. The proposed roadway improvements are described in the Lake County Scope of Work for Section 19-00125-07-CH dated November 11, 2019 and for Section 19-00999-68-RS dated December 5, 2019.

SCOPE OF WORK

The proposed improvements require geotechnical evaluation for the rehabilitation of 21st Street pavement from Delany Road to IL 173, environmental assessment for soil disposal, and coordination with landfill facilities for soil disposal. The project includes roadway resurfacing, intersection improvements, traffic signals, and culverts rehabilitation. Wang will perform geotechnical and environmental sampling for soils at locations recommend by Stanley. The investigation program includes

1. Ten soil borings to 30 feet for structures, and
2. 61 borings to 2 feet for environmental assessment.

Drilling and Sampling

Wang will provide equipment, labor, and associated materials to drill, sample, and test an estimated 422 feet of soil in 71 boreholes. The ten soil borings for structures will be advanced with truck-mounted rig equipped with hollow stem augers. The remaining 61 borings will be drilled with portable drilling equipment (hand augers). Six of the structure borings will be sampled at 2.5-foot intervals to their termination depths. Four structure borings will be sampled in continuous 2.0-foot intervals to 10 feet and at 2.5-foot intervals to their terminating depths. The 61 environmental borings will be sampled

continuous to 2 feet. The soil samples in structure borings will be collected with split-barrel samplers according to ASTM D1586, "Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils." After drilling completion, the boreholes will be backfilled with soil cutings and bentonite chips and the surface patched with cold asphalt when taken in existing pavement. All fieldwork within the right of way will be performed under lane closures and flagging operations.

Field Supervision

Wang will layout the borings according to a pre-approved sampling plan, and clear the utilities though JULIE. A Wang field engineer will monitor drilling activities, maintain daily field notes, log the geotechnical borings, as well as receive, classify, and prepare soil samples for laboratory analysis. Soil samples will be classified in accordance with the Unified Soil Classification System (D2488). The field geologist will perform penetrometer and Rimac unconfined compressive strength tests on cohesive soil samples; he will also observe the groundwater level in boreholes. The as drilled boring locations will be surveyed by Wang using a mapping-grade Trimble GeoXH GPS unit.

Geotechnical Laboratory Testing

The soil testing program will include natural moisture content (D2216), Atterberg limits (D4318), and particle size analysis (D422) tests.

Environmental Laboratory Testing

Soil sample will be monitor for total organic vapors using a calibrated photo-ionization detector (PID) and tested for pH. Selected soil samples will be analyzed for volatile organic compounds (VOCs), Semi VOCs including polynuclear aromatic hydrocarbons (PNAs), total RCRA metals, and toxicity characteristic leaching procedure (TCLP) on compounds exceeding accepted limits by an accredited IEPA laboratory.

Engineering Analysis and Recommendations

Wang will prepare a roadway geotechnical report. No separate structure geotechnical report will be prepared for the structures. The geotechnical report will include a detailed description of investigation methods, present investigation results, and provide recommendations for roadway and structure design. Moreover, Wang will perform preliminary site assessment for solid waste characterization and clean soil disposal as separate letter report. The letter report will include the IEPA Form LPC-663 identifying whether the soils are fit for disposal as uncontaminated soil/clean construction and demolition debris (CCDD). Both reports will also present site location map, boring location plans, boring logs, and summaries of laboratory test results.

Solid Waste Disposal Coordination
Wang will assist coordinating with landfills the disposal of solid waste and provide the necessary documentation for disposing of the solid waste.

SCHEDULING
Wang will start the project expediently upon prior authorization to proceed. We anticipate that after utility clearance, 6 working days will be necessary to complete the drilling phase of the project. The laboratory testing program will proceed immediately and will be concluded within two to three weeks after drilling completion. The geotechnical report will be submitted within two weeks after the Designer provides preliminary design drawings. The letter report for site assessment and waste disposal will be submitted two weeks after the laboratory analytical testing is finalized.

ESTIMATED COST ASSUMPTIONS
Wang will provide the above services according to the attached cost proposal with breakdown with unit prices. On preparing the cost estimate, we assumed

- The site is accessible by truck mounted drill rig;
- Permits to access private properties not required, the work will be done within the ROW; and
- As drilled boring locations and elevations will be surveyed by others.

Wang Engineering, Inc. appreciates the opportunity to present this proposal and looks forward to working with Stanley on this project.

Sincerely,

WANG ENGINEERING, INC.

Corina T. Farez, PE, PG
Vice President

Cornelia L. Marin, PG
Senior Engineering Geologist

Attachment: Cost estimate breakdown

GEOTECHNICAL SERVICES
UNIT PRICES
2019

Name: 21st Street from Delany Rd to IL 173 **Date:** 01/01/2020
RFP/PTB/PSB/Item: NA **Wang No.:** P200101
Contract/Job: NA

		Task Description	Units	Unit Price	Extended Cost
		DRILLING, SAMPLING & INSITU TESTING			
		Drilling Coordination, Utilities Clearance, Site Access, Permitting	4.0 Hours	$112.00 /Hour	$448.00
		Drilling & Sampling - Hourly (SPT, Penetrometer, Rimac, Visual Classification Included)			
		Two-man crew - normal working hrs	60.0 Hours	$400.00 /Hour	$24,000.00
		Two-man crew - overtime (2 hrs per day)	0.0 Hours	$450.00 /Hour	$0.00
		Other Insitu Tests			
		Pressuremeter testing	0 Days	$2,800.00 /Day	$0.00
		Vane shear	0 Tests	$255.00 /Test	$0.00
		Dilatometer testing	At Cost		$0.00
		Cone penetration testing (CPT/CPTu)	At Cost		$0.00
		Photoionization detector (PID)	6 Days	$105.00 /Day	$630.00
		Double ring infiltrometer test (ASTM D3385)	0 Tests	$1,400.00 /Test	$0.00
		Single ring infiltrometer test (Chicago Stormwater Ordinance)	0 Tests	$700.00 /Test	$0.00
					$25,078.00
		LABORATORY TESTING			
T265	D2216	Water Content	124 Tests	$10.50 /Test	$1,302.00
--	D7263	Unit Weight (Density)	0 Tests	$38.00 /Test	$0.00
T100	D854	Specific Gravity	0 Tests	$69.00 /Test	$0.00
--	D4972	pH of Soil	0 Tests	$62.00 /Test	$0.00
T267	D2974	Organic Content by LOI	0 Tests	$63.00 /Test	$0.00
T194	--	Organic Content by Wet Combustion	4 Tests	$140.00 /Test	$560.00
Particle Size Distribution					
T88	D422	Sieve Analysis	0 Tests	$80.00 /Test	$0.00
T88	D422	Combined Sieve and Hydrometer	10 Tests	$129.00 /Test	$1,290.00
--	D1140	Percent Finer than No. 200 Sieve	0 Tests	$53.00 /Test	$0.00
Atterberg Limits					
T89, T90	D4318	Liquid and Plastic Limits	10 Tests	$80.00 /Test	$800.00
T92	D427	Shrinkage Factors	0 Tests	$95.00 /Test	$0.00
Classification of Soils					
--	D2488	Visual Manual	0 Samples	$20.00 /Sample	$0.00
--	D2487	Unified Soil Classification System	0 Samples	$205.00 /Sample	$0.00
M145	--	AASHTO Classification	0 Samples	$205.00 /Sample	$0.00
--	--	USDA Classification	0 Samples	$129.00 /Sample	$0.00
Soil Settlement, Swelling, and Collapse Potential					
T216	D2435	One-Dimensional Consolidation	0 Tests	$585.00 /Test	$0.00
--	D4546	One-Dimensional Swell	0 Tests	$567.00 /Test	$0.00
--	D5333	Collapse Potential	0 Tests	$315.00 /Test	$0.00
Shear Strength of Soil					
		Rimac Unconfined Compressive Strength	0 Tests	$16.00 /Test	$0.00
T208	D2166	Unconfined Compressive Strength	0 Tests	$85.00 /Test	$0.00
T236	D3080	Direct Shear of Soils (3 points)	0 Tests	$750.00 /Test	$0.00
T296	D2850	UU Triaxial Compression (3 points)	0 Tests	$352.00 /Test	$0.00
T297	D4767	CU Triaxial Compression (3 points)	0 Tests	$1,160.00 /Test	$0.00
T297	D4767	CD Triaxial Compression (3 points)	0 Tests	$1,160.00 /Test	$0.00
	D7012	Peak Uniaxial Compressive Strength of Rock Core	0 Tests	$172.00 /Test	$0.00
Laboratory Compaction Tests					
T99	D698	Moisture-Density of Soils (Standard Effort)	0 Tests	$210.00 /Test	$0.00
T180	D1557	Moisture-Density of Soils (Modified Effort)	0 Tests	$220.00 /Test	$0.00
T193	--	Illinois Bearing Ratio (1 point)	0 Tests	$525.30 /Test	$0.00
T193	D1883	California/Illinois Bearing Ratio (3 points)	0 Tests	$975.00 /Test	$0.00
Coefficient of Permeability					
T215	D2434	Hydraulic Conductivity (Constant Head)	0 Tests	$475.00 /Test	$0.00
--	D5084	Hydraulic Conductivity (Flexible Wall)	0 Tests	$500.00 /Test	$0.00
Analytical Laboratory Services - for CCDD					
		Volatile Organic Components (VOC)	3 No	$54.00 /Each	$162.00
		SemiVOC including PNA's	3 No	$107.00 /Each	$321.00
		PCB	3 No	$60.00 /Each	$180.00
		Total Metals	3 No	$48.00 /Each	$144.00
		PH Determination	61 No	$8.00 /Each	$610.00
		TCLP Element	6 No	$10.00 /Each	$240.00
		TCLP Extraction	3 No	$40.00 /Each	$120.00
					$ 5,729.00

1145 N Main Street
Lombard, IL 60148
630 953-9928

GEOTECHNICAL SERVICES
UNIT PRICES
2019

Name: 21st Street from Delany Rd to IL 173
RFP/PTB/PSB/Item: NA
Contract/Job: NA

Date: 01/01/2020
Wang No.: P200101

Task Description	Units	Unit Price	Extended Cost
TRAFFIC CONTROL			
Expressway (1/2 mile)			
Shoulder Closure	0.0 No.	$800.00 /Each	$0.00
One-lane Closure	0.0 No.	$2,500.00 /Each	$0.00
Two-lane Closure	0.0 No.	$2,700.00 /Each	$0.00
Three-lane Closure	0.0 No.	$3,150.00 /Each	$0.00
Ramp Closure	0.0 No.	$850.00 /Each	$0.00
Additional 1/2 mile	0.0 No.	$100.00 /Each	$0.00
Arterial (1/2 mile)			
Shoulder Closure	0.0 No.	$700.00 /Each	$0.00
One-lane Closure	0.0 No.	$800.00 /Each	$0.00
Two-lane Closure	0.0 No.	$900.00 /Each	$0.00
Detour	0.0 No.	$800.00 /Each	$0.00
U-2	0.0 No.	$1,000.00 /Each	$0.00
Additional 1/2 mile	0.0 No.	$100.00 /Each	$0.00
Impact Attenuator with Driver			
Port-to-Port	8.0 Hours	$185.00 /Hour	$1,480.00
Roadway Flagmen (two-man crew)			
Port-to-Port	40.0 Hours	$180.00 /Hour	$7,200.00
			$ 8,680.00
FIELD VEHICLES & MILEAGE			
Field Vehicle			
Field Vehicle Mileage (>100 Miles per Day)	0.0 Miles	$0.535 /Mile	$0.00
Field Vehicle Daily (<100 Miles per Day)	7 Days	$65.00 /Day	$455.00
			$ 455.00
OUT-OF-TOWN EXPENSES			
Lodging	0 Days	$100.00 /Day	$0.00
Per Diem	0 Days	$50.00 /Day	$0.00
			$ -
ENGINEERING, REPORTING & MANAGEMENT			
Desk Study, Site Access & Permitting			
Senior Engineer	0.0 Hours	$159.58 /Hour	$0.00
Project Engineer/Project Geologist	48.0 Hours	$101.50 /Hour	$4,872.00
Assistant Engineer/Assistant Geologist	8.0 Hours	$68.45 /Hour	$547.60
Field Activities			
Project Engineer/Project Geologist	2.0 Hours	$101.50 /Hour	$203.00
Assistant Engineer/Assistant Geologist	90.0 Hours	$68.45 /Hour	$6,160.50
Laboratory Testing			
Project Engineer/Project Geologist	0.0 Hours	$101.50 /Hour	$0.00
Laboratory Technician	5.0 Hours	$74.13 /Hour	$370.65
Data Analyses & Engineering			
Senior Engineer	2.0 Hours	$159.58 /Hour	$319.16
Project Engineer/Project Geologist	38.0 Hours	$101.50 /Hour	$3,857.00
Assistant Engineer/Assistant Geologist	25.0 Hours	$68.45 /Hour	$1,711.25
Report Preparation			
Senior Engineer	2.0 Hours	$159.58 /Hour	$319.16
Project Engineer/Project Geologist	28.0 Hours	$101.50 /Hour	$2,842.00
Assistant Engineer/Assistant Geologist	20.0 Hours	$68.45 /Hour	$1,369.00
QC/QA Reviewer	0.0 Hours	$184.23 /Hour	$0.00
Project Management			
Principal in Charge	0.0 Hours	$187.50 /Hour	$0.00
Project Manager	4.0 Hours	$159.58 /Hour	$638.32
Administrative Assistant	0.0 Hours	$90.40 /Hour	$0.00
			$ 23,209.64

1145 N Main Street
Lombard, IL 60148
630 953-9928

GEOTECHNICAL SERVICES
UNIT PRICES
2019

Name: 21st Street from Delany Rd to IL 173
RFP/PTB/PSB/Item: NA
Contract/Job: NA

Date: 01/01/2020
Wang No.: P200101

Task Description	Units		Unit Price	Extended Cost
SUMMARY				
DRILLING, SAMPLING & INSITU TESTING				$25,078.00
LABORATORY TESTING				$5,729.00
TRAFFIC CONTROL				$8,680.00
FIELD VEHICLES & MILEAGE				$455.00
OUT-OF-TOWN EXPENSES				$0.00
				$ 39,942.00
ENGINEERING, REPORTING & MANAGEMENT				
Principal in Charge	0.0	Hours	$187.50 /Hour	$0.00
Project Manager	4.0	Hours	$159.58 /Hour	$638.32
Senior Engineer	4.0	Hours	$159.58 /Hour	$638.32
Project Engineer/Project Geologist	116.0	Hours	$101.50 /Hour	$11,774.00
Assistant Engineer/Assistant Geologist	143.0	Hours	$68.45 /Hour	$9,788.35
Laboratory Technician	5.0	Hours	$74.13 /Hour	$370.65
Administrative Assistant	0.0	Hours	$90.40 /Hour	$0.00
QC/QA Reviewer	0.0	Hours	$184.23 /Hour	$0.00
	272.0			**$ 23,209.64**
			TOTAL	**$ 63,151.64**

1145 N Main Street
Lombard, IL 60148
630 953-9928

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

HBK Engineering, Ltd.

Surveying, Utilities, and Land Acquisition Services

UTILITY INFRASTRUCTURE SOLUTIONS

hbk ENGINEERING

February 14, 2020

Tyler H. Grau, P.E.
Principal Transportation Engineer
Stanley Consultants
8501 W. Higgins Road, Suite 730
Chicago, IL 60631

Re: Revised Scope and Fee for LCDOT Intersection and Roadway Improvements
Kenosha Road and 21st Street, Zion, IL

Dear Tyler,

HBK Engineering, LLC, is pleased to present this proposal to Stanley Consultants. The Kenosha Road and 21st Street Project consists of intersection improvements, pavement resurfacing and culvert rehabilitation. This project will require surveying, utility coordination, traffic counts, sewer televising/cleaning and land acquisition services (including plats/legals, title commitments, appraisals, negotiations and condemnation documentation) which HBK, partnered with their teammates, will provide.

Total proposal cost estimate is $312,573.53. As requested, HBK's scope and fees for the project are broken into three (3) components, as follows:

Intersection Improvements for Kenosha Road and 21s Street for:

- Utility Coordination (Phase I) $10,998.78
- Utility Coordination (Phase II) $12,039.55
- Surveying (Phase I) $26,195.97
- Utility Locating (Phase I) $10,388.20
- Traffic Counts (w/sub-consultant) (Phase I) $6,038.70
- Storm Sewer Cleaning & Televising (w/sub-consultant) (Phase I) $15,488.11
- Two (2) SUE Level A locates/potholes $9,411.00
- Land Acquisition (Phase II) (29 parcels) (w/sub-consultant) $147,842.36

Pricing Total: $238,402.65

Culvert Rehabilitation for:

- Utility Coordination (Phase I) $2,912.51
- Utility Coordination (Phase II) $2,826.82
- Locating (Phase I) $3,635.44
- Surveying (Phase I) $9,380.66
- Land Acquisition (Phase II) (7 parcels) (w/sub-consultant) $35,646.25

Pricing Total: $54,401.68

Pavement Resurfacing for 21st Street, Delany Road to IL Rt. 173 (omission of IL Rt 131 to Kenosha Road) and the Kenosha Road intersection for

- Utility Coordination (Phase I) $3,148.81
- Utility Coordination (Phase II) $3,162.84
- Surveying (Phase I) $13,457.55

Pricing Total: $19,769.20

Our scope and fees proposal include costs to perform two (2) QLA SUE locates/potholes as directed by Stanley. This cost has been reduced on time/materials due to multiple locates and standard minimal depth of the utilities requested.

The proposal does not include additional SUE Level A locating/potholes. It is hoped that through sound utility coordination and adequate SUE Level B locating/surveying techniques that Level A locating/potholes can be avoided. We have included pricing for individual Level A potholes, if they become necessary, at an estimated price of $5768.00 per pothole. This cost is based on a single pothole and may be able to be reduced if there are multiple locates on a given work date to help minimize mobilization and disposal costs for our sub-contractor.

HBK appreciates the opportunity to assist Stanley Consultants on this project. Please contact me if there are questions or a need for additional information. Upon acceptance of this proposal, HBK Engineering will provide a Professional Services Agreement for execution with Stanley.

Sincerely,

Douglas Yerkes, Ph.D., P.E.
Vice President

Attachments:

- Stanley_21st&Kenosha_HBK_195332_SOW_IntersectImps_02142020 R3
- Stanley_21st&Kenosha_HBK_195332_SOW_CulvertRehab_02142020 R3
- Stanley_21st&Kenosha_HBK_195332_SOW_PvmntResurf_01302020 R2
- HBK_EXHIBIT A-Culvert Topographic Survey Limits R2
- HBK_EXHIBIT B Prop Intersect Topo Survey Limits R2
- Stanley_LCDOT_Manhour&FeeEst_CulvertRehab_RJK_02142020 R3
- Stanley_LCDOT_Manhour&FeeEst_Intersectimps_RJK_02142020 R3
- Stanley_LCDOT_Manhour&FeeEst_PvmntResurf_01302020 R2
- Stanley_LCDOT_Manhour&FeeEst_SUELevelALocates_02142020 R3

cc: Bethany Turk, PE, Robert Kolar and Project Files

(Stanley_LCDOT_Kenosha&21st_HBK_195332-CoverLtr_02142020 R3.DOC)

Lake County DOT – 21st Street @ Kenosha Road
Section 19-00125-07-CH

At the request of Stanley Consultants, HBK has prepared a scope of services for Utility Coordination, Land Acquisition Negotiations, Surveying and Subsurface Utility Engineering (SUE) for the 21st Street at Kenosha Road, Zion, IL roadway improvement project. A manhour and fee estimate for this improvement project is also attached.

INTERSECTION IMPROVEMENTS: Utility Coordination

Utility coordination and utility locating (Subsurface Utility Engineering, or SUE) for this project will be completed by **HBK Engineering, Inc. (HBK)**, as a subconsultant to Stanley Consultants (Stanley).

Initial Coordination/Data Collection:
The proposed improvements will require coordination with public and private utilities that have facilities within the project corridor. HBK will coordinate with any utility companies/agencies found to have facilities located within the vicinity of the project limits through a JULIE Design Stage/Planning Information Request. A request will be made for these utilities to provide any available maps of existing facilities. It has been estimated that there will be up to ten public and private utilities to coordinate with for this project.

Utility Locating
Descriptions of Subsurface Utility Engineering (SUE) quality levels are derived from the FHWA website on subsurface utility engineering. The website describes American Society of Civil Engineers (ASCE) Standard *C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*. There are four recognized quality levels of underground utility information ranging from Quality Level QL-D (the lowest level) to Quality Level QL-A (the highest level).

HBK will perform SUE Level D, C and B locating of any utility facilities located within the project limits. Level D information will be obtained from utility atlases, JULIE requests, and other reliable sources. Qualified HBK staff will perform Level B locates of underground utilities within the project limits and mark them with appropriately colored paint and/or flags. HBK staff will coordinate with the designer's survey crew so that utility markings can be incorporated into their work (picked up by their survey crew) in a timely manner.

SUE Level D and B locating shall include underground traffic control facilities at signalized intersections to the extent allowed by MOT limitations, worker safety, and the ability of the facilities to transmit a locating tone.

HBK will perform two (2) Level A locates (potholing or otherwise exposing buried utilities) for a sanitary and watermain in the vicinity of the improvements as directed by Stanley. Additional Level A locates/potholes are not included in this proposal.

Utility Data Base Mapping
HBK will coordinate with the roadway designer so that utilities can be depicted accurately in the survey data and utility base maps. This shall include time allotted for utility base map QA/QC.

Preliminary Design Coordination Meetings
HBK will coordinate with utility companies/agencies during Phase I Engineering. HBK will send preliminary plans to utility companies to verify the locations of their facilities and review preliminary design to determine if there are any significant conflicts that need to be reviewed. HBK will also coordinate with the roadway design team to develop understanding the presence of utilities, their type, and possible issues with protecting and/or relocating those utilities.

Construction Coordination

HBK will coordinate with utility companies/agencies during Phase II Engineering for any structure adjustments to be made in conjunction with the cold milling of the pavement and prior to hot mix bituminous material pavement placement.

INTERSECTION IMPROVEMENTS: Field Survey Work

HBK will perform the field survey work as a subconsultant to Stanley. Stanley will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. HBK will contact property owners, to the extent possible, in advance of surveying on private property.

On this basis, HBK will perform the following survey tasks in accordance with applicable Lake County Survey Procedures:

Horizontal Control: Utilizing state plane coordinates, HBK will set recoverable primary control utilizing GPS and robotic total station equipment. It is assumed that the control for the one-foot contour Lake County LiDAR mapping is Illinois State Plane East, NAD83 (2011).

Vertical Control: It is assumed that either LCDOT has benchmarks available in the vicinity of the project or that HBK will be allowed to establish vertical control (NAVD88) utilizing GPS and the nearest NGS vertical monuments. A level circuit within the above identified survey limits will be run to establish benchmarks (minimum of 2 site benchmarks will be set per the LCDOT Vertical Alignment requirements) and assign elevations to the horizontal control points.

Topographic Survey: Topographic Survey will include the limits as outlined in Exhibit B as provided by Stanley. In general, these extend approximately 2,800 feet or 0.53 miles along 21st Street west to east from the center of Sunnyside Drive to the east property line the Board of Education of Zion-Benton Township maintenance building located at 2017 Horizon Court and extending approximately 2,900 feet or 0.55 miles along Kenosha Road southerly to northerly from centerline of Shepard's Crossing Drive to the center of Highlander Drive (UAS information will be used for any planimetric information beyond this scope). The survey will extend 30 feet beyond the existing right-of-way line, beyond which the Lake County LiDAR mapping (1-foot contours) will be used. Survey will include existing visible features and improvements. Storm, sanitary sewer and watermain structures will be surveyed, including rim elevation, invert pipe size, direction and elevation as observed at unlocked manholes. HBK will field locate all pavements, driveways, curb and gutters, pavement markings, signs, drainage structures, driveway culverts, crossroad culverts, and other planimetric features within the above noted survey limits.

Base Mapping: HBK will compile all the above information into one base map MicroStation drawing suitable for plotting at 1'=20' scale that is representative of existing conditions for use in all Phase I and Phase II engineering work in developing the detailed plan, profile and cross sections for the preferred alternative. Survey base map drawing will be generated in MicroStation V8i SS4.

Cross Sections: HBK will survey cross sections at 50' intervals within the survey limits, at driveways, roadway culverts, and at all other grade controlling features. The cross sections will extend 25 feet beyond the existing right-of-way line.

Existing Right-of-Way Survey: The existing dedicated or conveyed ROW will be surveyed per provided plats and documents from LCDOT and IDOT along with research performed at the Lake County Recorder for adjoining subdivision plats. Survey will be based on documents and field survey/recovery of existing monuments.

Alignment and Ties: Prepare drawings showing the station, offset, and coordinates of the alignment points (PCs, PTs, PIs, and POTs) and survey control points, along with listing and describing the primary and site benchmarks. These drawings will be included in the construction plans. The alignment points will be staked prior to construction.

Specific work items under this task will include:

- Completion of topographic survey
- Supplemental survey
- Coordination with LCDOT Utilities Coordinator
- Obtaining existing utility information from utility agencies and incorporation of data obtained into the topographic survey base map
- Note: The preparation of ROW and/or easement acquisition documents is planned for Phase II.

Scope Omissions:

- Coordination with LCDOT for survey right-of-entry letter will be handled by Stanley.

INTERSECTION IMPROVEMENTS: Traffic Counts

TranSmart/EJM Corporation shall perform traffic counts of the 21st Street and Kenosha Road intersection and internal traffic circulation counts on the Zion-Benton Township High School property as directed by Stanley to HBK. TranSmart/EJM Corporation is a WBE/DBE sub-consultant to HBK.

INTERSECTION IMPROVEMENTS: Storm Sewer Cleaning and Televising

David Mason & Associates (DMA) is a MBE subconsultant engineering firm to HBK. DMA will clean and televise existing storm sewer lines on 21st Street near Zion-Benton Township High School and on Kenosha Road, north of 21st Street and two (2) crossroad culverts at 21st Street/Kenosha Road intersection as directed by Stanley to evaluate condition of the pipes.

INTERSECTION IMPROVEMENTS: Land Acquisition Negotiations

Temporary/Permanent Easements and/or Right-of-way Acquisition: HBK will investigate property ownership on parcels adjacent to the improvement project. Coordination with LCDOT for easement and/or acquisition documents will be coordinated through Stanley in compliance with all land acquisition/negotiation requirements according to LCDOT guidelines. HBK will prepare all plats/legal description documents for the impacted parcels. HBK will obtain all title commitments through Wheatland Title. HBK will obtain title commitments and perform appraisals for the subject parcels through HBK's DBE/MBE sub-consultant, DL Dubois & Associates. HBK will inform the property owner of the details of the acquisition and the effect of the acquisition on the property and present an offer to the property owner.

If an Administrative Settlement is determined by the Lake County Division of Transportation on an individual parcel basis; HBK will draft the Administrative Settlement for a parcel as directed by LCDOT with confirmation from Stanley.

After having made every reasonable effort to negotiate with the owner of a parcel, if HBK is still unable to obtain all the required documents, at the direction of the LCDOT, the Negotiator shall prepare and submit a copy of the latest Negotiator's Report completed to date with the names and addresses of all interested parties. In addition, if necessary and requested, the Negotiator's Report shall include a recommendation for further action as well as documents required for the request for condemnation by the Lake County State Attorney's Office.

If LCDOT provides new information to Stanley and HBK after the first contact with the property owner, HBK will revise negotiation documents, which would require a new offer or an updated Negotiation of the parcel. These updates will be assigned to Stanley and HBK in a separate work order as the need arises.

End of Document

(Stanley_21st&Kenosha_HBK_195332_SOW_IntersectImps_02142020 R3.dco)

Lake County DOT – 21st Street @ Kenosha Road
Section 19-00125-07-CH

At the request of Stanley Consultants, HBK has prepared a scope of services for Utility Coordination, Land Acquisition Negotiations, Surveying and Subsurface Utility Engineering (SUE) for the 21st Street at Kenosha Road, Zion, IL roadway improvement project. A manhour and fee estimate for this improvement project is also attached.

CULVERT REHABILITATION: Utility Coordination

Utility coordination and utility locating (Subsurface Utility Engineering, or SUE) for this project will be completed by **HBK Engineering, Inc. (HBK)**, as a subconsultant to Stanley Consultants (Stanley).

Initial Coordination/Data Collection:
The proposed improvements will require coordination with public and private utilities that have facilities within the project corridor. HBK will coordinate with any utility companies/agencies found to have facilities located within the vicinity of the project limits through a JULIE Design Stage/Planning Information Request. A request will be made for these utilities to provide any available maps of existing facilities. It has been estimated that there will be up to ten public and private utilities to coordinate with for this project.

Utility Locating
Descriptions of Subsurface Utility Engineering (SUE) quality levels are derived from the FHWA website on subsurface utility engineering. The website describes American Society of Civil Engineers (ASCE) Standard *C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*. There are four recognized quality levels of underground utility information ranging from Quality Level QL-D (the lowest level) to Quality Level QL-A (the highest level).

HBK will perform SUE Level D, C and B locating of any utility facilities located within the project limits. Level D information will be obtained from utility atlases, JULIE requests, and other reliable sources. Qualified HBK staff will perform Level B locates of underground utilities within the project limits and mark them with appropriately colored paint and/or flags. HBK staff will coordinate with the designer's survey crew so that utility markings can be incorporated into their work (picked up by their survey crew) in a timely manner.

SUE Level D and B locating shall include underground traffic control facilities at signalized intersections to the extent allowed by MOT limitations, worker safety, and the ability of the facilities to transmit a locating tone.

Level A locating (potholing or otherwise exposing buried utilities) is **not included** in this scope of work. If needed, Level A locating can be added to the scope at a later date.

Utility Data Base Mapping
HBK will coordinate with the roadway designer so that utilities can be depicted accurately in the survey data and utility base maps. This shall include time allotted for utility base map QA/QC.

Preliminary Design Coordination Meetings
HBK will coordinate with utility companies/agencies during Phase I Engineering. HBK will send preliminary plans to utility companies to verify the locations of their facilities and review preliminary design to determine if there are any significant conflicts that need to be reviewed. HBK will also coordinate with the roadway design team to develop understanding the presence of utilities, their type, and possible issues with protecting and/or relocating those utilities.

CULVERT REHABILITATION: Field Survey Work

HBK will perform the field survey work as a subconsultant to Stanley. Stanley will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. HBK will contact property owners, to the extent possible, in advance of surveying on private property.

On this basis, HBK will perform the following survey tasks in accordance with applicable Lake County Survey Procedures:

Horizontal Control: Utilizing state plane coordinates, HBK will set recoverable primary control utilizing GPS and robotic total station equipment. It is assumed that the control for the one-foot contour Lake County LiDAR mapping is Illinois State Plane East, NAD83 (2011).

Vertical Control: It is assumed that either LCDOT has benchmarks available in the vicinity of the project or that HBK will be allowed to establish vertical control (NAVD88) utilizing GPS and the nearest NGS vertical monuments. A level circuit within the above identified survey limits will be run to establish benchmarks (minimum of 2 site benchmarks will be set per the LCDOT Vertical Alignment requirements) and assign elevations to the horizontal control points.

Topographic Survey: Topographic Survey will include the limits as outlined in Exhibit A as provided by Stanley. In general, these extend approximately 700 feet or 0.13 miles along 21st Street west to east from the east right-of-way of the Union Pacific Railroad to the center of the westerly driveway for the residential property located at 13645 W 21st Street (UAS information will be used for any planimetric information beyond this scope). The survey will include cross sections every 100 feet and all high and low points before and after the bridge for the extent of the site, going to the ROW on the north and 25 past on the south. The bridge deck, wing/retaining walls, guard rail and other bridge components will be located for any design thereof and cross sections of the creek from top of bank to top of bank approximately 75 feet up and downstream of the culvert opening. Survey will include existing visible features and improvements. Storm, sanitary sewer and watermain structures will be surveyed, including rim elevation, invert pipe size, direction and elevation as observed at unlocked manholes. HBK will field locate all pavements, driveways, curb and gutters, pavement markings, signs, drainage structures, driveway culverts, crossroad culverts, and other planimetric features within the above noted survey limits.

Tree Surveying: HBK will tag, identify and locate tree's 6 inches and larger, that may be impacted by the proposed cofferdam construction and contractor access, along the north and south side of the existing road and within the survey limits.

Base Mapping: HBK will compile all the above information into one base map MicroStation drawing suitable for plotting at 1'=20' scale that is representative of existing conditions for use in all Phase I and Phase II engineering work in developing the detailed plan, profile and cross sections for the preferred alternative. Survey base map drawing will be generated in MicroStation V8i SS4.

Cross Sections: HBK will survey cross sections at 50' intervals within the survey limits, at driveways, roadway culverts, and at all other grade controlling features. The cross sections will extend 25 feet beyond the existing right-of-way line.

Boundary Survey: A Boundary Survey, in accordance with ILCS 1270.56, will be completed on the 2 parcels lying north and south of 21st Street (03-24-101-001 & 03-13-300-024). Survey will be based on documents and field survey/recovery of existing monuments, for use in preparation of easement grants.

Alignment and Ties: Prepare drawings showing the station, offset, and coordinates of the alignment points (PCs, PTs, PIs, and POTs) and survey control points, along with listing and describing the primary and site benchmarks. These drawings will be included in the construction plans. The alignment points will be staked prior to construction.

Specific work items under this task will include:

- Completion of topographic survey.
- Supplemental survey.
- Coordination with LCDOT Utilities Coordinator.
- Obtaining existing utility information from utility agencies and incorporation of data obtained into the topographic survey base map.
- Note: The preparation of easement acquisition documents is planned for Phase II.

Scope Omissions:

- Coordination with LCDOT for survey right-of-entry letter will be handled by Stanley.

CULVERT REHABILITATION: Land Acquisition Negotiations

Temporary Easements: HBK will investigate property ownership on parcels adjacent to the culvert replacement. Coordination with LCDOT for easement acquisition documents will be coordinated through Stanley in compliance with all land acquisition/negotiation requirements according to LCDOT guidelines. HBK will prepare all plats/legal description documents for the impacted parcels. HBK will obtain all title commitments through Wheatland Title. HBK will obtain title commitments and perform appraisals for the subject parcels through HBK's DBE/MBE sub-consultant, DL Dubois & Associates. HBK will inform the property owner of the details of the acquisition and the effect of the acquisition on the property and present an offer to the property owner.

If an Administrative Settlement is determined by the Lake County Division of Transportation on an individual parcel basis; HBK will draft the Administrative Settlement for a parcel as directed by LCDOT with confirmation from Stanley.

After having made every reasonable effort to negotiate with the owner of a parcel, if HBK is still unable to obtain all the required documents, at the direction of the LCDOT, the Negotiator shall prepare and submit a copy of the latest Negotiator's Report completed to date with the names and addresses of all interested parties. In addition, if necessary and requested, the Negotiator's Report shall include a recommendation for further action as well as documents required for the request for condemnation by the Lake County State Attorney's Office.

If LCDOT provides new information to Stanley and HBK after the first contact with the property owner, HBK will revise negotiation documents, which would require a new offer or an updated Negotiation of the parcel. These updates will be assigned to Stanley and HBK in a separate work order as the need arises.

End of Document

Lake County DOT – 21st Street @ Kenosha Road
Section 19-00125-07-CH

At the request of Stanley Consultants, HBK has prepared a scope of services for Utility Coordination, Land Acquisition Negotiations, Surveying and Subsurface Utility Engineering (SUE) for the 21st Street at Kenosha Road, Zion, IL roadway improvement project. A manhour and fee estimate for this improvement project is also attached.

RESURFACING: Field Survey Work

HBK will perform the field survey work as a subconsultant to Stanley. Stanley will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. HBK will contact property owners, to the extent possible, in advance of surveying on private property.

On this basis, HBK will perform the following survey tasks in accordance with applicable Lake County Survey Procedures:

Horizontal Control: Utilizing state plane coordinates, HBK will set recoverable primary control utilizing GPS and robotic total station equipment. It is assumed that the control for the one-foot contour Lake County LiDAR mapping is Illinois State Plane East, NAD83 (2011).

Vertical Control: It is assumed that either LCDOT has benchmarks available in the vicinity of the project or that HBK will be allowed to establish vertical control (NAVD88) utilizing GPS and the nearest NGS vertical monuments. A level circuit within the above identified survey limits will be run to establish benchmarks (minimum of 2 site benchmarks will be set per the LCDOT Vertical Alignment requirements) and assign elevations to the horizontal control points.

Topographic Survey: Topographic Survey will include the limits as outlined in exhibits provided by Stanley. In general, these include the intersections of Joanna Avenue/21st Street, Jethro Avenue/21st Street, Horeb Avenue/21st Street, Hermon Avenue/21st Street, Hebron Avenue/21st Street, Robert McClory Bike Path/21st Street, Galilee Avenue/21st Street, Gilead Avenue/21st Street and Il Route 173/21st Street together with the alleys in the south right-of-way, extend approximately 2,900 feet or 0.55 miles along 21st Street west to east starting from the alley located between Joppa Avenue and Joanna Avenue and ending at the center of 21st Street and Il Route 173, extending north and south across the listed intersections approximately 40 feet. Together with the southwest corner of 21st Street and Il Route 131 extending west approximately 70 feet along 21st Street and 150 feet south along Il Route 131 (UAS information will be used for any planimetric information beyond this scope). The survey will include locating of existing sidewalks, ADA ramps, curb and gutter, centerline grade shots, existing visible features and improvements. Storm, sanitary sewer and watermain structures will be surveyed, including rim elevation, invert pipe size, direction and elevation as observed at unlocked manholes. HBK will field locate all pavements, driveways, curb and gutters, pavement markings, signs, drainage structures, driveway culverts, crossroad culverts, and other planimetric features within the above noted survey limits.

UAS/Drone Survey: HBK will use a drone to fly the roadway prior to cold milling of the roadway pavement to document existing striping configurations. Alignment control shall be set prior to the drone flight.

Base Mapping: HBK will compile all the above information into one base map MicroStation drawing suitable for plotting at 1'=20' scale that is representative of existing conditions for use in all Phase I and Phase II engineering work in developing the detailed plan, profile and cross sections for the preferred alternative. Survey base map drawing will be generated in MicroStation V8i SS4.

Benchmarks and Control Points: Field notes containing set control points and benchmarks will be provided. If needed a Control Blocksheet can be providing detailing location of the set control points and benchmarks with northing, easting and elevations provided.

Specific work items under this task will include:

- Completion of topographic survey.
- Supplemental survey.
- Coordination with LCDOT Utilities Coordinator.
- Obtaining existing utility information from utility agencies and incorporation of data obtained into the topographic survey base map.
- Note: The preparation of ROW and/or easement acquisition documents is planned for Phase II.

Scope Omissions:

- Coordination with LCDOT for survey right-of-entry letter will be handled by Stanley.

RESURFACING: Utility Coordination

Utility coordination and utility locating (Subsurface Utility Engineering, or SUE) for this project will be completed by **HBK Engineering, Inc. (HBK)**, as a subconsultant to Stanley Consultants (Stanley).

Initial Coordination/Data Collection:

The proposed improvements will require coordination with public and private utilities that have facilities within the project corridor. HBK will coordinate with any utility companies/agencies found to have facilities located within the vicinity of the project limits through a JULIE Design Stage/Planning Information Request. A request will be made for these utilities to provide any available maps of existing facilities. It has been estimated that there will be up to ten public and private utilities to coordinate with for this project.

Utility Data Base Mapping

HBK will coordinate with the roadway designer so that utilities can be depicted accurately in the survey data and utility base maps. This shall include time allotted for utility base map QA/QC.

Preliminary Design Coordination Meetings

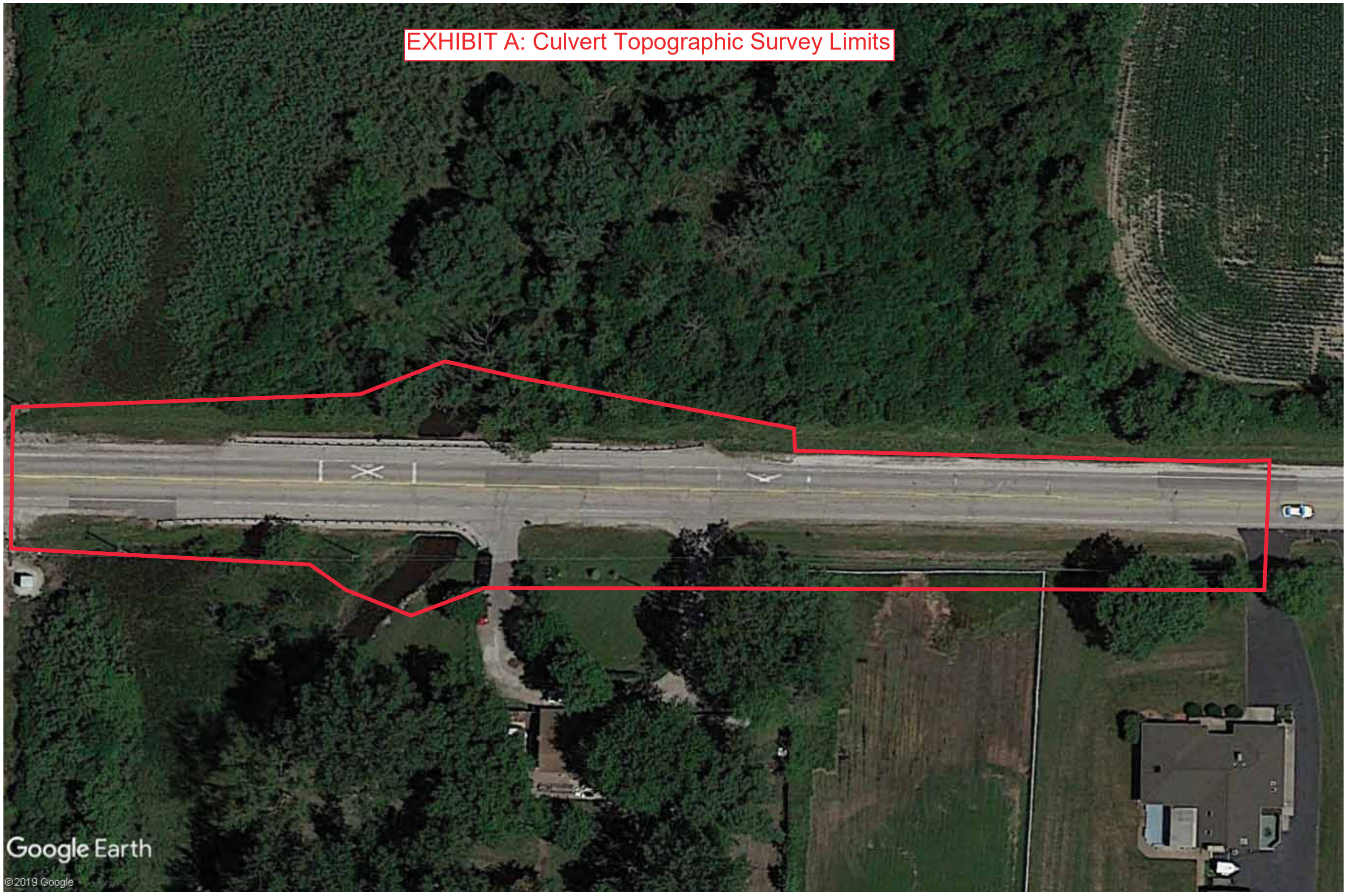
HBK will coordinate with utility companies/agencies during Phase I Engineering. HBK will send preliminary plans to utility companies to verify the locations of their facilities and review preliminary design to determine if there are any significant conflicts that need to be reviewed. HBK will also coordinate with the roadway design team to develop understanding the presence of utilities, their type, and possible issues with protecting and/or relocating those utilities.

Construction Coordination

HBK will coordinate with utility companies/agencies during Phase II Engineering for any structure adjustments to be made in conjunction with the cold milling of the pavement and prior to hot mix bituminous material pavement placement.

End of Document

EXHIBIT A: Culvert Topographic Survey Limits




HBK ENGINEERING, LLC - EXHIBIT B
STANLEY - LCDOT KENOSHA ROAD/ 22ND STREET IMPROVEMENTS
N
21ST STREET
KENOSHA ROAD

HBK ENGINEERING, LLC - LCDOT SECTION 19-00125-07-CH CULVERT REHAB - HOURS/FEES SCHEDULE

Route: KENOSHA ROAD AT 21ST STREET
Local LAKE COUNTY DOT
(Municipality/Township/County)
Section: 19-00125-07-CH
Project: CULVERT REHABILITATION
Job No: (HBK 19-5332)

*Firm's **appoved rates** on file with Bureau of Accounting and Auditing:

Overhead Rate (OH)	126.79%
Complexity Factor (R)	0.00
Calendar Days	

Cost Plus Fixed Fee Methods of Compensation:

- **Fixed Fee 1** [X] **14.5%[DL + R(DL) + OH(DL) + IHDC]**
- **Fixed Fee 2** [ ] **14.5%[DL + R(DL) + 1.4(DL) + IHDC]**
- **Fixed Fee 3** [ ] **14.5%[(2.3 + R)DL + IHDC]**
- **Specific Rate** [ ] **10%(DL + (OH*DL))**
- **Lump Sum** [ ]

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (OH*DL)	Services by Others (SBO)	Outside Direct Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total	Section Sub-totals
UTILITY COORDINATION - PHASE I	PRINCIPAL	0	$ 70.00	$ -	$ -				$ -	$ -	
	SENIOR PROJECT MANAGER	2	$ 63.30	$ 126.60	$ 160.52				$ 41.63	$ 328.75	
	PROJECT MANAGER	4	$ 58.00	$ 232.00	$ 294.15				$ 76.29	$ 602.44	
	PROJECT ENGINEER	12	$ 45.00	$ 540.00	$ 684.67				$ 177.58	$ 1,402.24	
	LOCATOR 3	20	$ 37.00	$ 740.00	$ 938.25				$ 243.35	$ 1,921.59	
	LOCATOR 2	20	$ 33.00	$ 660.00	$ 836.81				$ 217.04	$ 1,713.85	
	PERMIT COORDINATOR	5	$ 33.00	$ 165.00	$ 209.20				$ 54.26	$ 428.46	
	ANALYST	2	$ 29.00	$ 58.00	$ 73.54				$ 19.07	$ 150.61	**$ 6,547.95**
SURVEY FIELD WORK - PHASE I	PROJECT MANAGER	4	$ 56.00	$ 224.00	$ 284.01				$ 73.66	$ 581.67	
	PROFESSIONAL LAND SURVEYOR	10	$ 56.00	$ 560.00	$ 710.02				$ 184.15	$ 1,454.18	
	FIELD LEAD	16	$ 77.00	$ 1,232.00	$ 1,562.05			$ 250.00	$ 441.39	$ 3,485.44	
	FIELD TECHNICIAN	16	$ 43.00	$ 688.00	$ 872.32			$ 250.00	$ 262.50	$ 2,072.81	
	DESIGNER	16	$ 43.00	$ 688.00	$ 872.32				$ 226.25	$ 1,786.56	**$ 9,380.66**
UTILITY COORDINATION - PHASE II	PRINCIPAL	0	$ 70.00	$ -	$ -				$ -	$ -	
	SENIOR PROJECT MANAGER	2	$ 63.30	$ 126.60	$ 160.52				$ 41.63	$ 328.75	
	PROJECT MANAGER	4	$ 58.00	$ 232.00	$ 294.15				$ 76.29	$ 602.44	
	PROJ ENG	12	$ 45.00	$ 540.00	$ 684.67				$ 177.58	$ 1,402.24	
	LOCATOR 3	0	$ 37.00	$ -	$ -				$ -	$ -	
	LOCATOR 2	0	$ 33.00	$ -	$ -				$ -	$ -	
	PERMIT COORD.	4	$ 33.00	$ 132.00	$ 167.36				$ 43.41	$ 342.77	
	ANALYST	2	$ 29.00	$ 58.00	$ 73.54				$ 19.07	$ 150.61	**$ 2,826.82**
LAND ACQUISITION NEGOGIATIONS - PHASE II	PROJECT MANAGER	7	$ 58.00	$ 406.00	$ 514.77				$ 133.51	$ 1,054.28	
	PROFESSIONAL LAND SURVEYOR	84	$ 50.00	$ 4,200.00	$ 5,325.18			$ 250.00	$ 1,417.40	$11,192.58	
	FIELD LEAD	10	$ 33.00	$ 330.00	$ 418.41				$ 108.52	$ 856.93	
	FIELD TECHNICIAN	10	$ 25.00	$ 250.00	$ 316.98				$ 82.21	$ 649.19	
	DESIGNER	8	$ 43.00	$ 344.00	$ 436.16				$ 113.12	$ 893.28	
TITLE COMMITMENT (PER PACEL)		7	$ 500.00	$ -	$ -	0	$ 3,500.00	$ -	$ -	$ 3,500.00	
LAND APPRAISALS/DOCUMENTATION (PER PARCEL)		7	$ 2,500.00	$ -	$ -	0	$ 17,500.00	$ -	$ -	$17,500.00	**$ 35,646.25**
Totals		284.00		$ 12,532.20	$ 15,889.58	$ -	$ 21,000.00	$ 750.00	$ 4,229.91	$54,401.68	**$ 54,401.68**

NOTES:

1. SURVEY FIELD WORK AND LAND ACQUISTION 'IN-HOUSE DIRECT COSTS' MILEAGE AND MISC. FIELD EXPENSES.

2. LAND ACQUISITION SERVICES INCLUDES TITLE COMMITMENT, APPRAISAL, NEGOTIATIONS/RE-NOGIATION COSTS FOR APPROX. 29 PARCELS IDENTIFIED ADJACENT TO THE PROJECT LIMITS (APPROX. $5100 PER PARCEL).

BLR 05611 (Rev. 11/09/17)
Printed on 01/07/2020

Utility Locate Cost	Locate Hrs	Survey Cost	Survey Hrs	
$ 3,635.44	40	$ 9,380.66	48	
Land Acq Cost	Land Acq Hr	Util Coor Ph I cost	Util Coor Ph II cost	**Total**
$ 35,646.25	70	$ 2,912.51	$ 2,826.82	**$ 54,401.68**

HBK ENGINEERING, LLC - LCDOT SECTION 19-00125-07-CH INTERSECTION IMPROVEMENTS - HOURS/FEES SCHEDULE

Route: KENOSHA ROAD AT 21ST STREET
Local LAKE COUNTY DOT
(Municipality/Township/County)
Section: 19-00125-07-CH
Project: **INTERSECTION IMPROVEMENTS**
Job No: (HBK 19-5332)

*Firm's **appoved rates** on file with Bureau of Accounting and Auditing:

Overhead Rate (OH)	126.79%
Complexity Factor (R)	0.00
Calendar Days	

Cost Plus Fixed Fee Methods of Compensation:

- **Fixed Fee 1** [X] **14.5%[DL + R(DL) + OH(DL) + IHDC]**
- **Fixed Fee 2** [ ] **14.5%[DL + R(DL) + 1.4(DL) + IHDC]**
- **Fixed Fee 3** [ ] **14.5%[(2.3 + R)DL + IHDC]**
- **Specific Rate** [ ] **10%(DL + (OH*DL)]**
- **Lump Sum** [ ]

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (OH*DL)	Services by Others (SBO)	Outside Direct Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total	Section Sub-totals
UTILITY COORDINATION - PHASE I	PRINCIPAL	2	$ 70.00	$ 140.00	$ 177.51				$ 46.04	$ 363.54	
	SENIOR PROJECT MANAGER	12	$ 63.30	$ 759.60	$ 963.10				$ 249.79	$ 1,972.49	
	PROJECT MANAGER	16	$ 58.00	$ 928.00	$ 1,176.61				$ 305.17	$ 2,409.78	
	PROJECT ENGINEER	48	$ 45.00	$ 2,160.00	$ 2,738.66				$ 710.31	$ 5,608.97	
	LOCATOR 3	54	$ 37.00	$ 1,998.00	$ 2,533.26			$ 250.00	$ 693.28	$ 5,474.55	
	LOCATOR 2	54	$ 33.00	$ 1,782.00	$ 2,259.40			$ 250.00	$ 622.25	$ 4,913.65	
	PERMIT COORDINATOR	4	$ 33.00	$ 132.00	$ 167.36				$ 43.41	$ 342.77	
	ANALYST	4	$ 29.00	$ 116.00	$ 147.08				$ 38.15	$ 301.22	**$ 21,386.97**
FIELD SURVEY WORK - PHASE I	PROFESSIONAL LAND SURVEYOR	42	$ 56.00	$ 2,352.00	$ 2,982.10				$ 773.44	$ 6,107.55	
	FIELD LEAD	80	$ 33.00	$ 2,640.00	$ 3,347.26				$ 868.15	$ 6,855.41	
	FIELD TECHNICIAN	80	$ 25.00	$ 2,000.00	$ 2,535.80				$ 657.69	$ 5,193.49	
	DESIGNER	72	$ 43.00	$ 3,096.00	$ 3,925.42				$ 1,018.11	$ 8,039.52	**$ 26,195.97**
TRAFFIC COUNTS - PHASE	PROJECT MANAGER	8	$ 50.00	$ 400.00	$ 507.16	$ 5,000.00			$ 131.54	$ 6,038.70	$ 6,038.70
STORM SEWER CLEANING & TELEVISING - PHASE I	PRINCIPAL	1	$ 70.00	$ 70.00	$ 88.75		$ 14,200.00		$ 23.02	$ 14,381.77	
	PROJECT MANAGER	4	$ 58.00	$ 232.00	$ 294.15			$ 50.00	$ 83.54	$ 659.69	
	DESIGNER	4	$ 43.00	$ 172.00	$ 218.08				$ 56.56	$ 446.64	$ 15,488.11
SUE LEVEL A UTILITY LOCATES (2 POTHOLES) PHASE I	SENIOR PROJECT MANAGER	4	$ 63.00	$ 252.00	$ 319.51		$ 5,600.00		$ 82.87	$ 6,254.38	
LEVEL A MOT	PROJECT ENGINEER	8	$ 45.00	$ 360.00	$ 456.44				$ 118.38	$ 934.83	
LEVEL A PERMIT	PERMIT COORDINATOR	8	$ 33.00	$ 264.00	$ 334.73			$ 250.00	$ 123.07	$ 971.79	
LEVEL A ROW REST.	DESIGNER	4	$ -	$ -	$ -		$ 1,250.00		$ -	$ 1,250.00	**$ 9,411.00**
UTILITY COORDINATION - PHASE II	PRINIPAL	2	$ 70.00	$ 140.00	$ 177.51				$ 46.04	$ 363.54	
	SENIOR PROJECT MANAGER	8	$ 63.30	$ 506.40	$ 642.06				$ 166.53	$ 1,314.99	
	PROJECT MANAGER	24	$ 58.00	$ 1,392.00	$ 1,764.92				$ 457.75	$ 3,614.67	
	PROJECT ENGINEER	48	$ 45.00	$ 2,160.00	$ 2,738.66				$ 710.31	$ 5,608.97	
	LOCATOR 3	0	$ 37.00	$ -	$ -				$ -	$ -	
	LOCATOR 2	0	$ 33.00	$ -	$ -				$ -	$ -	
	PERMIT COORDINATOR	8	$ 33.00	$ 264.00	$ 334.73				$ 86.82	$ 685.54	
	ANALYST	6	$ 29.00	$ 174.00	$ 220.61				$ 57.22	$ 451.83	**$ 12,039.55**
LAND ACQUISITION NEGOGIATIONS - PHASE II	PROJECT MANAGER	35	$ 58.00	$ 2,030.00	$ 2,573.84				$ 667.56	$ 5,271.39	
	PROFESSIONAL LAND SURVEYOR	348	$ 50.00	$ 17,400.00	$ 22,061.46			$ 250.00	$ 5,758.16	$ 45,469.62	
	FIELD LEAD	30	$ 33.00	$ 990.00	$ 1,255.22				$ 325.56	$ 2,570.78	
	FIELD TECHNICIAN	30	$ 25.00	$ 750.00	$ 950.93				$ 246.63	$ 1,947.56	
	DESIGNER	50	$ 43.00	$ 2,150.00	$ 2,725.99				$ 707.02	$ 5,583.00	
TITLE COMMITMENT (PER PACEL)		29	$ 500.00	$ -	$ -	0	$ 14,500.00	$ -	$ -	$ 14,500.00	
LAND APPRAISALS/DOCUMENTATION (PER PARCEL		29	$ 2,500.00	$ -	$ -	0	$ 72,500.00	$ -	$ -	$ 72,500.00	**$ 147,842.36**
Totals		1156		$ 47,810.00	$ 60,618.30	$ 5,000.00	$ 108,050.00	$ 1,050.00	$ 15,874.35	$ 238,402.65	**$ 238,402.65**

HBK ENGINEERING, LLC - LCDOT SECTION 19-00125-07-CH INTERSECTION IMPROVEMENTS - HOURS/FEES SCHEDULE

NOTES:

1. SURVEY FIELD WORK, STORM SEWER CLEANING & TELEVISING AND LAND ACQUISTION 'IN-HOUSE DIRECT COSTS' FOR MILEAGE AND MISC. FIELD EXPENSES.

2. TRAFFIC COUNTS 'SERVICES BY OTHERS' & STORM SEWER CLEANING & TELEVISING 'OUTSIDE DIRECT COSTS' ARE FOR SUB-CONSULTANTS.

3. SUE LEVEL A UTILITY LOCATES 'OUTSIDE DIRECT COST' ASSUMES UNIMPROVED TEST HOLE (OUTSIDE OF PAVEMENT) FOR UTILITY DEPTH UP TO 12'. PRICE INCLUDES EXCAVATION, BACKFILL & DISPOSAL FEES BY SUB-CONTRACTOR & EXCLUDES TRAFFIC CONTROL.

4. LEVEL A PERMIT 'IN-HOUSE DIRECT COST)' IS AN ASSUMED BASE PERMIT FEE. THIS MAY BE WAIVED OR INCREASED DEPENDENUT UPON THE PERMITTING AGENCY REQUIREMENTS.

5. LAND ACQUISITION SERVICES INCLUDES TITLE COMMITMENT, APPRAISAL, NEGOTIATIONS/RE-NOGIATION COSTS FOR APPROX. 29 PARCELS IDENTIFIED ADJACENT TO THE PROJECT LIMITS (APPROX. $5100 PER PARCEL).

	Utility Locate Cost	Locate Hours	Survey Cost	Survey Hours	Land Acq Cost	Land Acq Hours
BLR 05611 (Rev. 11/09/17)	$ 10,388.20	108	$ 26,195.97	274	$147,842.36	85
Printed on 01/09/2020	Util Coor Ph I cost	Util Coor Ph II cost	Traffic Counts Cost	Storm Clean Televise Cost	SUE Locates	**Total**

LCDOT SECTION 19-00125-07-CH PAVEMENT RESURFACING - HOURS/FEES SCHEDULE

Route: KENOSHA ROAD AT 21ST STREET
Local LAKE COUNTY DOT
(Municipality/Township/County)
Section: 19-00125-07-CH
Project: PAVEMENT RESURFACING
Job No: (HBK 19-5332)

*Firm's a**ppoved rates** on file with Bureau of Accounting and Auditing:

Overhead Rate (OH)	126.79%
Complexity Factor (R)	0.00
Calendar Days	

Cost Plus Fixed Fee Methods of Compensation:

- **Fixed Fee 1** [X] **14.5%[DL + R(DL) + OH(DL) + IHDC]**
- **Fixed Fee 2** [ ] **14.5%[DL + R(DL) + 1.4(DL) + IHDC]**
- **Fixed Fee 3** [ ] **14.5%[(2.3 + R)DL + IHDC]**
- **Specific Rate** [ ] **10%(DL + (OH*DL))**
- **Lump Sum** [ ]

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (OH*DL)	Services by Others (SBO)	Outside Direct Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total	Section Sub-totals
UTILITY COORDINATION - PHASE I	PRINCIPAL	2	$ 70.00	$ 140.00	$ 177.51				$ 46.04	$ 363.54	
	SENIOR PROJECT MANAGER	2	$ 63.30	$ 126.60	$ 160.52				$ 41.63	$ 328.75	
	PROJECT MANAGER	6	$ 58.00	$ 348.00	$ 441.23				$ 114.44	$ 903.67	
	PROJECT ENGINEER	12	$ 45.00	$ 540.00	$ 684.67				$ 177.58	$ 1,402.24	
	LOCATOR 3	0	$ 37.00	$ -	$ -				$ -	$ -	
	LOCATOR 2	0	$ 33.00	$ -	$ -				$ -	$ -	
	PERMIT COORDINATOR	0	$ 33.00	$ -	$ -				$ -	$ -	
	ANALYST	2	$ 29.00	$ 58.00	$ 73.54				$ 19.07	$ 150.61	$ 3,148.81
FIELD SURVEY WORK - PHASE I	PROJECT MANAGER	20	$ 58.00	$ 1,160.00	$ 1,470.76				$ 381.46	$ 3,012.22	
	PROFESSIONAL LAND SURVEYOR	4	$ 50.00	$ 200.00	$ 253.58				$ 65.77	$ 519.35	
	FIELD LEAD	30	$ 32.00	$ 960.00	$ 1,217.18			$ 250.00	$ 351.94	$ 2,779.13	
	FIELD TECHNICIAN	30	$ 25.00	$ 750.00	$ 950.93			$ 250.00	$ 282.88	$ 2,233.81	
	DESIGNER	44	$ 43.00	$ 1,892.00	$ 2,398.87				$ 622.18	$ 4,913.04	$ 13,457.55
UTILITY COORDINATION - PHASE II	PRINIPAL	2	$ 70.00	$ 140.00	$ 177.51				$ 46.04	$ 363.54	
	SENIOR PROJECT MANAGER	0	$ 63.30	$ -	$ -				$ -	$ -	
	PROJECT MANAGER	6	$ 58.00	$ 348.00	$ 441.23				$ 114.44	$ 903.67	
	PROJECT ENGINEER	12	$ 45.00	$ 540.00	$ 684.67				$ 177.58	$ 1,402.24	
	LOCATOR 3	0	$ 37.00	$ -	$ -				$ -	$ -	
	LOCATOR 2	0	$ 33.00	$ -	$ -				$ -	$ -	
	PERMIT COORDINATOR	4	$ 33.00	$ 132.00	$ 167.36				$ 43.41	$ 342.77	
	ANALYST	2	$ 29.00	$ 58.00	$ 73.54				$ 19.07	$ 150.61	$ 3,162.84
Totals		178.00		$ 7,392.60	$ 9,373.08	$ -	$ -	$ 500.00	$ 2,503.52	$ 19,769.20	$19,769.20

NOTES:

1. SURVEY FIELD WORK, STORM SEWER CLEANING & TELEVISING AND LAND ACQUISTION 'IN-HOUSE DIRECT COSTS' FOR MILEAGE AND MISC. FIELD EXPENSES.

BLR 05611 (Rev. 11/09/17)
Printed on 01/07/2020

Survey Cost	Survey Hrs	Util Coor Ph I Cost	Util Coor Ph I Hours	Util Coor Ph II Cost	Util Coor Ph II Hours	Total
$ 13,457.55	128	$ 3,148.81	24	$ 3,162.84	26	$ 19,769.20

HBK ENGINEERING, LLC - LCDOT SECTION 19-00125-07-CH SUE LEVEL A - HOURS/FEES SCHEDULE

Route: KENOSHA ROAD AT 21ST STREET
Local LAKE COUNTY DOT
(Municipality/Township/County)
Section: 19-00125-07-CH
Project: SUE LEVEL A UTILITY LOCATES
Job No: (HBK 19-5332)

*Firm's a**ppoved rates** on file with Bureau of Accounting and Auditing:

Overhead Rate (OH)	126.79%
Complexity Factor (R)	0.00
Calendar Days	

Cost Plus Fixed Fee Methods of Compensation:

- **Fixed Fee 1** [X] **14.5%[DL + R(DL) + OH(DL) + IHDC]**
- **Fixed Fee 2** [ ] **14.5%[DL + R(DL) + 1.4(DL) + IHDC]**
- **Fixed Fee 3** [ ] **14.5%[(2.3 + R)DL + IHDC]**
- **Specific Rate** [ ] **10%(DL + (OH*DL))**
- **Lump Sum** [ ]

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (OH*DL)	Services by Others (SBO)	Outside Direct Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Costs for SUE QL-A locates are shown below. The cost is on a per hole basis, if they are required. Costs may be reduced if multiple holes are requried and can be performed on the same trip.										
SUE LEVEL A UTILITY LOCATES (each)	SENIOR PROJECT MANAGER	4	$ 63.00	$ 252.00	$ 319.51		$ 2,800.00		$ 82.87	$ 3,454.38
LEVEL A MOT (each)	PROJECT ENGINEER	8	$ 45.00	$ 360.00	$ 456.44				$ 118.38	$ 934.83
LEVEL A PERMIT (each)	PERMIT COORDINATOR	4	$ 33.00	$ 132.00	$ 167.36			$ 250.00	$ 79.66	$ 629.02
LEVEL A ROW REST. (each)	DESIGNER	4	$ -	$ -	$ -		$ 750.00		$ -	$ 750.00
Totals		20.00		$ 744.00	$ 943.32	$ -	$ 3,550.00	$ 250.00	$ 280.91	$ 5,768.23

NOTES:

1. SUE LEVEL A UTILITY LOCATES 'OUTSIDE DIRECT COST' ASSUMES UNIMPROVED TEST HOLE (OUTSIDE OF PAVEMENT) FOR UTILITY DEPTH UP TO 12'. PRICE INCLUDES EXCAVATION, BACKFILL & DISPOSAL FEES BY SUB-CONTRACTOR & EXCLUDES TRAFFIC CONTROL.

2. LEVEL A PERMIT 'IN-HOUSE DIRECT COST)' IS AN ASSUMED BASE PERMIT FEE. THIS MAY BE WAIVED OR INCREASED DEPENDENUT UPON THE PERMITTING AGENCY REQUIREMENTS.

BLR 05611 (Rev. 11/09/17)
Printed on 01/07/2020

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

Cost of Services

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME	Stanley Consultants	**DATE**	02/06/20
PRIME/SUPPLEMENT	PRIME	**PTB-ITEM#**	
Prepared By	Tyler Grau		

CONTRACT TERM	36	**MONTHS**	**OVERHEAD RATE**	168.56%
START DATE	3/1/2020		**COMPLEXITY FACTOR**	0
RAISE DATE	4/1/2020		**% OF RAISE**	3%
END DATE	2/28/2023			

ESCALATION PER YEAR

year	First date	Last date	Months	% of Contract
0	3/1/2020	4/1/2020	1	2.78%
1	4/2/2020	4/1/2021	12	34.33%
2	4/2/2021	4/1/2022	12	35.36%
3	4/2/2022	3/1/2023	11	33.39%

The total escalation = 5.86%

PAYROLL RATES

FIRM NAME Stanley Consultants **DATE** 02/06/20
PRIME/SUPPLEMENT PRIME
PTB-ITEM #

ESCALATION FACTOR **5.86%**

Note: Rates should be capped on the AVG 1 tab as necessary

CLASSIFICATION	PAYROLL RATES ON FILE	CALCULATED RATE
Project Principal	$75.00	$79.40
Engineering Group Mgr	$75.00	$79.40
Senior Engineer	$60.00	$63.52
Engineer	$43.00	$45.52
Engineer Intern II	$37.00	$39.17
Engineer Intern I	$32.00	$33.88
Sr Resident Project Rep	$59.00	$62.46
Resident Project Rep	$46.00	$48.70
Sr Construction Observer	$38.00	$40.23
Construction Observer	$26.00	$27.52
CAD / Graphics Manager	$52.00	$55.05
Designer	$43.00	$45.52
Associate Designer	$34.00	$35.99
Sr Admin Assistant	$26.00	$27.52
Admint Assistant	$24.00	$25.41
Admin Services Manger	$34.00	$35.99
Student Intern	$20.00	$21.17

Subconsultants

FIRM NAME Stanley Consultants **DATE** 02/14/20
PRIME/SUPPLEMENT PRIME
PTB-ITEM #

NAME	Direct Labor Total	Contribution to Prime Consultant
HBK Engineering, Ltd.	312,574.00	15,628.70
Wang Engineering, Ltd.	63,152.00	3,157.60
Total	**375,726.00**	**18,786.30**

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

Bureau of Design and Environment
Prepared By: Consultant

FIRM Stanley Consultants **DATE** 02/14/20

PTB-ITEM # **OVERHEAD RATE** 168.56%

PRIME/SUPPLEMENT PRIME **COMPLEXITY FACTOR** 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	DIRECT COSTS (D)	FIXED FEE (E)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Resurfacing Contract	1071	46,336	78,105	689	17,144	19,769	-	162,043	12.96%
	Culvert Rehabilitation	716	33,111	55,811	1,727	12,251	54,402	-	157,302	12.59%
	Intersection	4347	196,841	331,796	8,273	72,831	238,403	-	848,144	67.89%
DBE	Geotechnical Services		-	-		-	63,152	63,152	63,152	5.06%
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
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			-	-		-		-	-	
			-	-		-		-	-	
	Subconsultant DL					18,786			18,786	1.50%
	TOTALS	6134	276,288	465,712	10,500	121,012	375,726	63,152	1,249,427	100.00%
			742,000							

DBE 5.06%

AVERAGE HOURLY PROJECT RATES

FIRM Stanley Consultants
PTB-ITEM#
PRIME/SUPPLEMENT PRIME

DATE 02/06/20

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Resurfacing Contract			Culvert Rehabilitation			Intersection			Geotechnical Services					
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Principal	78.00	0.0																	
Engineering Group Mgr	78.00	156.0	2.54%	1.98				16	2.23%	1.74	140	3.22%	2.51						
Senior Engineer	63.52	1,080.0	17.61%	11.18	161	15.03%	9.55	62	8.66%	5.50	857	19.71%	12.52						
Engineer	45.52	1,774.0	28.92%	13.17	290	27.08%	12.33	364	50.84%	23.14	1120	25.76%	11.73						
Engineer Intern II	39.17	480.0	7.83%	3.07	96	8.96%	3.51				384	8.83%	3.46						
Engineer Intern I	33.88	1,650.0	26.90%	9.11	404	37.72%	12.78	96	13.41%	4.54	1150	26.46%	8.96						
Sr Resident Project Rep	62.46	20.0	0.33%	0.20							20	0.46%	0.29						
Resident Project Rep	48.70	0.0																	
Sr Construction Observer	40.23	0.0																	
Construction Observer	27.52	0.0																	
CAD / Graphics Manager	55.05	0.0																	
Designer	45.52	738.0	12.03%	5.48	120	11.20%	5.10	178	24.86%	11.32	440	10.12%	4.61						
Associate Designer	35.99	0.0																	
Sr Admin Assistant	27.52	36.0	0.59%	0.16							36	0.83%	0.23						
Admint Assistant	25.41	0.0																	
Admin Services Manger	35.99	0.0																	
Student Intern	21.17	200.0	3.26%	0.69							200	4.60%	0.97						
		0.0																	
		0.0																	
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		0.0																	
		0.0																	
		0.0																	
TOTALS		6134.0	100%	$45.04	1071.0	100.00%	$43.26	716.0	100%	$46.24	4347.0	100%	$45.28	0.0	0%	$0.00	0.0	0%	$0.00

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

IDOT SEFC

Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

December 3, 2019

Subject: PRELIMINARY ENGINEERING
Consultant Unit
Prequalification File

George Vukelich
STANLEY CONSULTANTS, INC.
8501 W. Higgins Road
Suite 730
Chicago, IL 60631

Dear George Vukelich,

We have completed our review of your "Statement of Experience and Financial Condition" (SEFC) which you submitted for the fiscal year ending Mar 30, 2019. Your firm's total annual transportation fee capacity will be $44,800,000.

Your firm's payroll burden and fringe expense rate and general and administrative expense rate totaling 168.56% are approved on a provisional basis. The rate used in agreement negotiations may be verified by our Office of Quality Compliance and Review in a pre-award audit.

Your firm is required to submit an amended SEFC through the Engineering Prequalification & Agreement System (EPAS) to this office to show any additions or deletions of your licensed professional staff or any other key personnel that would affect your firm's prequalification in a particular category. Changes must be submitted within 15 calendar days of the change and be submitted through the Engineering Prequalification and Agreement System (EPAS).

Your firm is prequalified until March 30, 2020. You will be given an additional six months from this date to submit the applicable portions of the "Statement of Experience and Financial Condition" (SEFC) to remain prequalified.

Sincerely,
Jack Elston, P.E.
Bureau Chief
Bureau of Design and Environment

SEFC PREQUALIFICATIONS FOR STANLEY CONSULTANTS, INC.

CATEGORY	STATUS
Special Studies - Traffic Signals	X
Special Services - Sanitary	X
Highways - Roads and Streets	X
Special Studies - Safety	X
Highways - Freeways	X
Special Studies - Pump Stations	X
Location Design Studies - Reconstruction/Major Rehabilitation	X
Special Services - Mechanical	X
Location Design Studies - Rehabilitation	X
Special Studies - Feasibility	X
Special Services - Electrical Engineering	X
Location Design Studies - New Construction/Major Reconstruction	X
Special Services - Construction Inspection	X
Airports - Planning & Special Services	X
Airports - Design	X
Structures - Highway: Complex	X
Structures - Highway: Typical	X
Structures - Railroad	X
Structures - Highway: Simple	X
Structures - Highway: Advanced Typical	X
Geotechnical Services - General Geotechnical Services	X
Special Studies - Traffic Studies	X
Special Studies - Location Drainage	X
Hydraulic Reports - Waterways: Complex	X
Hydraulic Reports - Waterways: Typical	X
Hydraulic Reports - Pump Stations	X
Environmental Reports - Environmental Assessment	X
Environmental Reports - Environmental Impact Statement	X

X	PREQUALIFIED

A	NOT PREQUALIFIED, REVIEW THE COMMENTS UNDER CATEGORY VIEW FOR DETAILS IN EPAS.
S	PREQUALIFIED, BUT WILL NOT ACCEPT STATEMENTS OF INTEREST

February 7, 2020

Kenosha Road at 21st Street

Section No.: 19-00125-07-CH

Vendor Disclosures