


Municipality	L O C A L  A G E N C Y	 <b>Illinois Department of Transportation</b>	C O N S U L T A N T	Name Peralte-Clark, LLC
Township				Address 171 West Wing Street, Suite 204B
County Lake County – Division of Transportation				City Arlington Heights
Section 17-00193-08-PV				State Illinois

THIS AGREEMENT is made and entered into this 11th day of February, 2020 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 Arlington Heights Road (CH 79)

Route CH 79 Length 1.40 Mi. 7390.00 FT (Structure No.                     )

Termini IL Route 83 to Lake-Cook Road

#### Description:

This project will reconstruct Arlington Heights Road between IL Route 83 and Lake-Cook Road. Operational intersection improvements will be analyzed at IL Route 83, Fremont Way, Checker Road and Lake-Cook Road.

### Agreement Provisions

#### The Engineer Agrees,

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



- j. ☒ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
  - k. ☐ Prepare the Project Development Report when required by the DEPARTMENT.
  - l. ☒ **Services as included and/or defined in the attached Scope of Services.**
2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies **of the LA 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 \$2,221,029.28**



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**

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#### **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:

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

ATTEST: \_\_\_\_\_ Peralte-Clark, LLC  
Engineering Firm  
171 West Wing Street, Suite 204B  
Street Address  
Arlington Heights, Illinois  
City, State  
By \_\_\_\_\_ By \_\_\_\_\_  
Title \_\_\_\_\_ Title \_\_\_\_\_

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





**Arlington Heights Road (CH V69)  
from Lake Cook Road to Illinois Route 83**

**Lake County, Illinois  
Section 17-00193-08-PV**

**Phase I and II Engineering Scope of Work  
Roadway Reconstruction  
January 2020**



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Arlington Heights, Illinois 60005  
Phone: 847-485-8069  
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## *Project Understanding*

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This project includes elements of Phase I Engineering, Environmental Studies and full Phase II plan preparation for the roadway reconstruction of Arlington Heights Road (V69) from Lake Cook Road to the north right-of-way line of Illinois Route 83. This project is located within the municipal boundaries of the Village of Buffalo Grove, Village of Long Grove, Village of Arlington Heights and Unincorporated Lake County. Design work is anticipated to include full roadway reconstruction of the mainline pavement from just north of Lake Cook Road to just south of Illinois Route 83. Operational improvements to the intersections of Lake Cook Road, Checker Road and Illinois Route 83 will be evaluated to improve safety, mobility and accommodate projected future travel demand for the year 2050. The intersection at Arlington Heights Road at Fremont Way will also be evaluated for safety and operational enhancements. Several alternatives are anticipated to be evaluated at each intersection.

The project team will coordinate with project stakeholders to gain their input throughout the study at planned public meetings as well as planned stakeholder meetings. However, the formation of a formal Stakeholder Involvement Group (SIG) and Stakeholder Involvement Plan (SIP) is not anticipated. A total of three public meetings are anticipated throughout the project. A public information campaign including the development of a project website will be led by Lake County staff, with input from Peralte-Clark.

This project will be funded with local funds and Motor Fuel Tax funds. The Lake County Division of Transportation (LCDOT) will be the lead agency for the design, bidding, letting and construction stages. The preparation of a formal Phase I study is not anticipated for this project; however, elements of a Phase I study are included in this project. Details of the proposed Phase I scope are outlined below. Phase II design will adhere to the current LCDOT plan preparation guidelines and will be subject to IDOT Bureau of Local Roads and Streets (IDOT-BLRS) reviews and approvals. Roadway improvements to Lake Cook Road and Illinois Route 83 are not anticipated as part of this project.

Phase I and Phase II Engineering portions of this project, project study and plan preparation work will be coordinated through IDOT-BLRS in accordance with BLRS Chapter 10 requirements. Because federal dollars are not anticipated to be involved in this project, the schedule of these two phases can overlap. Although both LCDOT and the design team believe impacts to public park lands will not be formally subject to Federal Section 4(f) consultation requirements, scope is being included to address this need should it arise in Phase I. The project is subject to Section 6(f) consultation due to the use of LAWCON funding for the Buffalo Creek Trail Improvements.

The project is currently programmed and targeted for construction in 2024. The following scope of work is based on scoping discussions with LCDOT staff on February 5th, 2019 and October 11<sup>th</sup>, 2019.



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## *Scope of Services – Phase I*

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The following is our proposed scope of services for Phase I Engineering on this project:

### **1. Data Collection, Compilation, Review and Evaluation**

This task includes obtaining all pertinent data required to complete both Phase I and Phase II work. Coordination will occur with LCDOT, IDOT, CCDOTH, the Lake County Stormwater Management Commission (LCSMC), the Village of Long Grove, Village of Buffalo Grove, Village of Arlington Heights, Vernon Township, Lake County Forest Preserve District (LCFPD), and all other agencies necessary to obtain base data for the project area, including but not necessarily limited to the following information:

- Record roadway and drainage plans, including previous studies/reports, and engineering and as-built plans for past Arlington Heights Road.
- Recorded centerline and right-of-way plans for Arlington Heights Road (V69), Lake Cook Road and Illinois Route 83.
- Available traffic data.
- Available crash data.
- Available survey data and control data for tying to the Lake County LiDAR mapping.
- Existing and proposed land use and zoning maps, including School Districts, Park Districts, Forest Preserve Districts, Sanitary/Drainage Districts, and Bike/Pedestrian plans as pertinent/available.
- Soils and geological information.
- Public and private utility plans (Peralte-Clark will work with the LCDOT utility coordinator to obtain this information).
- USGS maps and Flood Insurance Rate Maps.
- Public Service routes including Bus, Mail, and Emergency Services.

Peralte-Clark will coordinate with the Lake County GIS Department to obtain available GIS data for the study area, including aerial photography, LiDAR contour mapping, environmental resources, property lines, roadway names, etc.

Peralte-Clark will determine facility deficiencies based on information gathered and prepare exhibits of the data collected as appropriate for use as part of other project tasks. This task will include a plan-in-hand field review of the project area, and contact with key stakeholders within the project area, including the Village of Long Grove, Village of Buffalo Grove, Vernon Township, LCFPD, and LCSMC to retrieve appropriate base project data.

Specific work items under this task will include:

- Initial project field review(s)
- Complete a detailed photo log of the site including a detailed inventory of topographic features which may impact or be impacted by the proposed design
- Project data collection including contact and coordination with key project stakeholders.
- Coordination to obtain base project mapping data (LiDAR) and Lake County GIS data.
- Review, analyze, and catalog project data.



- Determine facility deficiencies.

## 2. *Field Survey Work*

The survey work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant. Surveying will be performed according to the Lake County Division of Transportation (LCDOT), Design Survey Procedures (Revised 10/19/18).

Peralte-Clark, LLC will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. HR Green will contact property owners, to the extent possible, in advance of surveying on private property.

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

*Horizontal Control:* Utilizing state plane coordinates, HR Green 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 HR Green 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 and assign elevations to the horizontal control points.

*Topographic Survey:* Topographic Survey will include the limits as outlined in the attached exhibits in Attachment B. In general, these extend approximately 8,300 feet or 1.57 miles along Arlington Heights Road from the north line of Whitehall Drive to the north line of IL-83, extending 600 feet east and 900 feet west along Lake Cook Road, and 1,000 feet east and 800 feet west along IL 83, and 500 feet east and 500 feet west along Checker Drive/Road, and 500 feet along Fremont Way. All other minor side streets adjacent to Arlington Heights Road will extend 150 feet on each leg. Aerials will be used for anything beyond noted survey limits for MOT. The survey will extend 25 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. Existing utilities and wetlands delineated by Huff and Huff will be surveyed from visible markings or flags by others. Storm, sanitary sewer and watermain structures will be surveyed, including rim elevation, invert pipe size, direction and elevation as observed at unlocked manholes. HR Green 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:* HR Green 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:* HR Green 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, IDOT, and CCDOTH 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.

Stream Survey: Survey will include four (4) cross sections extending 50 feet beyond the top of bank along both sides at various intervals of Buffalo Creek Tributary lying north of Checker Drive.

Alignment and Ties: Prepare drawings showing the station, offset, and coordinates of the alignment points (PCs, PTs, Pls, 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 Peralte-Clark.
- Hydraulic survey of Buffalo Creek. Hydraulic modeling of the waterway is not anticipated since the roadway bridge structure is a project omission.
- A tree survey will be prepared by Huff and Huff.

### 3. **Traffic Counts**

This task includes the following work related to collection of existing traffic data and associated data compilation including movement balancing.

Traffic Volume Counts: Video traffic counts, which will include through and turning movements and vehicle classifications will be collected by **Quality Counts, LLC** for this project. Turning movement counts and classifications as well as pedestrian and bicycle counts will be obtained for the following intersections:

- Arlington Heights Road (CH V69) at Lake-Cook Road\*
- Arlington Heights Road (CH V69) at Checker Road\*
- Arlington Heights Road (CH V69) at Alden Lane\*\*
- Arlington Heights Road (CH V69) at Fremont Way\*
- McDonalds/Shell Gas Station Driveway Entrance at Fremont Way\*
- Arlington Heights Road (CH V69) at Illinois Route 83\*

\* 24-hour counts

\*\* 6-hour counts from 6 a.m. to 9 a.m. and 3 p.m. to 6 p.m.

Bi-directional, twenty-four (24) hour roadway traffic counts (via traffic counting tube) will not be obtained.



Traffic ADTs will be determined using the 24-hour turning movement counts at each intersection noted above.

#### **4. Traffic Projections and 2050 No-Build Analysis**

Peralte-Clark will review and determine roadway ADTs from the traffic count data and coordinate with the Chicago Metropolitan Agency for Planning (CMAP) to obtain projected 2050 traffic volumes for the project. The existing and 2050 projected traffic volumes will be utilized to determine operational deficiencies at the three signalized intersections within the project study limits based on existing geometry. It is anticipated that the team will be using a single set of traffic projections from CMAP, based on the IL Route 53 Extension “No Build” scenario. This scenario is recommended to be used since it represents the “worst case” in terms of anticipated traffic growth in 2050 for Arlington Heights Road. It is not the County’s intent to address capacity improvements that may be warranted by 2050 CMAP projections as part of this project.

HCS 7 Analysis: An HCS 7 analysis will be prepared for the existing and no build condition using existing 2020 and projected 2050 traffic data. A total of eight HCS analyses shall be performed (4 intersections, two analyses performed at each intersection). Intersections to be analyzed as part of this study include:

- Arlington Heights Road (CH V69) at Lake-Cook Road
- Arlington Heights Road (CH V69) at Checker Road
- Arlington Heights Road (CH V69) at Illinois Route 83
- Arlington Heights Road (CH V69) at Fremont Way

Since no new traffic signals are anticipated for this project, updated traffic signal warrants will not be prepared for the existing signalized intersections. Signal warrants (previously prepared by others) for each signalized intersection will be referenced as part of the Phase I study documents. For Fremont Way, it is anticipated that this intersection will remain as stop controlled, due to the proximity to the existing IL Route 83 intersection.

Peralte-Clark will provide a white paper Technical Memorandum summarizing the results of the traffic counts, calculated ADTs, projections and analysis, and noted deficiencies.

Specific work items under this task will include:

- Determine roadway ADTs from 24-hour counts
- Compile traffic data to obtain 2050 traffic projections from CMAP
- HCS 7 analysis for the existing and no build condition using existing 2020 and projected 2050 traffic data
- Technical Memorandum

#### **5. Crash Analysis**

This task includes obtaining the last five (5) years of crash data (2013-2017) from LCDOT and IDOT including segment and intersection crash data, in order to prepare a project Crash Analysis Report (CAR). It is anticipated that the crash data will be available through the LCDOT TCAS system which provides access to State, County and Municipal crash data and collision diagrams. Peralte-Clark will prepare supplemental intersection collision diagrams, if necessary, within the project study area, and other exhibits as necessary



to summarize the crash data.

Specific work tasks will include:

- Develop CAR Format.
- Develop CAR Maps, Tables, and Exhibits.
- Prepare Preliminary CAR for review.
- Prepare Final CAR with disposition of comments.

## **6. Roadway Drainage**

The drainage design and permitting work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

**Preliminary Drainage Investigation:** HR Green will identify drainage problems by researching LCDOT flooding and maintenance records, coordinating with local agencies and conducting site investigations. The project scoping report indicated there has been no reported pavement flooding within the corridor, although one drainage investigation will be assumed for the project.

**Existing Drainage Plan:** The existing drainage system will be analyzed to determine the suitability for continued use. This will involve the preparation of an Existing Drainage Plan (EDP). The EDP includes an evaluation of existing drainage conditions through a review of record drawings of the roadway plans, maps, reports and field review. Data collection as part of this task includes obtaining pertinent record drawings, storm sewer atlases, USGS maps, soils maps, topographic maps, existing FEMA data/studies and other pertinent data. Determine whether to maintain or replace existing storm sewer systems, based on visual evaluation of sewer inspection videos to be provided by LCDOT and hydraulic need. Off-site and on-site drainage areas and existing drainage systems will be delineated on the base project mapping.

**Agency Coordination:** HRG will coordinate with the Village of Buffalo Grove, LCDOT, LCSMC, and LCFPD regarding drainage patterns and concerns, and sensitive drainage areas and/or outfalls. Based on a review of project area mapping, it appears that there will be a sensitive storm sewer outlet opposite of the intersection of Arlington Heights Road and Brittany Lane that may require detention and water quality improvements. (See Project Design Coordination Meetings Section)

**Base Floodplains:** The mapped FEMA floodway zone at Buffalo Creek will be an omission and no work in the floodplain or floodway is anticipated, therefore no compensatory storage calculations will be required for this project.

Specific work tasks associated with development of the EDP includes the following:

- Identify the tributary drainage area to inlets and outfalls.
- Identify existing drainage outfalls.
- Evaluate outfall sensitivity and suitability for continued use.
- Preparation of the EDP.
- Show floodplain and floodway boundaries to define omission area.
- Coordination meetings for the EDP with LCDOT, LCSMC, LCFPD, the Village of Buffalo Grove, and Huff and Huff relating to the USACE.



## 7. Alternate Geometric Studies

The Alternate Geometric Studies task includes developing preliminary geometry of proposed mainline and intersection geometric alternatives for coordination with project stakeholders and for presentation at Preferred Alternative Public Meeting.

Intersections Alternatives Development: Intersection alternatives will be evaluated for several intersections within the project area. Alternatives will be modeled in HCS7, using the 2050 traffic projections obtained in scope developed in scope item 4, for the following intersections:

- Arlington Heights Road (CH V69) at Lake-Cook Road
- Arlington Heights Road (CH V69) at Checker Road
- Arlington Heights Road (CH V69) at Illinois Route 83
- Arlington Heights Road (CH V69) at Fremont Way

It is assumed that two (2) build concept alternatives will be evaluated for each intersection. For the intersections at Fremont Way and at Checker Road, the alternatives will include:

1. Minor Geometric Improvements Alternative
2. Major Geometric Improvements Alternative

For the Lake Cook Road intersection, the alternatives will include:

1. "LCDOT Jurisdiction Only" Geometric Improvements Alternative
2. "LCDOT and CCDOTH Jurisdiction" Geometric Improvements Alternative

For the Illinois Route 83 intersection, the alternatives will include:

1. "LCDOT and Buffalo Grove Road Jurisdiction Only" Geometric Improvements Alternative
2. "LCDOT, Buffalo Grove and IDOT Jurisdiction" Geometric Improvements Alternative

The alternatives at the intersections at Lake-Cook Road, Checker Road and IL Route 83 will be analyzed as traditional signalized intersections. Alternatives at the intersection at Fremont Way will be analyzed as a one-way stop condition (on Fremont Way). The analysis of any single- or multi-lane roundabout alternatives and other intersection configurations at these four intersections is not anticipated. Hence, capacity analysis using Synchro or Sidra is not anticipated as part of this work.

The development of detailed proposed roadway geometry will not be prepared as a part of this Intersection Feasibility Analysis. The primary purpose of this exercise is to identify minor geometric improvements that can be made to the intersections that result in the best operational and safety performance.

Mainline Alternatives Development: Preliminary mainline geometry will be developed for two (2) proposed mainline alternatives. Preliminary geometry will include basic plan geometry, preliminary profile, and will be 3D modeled in Bentley PowerGeopak SS4 to establish preliminary limits of construction and evaluate ROW requirements for each alternative. Preliminary roadway geometry will be developed and evaluated based on the available environmental resource data, the traffic and crash analysis



performed, and initial stakeholder input.

The alternatives to be analyzed will include:

1. Minor Geometric Improvements Alternative – No mainline shoulder widening
2. Pavement Widening Improvements Alternative – Mainline 3' paved shoulder widening

The following assumptions are also made with respect to development of preliminary mainline roadway geometry:

- The evaluation of an “add lanes” or mainline capacity improvement alternatives is not anticipated.
- Pedestrian and bicycle accommodations will be incorporated with all alternatives compliant with the Lake County NMTI policy.
- A closed drainage system (i.e.; curb and gutter) will be provided within the limits of the project improvement area to minimize overall right-of-way impacts along the corridor.
- Stormwater detention, water quality improvements and compensatory storage volume requirements and locations (if required) will be estimated for the preliminary alternatives for comparative purposes and will be finalized as part of the preferred alternative.
- For each preliminary alternative, plan geometry, preliminary profiles, and a rough 3D roadway model will be developed to determine preliminary right-of-way requirements and assessment of impacts.
- The IDOT 3D Bentley PowerGeopak workspace and standards will be followed for all 3D design work to be performed.

The Intersection Alternatives Development and Mainline Alternatives Development work findings will be summarized in a combined white paper report. Projected 2050 traffic performance of each alternative considered with recommended preferred options for each intersection and the mainline pavement section will be submitted for LCDOT review. Two meetings are anticipated with LCDOT staff associated with development and review of the intersection feasibility analysis study.

Specific work tasks will include:

- Evaluate traffic performance of two (2) intersection alternatives at four (4) locations.
- Evaluate impacts of two (2) mainline alternatives
- Comparative analysis of the preliminary alternatives.
- Development of white paper report documenting study findings and recommendations.

## **8. Retaining Wall Design**

The retaining wall design for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

*General Understanding:* The proposed improvements to Arlington Heights Road may require the addition of retaining walls in two locations with exposed wall heights not expected to exceed five (5) feet and length of wall not expected to exceed one hundred (100) feet. The use of retaining walls may alleviate additional right-of-way purchases in the two proposed areas, though the final recommendation on the use of retaining walls vs. other options such as right-of-way purchase or permanent easements will be



determined during Phase I of the project. Retaining wall type including foundation type, and aesthetic features, will also be determined during Phase I of the project. Phase II of the project will include design and detailing of the retaining wall(s) if such structures are recommended and approved as part of the Phase I engineering submittals. The project is using local funds and will not include submittals to IDOT and will not involve work that extends into IDOT right-of-way.

#### Design Criteria/Assumptions

- A. Retained height not expected to exceed 5 feet and wall length not expected to exceed 100 feet.
- B. Anticipated site constraints for available room within the existing right-of-way may necessitate the use of a pile supported retaining wall to limit excavation. This may consist of a sheet pile retaining wall with a cast-in-place or precast concrete façade or a soldier pile supported cast-in-place or precast panel retaining wall.
  - a. A construction feasibility study for the retaining wall options listed above as well as a gravity wall will be reviewed as part of Phase I engineering. The construction feasibility study will take into consideration costs and site constraints such as available right-of-way, construction staging, and existing utility conflicts.

Preliminary Structural Design Engineering Services: HR Green will review the need for retaining walls along the proposed improvement and provide a cost and construction feasibility study of different retaining wall types.

Specific work tasks will include:

- HR Green will submit a technical memorandum (a .pdf document via email) with results of construction feasibility review and recommendations on retaining wall type and location for Final Design.
- The feasibility study will include list of aesthetic enhancements to the proposed wall as directed by LCDOT.

## **9. Traffic Maintenance Analysis**

The traffic maintenance analysis and permitting work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

HR Green will prepare a Traffic Maintenance Memo for construction of the preferred alternative. This will include a determination of the most effective method for construction staging and traffic maintenance, including an evaluation of the need for and implications of maintaining traffic during construction, providing for construction detours, and any associated temporary pavement needs and associated temporary construction easements.

HR Green will prepare a traffic maintenance concept plan to identify an appropriate staging plan. As part of the concept plan, HR Green will develop a maintenance of traffic concept using sketches on base map drawings to accommodate proposed roadway closures. It has been assumed that there will be three main stages of construction on Arlington Heights to construct the project.



Specific work tasks will include:

- Determine stage construction methodology.
- Determine traffic maintenance requirements.
- Determine temporary construction easement needs.
- Prepare Traffic Maintenance Memo.
- Prepare Memo Exhibits to include:
  - Develop staging typical sections showing lane widths;
  - Work zones; and
  - Easements and traffic control devices.

## **10. 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.

### 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 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 eight public and private utilities to coordinate with.

### Utility Locating

HBK will perform SUE Level D 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 or flags. HBK staff will coordinate with HR Green'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 HR Green 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 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.

### **11. Intersection Design Studies**

At the direction of LCDOT, Peralte-Clark will prepare Intersection Design Studies (IDS) in IDOT format at a scale of 1" = 20' for the preferred alternatives at each of the following locations:

- Arlington Heights Road (CH V69) at Lake-Cook Road
- Arlington Heights Road (CH V69) at Checker Road
- Arlington Heights Road (CH V69) at Fremont Way\*
- Arlington Heights Road (CH V69) at Illinois Route 83

\* Potential abbreviated IDS format

Each IDS will utilize the capacity analysis for the preferred alternative prepared in Task 7. Peralte-Clark will design the proposed intersection geometry, prepare AutoTurn turning movement analysis diagrams, design a preliminary traffic signal layout, and include the required design criteria/design exceptions/general notes. The preliminary IDS is anticipated to be submitted to LCDOT, IDOT Bureau of Local Roads, CCDOTH (Lake-Cook Road) and revised based on any review comments received.

In conjunction with the preparation of the IDS for IL Route 83, ADA sidewalk detail sheets will be created and inserted into the plans. Details will be provided for intersection quadrants and driveway locations within the anticipated improvement limit of the intersection.

The following assumptions are also made with respect to development of the preferred intersection geometry:

- The evaluation of an "add lanes" or mainline capacity improvement alternatives is not anticipated.
- The design of improvements to CCDOTH or IDOT jurisdiction roadways above and beyond the preparation of an IDS at Lake Cook Road and Illinois Route 83 is not anticipated.

Specific work tasks will include:

- Prepare IDS for three signalized intersections
- Prepare ADA Ramp design details for intersection of Arlington Heights Road and IL Route 83
- Prepare abbreviated IDS format for one stop-controlled intersection

### **12. Environmental Surveys, Analysis and Coordination**

The environmental work for this project will be prepared by **Huff and Huff, Inc. (H&H)**, as a subconsultant.

The project is located entirely within an area of local roads including approximately 1.4 miles of improvements along Arlington Heights Road from Lake Cook Road to Illinois Route 83 in Long Grove and Buffalo Grove, Illinois.



The following scope of environmental services will be completed for the Arlington Heights Road project by H&H. These include:

- Preliminary Environmental Site Assessment (PESA)
- Wetland/Surface Waters Delineation
- Wetland Report
- Tree Survey and Tree Survey Report
- ESR Submittal

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

IDOT will conduct the PESA for all state-owned right-of-way at the intersection of Arlington Heights Road and Illinois Route 83.

A. Historical Research

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

B. Site Evaluation

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

C. Records Review

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

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



#### D. Report Preparation

A PESA report summarizing the results of the evaluation will be prepared for the project corridor.

The following information will be included in these reports:

- a) The project location and description
- b) Historical uses of corridor.
- c) The area geology and hydrology.
- d) The environmental status of sites adjacent to the corridor regarding chemical use and storage, underground and aboveground storage tanks, solid waste, special waste, and hazardous waste, wastewater, and PCBs.
- e) An analysis of the site inspection.
- f) A summary of the findings regarding environmental concerns. This will include IDOT's BDE Manual Chapter 27-3, Special Waste Procedures, and identification of Potentially Impacted Properties (PIPs) per Subpart F, Section 1100, 35 IAC, related to Clean Construction or Demolition Debris management.

*Wetland/Surface Waters Delineation:* H&H will conduct a wetland and surface water delineation using current methods and guidance from the U.S. Army Corps of Engineers (USACE), which is outlined in the 2010 *"USACE Midwest Region Manual."* Based on a cursory review of available mapping and current aerial photography, it is anticipated that two wetlands and one waterway are present within the project limits. The assessment will include a document review (soils, topography, wetlands, surface waters, hydric soils, and aerial photography mapping), an on-site field investigation, and a report summarizing findings, including mapping.

#### A. Off-site Record/Document Review

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

- U.S. Geological Survey Topographic Map
- National Wetlands Inventory (NWI) Map
- Lake County Wetland Inventory (LCWI) Maps
- Lake County Advanced Identification (ADID) Maps
- Lake County Soil Survey
- FEMA Floodplain Maps
- Hydric Soils of the United States
- Hydrologic Atlas
- Aerial Photographs

#### B. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by H&H staff experienced in Federal methods for conducting wetland delineations. H&H will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed in the field by H&H.



Wetland and surface water delineations will be conducted that will meet the requirements of Executive Order 11990, "Protection of Wetlands" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (Corps of Engineers, Section 404 Permit) and the Illinois Environmental Protection Agency (IEPA Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to private as well as publicly owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and approximate boundaries of all wetlands and surface waters.

Wetlands and surface waters found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the U.S." by Cowardin. Wetland boundaries will be defined using the *Midwest Region Manual* (USACE, 2010). Each potential wetland area will be evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology. Functions of wetlands will be evaluated from field observations.

The entire area within the project limits will be investigated if unmapped wetlands or waterways are present. The Lake County Wetland Inventory (LCWI) Map depicts one wetland in the project limits. As the LCWI Maps were developed to be used as general planning tools, detailed field investigations are required to ascertain the presence of wetlands onsite. All areas exhibiting wetland characteristics within the project limits will be investigated.

H&H will survey the wetland and surface water perimeters using GPS. H&H will download the data and provide a shape file to Peralte-Clark, LLC. with all pertinent delineation survey data.

This task includes time for a boundary verification and preparation and submittal of preliminary jurisdictional determination to the Lake County Stormwater Management Commission (SMC). Fees for the boundary verification and jurisdictional determination will be paid by LCDOT directly to SMC and are not included in this cost estimate as the fees are based on the number of wetlands/surface waters present, which is not known at this time.

The wetland delineation will be scheduled according to the designated Lake County SMC and USACE growing season for Lake County, which begins on May 15<sup>th</sup> and ends October 1st. If the delineation is completed outside of the growing season, additional field visits may be required and are not included in this scope of services.

**Wetland Report:** A wetland and surface waters delineation report will be prepared summarizing the findings of the fieldwork.

Specific items to be included are as follows:

- a) Map showing the wetland/WOUS boundaries and project boundaries
- b) Aerial Photo with the appropriate limits of delineated wetlands and/or waterway
- c) USACE data sheets with color photos of the wetlands and the data points
- d) Floristic Quality Assessment
- e) Written description of wetland functional classification
- f) Permitting summary



- g) Jurisdictional Summary Table
- h) Identification of 303(d) impaired waterways
- i) Mitigation requirements and options

All wetland boundaries will be located using GPS. The wetland boundary map will be derived from the GPS survey of these features. Shapefiles for the surveyed areas will be included on a CD with the wetland delineation report. The wetland layers will be separated for use by the Client for their construction drawings. Copies of the wetland report will be provided as a PDF.

Time under this task includes QA/QC of the report.

Wetland permitting will be conducted in Phase 2 and is not included in this scope of work. The preliminary jurisdictional determination and boundary verification will be conducted during this phase of the project.

*Tree Survey and Tree Survey Report:* H&H will conduct a tree survey and prepare a report for the portion of the project located in the Lake County forest Preserve Buffalo Creek Preserve. H&H will identify the trees to species level and determine health, structure, and origin. H&H will also note whether any trees are of exceptional size and condition. The tree survey will follow Lake County Forest Preserve guidance for conducting tree surveys. All trees located on FPD property with a DBH of four inches will be identified.

H&H will provide the location of all individual trees surveyed by station and offset from the field survey to the Client.

After all trees are evaluated within the forest preserve, a tabulation of trees will be compiled which summarizes trees present within the project limits and potential impacts. A summary tree memorandum will be prepared to document the tree assessment and summarize potential impacts.

*ESR Submittal:* The environmental evaluation will be initiated through the submittal of the Environmental Survey Request Form (ESRF). The ESR limits will be wide enough to incorporate reasonable alternatives and areas potentially affected, such as the drainage areas, detention areas, and compensatory storage sites. Environmental resource areas covered by the ESRF include wetlands, special waste, cultural (historical and archaeological) and state listed threatened and endangered (T&E) species.

Huff & Huff will prepare the ESRF package and send it to the Environmental Studies Unit at IDOT District 1 for review.

*Section 6(f) Scope:* H&H will assist in a Section 6(f) land conversion request. Land and Water Conservation (LAWCON) funds were used by the Lake County Forest Preserve District in the development of the Buffalo Creek Trails in 1998. The trail extends along Arlington Heights Road between Lake Cook Road and Checker Street. Portions of the trail/property that LAWCON funds were used on may be converted to a nonpublic outdoor recreation use. If property, that LAWCON funds were used on, is converted to a nonpublic outdoor recreation use, the Regional Directors of the National Park Service (NPS), must approve such conversion. To be approved, the conversion must be in accordance with the existing comprehensive Statewide outdoor recreation plan, published by the IDNR, and requires the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.



Section 6(f) land conversion will require early and ongoing coordination with the Lake County Forest Preserve District, the IDNR and the NPS Regional Director. Section 6(f) does not require a special report. Typically, involvement with Section 6(f) land is included in the environmental documentation for the project and in any documentation for compliance with Section 4(f).

A request to convert LAWCON-assisted properties to other than public outdoor recreational uses will be submitted, in writing, through the IDNR to the appropriate NPS Field Director. The conversion request will include information to address each of the following points:

1. Alternatives. All practical alternatives to the proposed conversion will be evaluated.
2. Value. The fair market value of the property to be converted will be established and the property proposed for substitution is of at least equal fair market value as established by an approved appraisal (i.e., prepared according to Uniform Federal Appraisal Standards), excluding the value of structures or facilities that will not serve a recreational purpose. This task will be conducted by others.
3. Replacement Property. The property proposed for replacement will be of reasonably equivalent usefulness and location as that being converted.

Section 4(f) Scope: In coordination with the Section 6(f) coordination, H&H will complete coordination of potential park district and forest preserve impacts through the Section 4(f) process. As the level of impacts to recreational lands and facilities is unknown at this time, H&H assumes that the Section 4(f) coordination will be Programmatic and not de minimis. H&H assumes that the FHWA will require the Section 4(f) approval through the use of MFT funding.

This scope of work includes coordination with the Lake County Forest Preserve District and the Buffalo Grove Park District (if impacts are proposed to the park district site). This will include meetings, conference calls and email correspondence. H&H will document the potential impacts to the recreational facilities and present this to the Federal Highway Administration (through LCDOT) for a determination on the level of processing of Section 4(f) impacts. A final Section 4(f) document will be prepared. There is the potential that the FHWA may determine that Section 4(f) is not applicable on this project through the use of MFT funds.

### **13. Public Involvement**

Peralte-Clark will lead the overall public involvement work for this project with support from Huff and Huff, Inc. In general, the public involvement program for this project is anticipated to include individual project stakeholder coordination, a series of Public Meetings, and preparation of materials in support of a project website (to be developed and maintained by Lake County). The following is the general scope of work anticipated as part of the overall public involvement program for this project.

Public Information Meeting: An initial Public Information Meeting (PIM) will be advertised and held to explain the overall project development process requirements, present the public involvement program, provide an opportunity for early public comment and input on the project. The initial PIM is anticipated to be an Open House meeting with information and exhibits provided to describe the project, the anticipated project development process, outline existing conditions and deficiencies, outline the need



for the improvement and solicit feedback from stakeholders.

Specific work tasks for the Public Informational Meeting include the following:

- Compile mailing list (including stakeholders and all adjacent property owners).
- Preparation of the PIM Brochure/Handouts.
- Preparation of the PIM display exhibits (aerial exhibits, traffic data, crash data, and environmental data as available).
- Attendance at the PIM dry run with LCDOT as required.
- Secure the PIM location.
- Preparation of the PIM newspaper display ads, invite letters, press release, and e-blast as determined appropriate for the PIM.
- Staff attendance at the PIM.
- Preparation of record summaries of the PIM which will include copies of all notices, presentation material, attendance lists, comments, and responses provided.
- Preparation of the PIM summary for posting on the project website.
- Prepare responses to comments received at the PIM as determined required.

*Focused Stakeholder Meetings:* Through the planned process of conducting focused stakeholder meetings, the project team and project stakeholders will have the opportunity for direct information exchange for consideration in the determination of key project decisions.

Focused stakeholder meetings with two (2) stakeholder groups are anticipated for the project. These meetings are intended to take place after the PIM, prior to the selection of a preferred alternative and presentation of this alternative at the Public Preferred Alternative Meeting. The preparation of formal PowerPoint presentations for these focused stakeholder meetings is not anticipated. Scope includes three (3) meetings with the following two (2) stakeholder groups:

- Commercial Properties Near Fremont Way (Grouped Together)
  - Shell/McDonalds
  - Strip Mall Shopping Center (Kumon)
  - BMO/Harris Bank
- Residential Properties Near Fremont Way
  - Concord Place Subdivision

Specific work tasks associated with the focused stakeholder meetings includes the following:

- Identify location for each meeting with assistance from LCDOT.
- Prepare meeting agenda and submit to LCDOT for concurrence.
- Prepare meeting materials.
- Staff attendance at focused stakeholder meetings.
- Prepare stakeholder meeting minutes/summary and distribute.

*Public Preferred Alternative Meeting:* One Public Preferred Alternative Meeting is planned for the project. The Public Preferred Alternative Meeting will present the preferred alternative for public review and comment.



Specific work tasks for the Public Preferred Alternative Meeting will include the following:

- Compile mailing list (including stakeholders and all adjacent property owners).
- Preparation of Public Meeting Brochures/Handouts.
- Preparation of Public Meeting Display Exhibits (Aerial Displays with Preferred Alternative, Cross Sections, Traffic Data, Crash Data, Environmental Data, and other displays as appropriate).
- Preparation of a Public Meeting PowerPoint Presentation (Including Narrative).
- Attendance at a Public Meeting “Dry Run” with LCDOT.
- Secure a location for the Public Meeting Site.
- Preparation of Public Meeting Newspaper Display Ads and Press Releases.
- Staff attendance at Public Meeting.
- Preparation of record summaries of the Public Meeting which will include copies of all notices, presentation material, attendance lists, comments, and responses.
- Preparation of post Public Meeting project updates for posting on the project website that will summarize the proceedings, general comments received and responses, and an overview of the next steps in project development.
- Prepare individual response letters to uncommon comments received, or requests for information received at the Public Meeting.

*Project Website:* Lake County DOT will develop and maintain a project website to provide a central location for the exchange of project information between the project team (LCDOT and consultants) and project stakeholders. Lake County will utilize documents and information prepared by Peralte-Clark as part of the Public Meeting preparation process to post on the project website. Lake County will maintain responsibility for the preparation of the website content.

#### **14. Geotechnical Investigation**

This task includes obtaining roadway and structural soil borings along Arlington Heights Road between IL 83 and W. Lake-Cook road for design purposes as part of subsequent Phase II engineering. Peralte-Clark, LLC will utilize **Interra, Inc. (INTERRA)** for this work.

##### *Lake County Division of Transportation*

The scope of work includes locating and drilling twenty-five (25) roadway soil borings. The roadway borings will be drilled to a depth of 6.0 to 10.0 feet each from the existing ground/pavement surface, based on the existing ground elevation and proposed design grades. The roadway borings will be spaced approximately 300 feet apart and staggered, in general accordance with the IDOT Geotechnical Manual guidelines. The borings will be primarily drilled within the existing roadway and in the shoulder areas of Arlington Heights road.

In addition to the roadway borings, a total of four (4) structure borings will be drilled. These borings will be drilled to a depth of 15.0 feet each for proposed retaining walls less than 100 feet in length and 5 feet exposed height.

The location of the borings will be finalized upon consultation with the client. The location of the borings will be adjusted based on field conditions, accessibility and utility conflicts. We anticipate closing of lanes during drilling two roadway borings. Additionally, we anticipate the need for flaggers for a limited number



of borings. Traffic control signage and flaggers will be utilized as needed during drilling to ensure safety of drilling crew and traffic.

The borings will be drilled with a truck-mounted drill rig. Soil sampling in the borings will be performed in general accordance with American Society for Testing and Materials (ASTM) standards, D 1586 “Penetration Test and Split Barrel Sampling of Soils”. Observation for groundwater will be made during and immediately after the completion of the drilling. After the completion of the drilling, the boreholes will be backfilled with the soil auger cuttings from the same borehole. Where required, the surface will be patched with cement or asphalt to match surrounding elevations.

All field sampling and laboratory testing will be performed in general accordance with IDOT specifications. Laboratory testing includes moisture content tests, unconfined compressive strength tests using a RIMAC tester on all recovered soil samples. Standard Proctor tests, Illinois Bearing Ratio tests will be performed on bulk samples recovered from the proposed roadway areas. The final geotechnical report will be in general accordance with the IDOT Geotechnical Manual guidelines.

Environmental Screening: INTERRA will coordinate field activities with the environmental sub-consultant to facilitate soil sample screening and collection for analytical testing.

Specific work tasks will include:

- Pre-field work coordination with LCDOT on the boring plan, including traffic maintenance prior to field work.
- Post-field work meeting at LCDOT to discuss results and report preparation.
- Coordinate with environmental sub-consultant to allow soil sample screening and sampling for potential contamination.
- Prepare geotechnical report in general accordance with the IDOT Geotechnical Manual guidelines.

## **15. Preliminary Roadway Lighting Design**

The preliminary roadway lighting design for this project will be prepared by **Singh & Associates, Inc. (Singh)**, as a subconsultant.

Singh shall be responsible for providing lighting assessments for the existing lighting system and for the existing system retrofitted with LED fixtures.

Specific work tasks will include:

- Site visits and review of existing lighting conditions including photo log
- Photometric study of existing lighting system
- Lighting exhibits showing layout of existing lighting system
- Photometric study of existing lighting retrofit with LED for preferred roadway alternative
- White paper outlining findings of the two studies
- Coordination with local and state agencies for preferences, participation, and special requirements.

## **16. Project Coordination Meetings**

This task includes the organization and attendance at Monthly Project Status / Coordination Meetings



throughout the duration of the Phase I project. Team members and LCDOT staff will be requested to attend these meetings to ensure the design work is moving ahead efficiently and on schedule. The preparation of meeting minutes for these coordination meetings is not anticipated. However, an action item list and log will be kept ensuring all team members are responsive and accountable for their involvement in the project.

**Coordination:** Coordination with key stakeholder agencies will be required. We recommend that an initial kick-off meeting be scheduled with the Illinois Department of Transportation Bureau of Local Roads and Streets shortly after authorization to proceed, to introduce the project, review the general project scope of work and overall project development process (including public involvement activities), discuss field survey work anticipated to occur, establish mutual contacts, and to provide an opportunity for early project input.

Additional meetings with the following stakeholders are planned during the Phase I project development process:

- a. Illinois Department of Transportation – Bureau of Local Roads
- b. Cook County Department of Transportation and Highways
- c. Lake County Forest Preserve District
- d. Lake County Stormwater Management Commission (SMC)
- e. Municipalities
  - i. Village of Long Grove
  - ii. Village of Buffalo Grove
  - iii. Village of Arlington Heights

It is anticipated that municipal emergency services representatives (police, fire, etc.) will attend the municipal coordination meetings and will not require separate consultation. The assumptions for establishing an estimated level of effort for stakeholder coordination and meetings are as described below:

- One (1) project kick-off meeting with LCDOT\*
- Twelve (12) monthly coordination conference calls with LCDOT
- Three (3) meetings with IDOT BLRS\*
- Two (2) meetings with CCDOTH\*
- Three (3) meetings with Municipalities\*
- One (1) meeting with Lake County SMC\*
- One (1) meeting with Lake County Forest Preserve District\*

\* Preparation and distribution of meeting minutes will be provided

## **17. Project Administration and Quality Assurance/Quality Control**

This task includes overall project administration and management, as well as Quality Assurance/Quality Control (QA/QC) reviews associated with major project deliverables.

Project administration includes managing the day to day work effort on the project to ensure an efficient project development process including work force allocations, budget oversight, monthly progress



reviews to ensure project milestones are being met to the extent possible.

QA/QC reviews will occur as part of major project deliverables in accordance with Peralte-Clark's established QA/QC procedures.

Specific work tasks will include:

- General project management/administration including staff resource allocation, task/schedule oversight, quality reviews, etc.
- Prepare monthly progress reports including a copy of the overall project schedule.



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## *Scope of Services – Phase II*

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The following is our proposed scope of services for Phase II Engineering on this project:

### **1. Supplemental Field Survey and Plat of Highways Preparation**

The supplemental field survey and plat of highways preparation work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

Supplemental Survey: In order to develop accurate and complete construction documents, **HR Green** will perform supplement field surveys over the duration of the project to help resolve utility conflicts, obtain additional survey information for proposed water quality features, complete LiDAR mapping voids due to trees/brush, to pick-up any new developments/features along the corridor, and to pick-up additional survey areas if required based on the preferred alternative.

Maintenance of Traffic Survey: In order to develop accurate maintenance of traffic plans, **HR Green** will perform additional topographic surveys as needed. In general, these extend up to approximately 100 feet beyond the previous topographic survey limits along Arlington Heights Road, IL 83, and Lake Cook Road. Survey will include existing visible features and improvements within the existing pavement.

Plat of Highways: **HR Green** will prepare a plat of highways and legal descriptions according to LCDOT's Plat Guidelines (Revised 3/10/17) as well as IDOT Guidelines for an assumed maximum of 15 adjacent parcels of land to be acquired for right of way, permanent easements, or temporary construction easements. Boundary survey will be performed on the 15 subject parcels as described in the provided title commitments Schedule A as required to complete the proposed plat of highways. Existing property irons will be reset in temporary easements that have been disturbed during construction activities. Following construction, each proposed right-of-way parcel will be monumented with 5/8" steel bars with LCDOT ROW caps or other suitable markers.

### **2. Environmental Surveys, Analysis and Coordination**

The environmental work for this project will be prepared by **Huff and Huff, Inc. (H&H)**, as a subconsultant.

The project is located entirely within an area of local roads including approximately 1.4 miles of improvements along Arlington Heights Road from Lake Cook Road to Illinois Route 83 in Long Grove and Buffalo Grove, Illinois.

The following scope of environmental services will be completed for the Arlington Heights Road project by H&H. These include:

- USACE Section 404 Permitting
- Lake County Stormwater Management Commission Permitting
- Biological Clearances
- Archeological Review
- Preliminary Site Investigation (PSI) and CCDD



USACE Section 404 Permitting: H&H will develop the necessary permit application for submittal to the Client for review. H&H will coordinate with the Client on the permit application submittal process. The results of the jurisdictional determination (JD), which will be completed during the Phase I portion of the project, may be used for permitting. The Section 404 permit application will be submitted to the USACE electronically and paper copies will not be provided.

It is anticipated that a Regional Permit may be required through the USACE for this project. Permitting of wetland impacts under the Regional Permit Program is included in the scope of services. Due to the potential presence of wetlands and Buffalo Creek onsite that likely have a hydrologic connection to the Des Plaines River, these sites will likely be considered USACE jurisdictional and therefore require a Section 404 permit. Any isolated wetlands will be permitted by the Lake County Stormwater Management Commission (SMC) (see section below regarding Lake County Stormwater Management Commission Permitting).

The Chicago District USACE regional permit program is meant to simplify and expedite specific types of projects. Most regional permits have automatically authorized Section 401 Water Quality Certification (WQC) from the IEPA. H&H anticipates that this project **will qualify for a Regional Permit #3 (Transportation Projects); however, if future potential impacts exceed one acre, an Individual Permit may be required.** Costs provided for this task are based on the project meeting the criteria for a Regional Permit.

If the project does not qualify for a Regional Permit, an Individual Permit will be required. Individual Permits require a public notice period as well as separate WQC from the IEPA. The Individual Permit process can take significantly more time than the regional permit process and may require a Section 401 Anti-degradation Assessment. This scope does not include permitting assistance for an Individual Permit.

Within the regional permit program, permits are classified as either Category I or Category II. Category I includes activities with minimal impacts requiring review by the USACE. Category II includes activities with minimal impacts requiring more rigorous review by the USACE and coordination with the resource agencies.

The permitting process through the USACE for jurisdictional wetlands is initiated by the submittal of the Joint Application for Section 404 Permits. During the USACE Section 404 review process, the USACE will coordinate with the following agencies:

- U.S. Fish and Wildlife Service (FWS)
- Illinois Environmental Protection Agency (IEPA, 401 Water Quality Certification)
- Illinois Department of Natural Resources (IDNR)
- Illinois Department of Natural Resources/Office of Water Resources (IDNR/OWR)
- Illinois State Historic Preservation Office (SHPO)

Time under this task includes QA/QC of the permit documents.

Lake County Stormwater Management Commission Permitting: If the USACE does not take jurisdiction over a specific wetland, any work that includes dredge or fill of the wetland in question, or significantly alters drainage, will be regulated by the Lake County SMC. The Lake County SMC regulates isolated wetlands that are not subject to Section 404 regulations. Therefore, permitting activities may be required through



MWRD based on the Watershed Development Ordinance (WDO). H&H will coordinate with Lake County SMC for potential impacts to isolated wetlands.

Time under this task only includes the wetland aspect of permitting through Lake County. This scope does not include permits for impacts to floodplains, floodways and/or stormwater permitting through Lake County SMC.

Permitting fees will be paid by LCDOT directly to SMC. Time under this task includes one pre-application meeting with the Lake County SMC, if needed.

Time under this task includes QA/QC of Lake County SMC permitting documents. H&H will coordinate with HR Green on the submittal of all permit packages to the regulatory agencies.

Biological Clearances: Will be obtained through the ESR process.

Archeological Review: Will be obtained through the ESR process.

Preliminary Site Investigation (PSI) and CCDD: The final scope of the PSI will be determined based on findings of the PESA proposed for completion during Phase I. The following preliminary scope is based on our understanding of the project corridor. However additional potentially impacted properties (PIPs) or sites with recognized environmental conditions (RECs) may be identified during the PESA that have not been considered in this preliminary scope. Therefore, the PSI scope should be re-evaluated after completion of the PESA. If a PSI is required within state owned right-of-way along Illinois Route 83, the work will be conducted by IDOT. H&H PSI work will be limited to the local road sections.

Soil Borings and Soil Sampling: We propose to collect split samples in conjunction with the proposed geotechnical borings to be completed by others. It will be important to coordinate with the project team to review the proposed geotechnical boring locations and adjust or add to their scope, as/if necessary, to provide coverage for environmental purposes. Even if borings need to be added to the geotechnical firms' scope, in our experience, it would still be more cost effective to have a single driller instead of mobilizing separately for geotechnical and environmental purposes. Therefore, direct costs for drilling and traffic control services have NOT been included with this scope. Also, we assume that the geotechnical drilling firm will be responsible for the utility locating process, including marking the borings in the field.

It is anticipated that three days of field effort will be required with up to thirty (30) borings completed, assumed to be located every 500-feet and staggered for coverage of both sides of the roadway. This would provide full corridor coverage for any PIPs/RECs that may be identified and also to account for CCDD assessment in non-PIP/REC areas. The final location of the borings will be determined using the findings of the PESA and proposed project plans. H&H will also determine depths of planned borings prior to mobilization consistent with project plans as provided by Client, in conjunction with PESA findings. Currently it is estimated that borings will be advanced to depths of approximately 4 to 12 feet below ground surface.

H&H will coordinate with the project team including Peralte-Clark and Interra to gather soil samples for analytical purposes during the boring efforts by Interra.

*Analytical:* Laboratory analysis of soil samples is proposed to be consistent with constituents of concern



(COCs) as determined from the PESA as presented below. Boring locations where petroleum products or other volatile organic compounds represent the primary concern, samples will be field screened with a photoionization detector (PID). The sample with the highest PID reading in each boring will be analyzed for:

- **Volatile Organic Compounds** (up to 4 samples) – VOCs are volatile compounds found in gasoline and related to various solvents;
- **Benzene, toluene, ethylbenzene, and xylenes** (up to 8 samples) – BTEX is a subset of VOC compounds and typically analyzed for petroleum-only sites that do not also include potential for chlorinated compounds.
- **Semi-Volatile Organic Compounds (SVOCs) or Polynuclear Aromatic Hydrocarbons (PNAs)** (up to 6 samples each) – SVOCs are semi-volatile compounds commonly formed during incomplete combustion of organic compounds. PNAs are a subset of SVOCs and can be formed by the combustion of wood, coal, and petroleum products. They are also found in less refined, nonvolatile petroleum products and can be used to identify potential for diesel or fuel oil contamination in soil.

Other field screening factors such as visual, or proximity to potential sources of known contamination to determine which samples will be analyzed to identify the presence of:

- **RCRA Metals, total and SPLP/TCLP methods** (up to 12 samples) – Federal environmental regulations identify eight (8) heavy metals as hazardous if present in a *solid waste* at concentrations above varying threshold concentrations. Samples will be analyzed for select RCRA Metals, some of which may require further SPLP or TCLP analysis to determine compliance with the CCDD maximum allowable concentrations (MACs) (up to 4 samples).

In addition, soil samples will be analyzed for soil pH from each boring location, analyzed with a field meter consistent with CCDD sampling requirements with select pH samples submitted for laboratory analysis (up to 30).

**PSI Report Preparation:** A report summarizing the results of the soil sample collection activities and analytical results will be prepared. This document will present information pertinent for the bidding documents regarding conditions of soils tested, handling and final disposition considerations.

**CCDD (LPC-Form) Documentation:** The soil sample results will be compared to the Maximum Allowable Concentrations (MACs) associated with CCDD facility acceptance, including the soil pH range of 6.25 to 9.0. If results achieve the MAC values, H&H will prepare the LPC-663 document that will be signed/stamped by H&H. This proposal assumes the potential for requiring a separate form for each area to account for this currently unknown situation.

Any locations that do not achieve the MACs (including soil pH range) will be identified as exclusion zones, not acceptable for CCDD facility disposal. Typically, CCDD facilities, similar to landfills, prefer data within 1-year from when the soil is being hauled to them. Exceptions can be negotiated with the CCDD facilities to accept a new review of a database to confirm there are no new sites to extend the validity of the data. H&H will guide LCDOT in the potential submission of the LPC to the CCDD facilities seeking pre-approval and indicate at that time the anticipated letting to solicit exceptions (if any) attached to an approval or conditional approval.



Scope of services Phase II Item 3 Environmental Surveys, Analysis and Coordination/PSI and CCDD/Soil Borings and Soil Sampling:

Split sampling with Geotech firm Interra, so direct costs for a driller are not included.

If Thelen is identified as the facility H&H will analyze for TCLP iron. H&H has dealt with this facility and are familiar with their sampling requirements, which can vary. H&H will seek conditional pre-approval of the LPC document from 3 CCDD facilities, Thelen included.

### **3. *Pavement Life Cycle Cost Analysis (LCCA)***

A proposed pavement LCCA will be prepared to evaluate the implications of initial pavement design decisions regarding the future costs of maintenance and rehabilitation activities over the design life of the proposed pavement. The analysis will assume that a high level of service is maintained to preclude the use of full depth patching and other major repairs. The analysis will evaluate the performance of the pavement (HMA vs. PCC) over the design life of the pavement to identify the most cost-efficient pavement design alternative for the project.

Elements that will be included in the Pavement LCCA include:

- Establish strategies for the pavement design life service period
- Establish activity timing
- Estimate agency costs
- Estimate user costs
- Develop expenditure streams
- Compute net present value (NPV)
- Conduct risk analysis
- Re-evaluate strategies
- Suggest a preferred pavement design section

LCCA results are just one of many factors that influence the ultimate selection of a pavement design strategy. The final decision may include additional factors outside the LCCA process, such as LCDOT design standards, availability of funding, industry capability to perform the required construction, and LCDOT experience with a pavement type, as well as the accuracy of the pavement design, rehabilitation impacts to traffic, and rehabilitation models.

Specific work tasks will include:

- Prepare a mechanistic pavement design for HMA and PCC pavement.
- Evaluate pavement life cycle cost analysis for HMA and PCC pavement.
- Development of white paper report documenting study findings and recommendations.

### **4. *Roadway Plans***

The preferred alternative will be detail designed in preparation for construction plans. The project team will follow the LCDOT Plan Preparation Guidelines. It is anticipated that each submittal will be made electronically in PDF format as well as three sets of 11" x 17" sized drawings for the Preliminary and Pre-Final submittals. One (1) set of 11" x 17" plans will be provided for the Final submittal. CAD files used in the production of the plan set will also be submitted after the 100% submittal. Assembly of the



construction plans will be completed under this task.

LCDOT and External Submittals and Reviews: During Phase II, the following submittals are anticipated:

- Preliminary (60%)
- Pre-Final (90%)
- Final (100%)

The Preliminary Plans will be submitted to LCDOT, local municipalities and IDOT BLRS for review. The Pre-Final contract documents will be submitted to LCDOT, LCSMC, CCDOTH, local municipalities and IDOT BLRS for review and permitting. We will also submit the contract plans to known utility companies within the project limits. This submittal will sufficiently define the conflicts so that the utility companies can, at a minimum, perform the necessary engineering for any required utility relocation work. This task shall include any meetings with reviewing parties to discuss the review.

An anticipated sheet list has been included in Attachment A and detailed out in the sections below:

General Plan Set Components: The Cover Sheet, General Notes, Summary of Quantities, Schedule of Quantities, Alignment & Ties, and Typical Sections will be prepared according to LCDOT Plan Preparation Guidelines.

Removal Plan & Profile: It is anticipated that due to plan sheet clarification, separate existing/removal plan and profile sheets will be prepared.

Roadway Plan & Profile: 1" = 20' plan and profile sheets, including proposed drainage (as practical).

Traffic Control Plans: 1" = 50' Maintenance of Traffic plan sheets by stage, including typical sections and specific maintenance of traffic notes.

Erosion Control Plans: See NPDES Permitting and SWPPP Plan Preparation section.

Intersection Detail Plans: Intersection Detail sheets will be provided at the Lake-Cook Road, Checker Road, and IL Route 83 intersections.

Pavement Marking & Landscaping Plans: It is anticipated due to plan sheet clarification, separate pavement marking and landscaping plans will be prepared.

Traffic Signal Plans: See Traffic Signal Design section.

Sidewalk & ADA Ramp Sheets: Separate ADA sidewalk detail sheets will be created and inserted into the plans. Updates to the IL Route 83 intersection ADA plans developed in Phase I will be provided, if needed. Details will be provided for intersection quadrants and driveway locations.

Cross Sections: The cross sections will be prepared at 50-foot intervals and will include full sections at intersections of streets, high and low points along the roadway profile, beginning of project, and end of project limits. Construction details with half width cross sections will be prepared at driveways and access points. This work will be in accordance with Lake County Division of Transportation Plan Preparation Guidelines.



Detail Sheets: Provide applicable LCDOT, IDOT and project specific details.

Municipal Utility Relocation Sheets: Peralte-Clark will coordinate with local municipalities to include plans (by others) in the LCDOT bid package set for the relocation of municipal-owned utilities (such as street lighting, sanitary & water utilities, etc.) as part of the LCDOT bid document package. Each participating municipality will be responsible for providing bid quantities, plans, specifications and estimates for this work in accordance with the design team's milestone deliverable dates established in the Phase II design schedule.

## **5. Roadway Drainage Plans and Permitting**

Proposed Drainage Plan: The LDTM will utilize the contract drainage plan deliverable for the Proposed Drainage Plan (PDP), there will not be a separate PDP developed for the LDTM. The PDP being used as final contract plans includes an evaluation of proposed drainage conditions for the identified preferred alternative. A closed drainage system is anticipated to be provided within the limits of the proposed improvement. The purpose of completing an EDP and PDP will be to determine changes in drainage areas to the outfalls within the project limits and define the change in impervious area to the various outfalls.

Design criteria for the project will be developed and coordinated with LCDOT to verify how the project will be designed. The proposed drainage system will be designed using the latest Bulletin #70 rainfall data (tentatively effective in 2020). Arlington Heights Road, Lake-Cook Road and IL 83 will consist of curb and gutter sections with storm sewer for drainage. Checker Road is an existing shoulder section that will be improved to curb and gutter within the project limits. The storm sewer sizing, inlet spacing, sizing of the related lateral storm sewers and any minor culvert analysis (culverts less than 36" in diameter and driveway culverts) will be performed as part of the Phase II design.

Subsequent to the Public Hearing and the approval of final geometry, the PDP/Contract Plans will be prepared to reflect pertinent Public Hearing comments and any review comments from LCDOT and LCSMC.

Specific work tasks associated with development of the PDP/Contract Plans for the project will include the following:

- Delineate off-site and on-site drainage areas and perform hydraulic and hydrologic analyses using XP-SWMM.
- Ensure reinstatement of existing drainage patterns.
- Identify and account for any diversions.
- Evaluate the needs for additional rights-of-way and drainage easements for drainage purposes.
- Evaluate the stormwater detention requirements in accordance with the Lake County Watershed Development Ordinance (WDO). Runoff volume reduction (RVR) techniques will be reviewed and incorporated in the proposed drainage plan as determined appropriate.
- Evaluate the need for stormwater quality BMP enhancements in accordance with LCSMC and/or Army Corps of Engineers guidelines.
- Coordination meetings for the PDP with LCDOT, LCSMC, LCPD, IDOT, the Village of Buffalo Grove and Huff and Huff relating to USACE.



#### Proposed Drainage Design - Drainage Plan and Profile Sheet

- Outlet Evaluation – Evaluate existing outlets to determine their suitability for continued use and sensitivity to an increase in rate and volume of stormwater runoff. Six (6) outlets are anticipated within the project limits that will need to be analyzed. Stream survey data will be used to determine the tailwater elevations to use for outlets to Buffalo Creek Tributary.
- HR Green will use XP-SWMM to create a storm sewer model for the proposed drainage system that will include the mainline storm sewer, laterals and inlets. A 10-year frequency storm will be used for design and the system will be checked for the 100-year storm event.
- Ditch sizing along Checker will be performed if the existing ditches require modification due to geometric impacts.
- Culverts less than 36" in diameter will be sized. There are assumed to be four (4) culverts less than 36" in diameter within the project limits. Sizing will be done with rational method or stream stats and HY-8. A one-page narrative and WIT will be developed for each culvert.
- Stormwater Detention Evaluation - The need for stormwater detention will be investigated. Stormwater detention is necessary if the new roadway development's impervious area exceeds one and a half acres/mile and the anticipated geometry would appear to have less than the threshold required for detention. Providing detention oversized storm sewer will be investigated. Detention will be provided in accordance with the WDO for the improvement. It is assumed that there will be three (3) restrictor calculations for inline detention necessary. The detention calculations and criteria will be coordinated with LCSMC and LCDOT.
- Water quality basins will be provided in accordance with the ordinance. The water quality areas are anticipated to be included at sensitive outlets and as coordinated with reviewing agencies. The opportunity to use Bioswales and Rain Gardens for water quality improvements will be documented. The design of two (2) rain gardens are included as part of this contract.
- Local & Other Agency Coordination - Coordinate drainage related issues with IDOT, LCDOT, LCFPD, LCSMC, and the Village of Buffalo Grove and other agencies as appropriate.
- Proposed Drainage Plan – The Proposed Drainage Plan will be the Drainage Plan sheet from the contract plans used as part of the LDTM. It will include the drainage system size, type and location.
- Floodplain Evaluation – the floodplain will be an omission. There will be no need for compensatory storage to be determined for filling in the floodplain.
- Prepare LDTM and Exhibits – Complete all drainage tasks, sort out all data and exhibits and prepare a LDTM in compliance with requirements listed in ACEC-Illinois / IDOT 2014 Drainage Seminar handouts.
- A site visit is intended to clarify field conditions related to the design of the drainage facilities. Allocated two personnel for one (1) site visit for this project.

Permitting: HR Green will coordinate with and prepare Permits for LCSMC based on the WDO. Based on the anticipated impervious area detention will not be required due to a change in impervious area but may be required for sensitive outlets. Erosion and sediment control permitting will be completed by others and wetland and riparian permitting will be completed by others.

Technical Drainage Memorandum: This task includes development of a Location Drainage Technical Memorandum (LDTM) within the limits of improvement for the preferred alternative. It is anticipated that the LDTM will follow the 2014 ACEC Drainage Seminar format for improvements associated with this project, except that the final drainage plan and profile sheets will be used as a PDP in the LDTM.



**Deliverables:**

- a) The following will be provided at the Preliminary (60%) submittal stage:
  - i. The submittals will include the following:
    - (1) Contract Plans
      - (a) Drainage and Utility Plan and Profile Plans (20 scale) double paned;
      - (b) Drainage Schedules; and
    - (2) Opinion of Probable Construction Cost for drainage related items.
- b) The deliverables for the contract include the following at a Pre-Final plan (90%) and Final Plan (100%) submittal stages:
  - ii. The submittals will include the following:
    - (1) Contract Plans
      - (a) Drainage and Utility Plan and Profile Plans (20 scale);
      - (b) Drainage Schedules;
    - (2) Special Provisions for any non-standard drainage related items; and
    - (3) Opinion of Probable Construction Cost for drainage related items.
  - iii. The submittal will include:
    - (1) A .pdf copy of the listed plan sheets;
    - (2) An electronic copy of any special provisions required;
    - (3) An electronic copy of the opinion of probable construction cost for drainage related items;

**6. Structural Plans**

The retaining wall design for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

**Structural Engineering (Final Design Services):** HR Green will provide construction documents (plans and specifications/special provisions) for the proposed retaining walls. The most recent version of the IDOT Standard Specifications for Road and Bridge Construction will be generally followed for the design and construction documents. Structural staff will assist in responding to comments related to retaining wall(s) with each reviewed submittal. Arlington Heights Road will be open during construction. Retaining wall details will consider the staged construction and maintenance of traffic plans prepared for the overall project. If the construction feasibility study determines that retaining walls are not required, or that a proprietary wall system to be designed by the supplier is feasible, then the Final Design scope of services and fee associated with the retaining wall(s) will be revisited at that time. Likewise, if the construction feasibility study determines that the retained height exceeds 6'-11" or that the wall limits significantly exceed 100 feet of assumed length (significant in this case would be defined by an overall length increase of 50% or more), the Final Design scope of services and fee associated with the retaining wall(s) will be revisited at that time.

Final Design Structural drawings for the proposed retaining walls will consist of:

- 1) Retaining Wall Plan and Profile (Wall 1).



- 2) Retaining Wall Plan and Profile (Wall 2).
- 3) General Structural Notes, Bill of Materials and Typical Details.
- 4) Retaining Wall Details (Wall 1).
- 5) Retaining Wall Details (Wall 2).
- 6) Railing Details (if needed).
- 7) Soil boring log(s).

The drawings will include the detailed quantity and pay item breakdowns associated with a set of bid documents including reinforcement bar shapes, lengths and quantity. Up to three submittals of plan documents are assumed (60%, 90% and Final Plan submittals) with an engineer's opinion of probable costs provided with each submittal and project special provisions included in the 90% and Final Plan submittals. Submittals will be made as PDF documents via email or use of an FTP site.

*Items not included in Structural Engineering (Final Design Services):*

The scope of services listed here is limited to the retaining walls as described herein for the construction feasibility review and final design and detailing. No meetings (other than those specified), survey, or permit acquisitions are included as part of the structural scope of services.

The following are assumptions for this task:

1. Base sheets at 20 scale will be completed by Peralte-Clark and provided to HR Green.

## **7. Erosion Control Plans and SWPPP Plan Preparation**

A Storm Water Pollution Prevention Plan (SWPPP) and required special provision, will be prepared for inclusion in the contract documents. All erosion control design will be in accordance with the latest IEPA, IDOT, and County requirements.

Staged Erosion Control Sheets will be prepared by stage (three stages anticipated) and included in the plans.

## **8. Traffic Signal Plans**

Proposed signal plans will be developed for the following intersections within the project limits:

- Arlington Heights Road (CH V69) at Lake-Cook Road
- Arlington Heights Road (CH V69) at Checker Road
- Arlington Heights Road (CH V69) at Illinois Route 83

Phase II signal plans will be designed in accordance with LCDOT signal design standards and will include video detection cameras and/or radar detection, a remote-controlled video system and LED internally illuminated street name signs. Temporary traffic signals are anticipated at all three intersections. The preparation of three separate interconnect plan system sheets are anticipated, including an interconnect on Arlington Heights Road (LCDOT), IL Route 83 (IDOT) and Lake-Cook Road (CCDOTH). Finally, the proposed signals will be incorporated into the Lake County PASSAGE network.

Traffic Signal QA/QC will be provided by subconsultant, **Singh & Associates, Inc.**



We assume the following plan sheets will be prepared:

- Temporary Traffic Signal and Traffic Signal Removal Plan (3 sheets)
- Traffic Signal Installation/Modification Plan (3 sheets)
- Cable Plan and Phase Designation Diagram (3 sheets)
- Schedule of Quantities and Mast Arm Mounted Street Name Signs (3 sheets)
- Interconnect Plan – IL Route 83 (3 sheets)
- Interconnect Schematic – IL Route 83 (1 sheet)
- Interconnect Plan – Arlington Heights Road (3 sheets)
- Interconnect Schematic – Arlington Heights Road (1 sheet)
- Interconnect Plan – Lake-Cook Road (3 sheets)
- Interconnect Schematic – Lake-Cook Road (1 sheet)
- PASSAGE Details (Provided by LCDOT) (6 sheets)
- IDOT Details (8 sheets)
- LCDOT Details (3 sheets)

## **9. Utility Coordination**

The utility coordination for this project will be completed by **HBK Engineering, Inc. (HBK)**, as a subconsultant.

### Coordination

HBK will continue to coordinate with utility companies during the Phase II Engineering phase. HBK will draft and send Notices of Interference and/or other required correspondence to notify utilities of the project and to begin their protection and relocation processes. Preliminary (60%) plans and electronic files will be sent to utility companies to review the proposed improvements and identify impacts/conflicts to their facilities. Pre-final plans will be sent to utility companies for their use in preparing any relocation plans.

HBK will continue to coordinate with utility companies throughout Phase II until utility protection or relocation plans are submitted by the utility companies or until verification of clearance is confirmed. Additionally, HBK will review utility relocation plans and permit submittals.

HBK will also coordinate with the roadway design team to integrate utility protection and relocation plans and timelines into the contract documents.

### Utility Coordination Meetings

HBK will plan, attend, and lead up to two (2) joint utility coordination meetings, and all impacted utilities will be invited so that their relocations, if any, can be mutually coordinated.

## **10. Land Acquisition and Appraisal Services**

**Santacruz Associates, Ltd.** will be performing land acquisition, appraisal and negotiation services for this project. See the attached scope and fee proposal for these services.



For the purposes of establishing a project budget for this work, we have estimated potentially fifteen (15) parcels with potential right-of-way acquisition, permanent easement, and/or a temporary easement needs within the project limits. We anticipate plats, appraisals, review appraisals and negotiations to be necessary through the valuation and land acquisition process with all such services to be performed in accordance with the policies of the County, and where applicable, the Illinois Department of Transportation Land Acquisition Policies and Procedures Manual and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.

This item also includes work involved with coordination between the Phase II design team and the appraisers and negotiators. This work typically includes providing the appraisers and negotiators with exhibits for use during meetings with the property owner and providing information regarding the design and potential modifications to the same. However, the design for the relocation of any private property items is NOT included within the scope of this agreement. We will work with the appraisers and negotiators to ensure that all items within the takes or easements that need to be relocated by the property owner are accounted for in the compensation offered to them.

## **11. Public Involvement**

The Public Construction Meeting is planned to take place after the project letting, to inform the public of the anticipated construction activities, construction schedule, anticipated construction staging and impacts to stakeholders.

**Public Construction Meeting:** One Public Construction Meeting is planned for the project. The Public Construction Meeting will present the construction plans, project construction schedule, anticipated impacts and MOT staging for public and stakeholder information.

Specific work tasks for the Public Preferred Alternative Meeting will include the following:

- Compile mailing list (including stakeholders and all adjacent property owners).
- Preparation of Public Meeting Brochures/Handouts.
- Preparation of Public Meeting Display Exhibits (Preferred Alternative Exhibits, Construction Staging and MOT Exhibits, Construction Schedule, and other displays as appropriate).
- Attendance at a Public Meeting “Dry Run” with LCDOT.
- Secure a location for the Public Meeting Site.
- Preparation of Public Meeting Newspaper Display Ads and Press Releases.
- Staff attendance at Public Meeting.

## **12. Specifications and Estimates**

We will prepare Final contract plans based on comments received on the Pre-Final Plan submittal from LCDOT and permitting agencies. The Final Plans Submittal will be prepared based on the anticipated drawings as outlined in Attachment A.

**Final Plans** - After completion of all agency reviews and resolution of any other agency or utility company concerns, the contract plans will be finalized. In order to assist the Resident Engineer (RE) we will furnish the County, as part of our deliverables, detailed information including all design, quantity calculations, and MicroStation files in their format. We will also prepare a technical memorandum to the RE highlighting any key issues, commitments, or special concerns that arose during the design stage of the



project. LCDOT will be responsible for letting the project. Peralte-Clark we will provide the County with pdfs of the plans and bid documents as assembled by LCDOT for the bidding. We will also submit the contract plans to the various utility companies for their permitting of any necessary relocations.

Special Provisions - We will prepare special provisions that supplement or amend the special provisions contained in the latest edition of the Standard Specifications for Road and Bridge Construction adopted by the Illinois Department of Transportation and the latest edition of the Standard Specifications for Sewer and Watermain Construction in Illinois. Applicable County special provisions will be utilized to supplement the Standard Specifications. In addition, we will include the latest IDOT Recurring Special Provisions Check Sheet. The most recent set of IDOT's Bureau of Design and Environment Special Provisions and District 1 Special Provisions will be reviewed and included in the special provisions where applicable. This package will be created for the Pre-Final and Final Submittals.

Quantity Calculations and Estimate of Cost – We will perform detailed quantity calculations at each milestone submittal stage of the plan development. We will use the quantities of work in order to calculate an Engineer's Estimate of Cost based on recent bid tab information for projects of similar scope and magnitude.

Estimate of Construction Time - This estimate will be provided based on the tabulated quantities using IDOT BDE Form 220A. The Estimate of Construction Time will be provided at the Pre-Final and Final milestone submittals.

Final 3D Model Files – A final top of surface grading plan will be provided for contractor use on this project in land .xml format. This information will be provided for reference only and will include a disclaimer for the contractor to use at their own risk.

### **13. Project Design Coordination Meetings**

This task includes the organization and attendance at Monthly Project Status / Coordination Meetings throughout the duration of the project. Team members and LCDOT staff will be requested to attend these meetings to ensure the design work is moving ahead efficiently and on schedule. The preparation of meeting minutes for these coordination meetings is not anticipated. However, an action item list and log will be kept ensuring all team members are responsive and accountable for their involvement in the project.

This project will also require coordination and meetings with various agencies and stakeholders. The assumptions for establishing an estimated level of effort for stakeholder coordination and meetings are as described below:

- Twelve (12) monthly coordination conference calls with LCDOT
- Two (2) meetings with IDOT BLRS\*
- One (1) meeting with CCDOTH\*
- Three (3) meetings with Municipalities\*
- One (1) meeting with Lake County SMC\*
- One (1) meeting with Lake County Forest Preserve District\*

\* Preparation and distribution of meeting minutes will be provided



#### **14. Project Administration and Quality Assurance/Quality Control**

This task includes overall project administration and management, as well as Quality Assurance/Quality Control (QA/QC) reviews associated with major project deliverables.

Project administration includes managing the day to day work effort on the project to ensure an efficient project development process including work force allocations, budget oversight, monthly progress reviews to ensure project milestones are being met to the extent possible.

QA/QC reviews under this task will occur as part of major project deliverables in accordance with Peralte-Clark's established QA/QC procedures. Peralte-Clark's QA/QC Plan also requires progress reviews during the design development. Effort associated with these reviews is included with the specific discipline task outlined in this scope.

Specific work tasks will include:

- General project management/administration including staff resource allocation, task/schedule oversight, quality reviews, etc.
- Prepare monthly progress reports including a copy of the overall project schedule.

#### **15. Construction Involvement**

The project team will provide support during the construction of Arlington Heights Road to ensure a smooth project delivery.

Construction Shop Drawing Reviews - We will make the necessary construction shop drawing reviews and follow through with the Resident Engineer and Contractor regarding review comments to ensure compliance with the contract documents and the design engineer's intent.

Construction RFIs and Meeting Attendance – Our team will be available to respond to contractor RFIs and will be a resource to the construction engineer for them to seek further clarification regarding the construction documents.

Review Contractor Punchlist with Phase III Resident Engineer – Our team will be available to review the contractor punch list with the Phase III Resident Engineer to provide input regarding the resolution of any outstanding items on the list.



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## *Scope of Services – 3D Modeling Assistance*

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### **1. 3D Modeling Workspace Transition Assistance**

Peralte-Clark will work with LCDOT on the development of a 3D deliverable policy. At this time specific 3D deliverables have not been identified for this contract, but the project team will work with LCDOT to maintain the potential to do so.

Peralte-Clark will also provide enhancements to LCDOT's PowerGeopak SS4 workspace. LCDOT desire to establish standards in the sheeting and annotation of cross-sections. P-C will develop the specific supplemental software files for LCDOT to incorporate into their workspace.

Specific work tasks will include:

- Meetings with LCDOT during Phase II to discuss adaptability of milestone review policies and procedures to CAD deliverables, as well to discuss updated briefings on the policy development of other local agencies (i.e. Tollway and IDOT).
- Development of a LCDOT specific .xssl file to be incorporated into the LCDOT workspace.



Arlington Heights Road (CH V69)  
 Lake Cook Road to IL Route 83  
 Lake County, Illinois  
 Section 17-00193-08-PV

Attachment A  
 Estimated Sheet Count  
 January 2020




Sheet Title	Scale	Anticipated Sheets
Cover Sheet	None	1
General Notes	None	2
Summary of Quantities	None	2
Schedule of Quantities	None	12
Typical Sections	None	9
Alignment, Ties and Benchmarks	50 scale	5
Maintenance of Traffic General Notes	None	1
Maintenance of Traffic Typical Sections	None	4
Maintenance of Traffic Plans	50 scale	18
Removal Plan and Profile	20 scale	27
Roadway Plan and Profile	20 scale	27
Water Quality Basin Plans	20 scale	4
Pavement Marking & Landscaping	50 scale	5
Erosion and Sediment Control Notes	None	1
Staged Erosion and Sediment Control Plans	50 scale	18
Erosion and Sediment Control Details	None	6
Lake County Erosion and Sediment Control Details	None	6
Intersection Paving Plans (detailed)	20 scale	3
ADA Ramp and Construction Details per PROWAG Requirements	5 scale	14
Landscape Plans/Plantings	50 scale	5
Traffic Signal IDOT District One Details	None	8
Traffic Signal Temporary Signal and Removal Plan	20 scale	3
Traffic Signal Proposed Signal Plan	20 scale	3
Traffic Signal Proposed Cable Plan, Phase Designation Diagram, and EVP Sequence	None	3
Traffic Signal Proposed Intersection Schedule of Quantities	None	3
Traffic Signal Interconnect Plan	50 scale	9
Traffic Signal Interconnect Cable Plan	None	3
Cross Sections	10' H, 5' V	80
Lake County DOT Standard Details	None	27
IDOT District One Standard Details	None	5
IDOT Highway Standard Details	None	90
<b>Total</b>		<b>404</b>

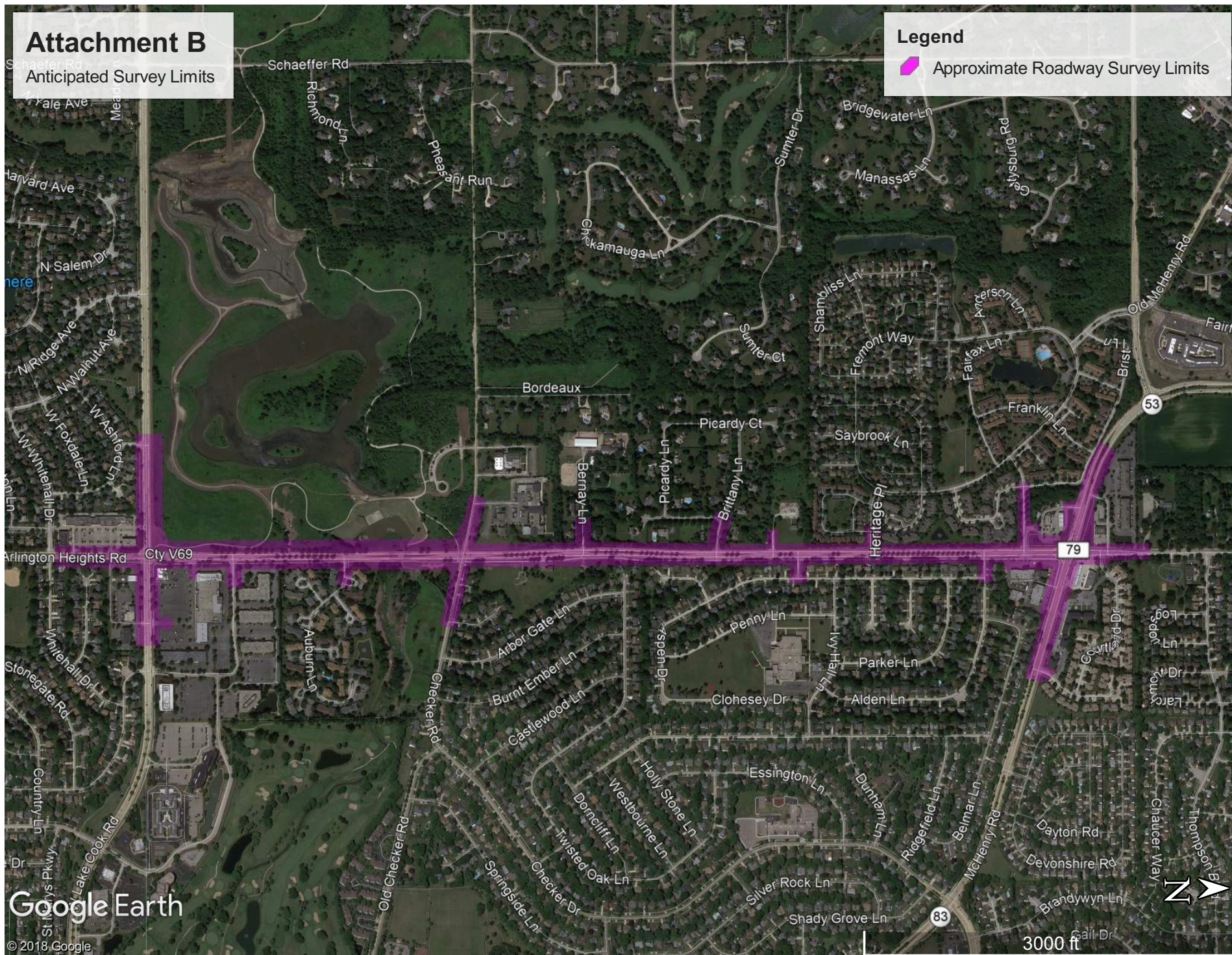


# Attachment B

Anticipated Survey Limits

## Legend

 Approximate Roadway Survey Limits





Peralte-Clark, LLC  
Section No. 17-00193-08-PV: Arlington Heights Road  
from IL 83 to Lake Cook Road  
LCDOT Share of Project Cost



Phase I								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
P1 - Data Collection	236	5%	220	0	0	0	0	16
P1 - Survey	714	16%	8	706	0	0	0	0
P1 - Traffic Projections and Analysis	76	2%	76	0	0	0	0	0
P1 - Crash Analysis	92	2%	92	0	0	0	0	0
P1 - Roadway Drainage	229	5%	32	197	0	0	0	0
P1 - Alternate Geometric Studies	496	11%	496	0	0	0	0	0
P1 - Retaining Wall	54	1%	6	48	0	0	0	0
P1 - Traffic Maintenance Analysis	274	6%	12	262	0	0	0	0
P1 - Utility Coordination	276	6%	16	0	260	0	0	0
P1 - Intersection Design Studies & ADA	236	5%	236	0	0	0	0	0
P1 - Environmental	448	10%	24	0	0	424	0	0
P1 - Public Involvement	607	14%	515	92	0	0	0	0
P1 - Geotechnical Investigation	138	3%	6	0	0	0	132	0
P1 - Lighting	84	2%	4	0	0	0	0	80
P1 - Project Meetings	220	5%	146	74	0	0	0	0
P1 - Project Admin & QAQC	267	6%	171	96	0	0	0	0
<b>Totals</b>	<b>4447</b>	<b>100%</b>	<b>2060</b>	<b>1475</b>	<b>260</b>	<b>424</b>	<b>132</b>	<b>96</b>

Phase II								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
P2 - Survey	428	6%	16	412	0	0	0	0
P2 - Environmental	186	3%	24	0	0	162	0	0
P2 - Pavement Life Cycle Cost Analysis	80	1%	80	0	0	0	0	0
P2 - Roadway Plans	2898	42%	2870	28	0	0	0	0
P2 - Drainage Plans	937	13%	32	905	0	0	0	0
P2 - Retaining Wall Plans	286	4%	12	274	0	0	0	0
P2 - NPDES Permitting & SWPPP	214	3%	214	0	0	0	0	0
P2 - Traffic Signal Plans	448	6%	412	0	0	0	0	36
P2 - Utility Coordination	220	3%	12	0	208	0	0	0
P2 - Land Acquisition	24	0%	24	0	0	0	0	0
P2 - Public Involvement	124	2%	114	10	0	0	0	0
P2 - Specifications and Estimates	272	4%	228	44	0	0	0	0
P2 - Project Meetings	196	3%	134	62	0	0	0	0
P2 - Project Admin & QAQC	482	7%	386	96	0	0	0	0
P2 - Construction Involvement	152	2%	104	48	0	0	0	0
<b>Totals</b>	<b>6947</b>	<b>100%</b>	<b>4662</b>	<b>1879</b>	<b>208</b>	<b>162</b>	<b>0</b>	<b>36</b>



Peralte-Clark, LLC  
Section No. 17-00193-08-PV: Arlington Heights Road  
from IL 83 to Lake Cook Road  
LCDOT Share of Project Cost



3D Modeling/CAD Assistance								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
3D Modeling/CAD Assistance	250	100%	250	0	0	0	0	0
<b>Totals</b>	<b>250</b>	<b>100%</b>	<b>250</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Grand Totals								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
Phase I Total	4447	38%	2060	1475	260	424	132	96
Phase II Total	6947	60%	4662	1879	208	162	0	36
3D Modeling/CAD Assistance	250	2%	250	0	0	0	0	0
<b>Total</b>	<b>11644</b>	<b>100%</b>	<b>6972</b>	<b>3354</b>	<b>468</b>	<b>586</b>	<b>132</b>	<b>132</b>



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>Phase 1</b>							
<b>1</b>	<b>Data Collection, Compilation, Review and Evaluation</b>		<b>220</b>				
	Initial Field Review with photo log	P1 - Data Collection	16	2	people	8	Site Visit for verification and photo log
	Data Collection Coordination with Stakeholders/LCDOT	P1 - Data Collection	144	6	stakeholders	24	
	Review facility deficiencies	P1 - Data Collection	60	1	Lump Sum	60	
<b>2</b>	<b>Field Survey Work</b>		<b>8</b>				
	Subconsultant Coordination	P1 - Survey	8	1	Lump Sum	8	
<b>3</b>	<b>Traffic Counts</b>		<b>4</b>				
	Coordination with Quality Counts	P1 - Traffic Projections and Analysis	4	1	Lump Sum	4	
<b>4</b>	<b>Traffic Projections and 2050 No-Build Analysis</b>		<b>72</b>				
	CMAQ Coordination for Traffic Projections	P1 - Traffic Projections and Analysis	4	1	Lump Sum	4	
	Existing Traffic HCS 7 Modeling	P1 - Traffic Projections and Analysis	18	3	Intersections	6	
	No-Build HCS 7 Modeling	P1 - Traffic Projections and Analysis	18	3	Intersections	6	
	Technical Memorandum	P1 - Traffic Projections and Analysis	32	1	Report	32	
<b>5</b>	<b>Crash Analysis</b>		<b>92</b>				
	Preliminary Crash Analysis Report	P1 - Crash Analysis	60	1	report	60	
	Final Crash Analysis Report	P1 - Crash Analysis	32	1	revised report	32	
<b>6</b>	<b>Roadway Drainage</b>		<b>32</b>				
	Provide Design Input and Coordination	P1 - Roadway Drainage	32	1	Lump Sum	32	
<b>7</b>	<b>Alternate Geometric Studies</b>		<b>496</b>				
	Intersection Alternative Development	P1 - Alternate Geometric Studies	304	8	interesection alts	38	1 major & 1 minor for 4 intersections
	Mainline Alternatives	P1 - Alternate Geometric Studies	120	2	mainline alts	60	2 mainline typical section alternatives
	White Paper Summary	P1 - Alternate Geometric Studies	72	1	report	72	
<b>8</b>	<b>Retaining Wall Design</b>		<b>6</b>				
	Provide Design Input and Coordination	P1 - Retaining Wall	6	1	Lump Sum	6	
<b>9</b>	<b>Traffic Maintenance Analysis</b>		<b>12</b>				
	Provide Design Input and Coordination	P1 - Traffic Maintenance Analysis	12	1	Lump Sum	12	
<b>10</b>	<b>Utility Coordination</b>		<b>16</b>				
	Utility Specific Meetings	P1 - Utility Coordination	16	4	Meetings	4	1 Peralte-Clark Attendee
<b>11</b>	<b>Intersection Design Studies &amp; ADA Design</b>		<b>236</b>				
	IDS (IDOT Format)	P1 - Intersection Design Studies & ADA	180	3	intersections	60	
	IDS (Abbreviated Format)	P1 - Intersection Design Studies & ADA	44	1	intersection	44	Fremont
	ADA Ramp Sheets (IL 83 Intersection)	P1 - Intersection Design Studies & ADA	12	2	Sheets	6	IDOT Routes Only for Phase I



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>12</b>	<b>Environmental Surveys, Analysis and Coordination</b>		<b>24</b>				
	Provide Design Input and Coordination	P1 - Environmental	24	1	Lump Sum	24	
<b>13</b>	<b>Public Involvement</b>		<b>515</b>				
	Public Information Meeting	P1 - Public Involvement	156				
	Compile Mailing List		6	1	Lump Sum	6	
	Exhibit Boards		96	8	Exhibits	12	
	Dry Run with LCDOT		8	2	Attendees	4	Includes travel time, 3 P-C representatives
	Secure Meeting Location		8	4	Potential Locations	2	
	Public Meeting Advertisement		6	1	Advertisement Style	6	
	Staff Attendanace		16	2	Attendees	8	Includes travel time, 3 P-C representatives
	Meeting Summary Preparation		16	1	Summary	16	
	Focused Stakeholder Meetings	P1 - Public Involvement	162	6	Focused Stakeholder Meetings		Long Grove, Buffalo Grove, Commercial Properties, Residential Properties
	Prepare agenda		1	1	Agenda	1	Per Stakeholder Meeting
	Prepare meeting presentation materials		16	1	Lump Sum	16	Per Stakeholder Meeting
	Staff Attendanace		6	2	Attendees	3	Per Stakeholder Meeting, Includes travel time, 2 P-C representatives
	Meeting Minutes Preparation		4	1	Lump Sum	4	Per Stakeholder Meeting
	Public Preferred Alternative Meeting	P1 - Public Involvement	149				
	Update Exhibit Boards		48	8	Exhibits	6	
	Power Point Presentation		48	1	Presentation	48	
	Dry Run with LCDOT		8	2	Attendees	4	Includes travel
	Secure Meeting Location		8	4	Potential Locations	2	
	Public Meeting Advertisement		1	1	Advertisement	1	
	Staff Attendanace		18	3	Attendees	6	Includes travel time, 3 P-C representatives
	Meeting Summary Preparation		18	1	Lump Sum	18	
	Project Website Updates	P1 - Public Involvement	48	1	Lump Sum	48	Providing LCDOT with content for website
<b>14</b>	<b>Geotechnical Investigation</b>		<b>6</b>				
	Provide Design Input and Coordination	P1 - Geotechnical Investigation	6	1	Lump Sum	6	
<b>15</b>	<b>Preliminary Roadway Lighting</b>		<b>4</b>				
	Provide Design Input and Coordination	P1 - Lighting	4	1	Lump Sum	4	
<b>16</b>	<b>Project Meetings</b>		<b>146</b>				
	Kick-off meeting with LCDOT	P1 - Project Meetings	8	1	Meetings	8	2 Peralte-Clark attendees, including travel time and minutes
	Monthly Review/Coordination meetings with LCDOT	P1 - Project Meetings	24	12	Meetings	2	2 Peralte-Clark attendees, monthly conference call with LCDOT
	Meetings with IDOT BLRS	P1 - Project Meetings	18	3	Meetings	6	2 Peralte-Clark attendees, including travel time and minutes
	Meetings with CCDOTH	P1 - Project Meetings	12	2	Meetings	6	2 Peralte-Clark attendees, including travel time and minutes
	Meetings with Local Agencies	P1 - Project Meetings	12	3	Meetings	4	Long Grove, Buffalo Grove, Arlington Heights
	Meetings with Lake County Forest Preserve District	P1 - Project Meetings	6	1	Meeting	6	2 Peralte-Clark attendees, including travel time and minutes
	Meetings with Lake County Stormwater Management Commission	P1 - Project Meetings	6	1	Meeting	6	2 Peralte-Clark attendees, including travel time and minutes
	Bi-Weekly Design Team Coordination Meetings	P1 - Project Meetings	60	20	Meetings	3	Assume 20 meetings in Phase I, 2 attendees, 1 hour each
<b>18</b>	<b>Project Administration and QA/QC</b>		<b>171</b>				
	Project Management and Administration	P1 - Project Admin & QAQC	95	0.05	Percentage	1889	approximately 5% of total hours
	QA/QC	P1 - Project Admin & QAQC	76	0.04	Percentage	1889	30% Conceptual Plans and Estimates Overall QA/QC



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>Phase 2</b>							
<b>1</b>	<b>Supplemental Field Survey and Plat of Highways Preparation</b>		<b>16</b>				
	Subconsultant Coordination	P2 - Survey	16	1	Lump Sum	16	
<b>2</b>	<b>Environmental Surveys, Analysis and Coordination</b>		<b>24</b>				
	Provide Permitting Input and Coordination	P2 - Environmental	24	1	Lump Sum	24	
<b>3</b>	<b>Pavement Life Cycle Cost Analysis (LCCA)</b>		<b>80</b>				
	Mechanistic Pavement Design (PCC & HMA)	P2 - Pavement Life Cycle Cost Analysis	40	1	Lump Sum	40	
	Life Cycle Cost Analysis (LCCA)	P2 - Pavement Life Cycle Cost Analysis	40	1	Lump Sum	40	
<b>4</b>	<b>Roadway Plans</b>		<b>2870</b>				
	Cover Sheet	P2 - Roadway Plans	2	1	Sheets	2	
	General Notes/Index/Standards Sheets	P2 - Roadway Plans	8	2	Sheets	4	
	Summary of Quantities	P2 - Roadway Plans	4	2	Sheets	2	
	Schedule of Quantities	P2 - Roadway Plans	96	12	Sheets	8	
	Typical Sections	P2 - Roadway Plans	144	9	Sheets	16	
	Alignment, Ties & Benchmarks	P2 - Roadway Plans	48	3	Sheets	16	
	Removal Plan & Profile	P2 - Roadway Plans	400	25	Sheets	16	
	Proposed Roadway Plan & Profile	P2 - Roadway Plans	600	25	Sheets	24	
	Traffic Control Plans	P2 - Roadway Plans	280	10	Sheets	28	
	Intersection Detail Plans	P2 - Roadway Plans	108	3	Sheets	36	
	Standard Details Sheets	P2 - Roadway Plans	244	122	Sheets	2	
	Pavement Marking & Landscaping Plans	P2 - Roadway Plans	120	5	Sheets	24	
	Sidewalk & ADA Ramp Sheets	P2 - Roadway Plans	216	12	Sheets	18	Assumes three (3) ADA ramp design locations per sheet, 6 hrs. per location
	Cross Sections	P2 - Roadway Plans	600	80	Cross Sections	7.5	
<b>5</b>	<b>Roadway Drainage Plans</b>		<b>32</b>				
	Provide Design Input and Coordination	P2 - Drainage Plans	32	1	Lump Sum	32	
<b>6</b>	<b>Structural Plans</b>		<b>12</b>				
	Provide Design Input and Coordination	P2 - Retaining Wall Plans	12	1	Lump Sum	12	
<b>7</b>	<b>Erosion Control Plans and SWPPP Plan Preparation</b>		<b>214</b>				
	Prepare Staged Erosion Control Sheets (3 Stages)	P2 - NPDES Permitting & SWPPP	190	19	Sheets	10	
	SWPPP Calculations (Pre, Post Runoff, etc.)	P2 - NPDES Permitting & SWPPP	24	1	Lump Sum	24	
<b>8</b>	<b>Traffic Signal Plans</b>		<b>412</b>				
	Temporary Traffic Signal/Traffic Signal Removal Plan	P2 - Traffic Signal Plans	54	3	sheets	18	
	Traffic Signal Installation/Modification Plan	P2 - Traffic Signal Plans	96	3	sheets	32	
	Cable Plan and Phase Designation Diagram	P2 - Traffic Signal Plans	72	3	sheets	24	
	Schedule of Quantities/Mast Arm Mounted Street Name Signs	P2 - Traffic Signal Plans	36	3	sheets	12	
	Interconnect Plan - IL Route 83 to Arlington Heights Road	P2 - Traffic Signal Plans	90	9	sheets	10	
	Interconnect Schematic - IL Route 83 to Arlington Heights Road	P2 - Traffic Signal Plans	30	3	sheets	10	
	PASSAGE Details	P2 - Traffic Signal Plans	12	6	sheets	2	PASSAGE details will be provided by LCDOT
	IDOT Details	P2 - Traffic Signal Plans	16	8	sheets	2	



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
	LCDOT Details	P2 - Traffic Signal Plans	6	3	sheets	2	
	Discipline Specific QA/QC	P2 - Project Admin & QAQC	0				by Singh & Associates
<b>9</b>	<b>Utility Coordination</b>		<b>12</b>				
	Utility Specific Meetings	P2 - Utility Coordination	12	3	Meetings	4	1 Peralte-Clark attendee, including travel time
<b>10</b>	<b>Land Acquisition and Appraisal Services</b>		<b>24</b>				
	Santacruz Associates, Ltd. - See Direct Costs		0				
	Coordination with Santacruz Associates	P2 - Land Acquisition	24	1	Lump Sum	24	
<b>11</b>	<b>Public Involvement</b>		<b>114</b>				
	Public Construction Meeting	P2 - Public Involvement	114				
	Compile Mailing List		4	1	Lump Sum	4	
	Brochure/Handouts		32	1	Brochure Style	32	
	Exhibit Boards		40	4	Exhibits	10	Reuse boards previously prepared for Public Meeting in Phase I
	Dry Run with LCDOT		12	3	Attendees	4	3 Peralte-Clark attendees, including travel time
	Secure Meeting Location		4	4	Potential Locations	1	
	Public Meeting Advertisement		4	1	Advertisement Style	4	
	Staff Attendanace		18	3	Attendees	6	3 Peralte-Clark attendees, including travel time
<b>12</b>	<b>Specifications and Estimates</b>		<b>228</b>				
	Special Provisions	P2 - Specifications and Estimates	96	1	Volume	96	
	Quantity Calculations/Cost Estimate	P2 - Specifications and Estimates	120	80	Pay Items	1.5	
	Estimate of Construction Time	P2 - Specifications and Estimates	12	2	BDE 220A Form Submissions	6	
<b>13</b>	<b>Project Design Coordination Meetings</b>		<b>134</b>				
	Kick-off meeting with LCDOT	P2 - Project Meetings	8	1	Meetings	8	2 Peralte-Clark attendees, including travel time and minutes
	Milestone Review/Coordination meetings with LCDOT	P2 - Project Meetings	24	12	Meetings	2	2 Peralte-Clark attendees, monthly conference call with LCDOT
	Meetings with IDOT BLRS	P2 - Project Meetings	12	2	Meetings	6	2 Peralte-Clark attendees including minutes
	Meetings with CCDOTH	P2 - Project Meetings	6	1	Meetings	6	2 Peralte-Clark attendees, including travel time and minutes
	Meetings with Local Agencies	P2 - Project Meetings	12	3	Meetings	4	Long Grove, Buffalo Grove, Arlington Heights
	Meetings with Lake County Forest Preserve District	P2 - Project Meetings	6	1	Meetings	6	2 Peralte-Clark attendees, including travel time and minutes
	Meetings with Lake County Stormwater Management Comission	P2 - Project Meetings	6	1	Meetings	6	2 Peralte-Clark attendees, including travel time and minutes
	Bi-Weekly Design Team Coordination Meetings	P2 - Project Meetings	60	20	Meetings	3	Assume 20 meetings for Phase II
<b>14</b>	<b>Project Administration &amp; QA/QC</b>		<b>386</b>				
	General Project Administration	P2 - Project Admin & QAQC	214	0.05	Percentage	4276	percentage of Phase II subtotal
	QA/QC of Milestone Submittals - Peralte-Clark only	P2 - Project Admin & QAQC	172	0.04	Percentage	4276	Milestone Submittal for Overall QA/QC
<b>15</b>	<b>Construction Involvement</b>		<b>104</b>				
	Construction Shop Drawing Reviews	P2 - Construction Involvement	32	8	Shop Drawing Reviews	4	
	Construction RFI's	P2 - Construction Involvement	60	15	RFI Responses	4	
	Construction Meetings Including Punch List Meeting	P2 - Construction Involvement	12	2	Meetings	6	2 Peralte-Clark attendees, including travel time





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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3D Modeling/CAD Assistance

1	3D Modeling/CAD Assistance		250				
	3D Modeling/CAD Assistance	3D Modeling/CAD Assistance	250	1	Lump Sum	250	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>Phase 1</b>							
2	<b>Field Survey Work</b>		<b>706</b>				
	Topographic Survey	P1 - Survey	378	1	Lump Sum	378	
	Base Mapping	P1 - Survey	176	1	Lump Sum	176	
	Existing ROW Survey	P1 - Survey	94	1	Lump Sum	94	
	Stream Survey	P1 - Survey	26	1	Lump Sum	26	
	Stake Alignments in Field	P1 - Survey	32	1	Lump Sum	38	
6	<b>Roadway Drainage</b>		<b>197</b>				
	Preliminary Drainage Evaluation	P1 - Roadway Drainage	40	1	Lump Sum	40	
	Drainage Investigation	P1 - Roadway Drainage	16	1	each	16	
	Existing Drainage Plan - 20 scale	P1 - Roadway Drainage	125	25	sheets	5	
	Discipline Specific QA/QC	P1 - Roadway Drainage	16	1	Lump Sum	16	
8	<b>Retaining Wall Design</b>		<b>48</b>				
	review of cross sections, survey, utilities, etc. for wall	P1 - Retaining Wall	25	1	Lump Sum	25	
	preparing retaining wall feasibility memo	P1 - Retaining Wall	17	1	Lump Sum	17	
	Discipline Specific QA/QC	P1 - Retaining Wall	6	1	Lump Sum	6	
9	<b>Traffic Maintenance Analysis</b>		<b>262</b>				
	Determine stage construction methodology.	P1 - Traffic Maintenance Analysis	18	1	Lump Sum	18	
	Determine traffic maintenance requirements.	P1 - Traffic Maintenance Analysis	8	1	Lump Sum	8	
	Determine temporary construction easement needs.	P1 - Traffic Maintenance Analysis	8	1	Lump Sum	8	
	Prepare Traffic Maintenance Memo with exhibits	P1 - Traffic Maintenance Analysis	16	1	Lump Sum	16	
	Typical Sections - 5 typical x 3 stages	P1 - Traffic Maintenance Analysis	30	15	Lump Sum	2	
	Develop and Draft Staging Plan - Base Plan - 3 stages of construction	P1 - Traffic Maintenance Analysis	166	1	Lump Sum	166	
	Discipline Specific QA/QC	P1 - Traffic Maintenance Analysis	16	1	Lump Sum	16	
13	<b>Public Involvement</b>		<b>92</b>				
	Public Information Meeting	P1 - Public Involvement	36				
	Display Exhibits		16	4	Displays	4	
	Dry Run with LCDOT		8	2	Attendees	4	Includes travel time, 3 P-C representatives
	Staff Attendance		12	2	Attendees	6	Includes travel time, 3 P-C representatives
	Focused Stakeholder Meetings	P1 - Public Involvement	40	4			Long Grove, Buffalo Grove, Commercial Properties, Residential Properties
	Dry Run with LCDOT		4	1	Attendees	4	Includes travel time, 2 P-C representatives
	Staff Attendance		6	1	Attendees	6	Includes travel time, 2 P-C representatives
	Public Preferred Alternative Meeting	P1 - Public Involvement	16				
	Dry Run with LCDOT		4	1	Attendees	4	Includes travel
	Staff Attendance		12	2	Attendees	6	Includes travel time, 3 P-C representatives
16	<b>Project Design Coordination Meetings</b>		<b>74</b>				
	Kick-off meeting with LCDOT	P1 - Project Meetings	4	1	Meetings	4	
	Milestone Review/Coordination meetings with LCDOT	P1 - Project Meetings	8	2	Meetings	4	
	Meetings with IDOT	P1 - Project Meetings	4	1	Meetings	4	
	Meetings with CCDOTH	P1 - Project Meetings	4	1	Meetings	4	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
	Meetings with Local Agencies	P1 - Project Meetings	8	2	Meetings	4	
	Meetings with Lake County Forest Preserve District	P1 - Project Meetings	4	1	Meetings	4	
	Meetings with Lake County Stormwater Management Commission	P1 - Project Meetings	4	1	Meetings	4	
	Field Inspection/Site Visit	P1 - Project Meetings	18	3	Visits	6	
	Bi-Weekly Design Team Coordination Meetings	P1 - Project Meetings	20	20	Meetings	1	
17	<b>Project Administration and QA/QC</b>		<b>96</b>				
	General Project Administration	P1 - Project Admin & QAQC	96	12	months	8	
	QA/QC of Milestone Submittals - Peralte-Clark Only	P1 - Project Admin & QAQC	0				

## Phase 2

1	<b>Supplemental Field Survey and Plat of Highways Preparation</b>		<b>412</b>				
	Supplemental Survey	P2 - Survey	80	1	Lump Sum	80	
	Maintenance of Traffic Survey	P2 - Survey	40	1	Lump Sum	40	
	Plat of Highways	P2 - Survey	280	1	Lump Sum	280	
	Discipline Specific QA/QC	P2 - Survey	12	1	Lump Sum	12	
4	<b>Roadway Plans</b>		<b>28</b>				
	Alignment, Ties & Benchmarks	P2 - Roadway Plans	16	1	Sheets	16	
	Engineers Estimate of Probable Cost	P2 - Roadway Plans	8	40	pay items	0.2	
	Discipline Specific QA/QC	P2 - Roadway Plans	4	1	Lump Sum	4	
5	<b>Roadway Drainage Plans and Permitting</b>		<b>905</b>				
	Culvert analysis (four (4) minor less than 36")	P2 - Drainage Plans	72	4	culverts < 36"	18	
	Storm Sewer Design and Inlet Spacing	P2 - Drainage Plans	124	1	Lump Sum	124	
	Outlet Evaluation - 6 outlets	P2 - Drainage Plans	24	6	outlets	4	
	Detention Analysis - three sensitive outlets - use storm sewer inline storage	P2 - Drainage Plans	48	3	detention locations	16	
	Water Quality Analysis and Evaluation - 4 outlets	P2 - Drainage Plans	32	4	WQ locations	8	
	Drainage Related General Notes	P2 - Drainage Plans	6	1	sheets	6	
	Schedule of Quantities - drainage removal items only	P2 - Drainage Plans	8	2	sheets	4	
	Drainage Removal Plans - no sheets - cross hatching in base	P2 - Drainage Plans	28	14	sheets	2	
	Drainage Plan and Profiles (PDP) (1" = 20') - 11 hrs/sheet	P2 - Drainage Plans	275	25	sheets	11	
	Design of two (2) Rain Garden including grading	P2 - Drainage Plans	48	2	each	24	
	Miscellaneous Drainage Details - 10 hrs/sheet	P2 - Drainage Plans	20	2	sheets	10	
	Cross-Sections - Coordinate and provide alignments and profiles of storm sewer	P2 - Drainage Plans	24	1	Lump Sum	24	
	Existing Storm Sewer Quantities - 2 hrs per PnP Sheet	P2 - Drainage Plans	26	13	sheets	2	
	Storm Sewer Quantities - 2 hrs per PnP Sheet	P2 - Drainage Plans	50	25	sheets	2	
	Lake County SMC Permit Submittal	P2 - Drainage Plans	24	1	Lump Sum	24	
	Location Drainage Technical Memorandum	P2 - Drainage Plans	48	1	Lump Sum	48	
	Discipline Specific QA/QC	P2 - Drainage Plans	48	1	Lump Sum	48	
6	<b>Structural Plans</b>		<b>274</b>				
	retaining wall plan and profile	P2 - Retaining Wall Plans	84	1	Lump Sum	84	
	General Notes and BOM	P2 - Retaining Wall Plans	18	1	Lump Sum	18	
	Detail Sheet for Retaining Wall	P2 - Retaining Wall Plans	84	1	Lump Sum	84	
	Railing Details	P2 - Retaining Wall Plans	32	1	Lump Sum	32	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
	60% Submittal / 90% Submittal / Final Submittal	P2 - Retaining Wall Plans	24	1	Lump Sum	24	
	Discipline Specific QA/QC	P2 - Retaining Wall Plans	32				
<b>11</b>	<b>Public Involvement</b>		<b>10</b>				
	Public Construction Meeting	P2 - Public Involvement	10				
	Dry Run with LCDOT		4	1	Attendees	4	3 Peralte-Clark & 1 HRG attendees, including travel time
	Staff Attendance		6	1	Attendees	6	3 Peralte-Clark and 1 HRG attendees, including travel time
<b>12</b>	<b>Specifications and Estimates</b>		<b>44</b>				
	Structural Specifications	P2 - Specifications and Estimates	16	1	Volume	16	
	Special Provisions - Drainage	P2 - Specifications and Estimates	12	1	Volume	12	
	Quantity Calculations/Cost Estimate	P2 - Specifications and Estimates	16	1	Pay Items	16	
	Estimate of Construction Time	P2 - Specifications and Estimates	0				
	Discipline Specific QA/QC	P2 - Specifications and Estimates	0				
<b>13</b>	<b>Project Design Coordination Meetings</b>		<b>62</b>				
	Kick-off meeting with LCDOT	P2 - Project Meetings	4	1	Meetings	4	
	Milestone Review/Coordination meetings with LCDOT	P2 - Project Meetings	8	2	Meetings	4	
	Meetings with IDOT	P2 - Project Meetings	4	1	Meetings	4	
	Meetings with CCDOTH	P2 - Project Meetings	4	1	Meetings	4	
	Meetings with Local Agencies (2 meetings each agency)	P2 - Project Meetings	8	2	Meetings	4	
	Meetings with Lake County Forest Preserve District	P2 - Project Meetings	4	1	Meetings	4	
	Meetings with Lake County Stormwater Management Commission	P2 - Project Meetings	4	1	Meetings	4	
	Field Inspection/Site Visits	P2 - Project Meetings	6	1	Visits	6	
	Bi-Weekly Design Team Coordination Meetings	P2 - Project Meetings	20	20	Meetings	1	Assume 20 meetings for Phase II
<b>14</b>	<b>Project Administration &amp; QA/QC</b>		<b>96</b>				
	General Project Administration	P2 - Project Admin & QAQC	96	12	months	8	
	QA/QC of Milestone Submittals - Peralte-Clark only	P2 - Project Admin & QAQC	0		Submittals		
<b>15</b>	<b>Construction Involvement</b>		<b>48</b>				
	Construction Shop Drawing Reviews	P2 - Construction Involvement	0				
	Construction RFI's	P2 - Construction Involvement	48	8	RFI Responses	6	
	Construction Meetings	P2 - Construction Involvement	0				





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

10	Utility Coordination		260				
	Initial Coordination / Data Collection	P1 - Utility Coordination	40				
	Utility Locating (SUE D and B)	P1 - Utility Coordination	150				
	Utility Data Base Mapping	P1 - Utility Coordination	12				
	Preliminary Design Coordination	P1 - Utility Coordination	58	8	Meetings	8	1 Peralte-Clark Attendee

Phase 2

9	Utility Coordination		208				
	Final Design Coordination	P2 - Utility Coordination	208				





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

12	Environmental Surveys, Analysis and Coordination		424				
	Preliminary Environmental Site Assessment	P1 - Environmental	56	1	Lump Sum	56	
	Wetland/Surface Waters Delineation	P1 - Environmental	16	1	Lump Sum	16	
	Wetland Report	P1 - Environmental	31	1	Lump Sum	31	
	Tree Survey and Tree Survey Report	P1 - Environmental	24	1	Lump Sum	24	
	ESR Submittal	P1 - Environmental	29	1	Lump Sum	29	
	Section 4(f)	P1 - Environmental	112	1	Lump Sum	112	
	Section 6(f)	P1 - Environmental	156	1	Lump Sum	156	

Phase 2

2	Environmental Surveys, Analysis and Coordination		162				
	USACE Section 404 Permitting	P2 - Environmental	37	1	Lump Sum	37	
	Lake County SMC Permitting	P2 - Environmental	32	1	Lump Sum	32	
	Biological Clearances	P2 - Environmental	9	1	Lump Sum	9	
	Archeological Review	P2 - Environmental	4	1	Lump Sum	4	
	PSI and CCDD	P2 - Environmental	75	1	Lump Sum	75	
	Discipline Specific QA/QC	P2 - Environmental	5	1	Lump Sum	5	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

14	Geotechnical Investigation		132				
	Field Work	P1 - Geotechnical Investigation	54	1	Lump Sum	54	
	Geotech Report	P1 - Geotechnical Investigation	78	1	Lump Sum	78	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

1	Data Collection, Compilation, Review and Evaluation		16				
	Initial Field Review with photo log	P1 - Data Collection	16	2	people	8	Site Visit for verification and photo log
	Data Collection Coordination with Stakeholders/LCDOT	P1 - Data Collection	0				
	Review facility deficiencies	P1 - Data Collection	0				
15	Preliminary Roadway Lighting		80				
	Photometric Study of Existing Lighting System	P1 - Lighting	28	1	Lump Sum	28	
	Photometric Study of LED Retrofit	P1 - Lighting	36	1	Lump Sum	36	
	White Paper outlining findings	P1 - Lighting	16	1	Lump Sum	16	

Phase 2

8	Traffic Signal Plans		36				
	Discipline Specific QA/QC	P2 - Traffic Signal Plans	36	6	Intersection-submittals	6	



**EXHIBIT A - DESIGN ENGINEERING**

Peralte-Clark, LLC

Route: Arlington Heights Road (V69)  
 Local Lake County Division of Transportation  
 (Municipality/Township/County)  
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 Project: LCDOT Jurisdiction Work  
 Job No: TBD

*Firm's <b>approved rates</b> on file with Bureau of Accounting and Auditing:	
Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

- Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
<b>Phase I Work</b>										
Task 1 – Data Collection, Compilation, Review and Evaluation	Principal	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Manager	24	\$ 70.00	\$ 1,680.00	\$ 3,360.00				\$ 730.80	\$ 5,770.80
	Project Engineer	50	\$ 57.85	\$ 2,892.50	\$ 5,785.00				\$ 1,258.24	\$ 9,935.74
	Design Engineer	60	\$ 46.35	\$ 2,781.00	\$ 5,562.00				\$ 1,209.74	\$ 9,552.74
	Engineering Tech.	84	\$ 36.07	\$ 3,029.88	\$ 6,059.76				\$ 1,318.00	\$ 10,407.64
Task 2 – Field Survey Work	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	4	\$ 57.85	\$ 231.40	\$ 462.80				\$ 100.66	\$ 794.86
	Design Engineer	2	\$ 46.35	\$ 92.70	\$ 185.40				\$ 40.32	\$ 318.42
	Engineering Tech.	1	\$ 36.07	\$ 36.07	\$ 72.14				\$ 15.69	\$ 123.90
Task 3 - Traffic Counts	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	4	\$ 57.85	\$ 231.40	\$ 462.80				\$ 100.66	\$ 794.86
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 4 - Traffic Projections and 2050 No-Build Analysis	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	8	\$ 70.00	\$ 560.00	\$ 1,120.00				\$ 243.60	\$ 1,923.60
	Project Engineer	32	\$ 57.85	\$ 1,851.20	\$ 3,702.40				\$ 805.27	\$ 6,358.87
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	32	\$ 36.07	\$ 1,154.24	\$ 2,308.48				\$ 502.09	\$ 3,964.81
Task 5 - Crash Analysis	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	8	\$ 70.00	\$ 560.00	\$ 1,120.00				\$ 243.60	\$ 1,923.60
	Project Engineer	12	\$ 57.85	\$ 694.20	\$ 1,388.40				\$ 301.98	\$ 2,384.58
	Design Engineer	32	\$ 46.35	\$ 1,483.20	\$ 2,966.40				\$ 645.19	\$ 5,094.79
	Engineering Tech.	40	\$ 36.07	\$ 1,442.80	\$ 2,885.60				\$ 627.62	\$ 4,956.02
Task 6 -Roadway Drainage	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Engineer	16	\$ 57.85	\$ 925.60	\$ 1,851.20				\$ 402.64	\$ 3,179.44
	Design Engineer	8	\$ 46.35	\$ 370.80	\$ 741.60				\$ 161.30	\$ 1,273.70
	Engineering Tech.	4	\$ 36.07	\$ 144.28	\$ 288.56				\$ 62.76	\$ 495.60
Task 7 - Alternate Geometric Studies	Principal	12	\$ 70.00	\$ 840.00	\$ 1,680.00				\$ 365.40	\$ 2,885.40



**EXHIBIT A - DESIGN ENGINEERING**

**Peralte-Clark, LLC**

**Route:** Arlington Heights Road (V69)  
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**Project:** LCDOT Jurisdiction Work  
**Job No:** TBD

*Firm's <b>approved rates</b> on file with Bureau of Accounting and Auditing:	
Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

- Fixed Fee 1** ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
**Fixed Fee 2** ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Manager	48	\$ 70.00	\$ 3,360.00	\$ 6,720.00				\$ 1,461.60	\$ 11,541.60
	Project Engineer	124	\$ 57.85	\$ 7,173.40	\$ 14,346.80				\$ 3,120.43	\$ 24,640.63
	Design Engineer	124	\$ 46.35	\$ 5,747.40	\$ 11,494.80				\$ 2,500.12	\$ 19,742.32
	Engineering Tech.	188	\$ 36.07	\$ 6,781.16	\$ 13,562.32				\$ 2,949.80	\$ 23,293.28
Task 8 - Retaining Wall Design	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	3	\$ 57.85	\$ 173.55	\$ 347.10				\$ 75.49	\$ 596.14
	Design Engineer	2	\$ 46.35	\$ 92.70	\$ 185.40				\$ 40.32	\$ 318.42
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 9 - Traffic Maintenance Analysis	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	4	\$ 57.85	\$ 231.40	\$ 462.80				\$ 100.66	\$ 794.86
	Design Engineer	3	\$ 46.35	\$ 139.05	\$ 278.10				\$ 60.49	\$ 477.64
	Engineering Tech.	3	\$ 36.07	\$ 108.21	\$ 216.42				\$ 47.07	\$ 371.70
Task 10 - Utility Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	6	\$ 57.85	\$ 347.10	\$ 694.20				\$ 150.99	\$ 1,192.29
	Design Engineer	8	\$ 46.35	\$ 370.80	\$ 741.60				\$ 161.30	\$ 1,273.70
	Engineering Tech.	1	\$ 36.07	\$ 36.07	\$ 72.14				\$ 15.69	\$ 123.90
Task 11 - Intersection Design Studies & ADA Design	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	24	\$ 70.00	\$ 1,680.00	\$ 3,360.00				\$ 730.80	\$ 5,770.80
	Project Engineer	60	\$ 57.85	\$ 3,471.00	\$ 6,942.00				\$ 1,509.89	\$ 11,922.89
	Design Engineer	80	\$ 46.35	\$ 3,708.00	\$ 7,416.00				\$ 1,612.98	\$ 12,736.98
	Engineering Tech.	72	\$ 36.07	\$ 2,597.04	\$ 5,194.08				\$ 1,129.71	\$ 8,920.83
Task 12 - Environmental Surveys, Analysis and Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	8	\$ 57.85	\$ 462.80	\$ 925.60				\$ 201.32	\$ 1,589.72
	Design Engineer	4	\$ 46.35	\$ 185.40	\$ 370.80				\$ 80.65	\$ 636.85
	Engineering Tech.	10	\$ 36.07	\$ 360.70	\$ 721.40				\$ 156.90	\$ 1,239.00
Task 13 - Public Involvement	Principal	24	\$ 70.00	\$ 1,680.00	\$ 3,360.00				\$ 730.80	\$ 5,770.80
	Project Manager	144	\$ 70.00	\$ 10,080.00	\$ 20,160.00				\$ 4,384.80	\$ 34,624.80
	Project Engineer	212	\$ 57.85	\$ 12,264.20	\$ 24,528.40				\$ 5,334.93	\$ 42,127.53
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -



**EXHIBIT A - DESIGN ENGINEERING**

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Calendar Days	

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- Fixed Fee 1** ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
**Fixed Fee 2** ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Engineering Tech.	135	\$ 36.07	\$ 4,869.45	\$ 9,738.90				\$ 2,118.21	\$ 16,726.56
Task 14 - Geotechnical Investigation	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	4	\$ 46.35	\$ 185.40	\$ 370.80				\$ 80.65	\$ 636.85
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 15 - Preliminary Roadway Lighting	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	1	\$ 57.85	\$ 57.85	\$ 115.70				\$ 25.16	\$ 198.71
	Design Engineer	1	\$ 46.35	\$ 46.35	\$ 92.70				\$ 20.16	\$ 159.21
	Engineering Tech.	1	\$ 36.07	\$ 36.07	\$ 72.14				\$ 15.69	\$ 123.90
Task 16 - Project Meetings	Principal	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Manager	64	\$ 70.00	\$ 4,480.00	\$ 8,960.00				\$ 1,948.80	\$ 15,388.80
	Project Engineer	28	\$ 57.85	\$ 1,619.80	\$ 3,239.60				\$ 704.61	\$ 5,564.01
	Design Engineer	42	\$ 46.35	\$ 1,946.70	\$ 3,893.40				\$ 846.81	\$ 6,686.91
	Engineering Tech.	8	\$ 36.07	\$ 288.56	\$ 577.12				\$ 125.52	\$ 991.20
Task 17 - Project Administration and QA/QC	Principal	77	\$ 70.00	\$ 5,390.00	\$ 10,780.00				\$ 2,344.65	\$ 18,514.65
	Project Manager	94	\$ 70.00	\$ 6,580.00	\$ 13,160.00				\$ 2,862.30	\$ 22,602.30
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
<b>Phase II Work</b>										
Task 1 - Supplemental Field Survey and Plat of Highways Preparation	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	6	\$ 70.00	\$ 420.00	\$ 840.00				\$ 182.70	\$ 1,442.70
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	10	\$ 46.35	\$ 463.50	\$ 927.00				\$ 201.62	\$ 1,592.12
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 2 - Environmental Surveys, Analysis and Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Engineer	6	\$ 57.85	\$ 347.10	\$ 694.20				\$ 150.99	\$ 1,192.29
	Design Engineer	8	\$ 46.35	\$ 370.80	\$ 741.60				\$ 161.30	\$ 1,273.70



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**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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Task 3 - Pavement Life Cycle Cost Analysis (LCCA)	Engineering Tech.	6	\$ 36.07	\$ 216.42	\$ 432.84				\$ 94.14	\$ 743.40
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	8	\$ 70.00	\$ 560.00	\$ 1,120.00				\$ 243.60	\$ 1,923.60
	Project Engineer	16	\$ 57.85	\$ 925.60	\$ 1,851.20				\$ 402.64	\$ 3,179.44
	Design Engineer	24	\$ 46.35	\$ 1,112.40	\$ 2,224.80				\$ 483.89	\$ 3,821.09
Task 4 - Roadway Plans	Engineering Tech.	32	\$ 36.07	\$ 1,154.24	\$ 2,308.48				\$ 502.09	\$ 3,964.81
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	240	\$ 70.00	\$ 16,800.00	\$ 33,600.00				\$ 7,308.00	\$ 57,708.00
	Project Engineer	720	\$ 57.85	\$ 41,652.00	\$ 83,304.00				\$ 18,118.62	\$ 143,074.62
	Design Engineer	920	\$ 46.35	\$ 42,642.00	\$ 85,284.00				\$ 18,549.27	\$ 146,475.27
Task 5 - Roadway Drainage Plans	Engineering Tech.	990	\$ 36.07	\$ 35,709.30	\$ 71,418.60				\$ 15,533.55	\$ 122,661.45
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Engineer	8	\$ 57.85	\$ 462.80	\$ 925.60				\$ 201.32	\$ 1,589.72
	Design Engineer	10	\$ 46.35	\$ 463.50	\$ 927.00				\$ 201.62	\$ 1,592.12
Task 6 - Structural Plans	Engineering Tech.	10	\$ 36.07	\$ 360.70	\$ 721.40				\$ 156.90	\$ 1,239.00
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	3	\$ 57.85	\$ 173.55	\$ 347.10				\$ 75.49	\$ 596.14
	Design Engineer	3	\$ 46.35	\$ 139.05	\$ 278.10				\$ 60.49	\$ 477.64
Task 7 - Erosion Control Plans and SWPPP Plan Preparation	Engineering Tech.	4	\$ 36.07	\$ 144.28	\$ 288.56				\$ 62.76	\$ 495.60
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	22	\$ 70.00	\$ 1,540.00	\$ 3,080.00				\$ 669.90	\$ 5,289.90
	Project Engineer	54	\$ 57.85	\$ 3,123.90	\$ 6,247.80				\$ 1,358.90	\$ 10,730.60
	Design Engineer	60	\$ 46.35	\$ 2,781.00	\$ 5,562.00				\$ 1,209.74	\$ 9,552.74
Task 8 - Traffic Signal Plans	Engineering Tech.	78	\$ 36.07	\$ 2,813.46	\$ 5,626.92				\$ 1,223.86	\$ 9,664.24
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	32	\$ 70.00	\$ 2,240.00	\$ 4,480.00				\$ 974.40	\$ 7,694.40
	Project Engineer	100	\$ 57.85	\$ 5,785.00	\$ 11,570.00				\$ 2,516.48	\$ 19,871.48
	Design Engineer	120	\$ 46.35	\$ 5,562.00	\$ 11,124.00				\$ 2,419.47	\$ 19,105.47
Task 9 - Utility Coordination	Engineering Tech.	160	\$ 36.07	\$ 5,771.20	\$ 11,542.40				\$ 2,510.47	\$ 19,824.07
	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	6	\$ 70.00	\$ 420.00	\$ 840.00				\$ 182.70	\$ 1,442.70



**EXHIBIT A - DESIGN ENGINEERING**

**Peralte-Clark, LLC**

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
**(Municipality/Township/County)**   
**Section:** Lake Cook Road to IL Route 83  
**Project:** LCDOT Jurisdiction Work  
**Job No:** TBD

*Firm's <b>approved rates</b> on file with Bureau of Accounting and Auditing:	
Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

- Fixed Fee 1** ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
**Fixed Fee 2** ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Engineer	6	\$ 57.85	\$ 347.10	\$ 694.20				\$ 150.99	\$ 1,192.29
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 10 - Land Acquisition and Appraisal Services	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	6	\$ 70.00	\$ 420.00	\$ 840.00				\$ 182.70	\$ 1,442.70
	Project Engineer	8	\$ 57.85	\$ 462.80	\$ 925.60				\$ 201.32	\$ 1,589.92
	Design Engineer	6	\$ 46.35	\$ 278.10	\$ 556.20				\$ 120.97	\$ 955.27
	Engineering Tech.	4	\$ 36.07	\$ 144.28	\$ 288.56				\$ 62.76	\$ 495.60
Task 11 - Public Involvement	Principal	8	\$ 70.00	\$ 560.00	\$ 1,120.00				\$ 243.60	\$ 1,923.60
	Project Manager	30	\$ 70.00	\$ 2,100.00	\$ 4,200.00				\$ 913.50	\$ 7,213.50
	Project Engineer	40	\$ 57.85	\$ 2,314.00	\$ 4,628.00				\$ 1,006.59	\$ 7,948.59
	Design Engineer	20	\$ 46.35	\$ 927.00	\$ 1,854.00				\$ 403.25	\$ 3,184.25
	Engineering Tech.	16	\$ 36.07	\$ 577.12	\$ 1,154.24				\$ 251.05	\$ 1,982.41
Task 12 - Specifications and Estimates	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	24	\$ 70.00	\$ 1,680.00	\$ 3,360.00				\$ 730.80	\$ 5,770.80
	Project Engineer	50	\$ 57.85	\$ 2,892.50	\$ 5,785.00				\$ 1,258.24	\$ 9,935.74
	Design Engineer	74	\$ 46.35	\$ 3,429.90	\$ 6,859.80				\$ 1,492.01	\$ 11,781.71
	Engineering Tech.	80	\$ 36.07	\$ 2,885.60	\$ 5,771.20				\$ 1,255.24	\$ 9,912.04
Task 13 - Project Design Coordination Meetings	Principal	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Manager	60	\$ 70.00	\$ 4,200.00	\$ 8,400.00				\$ 1,827.00	\$ 14,427.00
	Project Engineer	32	\$ 57.85	\$ 1,851.20	\$ 3,702.40				\$ 805.27	\$ 6,358.87
	Design Engineer	38	\$ 46.35	\$ 1,761.30	\$ 3,522.60				\$ 766.17	\$ 6,050.07
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 14 - Project Administration and QA/QC	Principal	172	\$ 70.00	\$ 12,040.00	\$ 24,080.00				\$ 5,237.40	\$ 41,357.40
	Project Manager	214	\$ 70.00	\$ 14,980.00	\$ 29,960.00				\$ 6,516.30	\$ 51,456.30
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 15 - Construction Involvement	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	12	\$ 70.00	\$ 840.00	\$ 1,680.00				\$ 365.40	\$ 2,885.40
	Project Engineer	32	\$ 57.85	\$ 1,851.20	\$ 3,702.40				\$ 805.27	\$ 6,358.87
	Design Engineer	12	\$ 46.35	\$ 556.20	\$ 1,112.40				\$ 241.95	\$ 1,910.55
	Engineering Tech.	48	\$ 36.07	\$ 1,731.36	\$ 3,462.72				\$ 753.14	\$ 5,947.22



**EXHIBIT A - DESIGN ENGINEERING**

**Peralte-Clark, LLC**

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 Job No: TBD

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

Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
<b>3D Modeling/CAD Assistance</b>										
Task 1 - 3D Modeling/CAD Assistance	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	24	\$ 70.00	\$ 1,680.00	\$ 3,360.00				\$ 730.80	\$ 5,770.80
	Project Engineer	126	\$ 57.85	\$ 7,289.10	\$ 14,578.20				\$ 3,170.76	\$ 25,038.06
	Design Engineer	100	\$ 46.35	\$ 4,635.00	\$ 9,270.00				\$ 2,016.23	\$ 15,921.23
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
<b>Direct Costs</b>							\$ 11,095.00	\$ 1,450.00	\$ 210.25	\$ 12,755.25
<b>Subonconsultants</b>										
HR Green						\$ 499,430.96			\$ -	\$ 499,430.96
HBK Engineering						\$ 58,837.12			\$ -	\$ 58,837.12
Huff & Huff						\$ 82,848.03			\$ -	\$ 82,848.03
Interra						\$ 48,707.89			\$ -	\$ 48,707.89
Quality Counts						\$ 7,210.00			\$ -	\$ 7,210.00
Santacruz & Associates						\$ 109,000.00			\$ -	\$ 109,000.00
Singh & Associates						\$ 17,965.28			\$ -	\$ 17,965.28
<b>Totals</b>		6,972		\$ 356,518.99	\$ 713,037.98	\$ 823,999.28	\$ 11,095.00	\$ 1,450.00	\$ 155,296.01	\$ 2,061,397.26



BDE 436 (Rev. 02/02/17)



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Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
1.2 Field Survey	Oper Mgr Survey	8	\$ 70.00	\$ 560.00	\$ 939.62		\$ 500.00	\$ 1,160.00	\$ 385.65	\$ 3,545.27
	Project LS 2	64	\$ 55.40	\$ 3,545.60	\$ 5,949.16				\$ 1,376.74	\$ 10,871.50
	Project LS 1	352	\$ 44.30	\$ 15,593.60	\$ 26,164.50				\$ 6,054.92	\$ 47,813.03
	Staff LS 2	282	\$ 34.80	\$ 9,813.60	\$ 16,466.24				\$ 3,810.58	\$ 30,090.42
1.6 Roadway Drainage	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 58.00	\$ 8.41	\$ 66.41
	Senior Engineer	29	\$ 70.00	\$ 2,030.00	\$ 3,406.14				\$ 788.24	\$ 6,224.38
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	48	\$ 62.70	\$ 3,009.60	\$ 5,049.81				\$ 1,168.61	\$ 9,228.02
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	80	\$ 37.66	\$ 3,012.80	\$ 5,055.18				\$ 1,169.86	\$ 9,237.83
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	40	\$ 38.90	\$ 1,556.00	\$ 2,610.81				\$ 604.19	\$ 4,771.00
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.8 Retaining Wall Feasibility Study	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	8	\$ 70.00	\$ 560.00	\$ 939.62				\$ 217.45	\$ 1,717.07
	Project Manager	24	\$ 57.20	\$ 1,372.80	\$ 2,303.42				\$ 533.05	\$ 4,209.27
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	16	\$ 38.90	\$ 622.40	\$ 1,044.32				\$ 241.68	\$ 1,908.40
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.9 Traffic Maintenance Analysis	Senior Proj Mgr	28	\$ 70.00	\$ 1,960.00	\$ 3,288.68				\$ 761.06	\$ 6,009.74
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -



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Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
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 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Engineer 2	50	\$ 45.92	\$ 2,296.00	\$ 3,852.46				\$ 891.53	\$ 7,039.98
	Project Engineer 1	96	\$ 37.66	\$ 3,615.36	\$ 6,066.21				\$ 1,403.83	\$ 11,085.40
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	88	\$ 38.90	\$ 3,423.20	\$ 5,743.79				\$ 1,329.21	\$ 10,496.20
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.13 Public Involvement	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 232.00	\$ 33.64	\$ 265.64
	Senior Engineer	60	\$ 70.00	\$ 4,200.00	\$ 7,047.18				\$ 1,630.84	\$ 12,878.02
	Project Manager	20	\$ 57.20	\$ 1,144.00	\$ 1,919.52				\$ 444.21	\$ 3,507.73
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	12	\$ 37.66	\$ 451.92	\$ 758.28				\$ 175.48	\$ 1,385.68
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.16 Design Coordination Meetings	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 348.00	\$ 50.46	\$ 398.46
	Senior Engineer	62	\$ 70.00	\$ 4,340.00	\$ 7,282.09				\$ 1,685.20	\$ 13,307.29
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	12	\$ 45.92	\$ 551.04	\$ 924.59				\$ 213.97	\$ 1,689.60
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.17 Project Administration and QA/QC	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	96	\$ 70.00	\$ 6,720.00	\$ 11,275.49				\$ 2,609.35	\$ 20,604.83



**EXHIBIT A - DESIGN ENGINEERING**

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Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

**Fixed Fee 1** ☒ **14.5%[DL + R(DL) + OH(DL) + IHDC]**  
**Fixed Fee 2** ☐ **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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.2 Field Survey	Oper Mgr Survey	12	\$ 70.00	\$ 840.00	\$ 1,409.44		\$ 12,675.00	\$ 780.00	\$ 439.27	\$ 16,143.70
	Project LS 2	80	\$ 55.40	\$ 4,432.00	\$ 7,436.45				\$ 1,720.93	\$ 13,589.38
	Project LS 1	220	\$ 44.30	\$ 9,746.00	\$ 16,352.81				\$ 3,784.33	\$ 29,883.14
	Staff LS 2	100	\$ 34.80	\$ 3,480.00	\$ 5,839.09				\$ 1,351.27	\$ 10,670.36
2.4 Roadway Plans	Senior Proj Mgr	4	\$ 70.00	\$ 280.00	\$ 469.81				\$ 108.72	\$ 858.53
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	12	\$ 57.20	\$ 686.40	\$ 1,151.71				\$ 266.53	\$ 2,104.64
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	12	\$ 45.92	\$ 551.04	\$ 924.59				\$ 213.97	\$ 1,689.60
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.5 Roadway Drainage	Senior Proj Mgr	40	\$ 70.00	\$ 2,800.00	\$ 4,698.12			\$ 658.00	\$ 1,182.64	\$ 9,338.76
	Senior Engineer	56	\$ 70.00	\$ 3,920.00	\$ 6,577.37				\$ 1,522.12	\$ 12,019.49
	Project Manager	40	\$ 57.20	\$ 2,288.00	\$ 3,839.04				\$ 888.42	\$ 7,015.46
	Lead Engineer	20	\$ 62.70	\$ 1,254.00	\$ 2,104.09				\$ 486.92	\$ 3,845.01
	Project Engineer 2	88	\$ 45.92	\$ 4,040.96	\$ 6,780.33				\$ 1,569.09	\$ 12,390.37
	Project Engineer 1	120	\$ 37.66	\$ 4,519.20	\$ 7,582.77				\$ 1,754.79	\$ 13,856.75



**EXHIBIT A - DESIGN ENGINEERING**

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**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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Staff Engineer 2	205	\$ 33.29	\$ 6,824.45	\$ 11,450.74				\$ 2,649.90	\$ 20,925.10
	Staff Engineer 1	102	\$ 29.84	\$ 3,043.68	\$ 5,106.99				\$ 1,181.85	\$ 9,332.52
	Engineering Tech.	214	\$ 38.90	\$ 8,324.60	\$ 13,967.85				\$ 3,232.40	\$ 25,524.85
2.6 Structural Plans	Project Coordinator	20	\$ 27.78	\$ 555.60	\$ 932.24				\$ 215.74	\$ 1,703.58
	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	20	\$ 70.00	\$ 1,400.00	\$ 2,349.06				\$ 543.61	\$ 4,292.67
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	44	\$ 62.70	\$ 2,758.80	\$ 4,628.99				\$ 1,071.23	\$ 8,459.02
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	110	\$ 37.66	\$ 4,142.60	\$ 6,950.87				\$ 1,608.55	\$ 12,702.02
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	100	\$ 38.90	\$ 3,890.00	\$ 6,527.03				\$ 1,510.47	\$ 11,927.50
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.11 Public Involvement	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 58.00	\$ 8.41	\$ 66.41
	Senior Engineer	10	\$ 70.00	\$ 700.00	\$ 1,174.53				\$ 271.81	\$ 2,146.34
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.12 Specifications and Esitmates	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	8	\$ 70.00	\$ 560.00	\$ 939.62				\$ 217.45	\$ 1,717.07
	Project Manager	8	\$ 57.20	\$ 457.60	\$ 767.81				\$ 177.68	\$ 1,403.09
	Lead Engineer	12	\$ 62.70	\$ 752.40	\$ 1,262.45				\$ 292.15	\$ 2,307.01



**EXHIBIT A - DESIGN ENGINEERING**

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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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Engineer 2	8	\$ 45.92	\$ 367.36	\$ 616.39				\$ 142.64	\$ 1,126.40
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	8	\$ 33.29	\$ 266.32	\$ 446.86				\$ 103.41	\$ 816.59
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.13 Project Design and Coordination Mtg	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 290.00	\$ 42.05	\$ 332.05
	Senior Engineer	42	\$ 70.00	\$ 2,940.00	\$ 4,933.03				\$ 1,141.59	\$ 9,014.61
	Project Manager	20	\$ 57.20	\$ 1,144.00	\$ 1,919.52				\$ 444.21	\$ 3,507.73
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.14 Project Administration and QA/QC	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	96	\$ 70.00	\$ 6,720.00	\$ 11,275.49				\$ 2,609.35	\$ 20,604.83
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.15 Construction Involvement	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	24	\$ 70.00	\$ 1,680.00	\$ 2,818.87				\$ 652.34	\$ 5,151.21



**EXHIBIT A - DESIGN ENGINEERING**

HR Green, Inc.

Route: Arlington Heights Road (V69)  
 Local: Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: Lake Cook Road to IL Route 83  
 Project: LCDOT Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	167.79%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	24	\$ 62.70	\$ 1,504.80	\$ 2,524.90				\$ 584.31	\$ 4,614.01
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
<b>Totals</b>		3354		\$ 157,247.73	\$ 263,845.97	\$ -	\$ 13,175.00	\$ 3,584.00	\$ 61,578.27	\$ 499,430.96



BDE 436 (Rev. 02/02/17)



# **EXHIBIT A - DESIGN ENGINEERING**

HBK Engineering, LLC

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
**(Municipality/Township/County)**  
**Section:** Lake Cook Road to IL Route 83  
**Project:** LCDOT Jurisdiction Work  
**Job No:** TBD

\*Firm's **approved 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** ☒ **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 Direc Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Ph. 1 Util Coord	PRIN	12	\$ 70.00	\$ 840.00	\$ 1,065.04		\$ 1,260.00		\$ 276.23	\$ 3,441.27
Ph. 1 Util Coord	SENIOR PM	16	\$ 63.30	\$ 1,012.80	\$ 1,284.13				\$ 333.05	\$ 2,629.98
Ph. 1 Util Coord	PM	20	\$ 58.00	\$ 1,160.00	\$ 1,470.76				\$ 381.46	\$ 3,012.22
Ph. 1 Util Coord	PROJ ENG	40	\$ 45.00	\$ 1,800.00	\$ 2,282.22				\$ 591.92	\$ 4,674.14
Ph. 1 Util Coord	LOCATOR 3	80	\$ 37.00	\$ 2,960.00	\$ 3,752.98				\$ 973.38	\$ 7,686.37
Ph. 1 Util Coord	LOCATOR 2	60	\$ 33.00	\$ 1,980.00	\$ 2,510.44				\$ 651.11	\$ 5,141.56
Ph. 1 Util Coord	PERMIT COORD.	20	\$ 33.00	\$ 660.00	\$ 836.81				\$ 217.04	\$ 1,713.85
Ph. 1 Util Coord	ANALYST	12	\$ 29.00	\$ 348.00	\$ 441.23				\$ 114.44	\$ 903.67
Ph. 2 Util Coord	PRIN	34	\$ 70.00	\$ 2,380.00	\$ 3,017.60				\$ 782.65	\$ 6,180.25
Ph. 2 Util Coord	SENIOR PM	40	\$ 63.30	\$ 2,532.00	\$ 3,210.32				\$ 832.64	\$ 6,574.96
Ph. 2 Util Coord	PM	46	\$ 58.00	\$ 2,668.00	\$ 3,382.76				\$ 877.36	\$ 6,928.12
Ph. 2 Util Coord	PROJ ENG	80	\$ 45.00	\$ 3,600.00	\$ 4,564.44				\$ 1,183.84	\$ 9,348.28
Ph. 2 Util Coord	LOCATOR 3	0	\$ 37.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	LOCATOR 2	0	\$ 33.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	PERMIT COORD.	0	\$ 33.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	ANALYST	8	\$ 29.00	\$ 232.00	\$ 294.15				\$ 76.29	\$ 602.44
<b>Totals</b>		468		\$ 22,172.80	\$ 28,112.89	\$ -	\$ 1,260.00	\$ -	\$ 7,291.43	\$ 58,837.12



BDE 436 (Rev. 02/02/17)



**Payroll Escalation Table  
Fixed Raises**

FIRM NAME Huff & Huff, Inc.  
PRIME/SUPPLEMENT Peralte and Clark

DATE 1/6/2020  
PTB NO. \_\_\_\_\_

CONTRACT TERM 12 MONTHS  
START DATE 1/1/2020  
RAISE DATE 3/1/2020

OVERHEAD RATE 174.01%  
COMPLEXITY FACTOR 0  
% OF RAISE 3.00%

**ESCALATION PER YEAR**

1/1/2020 - 3/1/2020

3/2/2020 - 1/1/2021

2  
12

10  
12

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

= 16.67%

85.83%

= 1.0250

**The total escalation for this project would be:**

**2.50%**



## Payroll Rates

FIRM NAME Huff & Huff, Inc. DATE 1/6/2020  
 PRIME/SUPPLEMENT Peralte and Clark  
 PTB NO. \_\_\_\_\_

ESCALATION FACTOR 2.50%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Senior Principal	\$70.00	\$70.00
Principal	\$70.00	\$70.00
Associate Principal II	\$70.00	\$70.00
Associate Principal I	\$60.26	\$61.77
Senior Consultant	\$67.18	\$68.86
Senior Geotechnical Consultant	\$62.87	\$64.44
Senior Project Manager III	\$60.00	\$61.50
Senior Project Manager II	\$45.56	\$46.70
Senior Project Manager I	\$44.00	\$45.10
Senior Landscape Architect	\$52.11	\$53.41
Senior Planning PM	\$49.90	\$51.15
Senior Geologist PM	\$43.33	\$44.41
Senior Technical Specialist	\$44.64	\$45.76
Senior Scientist PM II	\$46.14	\$47.29
Senior Scientist PM I	\$42.00	\$43.05
Senior Technical Scientist	\$39.50	\$40.49
Senior CADD Specialist	\$33.75	\$34.59
Scientist PM II	\$42.25	\$43.31
Scientist PM I	\$31.00	\$31.78
Engineer PM I	\$36.18	\$37.08
Planning PM	\$35.15	\$36.03
Architect PM	\$37.54	\$38.48
Assistant PM Engineer II	\$39.02	\$40.00
Assistant PM Engineer I	\$34.74	\$35.61
Engineer I	\$34.13	\$34.98
Scientist EI	\$26.98	\$27.65
Scientist E2	\$23.17	\$23.75
Administrative Managers	\$40.57	\$41.58
Senior Administrative Assistant	\$27.89	\$28.59
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00



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

Firm Huff & Huff, Inc.  
Route N. Arlington Heights Road  
Section  
County Lake  
Job No.  
PTB & Item

Date 1/6/2020  
Overhead Rate **174.01%**  
Complexity Factor **0**

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
PESA	56	1,887.12	3,283.77	49.60	756.97	400.00	0.00	6,377.46	7.70%
Wetland Delineation	16	513.89	894.23	49.60	211.37	20.00	0.00	1,689.09	2.04%
Wetland Report	31	982.60	1,709.81	0.00	390.40	20.00	0.00	3,102.81	3.75%
Tree Survey	24	797.07	1,386.98	49.60	323.88	20.00	0.00	2,577.53	3.11%
Section 4(f)	112	5,228.34	9,097.84	99.20	2,091.68	0.00	0.00	16,517.06	19.94%
ESR Submittal	29	1,274.65	2,218.02	0.00	506.44	0.00	0.00	3,999.10	4.83%
Section 6(f)	156	7,661.55	13,331.86	124.00	3,062.02	0.00	0.00	24,179.43	29.19%
USACE Permitting	37	1,528.70	2,660.08	0.00	607.37	20.00	0.00	4,816.15	5.81%
Lake Co. Permitting	32	1,338.16	2,328.53	43.60	537.99	20.00	0.00	4,268.28	5.15%
Biological Clearances	9	318.71	554.59	0.00	126.63	0.00	0.00	999.94	1.21%
Archeological Review	4	183.23	318.84	0.00	72.80	0.00	0.00	574.87	0.69%
PSI and CCDD	75	2,472.17	4,301.82	87.20	994.87	5,130.00	0.00	12,986.06	15.67%
Project Admin	5	242.32	421.66	0.00	96.28	0.00	0.00	760.26	0.92%
<b>TOTALS</b>	586	24,428.50	42,508.03	502.80	9,778.70	5,630.00	0.00	82,848.03	100.00%

Method of Compensation:

Cost Plus Fixed Fee 1 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Cost Plus Fixed Fee 2 14.5%[DL + R(DL) + 1.4(DL) + IHDC]  
 Cost Plus Fixed Fee 3 14.5%[(2.3 + R)DL + IHDC]  
 Specific Rate  
 Lump Sum



## Average Hourly Project Rates

Route N. Arlington Heights Road  
 Section \_\_\_\_\_  
 County Lake  
 Job No. \_\_\_\_\_  
 PTB/Item \_\_\_\_\_

Consultant Huff & Huff, Inc.

Date 1/6/2020

Sheet 1 OF 3

Payroll Classification	Avg Hourly Rates	Total Project Rates			PESA			Wetland Delineation			Wetland Report			Tree Survey			Section 4(f)		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00	0																	
Principal	70.00	0																	
Associate Principal II	70.00	0																	
Associate Principal I	61.77	43	7.34%	4.53	1	1.79%	1.10				2	6.45%	3.98	1	4.17%	2.57	16	14.29%	8.82
Senior Consultant	68.86	0																	
Senior Geotechnical Consultant	64.44	0																	
Senior Project Manager III	61.50	0																	
Senior Project Manager II	46.70	0																	
Senior Project Manager I	45.10	74	12.63%	5.70															
Senior Landscape Architect	53.41	0																	
Senior Planning PM	51.15	138	23.55%	12.04													68	60.71%	31.05
Senior Geologist PM	44.41	10	1.71%	0.76	6	10.71%	4.76												
Senior Technical Specialist	45.76	26	4.44%	2.03													2	1.79%	0.82
Senior Scientist PM II	47.29	0																	
Senior Scientist PM I	43.05	0																	
Senior Technical Scientist	40.49	95	16.21%	6.56				8	50.00%	20.24	6	19.35%	7.84	10	41.67%	16.87			
Senior CADD Specialist	34.59	29	4.95%	1.71	6	10.71%	3.71				6	19.35%	6.70	2	8.33%	2.88	4	3.57%	1.24
Scientist PM II	43.31	0																	
Scientist PM I	31.78	0																	
Engineer PM I	37.08	0																	
Planning PM	36.03	0																	
Architect PM	38.48	0																	
Assistant PM Engineer II	40.00	0																	
Assistant PM Engineer I	35.61	0																	
Engineer I	34.98	53	9.04%	3.16	22	39.29%	13.74												
Scientist E1	27.65	52	8.87%	2.45	20	35.71%	9.88												
Scientist E2	23.75	59	10.07%	2.39				8	50.00%	11.87	16	51.61%	12.26	11	45.83%	10.89	20	17.86%	4.24
Administrative Managers	41.58	0																	
Senior Administrative Assistant	28.59	7	1.19%	0.34	1	1.79%	0.51				1	3.23%	0.92				2	1.79%	0.51
		0																	
<b>TOTALS</b>		586	100%	\$41.69	56	100%	\$33.70	16	100%	\$32.12	31	100%	\$31.70	24	100%	\$33.21	112	100%	\$46.68



## Average Hourly Project Rates

**Route** N. Arlington Heights Road  
**Section**  
**County** Lake  
**Job No.**  
**PTB/Item**

**Consultant** Huff & Huff, Inc.

**Date** 1/6/2020

**Sheet** 2 **OF** 3

Payroll Classification	Avg Hourly Rates	ESR Submittal			Section 6(f)			USACE Permitting			Lake Co. Permitting			Biological Clearances			Archeological Review		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00																		
Principal	70.00																		
Associate Principal II	70.00																		
Associate Principal I	61.77	1	3.45%	2.13	12	7.69%	4.75	2	5.41%	3.34	2	6.25%	3.86	1	11.11%	6.86	1	25.00%	15.44
Senior Consultant	68.86																		
Senior Geotechnical Consultant	64.44																		
Senior Project Manager III	61.50																		
Senior Project Manager II	46.70																		
Senior Project Manager I	45.10	2	6.90%	3.11	70	44.87%	20.24												
Senior Landscape Architect	53.41																		
Senior Planning PM	51.15				70	44.87%	22.95												
Senior Geologist PM	44.41																		
Senior Technical Specialist	45.76	20	68.97%	31.56	4	2.56%	1.17												
Senior Scientist PM II	47.29																		
Senior Scientist PM I	43.05																		
Senior Technical Scientist	40.49							34	91.89%	37.20	30	93.75%	37.96	4	44.44%	17.99	3	75.00%	30.37
Senior CADD Specialist	34.59	6	20.69%	7.16															
Scientist PM II	43.31																		
Scientist PM I	31.78																		
Engineer PM I	37.08																		
Planning PM	36.03																		
Architect PM	38.48																		
Assistant PM Engineer II	40.00																		
Assistant PM Engineer I	35.61																		
Engineer I	34.98																		
Scientist EI	27.65																		
Scientist E2	23.75													4	44.44%	10.56			
Administrative Managers	41.58																		
Senior Administrative Assistant	28.59							1	2.70%	0.77									
<b>TOTALS</b>		29	100%	\$43.95	156	100%	\$49.11	37	100%	\$41.32	32	100%	\$41.82	9	100%	\$35.41	4	100%	\$45.81



## Average Hourly Project Rates

**Route** N. Arlington Heights Road  
**Section** \_\_\_\_\_  
**County** Lake  
**Job No.** \_\_\_\_\_  
**PTB/Item** \_\_\_\_\_

**Consultant** Huff & Huff, Inc.

**Date** 1/6/2020

**Sheet** 3 **OF** 3

Payroll Classification	Avg Hourly Rates	PSI and CCDD			Project Admin														
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00																		
Principal	70.00																		
Associate Principal II	70.00																		
Associate Principal I	61.77	2	2.67%	1.65	2	40.00%	24.71												
Senior Consultant	68.86																		
Senior Geotechnical Consultant	64.44																		
Senior Project Manager III	61.50																		
Senior Project Manager II	46.70																		
Senior Project Manager I	45.10				2	40.00%	18.04												
Senior Landscape Architect	53.41																		
Senior Planning PM	51.15																		
Senior Geologist PM	44.41	4	5.33%	2.37															
Senior Technical Specialist	45.76																		
Senior Scientist PM II	47.29																		
Senior Scientist PM I	43.05																		
Senior Technical Scientist	40.49																		
Senior CADD Specialist	34.59	5	6.67%	2.31															
Scientist PM II	43.31																		
Scientist PM I	31.78																		
Engineer PM I	37.08																		
Planning PM	36.03																		
Architect PM	38.48																		
Assistant PM Engineer II	40.00																		
Assistant PM Engineer I	35.61																		
Engineer I	34.98	31	41.33%	14.46															
Scientist EI	27.65	32	42.67%	11.80															
Scientist E2	23.75																		
Administrative Managers	41.58																		
Senior Administrative Assistant	28.59	1	1.33%	0.38	1	20.00%	5.72												
<b>TOTALS</b>		75	100%	\$32.96	5	100%	\$48.46	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00



**EXHIBIT A - DESIGN ENGINEERING**

Interra, Inc.

Route: Arlington Heights Road (V69)  
 Local Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: Lake Cook Road to IL Route 83  
 Project: LCDOT Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	169.82%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 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 Direc Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Geotechnical	Staff Engineer	68	\$ 29.72	\$ 2,020.96	\$ 3,431.99		\$ 21,225.00	\$ 8,005.00	\$ 1,951.40	\$ 36,634.36
Geotechnical	Sr. Proj. Engineer	24	\$ 50.50	\$ 1,212.00	\$ 2,058.22			\$ -	\$ 474.18	\$ 3,744.40
Geotechnical	Proj. Manager	16	\$ 63.50	\$ 1,016.00	\$ 1,725.37			\$ -	\$ 397.50	\$ 3,138.87
Geotechnical	Principal Engineer	24	\$ 70.00	\$ 1,680.00	\$ 2,852.98			\$ -	\$ 657.28	\$ 5,190.26
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
										\$ -
										\$ -
										\$ -
<b>Totals</b>		132.00		\$ 5,928.96	\$ 10,068.56	\$ -	\$ 21,225.00	\$ 8,005.00	\$ 3,480.37	\$ 48,707.89



PTB NUMBER: **Arlington Heights Road - LCDOT Jurisdiction - Phase I**

TODAY'S DATE: 10/30/2019

*\*If other allowable costs are needed and not listed, please add in the above spaces provided.*

## LEGEND

W.O. = Work Order

J.S. = Job Specific



# ESTIMATE



CHI:IL

BILL TO : Peralte-Clark, LLC  
171 West Wing Street , Suite 204B  
Arlington Heights, IL 60005  
(131) 296-5984

CLIENT PROJECT # 18-0024-01

ESTIMATE DATE : 10/24/2019

ORDER DATE : 3/13/2019

ORDER No	PROJECT NAME	PAYMENT TERMS	ORDER BY
149282	LCDOT Arlington Heights Road from Lake-Cook Road to IL Route 83	Net 60 Days	John Clark

QTY	DESCRIPTION	RATE	TOTAL
<b>2</b>	<b>High Volume-Turn Count</b>	\$1,830.00	\$3,660.00
	2 Location(s) for time period(s): 12:00 AM -- 12:00 AM-(Midweek)		
	-Arlington Heights Rd--Lake Cook Rd, Buffalo Grove, IL		
	-Arlington Heights Rd--IL Route 83 (McHenry Rd), Buffalo Grove, IL		
<b>3</b>	<b>Standard-Turn Count</b>	\$1,040.00	\$3,120.00
	1 Location(s) for time period(s): 12:00 AM -- 12:00 AM-(Midweek)		
	-Arlington Heights Rd--Checker Rd/Checker Dr, Buffalo Grove, IL		
	2 Location(s) for time period(s): 12:00 AM -- 12:00 AM-(Midweek)		
	-McDonald's Entrance--Fremont Way, Buffalo Grove, IL		
	-Arlington Heights Rd--Fremont Way, Buffalo Grove, IL		
<b>2</b>	<b>Standard-Turn Count</b>	\$215.00	\$430.00
	1 Location(s) for time period(s): 6:00 AM -- 9:00 AM-(Midweek)		
	-Arlington Heights Rd--Alden Ln, Buffalo Grove, IL		
	1 Location(s) for time period(s): 3:00 PM -- 6:00 PM-(Midweek)		
	-Arlington Heights Rd--Alden Ln, Buffalo Grove, IL		
		<b>TOTAL</b>	<b>\$7,210.00</b>

Balances unpaid by end of Payment term (listed above) will be charged 1.5% interest per month

Quality Counts, LLC  
7409 SW Tech Center Dr, STE 150  
Tigard, OR 97223  
(877) 580-2212  
qualitycounts.net

Generated on 10/24/2019 11:52 AM

Page 1 of 1



# PROPOSAL FOR LAND ACQUISITION SERVICES

**Lake County Division of  
Transportation**

**Peralte-Clark, LLC**



**Arlington Heights Rd  
from Lake Cook Road  
to IL 83**

**Santacruz Land  
Acquisitions**

222 Northfield Road · Suite 201  
Northfield, IL 60093  
[www.santacruz-associates.com](http://www.santacruz-associates.com)

Contact:  
J. Steve Santacruz  
847-868-9620  
[jsteve@santacruz-associates.com](mailto:jsteve@santacruz-associates.com)



# 1

## EXECUTIVE SUMMARY

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We understand the importance of keeping on schedule. On-time lettings gives the Lake County Division of Transportation, the Local Public Agency (“LPA”) the best use of its resources and strengthens the efficiencies in the implementation of its roadway improvement program. To achieve your goals, it is critical that your land acquisition consultant understands the importance and addresses three critical issues in your acquisition of right of way:

- Deliver the right of way on-time to meet the letting
- Manage the acquisition risks, including the cost of condemnation litigation
- Compliance with land acquisition policies and procedures and FWA policies that effect the certification and funding of your project.

### CRITICAL ISSUE 1: DELIVER THE RIGHT-OF-WAY ON-TIME TO MEET LETTING

Delivery of right of way on-time keeps the project on its letting schedule. We understand that nothing is more important to the LPA.

**We have assembled a team of industry leading right of way professionals that have years of experience working on land acquisition projects with the understanding of what needs to be done to complete an acquisition on time.**

Santacruz Land Acquisitions (“Santacruz”) will work with the staff for the LPA and/or Peralte-Clark, LLC, Engineer for the LPA, (“Consultant”) to develop a land acquisition plan for the Arlington Heights Road from Lake Cook Road to IL 83 (the “Project”) to assure that the goals are met.

All of these efficiencies lead to ways in which we minimize our time with an acquisition and translate to your project staying on schedule.

### CRITICAL ISSUE 2: MANAGE THE ACQUISITION RISKS

Equally important as the scheduled letting is the acquisition budget for the Project. Our team will suggest ways to minimize impacts and reduce costs in challenging acquisitions. We will also work with the LPA to minimize the condemnation referrals that impact the budget for this Project. At the same, our team will quickly identify parcels in the very beginning of the process that have title issues that can only be resolved through condemnation so that the team can develop strategies on moving the land acquisition process forward.



Your land acquisition consultant needs to have knowledge of the legal requirements necessary to position an agency for condemnation. Our team possesses that knowledge and has years of experience providing “expert witness” testimony in these matters.

**Santacruz is made up of skilled right of way professionals with a vast background in real estate and civil engineering with respect to transportation projects which gives us the ability to recognize issues and resolve them before they create delays.**

### CRITICAL ISSUE 3: COMPLIANCE WITH GOVERNMENT REGULATIONS

All land acquisition services must be performed in accordance with the Uniform Relocation Assistance and Real Property Act. In addition, we are familiar with IDOT’s land acquisition guidelines, policies and procedures.

**We apply our team’s extensive collective decades of experience complying with federal and state laws and maximizing the team’s knowledge of the land acquisition policies of IDOT.**

### ADDITIONAL COMPONENT OF OUR PROPOSAL: BEP UTILIZATION

**Santacruz** is a BEP with Central Management Services, a DBE with IDOT and an MBE with Cook County and the City of Chicago.

## TEAM ORGANIZATION

**Santacruz** has assembled a versatile team of professional right of way consultants with the experience to deliver successful land acquisition services and meet the letting dates of the project. Javier Santacruz will lead the team as Project Manager. The team brings a wealth of experience in land acquisition for governmental agencies and related real estate law and civil engineering disciplines to assure the proper handling of even the most complicated of acquisitions. Additionally, the key members of the team have collaborated in the past on projects.

### WHY SANTACRUZ LAND ACQUISITIONS?

As you review our proposal, you will see that the team that Santacruz Land Acquisitions has assembled is versatile, experienced and qualified to deliver the full scope of the land acquisition needs for the LPA. What sets apart our team is:

- Years of successful on-time delivery of right of way land acquisition services to various other agencies
- Diverse set of real estate acquisition disciplines including backgrounds in law and civil engineering
- Extensive experience with complex valuations and acquisitions
- Title review experience, including familiarity with all types of recorded documents affecting real estate and knowledge on how to the clear title
- Experience in reviewing plats and legal descriptions, as well as an ability to review and understand roadway construction plans
- Expertise with the Uniform Relocation Assistance and Real Property Act of 1970, as amended (Uniform Act), Illinois Eminent Domain Act (735 ILCS 30), IDOT Land Acquisition Guidelines.
- Familiarity with IDOT policies and procedures related to land acquisition and appraisals.

### SUMMARY

**With a long history of successful delivery of a variety of right of way projects on-time, within budget and to our client’s satisfaction, we look forward to the opportunity to assist the LPA with its land acquisition needs**



## COMPENSATION

**Santacruz** shall be entitled to the compensation as shown on the attached schedule. Our cost proposal, based on **fifteen (15)** projected parcels of right-of-way, is as follows:

<b><u>APPRAISALS:</u></b>	<b>\$42,000.00.</b>
<b><u>REVIEW APPRAISALS:</u></b>	<b>\$15,000.00.</b>
<b><u>NEGOTIATIONS:</u></b>	<b>\$42,000.00.</b>

As directed, **Santacruz** shall invoice the LPA or Consultant for any fees and charges related to the acquisitions including, without limitation, (i) the cost of the later date title commitments, (ii) the cost of title insurance policies obtained on the parcels to be acquired, (iii) the cost of recording any necessary documents to complete the conveyance and obtain clear title, (iv) lender's fees related to the processing of any partial releases needed to provide clear title, and (v) land trustee processing fees. **Santacruz** shall include **\$600.00** per parcel for these charges. **Santacruz** shall pay any such fees and charges in excess of the **\$600.00** per parcel allowance for which Santacruz Land Acquisitions shall be entitled to additional compensation in the amount of any such payments pursuant to a separate work order issued.

**Santacruz** will attend and/or participate in up to four (4) hours of meetings and conference calls for consultations on the project. This will include, without limitation, kick-off meetings, planning discussions, project strategy development and review of parcels with acquisition challenges.

Based on the projected total number of parcels of right-of-way to be acquired for the Project, the land acquisition negotiation services provided herein are offered a cost not to exceed of **\$109,000.00** as follows:

Land Acquisition Services	<b>\$99,000.00</b>
Consultation/Meeting Services	<b>\$1,000.00</b>
Direct Billable Expenses	<b>\$9,000.00</b>



# 2

## TECHNICAL APPROACH

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**Santacruz** shall perform all necessary services in the preparation of appraisals and review appraisals and the negotiation of the acquisition of necessary properties required for the completion of the Project. All services shall be performed in accordance with the policies and procedures of IDOT, as applicable, the Uniform Act and the Illinois Eminent Domain Act.

**Santacruz** agrees to perform the services as set forth herein as well as furnish and deliver to the LPA the final reports accompanied by all necessary documents needed for recordation and/or necessary for eminent domain proceedings. **The process described in this section has been the roadmap to many successful right of way projects for Santacruz helping us to help you keep your projects on-time and within budget.**

### LAND ACQUISITION CRITICAL PATH STEPS – “OUR ROAD MAP”

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#### Task 1: Notice to Proceed

Our services start after authorization to proceed from the LPA and IDOT (as may be necessary).

#### Task 2: Kick-off Meeting

**Santacruz** will meet with the LPA and/or Consultant to discuss the Project, identify issues and develop any necessary strategies to assure the timely completion of the Project.

#### Task 3: Delivery and Review of Project Information

The LPA or Consultant will provide **Santacruz** with plats of highway, legal descriptions, the most recent title commitments and any other pertinent information regarding the property owner for each parcel assigned for acquisition. In addition, the LPA or Consultant will also provide **Santacruz** with a set of project plans, including, (i) plan and profile, (ii) drainage and utilities, (iii) pavement markings and (iv) cross sections.

#### Task 4: Introductory Notice to Owners

The Appraiser will notify the property owner of the proposed taking and will invite the property owner to be present during the inspection by the appraiser.



## Task 5: Appraisal

The Appraiser shall make a detailed inspection of the properties and make such investigations and studies as are consistent with industry standard and necessary to derive sound conclusions for the preparation of appraisal reports. All appraisal work shall be completed within eight to ten weeks after commencement.

The Appraiser shall assist in analyzing and responding to valuation information provided by a property owner in support of a counter offer.

As necessitated by a change of ownership, a revision to the right of way or for condemnation purposes, **Santacruz** will furnish and deliver updated or revised appraisals. Such requests may be pursuant to a separate work order.

## Task 6: Review Appraisal

All appraisals will be reviewed by the Review Appraiser assuring that all items affecting the value of the property have been considered in the appraisal.

As necessitated by a change of ownership, a revision to the right of way or for condemnation purposes, **Santacruz** will furnish and deliver updated or revised reviews. Such requests may be pursuant to a separate work order.

## Task 7: Negotiation and Acquisition

**Santacruz** shall commence negotiations after approval by the LPA of the appraisals and the amount of just compensation to be offered to the property owner.

Before contacting the property owner, **Santacruz** will prepare and send the introductory letter to the property owner on the LPA's letterhead.

**Santacruz** will present the property owner with an offer package, which shall contain the Offer to Purchase and other documents to assist the property owner with reviewing the right-of-way request.

**Santacruz** will make all reasonable efforts to complete the acquisition of the right-of-way from the property owner.

**Santacruz** will not have any authority to determine administrative settlements. **Santacruz** will consult with the LPA for approval of any counter offers and upon acceptance by the LPA of any such counter offer, **Santacruz** will prepare the necessary documentation for administrative settlement.

**Santacruz** will review the title commitment provided for each parcel to determine the liens and encumbrances that will need to be addressed in order to complete the acquisition process for the LPA.

If, during its discussions with the property owner, errors in the plans are discovered or the property owner requests design changes, **Santacruz** will immediately notify LPA or Consultant with this information. At any time during negotiations for situations involving design changes, errors in plans or for any other reason, if requested by LPA or Consultant, **Santacruz** will cease negotiations on certain parcels until corrected information or further instruction is provided to **Santacruz**.

Upon successful negotiations with the property owner, **Santacruz** will prepare all necessary conveyance documents in order to complete the acquisition and obtain title approval for the property. **Santacruz** will submit the completed parcel file with original conveyance documents, any documents necessary for title clearance, the Negotiator's Log documenting all negotiation activities, copies of all correspondence with the property owner, title commitments, plats, and all other documentation as required by the LPA and IDOT (as necessary).

## Condemnation Support

**Santacruz** understands that appearances in court and/or pretrial conferences, which may include depositions, and preparation for litigation or pre-trial conferences may be required by the LPA so that it may complete the acquisition of the property through condemnation.



In the event, after making every reasonable effort to contact and negotiate with a property owner, **Santacruz** is unable to obtain a settlement for the acquisition of the right-of-way, **Santacruz** shall refer the parcel to the LPA for acquisition by condemnation.

In such case, at the request of the LPA or its trial counsel, the Appraiser assigned to appraise the parcel shall make any such appearances or complete such preparation work in order to assist with this process. In addition, at the request of the LPA or its trial counsel, the Negotiator assigned to negotiate the parcel shall make any such appearances or complete such preparation work in order to assist with this process. Such requests for trial appearances or condemnation support will be pursuant to a separate work order.

## PERSONNEL

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The experience and talent of the right of way professionals that make up the team for **Santacruz** will, to a large extent, be the basis for the success of keeping this Project on-time and within budget. **Santacruz** brings over twenty-five years of right of way acquisition experience. Santacruz has worked on thousands of acquisition parcels for ISTHA, IDOT, Cook, Kane, Lake, and Will Counties. We have also worked for numerous township and municipalities. **Santacruz** has years of experience handling some of the most complex land acquisition transactions.

The **Santacruz** staff includes two negotiators and two paralegals with years of experience in acquiring a variety of right-of-way parcels.

## PRIOR EXPERIENCE

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**Santacruz Land Acquisitions** was founded in 1992 and has grown to be one of the most dependable right-of-way negotiation firms in Illinois. **Santacruz** has been providing comprehensive right-of-way solutions, including negotiation activities and the coordination of the valuations of parcels for various public agencies.



# 3

## EXHIBITS

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### a. Pricing Schedule



# Compensation for Services

## **Appraisal Services**

Appraisals	\$2,800.00
Revision to appraisal due to change in ROW or plans <sup>1</sup>	\$1,500.00 - \$4,000.00

## **Review Appraisal Services**

Review Appraisals	\$1,000.00
Revision to review appraisal due to change in ROW or plans <sup>1</sup>	\$900.00 - \$2,000.00

## **Negotiation Services**

Negotiation and acquisition services for Right of Way including, without limitation, documentation of conveyance of property interest	\$2,800.00
Additional negotiations due to change in ownership or plans <sup>1</sup>	\$1,900.00 - \$3,500.00

## **Witness Services**

Rate for each ½ day in pretrial conference or in court for Negotiator <sup>1</sup>	\$1,000.00
Rate for each ½ day in pretrial conference or in court for Appraiser <sup>1</sup>	\$1,000.00
Hourly rate for consultation not otherwise specifically provided for herein	\$250.00

## **Title Services (if applicable)**

Later date commitment – In addition to actual recording costs + Administrative fee	\$25.00
Title insurance policies – In addition to actual recording costs + Administrative fee	\$25.00
Recording of Documents – In addition to actual recording costs + Administrative fee	\$25.00
Copies of recorded documents – In addition to actual copying costs & research fees + Administrative fee	\$25.00

<sup>1</sup> May requires supplemental work order.



**EXHIBIT A - DESIGN ENGINEERING**  
**SINGH & Associates, Inc.**

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
(Municipality/Township/County)  
**Section:** Lake Cook Road to IL Route 83  
**Project:** LCDOT Jurisdiction Work  
**Job No:** TBD

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

Overhead Rate (OH)	147.91%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

**Fixed Fee 1** ☒ 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
Lighting Assesment	Engineer IV	2	\$ 59.25	\$ 118.50	\$ 175.27			\$ 132.24	\$ 61.77	\$ 487.79
Lighting Assesment	Engineer III	43	\$ 53.44	\$ 2,297.92	\$ 3,398.85				\$ 826.03	\$ 6,522.81
Lighting Assesment	Engineer II	51	\$ 41.99	\$ 2,141.49	\$ 3,167.48				\$ 769.80	\$ 6,078.77
Traffic Signal QA/QC	Engineer III	18	\$ 53.44	\$ 961.92	\$ 1,422.78				\$ 345.78	\$ 2,730.48
Traffic Signal QA/QC	EngineerII	18	\$ 41.99	\$ 755.82	\$ 1,117.93				\$ 271.69	\$ 2,145.45
				\$ -	\$ -				\$ -	\$ -
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<b>Totals</b>		132.00		\$ 6,275.65	\$ 9,282.31	\$ -	\$ -	\$ 132.24	\$ 2,275.08	\$ 17,965.28



BDE 436 (Rev. 02/02/17)





**Arlington Heights Road  
Illinois Route 83 to Approximately  
500' South of Thompson Blvd.**

**Lake County, Illinois  
Section 17-00193-08-PV**

**Phase I and II Engineering Scope of Work  
Roadway Reconstruction  
January 2020**



171 West Wing Street, Suite 204B  
Arlington Heights, Illinois 60005  
Phone: 847-485-8069  
[www.peralte-clark.com](http://www.peralte-clark.com)



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## *Project Understanding*

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This project includes elements of Phase I Engineering and full Phase II plan preparation for the roadway reconstruction of Arlington Heights Road from the north right-of-way line of Illinois Route 83 to a point approximately 500 feet south of Thompson Blvd. This project is located within the municipal boundaries of the Village of Buffalo Grove. Design work is anticipated to include full roadway reconstruction of the mainline pavement within the project limits. In general, the pavement has reached the end of its life and will be designed to be replaced in kind. Minor geometric changes may be introduced to the roadway pavement to better channelize traffic through the intersection and align with proposed improvements on the south leg of the intersection.

This project will be funded with local funds from the Village of Buffalo Grove. The Lake County Division of Transportation (LCDOT) will be the lead agency for the design, bidding, letting and construction stages. The preparation of a formal Phase I study is not anticipated for this project; however, elements of a Phase I study are included in this project. Details of the proposed Phase I scope are outlined below. Phase II design will adhere to the current LCDOT plan preparation guidelines and will be subject to IDOT Bureau of Local Roads and Streets (IDOT-BLRS) reviews and approvals. Roadway improvements to Lake Cook Road and Illinois Route 83 are not anticipated as part of this project.

Phase I and Phase II Engineering portions of this project, project study and plan preparation work will be coordinated through IDOT-BLRS in accordance with BLRS Chapter 10 requirements. Because federal dollars are not anticipated to be involved in this project, the schedule of these two phases can overlap.

The project is currently programmed and targeted for construction in 2024. The following scope of work is based on scoping discussions with LCDOT staff on February 5th, 2019 and October 11<sup>th</sup>, 2019.



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## *Scope of Services – Phase I*

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The following is our proposed scope of services for Phase I Engineering on this project:

### **1. Data Collection, Compilation, Review and Evaluation**

This task includes obtaining all pertinent data required to complete both Phase I and Phase II work. Coordination will occur with LCDOT, IDOT, the Lake County Stormwater Management Commission (LCSMC), Village of Buffalo Grove, Vernon Township and all other agencies necessary to obtain base data for the project area, including but not necessarily limited to the following information:

- Record roadway and drainage plans, including previous studies/reports, and engineering and as-built plans for past Arlington Heights Road.
- Recorded centerline and right-of-way plans for Arlington Heights Road (V69) and Illinois Route 83.
- Available traffic data.
- Available crash data.
- Available survey data and control data for tying to the Lake County LiDAR mapping.
- Existing and proposed land use and zoning maps, including School Districts, Park Districts, Forest Preserve Districts, Sanitary/Drainage Districts, and Bike/Pedestrian plans as pertinent/available.
- Soils and geological information.
- Public and private utility plans (Peralte-Clark will work with the LCDOT utility coordinator to obtain this information).
- USGS maps and Flood Insurance Rate Maps.
- Public Service routes including Bus, Mail, and Emergency Services.

Peralte-Clark will coordinate with the Lake County GIS Department to obtain available GIS data for the study area, including aerial photography, LiDAR contour mapping, environmental resources, property lines, roadway names, etc.

Peralte-Clark will determine facility deficiencies based on information gathered and prepare exhibits of the data collected as appropriate for use as part of other project tasks. This task will include a plan-in-hand field review of the project area, and contact with key stakeholders within the project area, including the Village of Buffalo Grove, Vernon Township, LCFPD, and LCSMC to retrieve appropriate base project data.

Specific work items under this task will include:

- Initial project field review(s)
- Complete a detailed photo log of the site including a detailed inventory of topographic features which may impact or be impacted by the proposed design
- Project data collection including contact and coordination with key project stakeholders.
- Coordination to obtain base project mapping data (LiDAR) and Lake County GIS data.
- Review, analyze, and catalog project data.
- Determine facility deficiencies.



## 2. Field Survey Work

The survey work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant. Surveying will be performed according to the Lake County Division of Transportation (LCDOT), Design Survey Procedures (Revised 10/19/18).

Peralte-Clark, LLC will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. HR Green will contact property owners, to the extent possible, in advance of surveying on private property.

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

Horizontal Control: Utilizing state plane coordinates, HR Green 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 HR Green 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 and assign elevations to the horizontal control points.

Topographic Survey: A total of 600 feet will be surveyed along North Arlington Heights Road from the north line of Illinois 83 intersection and extending to 450 feet south of Thompson Boulevard. The survey will extend 25 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. Existing utilities and wetlands delineated by Huff and Huff will be surveyed from visible markings or flags by others. Storm, sanitary sewer and watermain structures will be surveyed, including rim elevation, invert pipe size, direction and elevation as observed at unlocked manholes. HR Green 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: HR Green 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: HR Green 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.



Specific work items under this task will include:

- Completion of topographic survey.
- Coordination with LCDOT Utilities Coordinator.
- Obtaining existing utility information from utility agencies and incorporation of data obtained into the topographic survey base map.

Scope Omissions:

- Coordination with LCDOT for survey right-of-entry letter will be handled by Peralte-Clark.
- The preparation of ROW and/or easement acquisition documents for Buffalo Grove.

### **3. Alternate Geometric Studies**

No Alternate Geometric Studies will be prepared as part of the project. Proposed roadway geometry will be designed to match existing roadway geometry.

### **4. Roadway Drainage**

The drainage design and permitting work for this project will be prepared by **HR Green, Inc. (HR Green)**, as a subconsultant.

*Preliminary Drainage Design:* Design criteria for the project will be developed and coordinated with Buffalo Grove to verify how the project will be designed. HR Green will identify drainage problems by researching LCDOT and Buffalo Grove flooding and maintenance records, coordinating with local agencies and conducting site investigations. The project scoping report indicated there has been no reported pavement flooding within the corridor. No drainage investigations are assumed for the Buffalo Grove section.

*Existing Drainage Plan:* The existing drainage system will be analyzed to determine the suitability for continued use. This will involve the preparation of an Existing Drainage Plan (EDP). The EDP includes an evaluation of existing drainage conditions through a review of record drawings of the roadway plans, maps, reports and field review. Data collection as part of this task includes obtaining pertinent record drawings, storm sewer atlases, USGS maps, soils maps, topographic maps and other pertinent data. Determine whether to maintain or replace existing storm sewer systems, based on visual evaluation of sewer inspection videos to be provided by LCDOT and hydraulic need. Off-site and on-site drainage areas and existing drainage systems will be delineated on the base project mapping.

*Agency Coordination:* HRG will coordinate with the Village of Buffalo Grove, LCDOT, and LCSMC regarding drainage patterns and concerns, and sensitive drainage areas and/or outfalls. Based on a review of project area mapping there do not appear to be any sensitive outlets that will require water quality BMPs or detention within the Buffalo Grove section.

Specific work tasks associated with development of the EDP includes the following:

- Identify the tributary drainage area to inlets and outfalls.
- Identify existing drainage outfalls.



- Evaluate outfall sensitivity and suitability for continued use.
- Preparation of the EDP.
- Coordination meetings for the EDP with LCDOT, LCSMC, and the Village of Buffalo Grove.

## 5. *Retaining Wall Design*

No retaining wall design is assumed to be needed for the Buffalo Grove section.

## 6. *Traffic Maintenance Analysis*

No traffic maintenance analysis is assumed to be needed for the Buffalo Grove section.

## 7. *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.

### 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 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 eight public and private utilities to coordinate with.

### Utility Locating

HBK will perform SUE Level D 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 or flags. HBK staff will coordinate with HR Green'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 HR Green 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 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.

## **8. Intersection Design Studies**

It is assumed that no Intersection Design Studies will be needed for the Buffalo Grove section.

## **9. Environmental Surveys, Analysis and Coordination**

The environmental work for this project will be prepared by **Huff and Huff, Inc. (H&H)**, as a subconsultant.

This project includes roadway reconstruction of Arlington Heights Road from Illinois Route 83 to a point approximately 500 feet south of Thompson Blvd. This project is located within the municipal boundaries of the Village of Buffalo Grove and Village of Long Grove.

The following scope of environmental services will be completed for the Arlington Heights Road project by H&H. These include:

- Preliminary Environmental Site Assessment (PESA)
- Wetland/Surface Waters Delineation
- Wetland Report
- ESR Submittal

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

### **A. Historical Research**

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

### **B. Site Evaluation**

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



C. Records Review

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

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

D. Report Preparation

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

- a) The project location and description
- b) Historical uses of corridor.
- c) The area geology and hydrology.
- d) The environmental status of sites adjacent to the corridor regarding chemical use and storage, underground and aboveground storage tanks, solid waste, special waste, and hazardous waste, wastewater, and PCBs.
- e) An analysis of the site inspection.
- f) A summary of the findings regarding environmental concerns. This will include IDOT's BDE Manual Chapter 27-3, Special Waste Procedures, and identification of Potentially Impacted Properties (PIPs) per Subpart F, Section 1100, 35 IAC, related to Clean Construction or Demolition Debris management.

Wetland/Surface Waters Delineation: H&H will conduct a wetland and surface water delineation using current methods and guidance from the U.S. Army Corps of Engineers (USACE), which is outlined in the 2010 "USACE Midwest Region Manual." Based on a cursory review of available mapping and current aerial photography, no wetlands are apparent. H&H will conduct a delineation of this section of the project. If no wetlands are present, only a summary letter will be prepared documenting that no wetlands are present. If a wetland is identified within the project, the findings will be summarized in the overall wetland report being prepared for the project.

A. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by H&H staff experienced in Federal methods for conducting wetland delineations. H&H will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed in the field by H&H.

Wetland and surface water delineations will be conducted that will meet the requirements of Executive Order 11990, "Protection of Wetlands" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (Corps of Engineers, Section 404 Permit) and the Illinois Environmental Protection Agency (IEPA Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to private as well as publicly owned wetlands. The investigation will meet the



requirements of these regulations by identifying the type, functions, and approximate boundaries of all wetlands and surface waters.

Wetlands and surface waters found will be classified according to type using the “Classification of Wetlands and Deep Water Habitats of the U.S.” by Cowardin. Wetland boundaries will be defined using the *Midwest Region Manual* (USACE, 2010). Each potential wetland area will be evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology. Functions of wetlands will be evaluated from field observations.

This task includes time for a boundary verification and preparation and submittal of preliminary jurisdictional determination to the Lake County Stormwater Management Commission (SMC). The boundary verification will be conducted in conjunction with the overall project verification.

The wetland delineation will be scheduled according to the designated Lake County SMC and USACE growing season for Lake County, which begins on May 15<sup>th</sup> and ends October 1st.

**Wetland Report:** A wetland and surface waters delineation report will not be prepared. If no wetlands are identified in this section, a summary letter will be prepared in lieu of a full report. If wetlands are present, then the findings will be included in the overall wetland report for the project.

As the resource agencies will review this entire project as one effort, separate reports and permitting will not be included in this scope.

Wetland permitting will be conducted in Phase 2 in conjunction with the overall project permitting as the resource agencies will most likely review the entire project as a whole to avoid piecemealing.

**Tree Survey and Tree Survey Report:** **No tree survey will be prepared for this project.**

**ESR Submittal:** The environmental evaluation will be initiated through the submittal of the Environmental Survey Request Form (ESRF). The ESR limits will be wide enough to incorporate reasonable alternatives and areas potentially affected, such as the drainage areas, detention areas, and compensatory storage sites. Environmental resource areas covered by the ESRF include wetlands, special waste, cultural (historical and archaeological) and state listed threatened and endangered (T&E) species. Special waste and wetlands will be conducted as part of this contract.

Huff & Huff will prepare the ESRF package and send it to the Environmental Studies Unit at IDOT District 1 for review.

## **10. Geotechnical Investigation**

This task includes obtaining roadway and structural soil borings along Arlington Heights Road between a point approximately 500’ south of Thompson Drive located and Illinois Route 83 for design purposes as part of subsequent Phase II engineering. Peralte-Clark, LLC will utilize **Interra, Inc. (INTERRA)** for this work.

### **Village of Buffalo Grove**

The scope of work includes locating and drilling three (3) roadway soil borings. The roadway borings will



be drilled to a depth of 6.0 to 10.0 feet each from the existing ground/pavement surface, based on the existing ground elevation and proposed design grades. The roadway borings will be spaced 200 feet to 300 feet apart and staggered, in general accordance with the IDOT Geotechnical Manual guidelines. The borings will be primarily drilled within the existing roadway and in the shoulder areas of Arlington Heights road.

The location of the borings will be finalized upon consultation with the client. The location of the borings will be adjusted based on field conditions, accessibility and utility conflicts. We anticipate closing of lanes during drilling two roadway borings. Additionally, we anticipate the need for flaggers. Traffic control signage and flaggers will be utilized as needed during drilling to ensure safety of drilling crew and traffic.

The borings will be drilled with a truck-mounted drill rig. Soil sampling in the borings will be performed in general accordance with American Society for Testing and Materials (ASTM) standards, D 1586 "Penetration Test and Split Barrel Sampling of Soils". Observation for groundwater will be made during and immediately after the completion of the drilling. After the completion of the drilling, the boreholes will be backfilled with the soil auger cuttings from the same borehole. Where required, the surface will be patched with cement or asphalt to match surrounding elevations.

All field sampling and laboratory testing will be performed in general accordance with IDOT specifications. Laboratory testing includes moisture content tests, unconfined compressive strength tests using a RIMAC tester on all recovered soil samples. Standard Proctor tests, Illinois Bearing Ratio tests will be performed on bulk samples recovered from the proposed roadway areas. The final geotechnical report will be in general accordance with the IDOT Geotechnical Manual guidelines.

Environmental Screening: Interra will coordinate field activities with the environmental sub-consultant to facilitate soil sample screening with a Photoionization Detector (PID) and soil sample collection for analytical testing.

Specific work tasks will include:

- Pre-field work coordination with LCDOT on the boring plan, including traffic maintenance prior to field work.
- Post-field work meeting at LCDOT to discuss results and report preparation.
- Coordinate with environmental sub-consultant to allow soil sample screening and sampling for potential contamination.
- Prepare geotechnical report in general accordance with the IDOT Geotechnical Manual guidelines.

## **11. Preliminary Roadway Lighting Design**

The preliminary roadway lighting design for this project will be prepared by **Singh & Associates, Inc. (Singh)**, as a subconsultant.

Singh shall be responsible for providing lighting assessments for the existing lighting system and for the existing system retrofitted with LED fixtures.

Specific work tasks will include:

- Site visits and review of existing lighting conditions including photo log
- Photometric study of existing lighting system



- Lighting exhibits showing layout of existing lighting system
- Photometric study of existing lighting retrofit with LED for preferred roadway alternative
- White paper outlining findings of the two studies
- Coordination with local and state agencies for preferences, participation, and special requirements.

## ***12. Project Design Coordination Meetings***

Project design coordination meetings with the Village are included as part of the scope of services for the LCDOT jurisdiction section, south of IL Route 83. No hours are included as part of this scope for this effort.

## ***13. Project Administration and Quality Assurance/Quality Control***

This task includes overall project administration and management, as well as Quality Assurance/Quality Control (QA/QC) reviews associated with major project deliverables.

Project administration includes managing the day to day work effort on the project to ensure an efficient project development process including work force allocations, budget oversight, monthly progress reviews to ensure project milestones are being met to the extent possible.

QA/QC reviews will occur as part of major project deliverables in accordance with Peralte-Clark's established QA/QC procedures.

Specific work tasks will include:

- General project management/administration including staff resource allocation, task/schedule oversight, quality reviews, etc.
- Prepare monthly progress reports including a copy of the overall project schedule.



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## Scope of Services – Phase II

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The following is our proposed scope of services for Phase II Engineering on this project:

### 1. Supplemental Field Survey and Plat of Highways Preparation

None Anticipated.

### 2. Environmental Surveys, Analysis and Coordination

The environmental work for this project will be prepared by **Huff and Huff, Inc. (H&H)**, as a subconsultant.

The following scope of environmental services will be completed for the Arlington Heights Road project by H&H. These include:

- USACE Section 404 Permitting
- Lake County Stormwater Management Commission Permitting
- Preliminary Site Investigation (PSI) and CCDD

USACE Section 404 Permitting: Because the regulatory agencies will most likely consider the entire Arlington Heights Improvement as one project, a separate permit package for the Buffalo Grove section will not be prepared and submitted. If wetlands are present with the Buffalo Grove section, permitting and mitigation will be considered for the entire project as a whole.

Lake County Stormwater Management Commission Permitting: If local permitting is required, the Buffalo Grove section of Arlington Heights Road will be included in the overall permit submittal for the entire Arlington Heights Road project. It is anticipated that the regulatory agencies will review the project as a whole and not piecemeal the permitting and mitigation for the project.

Biological Clearances: The biological clearances will be obtained through the ESR process.

Archeological Review: The cultural clearances will be obtained through the ESR process.

Preliminary Site Investigation (PSI) and CCDD: The final scope of the PSI will be determined based on findings of the PESA proposed for completion during Phase I. The following preliminary scope is based on our understanding of the project corridor. However, additional potentially impacted properties (PIPs) or sites with recognized environmental conditions (RECs) may be identified during the PESA that have not been considered in this preliminary scope. Therefore, the PSI scope should be re-evaluated after completion of the PESA.

#### A. Soil Borings and Soil Sampling

H&H will collect split samples in conjunction with the proposed geotechnical borings to be completed by others. It will be important to coordinate with the project team to review the proposed geotechnical boring locations and adjust or add to their scope, as/if necessary, to provide coverage for environmental purposes. Even if borings need to be added to the geotechnical firms' scope, in our experience, it would still be more cost effective to have a single driller instead of mobilizing separately for geotechnical and



environmental purposes. Therefore, direct costs for drilling and traffic control services have NOT been included with this scope. Also, we assume that the geotechnical drilling firm will be responsible for the utility locating process, including marking the borings in the field.

It is anticipated that one day of field effort will be required with up to six (6) borings completed, preferentially located in close proximity to any identified sites and the also staggered for coverage of both sides of the roadway. This would provide full corridor coverage for any PIPs/RECs that may be identified and also to account for CCDD assessment in non-PIP/REC areas. The final location of the borings will be determined using the findings of the PESA and proposed project plans. H&H will also determine depths of planned borings prior to mobilization consistent with project plans as provided by Client, in conjunction with PESA findings. Currently it is estimated that borings will be advanced to depths of approximately 4 to 12 feet below ground surface.

#### B. Analytical

Laboratory analysis of soil samples is proposed to be consistent with constituents of concern (COCs) as determined from the PESA as presented below. Boring locations where petroleum products or other volatile organic compounds represent the primary concern, samples will be field screened with a photoionization detector (PID). The sample with the highest PID reading in each boring will be analyzed for:

- **Volatile Organic Compounds** (up to 1 sample) – VOCs are volatile compounds found in gasoline and related to various solvents;
- **Benzene, toluene, ethylbenzene, and xylenes** (up to 2 samples) – BTEX is a subset of VOC compounds and typically analyzed for petroleum-only sites that do not also include potential for chlorinated compounds.
- **Semi-Volatile Organic Compounds (SVOCs) or Polynuclear Aromatic Hydrocarbons (PNAs)** (up to 2 samples each) – SVOCs are semi-volatile compounds commonly formed during incomplete combustion of organic compounds. PNAs are a subset of SVOCs and can be formed by the combustion of wood, coal, and petroleum products. They are also found in less refined, nonvolatile petroleum products and can be used to identify potential for diesel or fuel oil contamination in soil.

Other field screening factors such as visual, or proximity to potential sources of known contamination to determine which samples will be analyzed to identify the presence of:

**RCRA Metals, total and SPLP/TCLP methods** (up to 3 samples) – Federal environmental regulations identify eight (8) heavy metals as hazardous if present in a *solid waste* at concentrations above varying threshold concentrations. Samples will be analyzed for select RCRA Metals, some of which may require further SPLP or TCLP analysis to determine compliance with the CCDD maximum allowable concentrations (MACs) (up to 2 samples).

In addition, soil samples will be analyzed for soil pH from each boring location, analyzed with a field meter consistent with CCDD sampling requirements with select pH samples submitted for laboratory analysis (up to 6).

#### C. PSI Report Preparation

A report summarizing the results of the soil sample collection activities and analytical results will be



prepared. This document will present information pertinent for the bidding documents regarding conditions of soils tested, handling and final disposition considerations.

#### D. CCDD (LPC-Form) Documentation

The soil sample results will be compared to the Maximum Allowable Concentrations (MACs) associated with CCDD facility acceptance, including the soil pH range of 6.25 to 9.0. If results achieve the MAC values, H&H will prepare the LPC-663 document that will be signed/stamped by H&H. This proposal assumes the potential for requiring a separate form for each area to account for this currently unknown situation.

Any locations that do not achieve the MACs (including soil pH range) will be identified as exclusion zones, not acceptable for CCDD facility disposal.

### **3. Roadway Plans**

The preferred alternative will be detail designed in preparation for construction plans. It is anticipated that the plans will be included as part of the overall LCDOT Arlington Heights Road roadway reconstruction contract documents and will not be prepared as a separate contract package. The project team will follow the LCDOT Plan Preparation Guidelines. It is anticipated that each submittal will be made electronically in PDF format as well as three sets of 11" x 17" sized drawings for the Preliminary and Pre-Final submittals. One (1) set of 11" x 17" plans will be provided for the Final submittal. CAD files used in the production of the plan set will also be submitted after the 100% submittal. Assembly of the construction plans will be completed under this task.

LCDOT and External Submittals and Reviews: During Phase II, the following submittals are anticipated:

- Preliminary (60%)
- Pre-Final (90%)
- Final (100%)

The Preliminary Plans will be submitted to LCDOT, local municipalities and IDOT BLRS for review. The Pre-Final contract documents will be submitted to LCDOT, LCSMC, CCDOTH, local municipalities and IDOT BLRS for review and permitting. We will also submit the contract plans to known utility companies within the project limits. This submittal will sufficiently define the conflicts so that the utility companies can, at a minimum, perform the necessary engineering for any required utility relocation work. This task shall include any meetings with reviewing parties to discuss the review.

An anticipated sheet list has been included in Attachment A and detailed out in the sections below:

General Plan Set Components: General Notes, Summary of Quantities, Schedule of Quantities, Alignment & Ties, and Typical Sections will be prepared according to LCDOT Plan Preparation Guidelines.

Removal Plan & Profile: It is anticipated that due to plan sheet clarification, separate existing/removal plan and profile sheets will be prepared.

Roadway Plan & Profile: 1" = 20' plan and profile sheets, including proposed drainage (as practical).

Traffic Control Plans: 1" = 50' Maintenance of Traffic double plan sheets by stage, including typical sections and specific maintenance of traffic notes.



Erosion Control Plans: See Erosion Control Plans and SWPPP Plan Preparation section.

Pavement Marking & Landscaping Plans: It is anticipated due to plan sheet clarification, separate pavement marking and landscaping plans will be prepared.

Sidewalk & ADA Ramp Sheets: Separate ADA sidewalk detail sheets will be created and inserted into the plans. Details will be provided for intersection quadrants and driveway locations.

Cross Sections: The cross sections will be prepared at 50-foot intervals and will include full sections at intersections of streets, high and low points along the roadway profile, beginning of project, and end of project limits. Construction details with half width cross sections will be prepared at driveways and access points. This work will be in accordance with Lake County Division of Transportation Plan Preparation Guidelines.

Detail Sheets: Provide applicable Village of Buffalo Grove, IDOT and project specific details.

Municipal Utility Relocation Sheets: Peralte-Clark will coordinate with local municipalities to include plans (by others) in the LCDOT bid package set for the relocation of municipal-owned utilities (such as street lighting, sanitary & water utilities, etc.) as part of the LCDOT bid document package. Each participating municipality will be responsible for providing bid quantities, plans, specifications and estimates for this work in accordance with the design team's milestone deliverable dates established in the Phase II design schedule.

#### **4. Roadway Drainage Plans and Permitting**

Proposed Drainage Plan: The LDTM will utilize the contract drainage plan deliverable for the Proposed Drainage Plan (PDP), there will not be a separate PDP developed for the LDTM. The PDP being used as final contract plans includes an evaluation of proposed drainage conditions for the identified preferred alternative. A closed drainage system is anticipated to be provided within the limits of the proposed improvement. The purpose of completing an EDP and PDP will be to determine changes in drainage areas to the outfalls within the project limits and define the change in impervious area at the outfalls.

The proposed drainage system will be designed using the latest Bulletin #70 rainfall data (tentatively effective in 2020). Arlington Heights Road within this section of Buffalo Grove will consist of curb and gutter sections with storm sewer for drainage. The storm sewer sizing, inlet spacing, and the sizing of the related lateral storm sewers will be performed as part of the Phase II design. No minor culverts or driveway culverts are anticipated to be designed in this section.

Subsequent to the approval of final geometry, the PDP/Contract Plans will be prepared to reflect pertinent review comments from Buffalo Grove, LCDOT and LCSMC.

Specific work tasks associated with development of the PDP/Contract Plans for the project will include the following:

- Delineate off-site and on-site drainage areas and perform hydraulic and hydrologic analyses using XP-SWMM.
- Ensure reinstatement of existing drainage patterns.



- Identify and account for any diversions.
- Evaluate the needs for additional rights-of-way and drainage easements for drainage purposes.
- Evaluate the stormwater detention requirements in accordance with the Lake County Watershed Development Ordinance (WDO). Runoff volume reduction (RVR) techniques will be reviewed and incorporated in the proposed drainage plan as determined appropriate.
- Evaluate the need for stormwater quality BMP enhancements in accordance with LCSMC and/or Army Corps of Engineers guidelines.
- Coordination meetings for the PDP with LCDOT, LCSMC, IDOT, the Village of Buffalo Grove and Huff and Huff relating to USACE.

#### Proposed Drainage Design

- Outlet Evaluation – Evaluate existing outlets to determine their suitability for continued use and sensitivity to an increase in rate and volume of stormwater runoff. One (1) outlet is anticipated within the project limits that will need to be analyzed.
- HR Green will use XP-SWMM to create a storm sewer model for the proposed drainage system that will include the mainline storm sewer, laterals and inlets. A 10-year frequency storm will be used for design and the system will be checked for the 100-year storm event.
- Stormwater Detention Evaluation – There is no anticipated need for stormwater detention as part of this project.
- Water quality basins are not anticipated to be necessary as part of this project.
- Local & Other Agency Coordination - Coordinate drainage related issues with IDOT, LCDOT, LCSMC, and the Village of Buffalo Grove and other agencies as appropriate.
- Proposed Drainage Plan – Prepare a Proposed Drainage Plan to fully describe the proposed drainage plan and reflect drainage calculations for drainage system size, type and location.
- Floodplain Evaluation – there is no floodplain as part of this project.
- Prepare Exhibits – Complete all drainage tasks, sort out all data and exhibits and add these to the LDTM being prepared for the LCDOT in compliance with requirements listed in ACEC-Illinois / IDOT 2014 Drainage Seminar handouts.
- A site visit is intended to clarify field conditions related to the design of the drainage facilities. Allocated two personnel for one (1) site visit for this project.

Permitting: HR Green will coordinate with and prepare Permits for LCSMC based on the WDO. Based on the anticipated impervious area detention will not be required due to a change in impervious area but may be required for sensitive outlets. Erosion and sediment control permitting will be completed by others and wetland and riparian permitting will be completed by others. The LCSMC permitting for Buffalo Grove will not be separate and will be combined with the permitting completed for the LCDOT portion of Arlington Heights Road.

Technical Drainage Memorandum: This task includes inclusion of the Buffalo Grove portion of the project in the Location Drainage Technical Memorandum (LDTM) being prepared for LCDOT for this project. It is anticipated that the LDTM will follow the 2014 ACEC Drainage Seminar format for improvements associated with this project, except that the final drainage plan and profile sheets will be used as a PDP in the LDTM. The LDTM for Buffalo Grove will not be separate and will be combined with the LDTM completed for the LCDOT portion of Arlington Heights Road.

Deliverables:



- a) The following will be provided at the Preliminary Plan (60%) submittal stage:
  - i. The submittals will include the following:
    - (1) Contract Plans
      - (a) Drainage and Utility Plan and Profile Plans (20 scale);
      - (b) Drainage Schedules; and
    - (2) Opinion of Probable Construction Cost for drainage related items.
- b) The deliverables for the contract include the following at a Pre-Final plan (90%) and Final Plan (100%) submittal stages:
  - ii. The submittals will include the following:
    - (1) Contract Plans
      - (a) Drainage and Utility Plan and Profile Plans (20 scale);
      - (b) Drainage Schedules;
    - (2) Special Provisions for any non-standard drainage related items; and
    - (3) Opinion of Probable Construction Cost for drainage related items.
  - iii. The submittal will include:
    - (1) A .pdf copy of the listed plan sheets;
    - (2) An electronic copy of any special provisions required;
    - (3) An electronic copy of the opinion of probable construction cost for drainage related items;

## **5. Retaining Wall Design**

No retaining wall is assumed to be required in the Buffalo Grove section.

## **6. Erosion Control Plans and SWPPP Plan Preparation**

A Storm Water Pollution Prevention Plan (SWPPP) and required special provision, will be prepared for inclusion in the contract documents. All erosion control design will be in accordance with the latest IEPA, IDOT, and County requirements.

Staged Erosion Control Sheets will be prepared and included in the plans.

## **7. Utility Coordination**

The utility coordination for this project will be completed by **HBK Engineering, Inc. (HBK)**, as a subconsultant.

### Coordination

HBK will continue to coordinate with utility companies during the Phase II Engineering phase. HBK will draft and send Notices of Interference and/or other required correspondence to notify utilities of the project and to begin their protection and relocation processes. Preliminary (60%) plans and electronic files will be sent to utility companies to review the proposed improvements and identify impacts/conflicts to their facilities. Pre-final plans will be sent to utility companies for their use in preparing any relocation plans.

HBK will continue to coordinate with utility companies throughout Phase II until utility protection or



relocation plans are submitted by the utility companies or until verification of clearance is confirmed. Additionally, HBK will review utility relocation plans and permit submittals.

HBK will also coordinate with the roadway design team to integrate utility protection and relocation plans and timelines into the contract documents.

#### Utility Coordination Meetings

HBK will plan, attend, and lead up to two (2) joint utility coordination meetings, and all impacted utilities will be invited so that their relocations, if any, can be mutually coordinated.

### **8. Specifications and Estimates**

We will prepare Final contract plans based on comments received on the Pre-Final Plan submittal from LCDOT and permitting agencies. The Final Plans Submittal will be prepared based on the anticipated drawings as outlined in Attachment A.

Final Plans - After completion of all agency reviews and resolution of any other agency or utility company concerns, the contract plans will be finalized. In order to assist the Resident Engineer (RE) we will furnish the County, as part of our deliverables, detailed information including all design, quantity calculations, and MicroStation files in their format. We will also prepare a technical memorandum to the RE highlighting any key issues, commitments, or special concerns that arose during the design stage of the project. LCDOT will be responsible for letting the project. Peralte-Clark we will provide the County with pdfs of the plans and bid documents as assembled by LCDOT for the bidding. We will also submit the contract plans to the various utility companies for their permitting of any necessary relocations.

Special Provisions - We will prepare special provisions that supplement or amend the special provisions contained in the latest edition of the Standard Specifications for Road and Bridge Construction adopted by the Illinois Department of Transportation and the latest edition of the Standard Specifications for Sewer and Watermain Construction in Illinois. Applicable County special provisions will be utilized to supplement the Standard Specifications. In addition, we will include the latest IDOT Recurring Special Provisions Check Sheet. The most recent set of IDOT's Bureau of Design and Environment Special Provisions and District 1 Special Provisions will be reviewed and included in the special provisions where applicable. This package will be created for the Pre-Final and Final Submittals.

Quantity Calculations and Estimate of Cost – We will perform detailed quantity calculations at each milestone submittal stage of the plan development. We will use the quantities of work in order to calculate an Engineer's Estimate of Cost based on recent bid tab information for projects of similar scope and magnitude.

Estimate of Construction Time - This estimate will be provided based on the tabulated quantities using IDOT BDE Form 220A. The Estimate of Construction Time will be provided at the Pre-Final and Final milestone submittals.

Final 3D Model Files – A final top of surface grading plan will be provided for contractor use on this project in land .xml format. This information will be provided for reference only and will include a disclaimer for the contractor to use at their own risk.



## **9. Project Design Coordination Meetings**

Project design coordination meetings with the Village are included as part of the scope of services for the LCDOT jurisdiction section, south of IL Route 83. No hours are included as part of this scope for this effort.

## **10. Project Administration and Quality Assurance/Quality Control**

This task includes overall project administration and management, as well as Quality Assurance/Quality Control (QA/QC) reviews associated with major project deliverables.

Project administration includes managing the day to day work effort on the project to ensure an efficient project development process including work force allocations, budget oversight, monthly progress reviews to ensure project milestones are being met to the extent possible.

QA/QC reviews under this task will occur as part of major project deliverables in accordance with Peralte-Clark's established QA/QC procedures. Peralte-Clark's QA/QC Plan also requires progress reviews during the design development. Effort associated with these reviews is included with the specific discipline task outlined in this scope.

Specific work tasks will include:

- General project management/administration including staff resource allocation, task/schedule oversight, quality reviews, etc.
- Prepare monthly progress reports including a copy of the overall project schedule.



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### *Fee for Engineering Services*

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Based on the Scope of Services, the fee for engineering services will be billed on a cost plus fixed fee basis with a not-to-exceed upper limit of one hundred fifty-nine thousand six hundred thirty-two dollars and two cents (\$159,632.02).



Peralte-Clark, LLC  
Section No. 17-00193-08-PV: Arlington Heights Road  
from IL 83 to Lake Cook Road  
Buffalo Grove Share of Project Cost



Phase I								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
P1 - Data Collection	14	5%	12	0	0	0	0	2
P1 - Survey	96	35%	2	94	0	0	0	0
P1 - Roadway Drainage	32	12%	8	24	0	0	0	0
P1 - Alternate Geometric Studies	0	0%	0	0	0	0	0	0
P1 - Utility Coordination	24	9%	4	0	20	0	0	0
P1 - Intersection Design Studies & ADA	0	0%	0	0	0	0	0	0
P1 - Environmental	58	21%	4	0	0	54	0	0
P1 - Geotechnical Investigation	26	10%	2	0	0	0	24	0
P1 - Lighting	8	3%	4	0	0	0	0	4
P1 - Project Meetings	0	0%	0	0	0	0	0	0
P1 - Project Admin & QAQC	14	5%	4	6	0	4	0	0
<b>Totals</b>	<b>272</b>	<b>100%</b>	<b>40</b>	<b>124</b>	<b>20</b>	<b>58</b>	<b>24</b>	<b>6</b>

Phase II								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
P2 - Survey	0	0%	0	0	0	0	0	0
P2 - Environmental	65	10%	8	0	0	57	0	0
P2 - Roadway Plans	350	52%	350	0	0	0	0	0
P2 - Drainage Plans	81	12%	12	69	0	0	0	0
P2 - Retaining Wall Plans	0	0%	0	0	0	0	0	0
P2 - NPDES Permitting & SWPPP	36	5%	36	0	0	0	0	0
P2 - Utility Coordination	28	4%	4	0	24	0	0	0
P2 - Specifications and Estimates	53	8%	44	9	0	0	0	0
P2 - Project Meetings	0	0%	0	0	0	0	0	0
P2 - Project Admin & QAQC	54	8%	42	4	0	8	0	0
P2 - Construction Involvement	0	0%	0	0	0	0	0	0
<b>Totals</b>	<b>667</b>	<b>100%</b>	<b>496</b>	<b>82</b>	<b>24</b>	<b>65</b>	<b>0</b>	<b>0</b>

Grand Totals								
CECS Item	Total	Percentage	Peralte-Clark	HR Green	HBK	Huff & Huff	Interra	Singh
<b>Phase I Total</b>	<b>272</b>	<b>29%</b>	<b>40</b>	<b>124</b>	<b>20</b>	<b>58</b>	<b>24</b>	<b>6</b>
<b>Phase II Total</b>	<b>667</b>	<b>71%</b>	<b>496</b>	<b>82</b>	<b>24</b>	<b>65</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>939</b>	<b>100%</b>	<b>536</b>	<b>206</b>	<b>44</b>	<b>123</b>	<b>24</b>	<b>6</b>



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>Phase 1</b>							
<b>1</b>	<b>Data Collection, Compilation, Review and Evaluation</b>		<b>12</b>				
	Initial Field Review with photo log	P1 - Data Collection	2	2	people	1	
	Data Collection Coordination with Stakeholders	P1 - Data Collection	4	2	stakeholders	2	
	Review facility deficiencies	P1 - Data Collection	6	1	Lump Sum	6	
<b>2</b>	<b>Field Survey Work</b>		<b>2</b>				
	Subconsultant Coordination	P1 - Survey	2	1	Lump Sum	2	
<b>3</b>	<b>Alternate Geometric Studies</b>		<b>0</b>				
	Alternate Geometric Studies	P1 - Alternate Geometric Studies	0			0	
<b>4</b>	<b>Roadway Drainage</b>		<b>8</b>				
	Provide Design Input and Coordination	P1 - Roadway Drainage	8	1	Lump Sum	8	
<b>5</b>	<b>Retaining Wall Design</b>		<b>0</b>				
	Provide Design Input and Coordination	P1 - Retaining Wall	0	1	Lump Sum	0	
<b>6</b>	<b>Traffic Maintenance Analysis</b>		<b>0</b>				
	Provide Design Input and Coordination	P1 - Traffic Maintenance Analysis	0	1	Lump Sum	0	
<b>7</b>	<b>Utility Coordination</b>		<b>4</b>				
	Utility Coordination	P1 - Utility Coordination	4	1	Lump Sum	4	1 Peralte-Clark Attendee
<b>8</b>	<b>Intersection Design Studies &amp; ADA Design</b>		<b>0</b>				
	IDS (IDOT Format)	P1 - Intersection Design Studies & ADA	0	1	intersections	0	Included in LCDOT Scope
	ADA Ramp Sheets (IL 83 Intersection)	P1 - Intersection Design Studies & ADA	0	2	Locations	0	Included in LCDOT Scope
<b>9</b>	<b>Environmental Surveys, Analysis and Coordination</b>		<b>4</b>				
	Provide Design Input and Coordination	P1 - Environmental	4	1	Lump Sum	4	
<b>10</b>	<b>Geotechnical Investigation</b>		<b>2</b>				
	Provide Design Input and Coordination	P1 - Geotechnical Investigation	2	1	Lump Sum	2	
<b>11</b>	<b>Preliminary Roadway Lighting</b>		<b>4</b>				
	Provide Design Input and Coordination	P1 - Lighting	4	1	Lump Sum	4	
<b>12</b>	<b>Project Meetings</b>		<b>0</b>				
	Meetings with Buffalo Grove	P1 - Project Meetings	0	0	Meetings	0	Included in LCDOT Scope
<b>13</b>	<b>Project Administration and QA/QC</b>		<b>4</b>				
	Project Management and Administration	P1 - Project Admin & QA/QC	2	0.05	Percentage	36	approximately 5% of total hours
	QA/QC	P1 - Project Admin & QA/QC	2	0.04	Percentage	36	



Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
<b>Phase 2</b>							
<b>1</b>	<b>Supplemental Field Survey and Plat of Highways Preparation</b>		<b>0</b>				
	Subconsultant Coordination	P2 - Survey	0	1	Lump Sum	0	
<b>2</b>	<b>Environmental Surveys, Analysis and Coordination</b>		<b>8</b>				
	Provide Permitting Input and Coordination	P2 - Environmental	8	1	Lump Sum	8	
<b>3</b>	<b>Roadway Plans</b>		<b>350</b>				
	General Notes/Index/Standards Sheets	P2 - Roadway Plans	4	1	Sheets	4	
	Summary of Quantities	P2 - Roadway Plans	4	2	Sheets	2	
	Schedule of Quantities	P2 - Roadway Plans	16	2	Sheets	8	
	Typical Sections	P2 - Roadway Plans	16	1	Sheets	16	
	Removal Plan & Profile	P2 - Roadway Plans	32	2	Sheets	16	
	Proposed Roadway Plan & Profile	P2 - Roadway Plans	48	2	Sheets	24	
	Traffic Control Plans	P2 - Roadway Plans	56	2	Sheets	28	
	Pavement Marking & Landscaping Plans	P2 - Roadway Plans	48	2	Sheets	24	
	Sidewalk & ADA Ramp Sheets	P2 - Roadway Plans	12	1	Sheets	12	Assumes two (2) ADA ramp design locations per sheet, 6 hrs. per location
	Cross Sections	P2 - Roadway Plans	90	12	Cross Sections	7.5	
	Detail Sheets	P2 - Roadway Plans	18	3	Sheets	6	
	Municipal Utility Relocation Sheets Coordination	P2 - Roadway Plans	6	3	Sheets	2	
<b>4</b>	<b>Roadway Drainage Plans and Permitting</b>		<b>12</b>				
	Provide Design Input and Coordination	P2 - Drainage Plans	12	1	Lump Sum	12	
<b>5</b>	<b>Retaining Wall Design</b>		<b>0</b>				
	Provide Design Input and Coordination	P2 - Retaining Wall Plans	0	1	Lump Sum	0	
<b>6</b>	<b>Erosion Control Plans and SWPPP Plan Preparation</b>		<b>36</b>				
	Prepare Staged Erosion Control Sheets (2 Stages)	P2 - NPDES Permitting & SWPPP	30	5	Sheets	6	
	SWPPP Calculations (Pre, Post Runoff, etc.)	P2 - NPDES Permitting & SWPPP	6	1	Lump Sum	6	
<b>7</b>	<b>Utility Coordination</b>		<b>4</b>				
	Utility Specific Meetings	P2 - Utility Coordination	4	1	Meetings	4	1 Peralte-Clark attendee, including travel time
<b>8</b>	<b>Specifications and Estimates</b>		<b>44</b>				
	Special Provisions	P2 - Specifications and Estimates	16	1	Volume	16	
	Quantity Calculations/Cost Estimate	P2 - Specifications and Estimates	24	16	Pay Items	1.5	
	Estimate of Construction Time	P2 - Specifications and Estimates	4	1	BDE 220A Form Submissions	4	
<b>9</b>	<b>Project Meetings</b>		<b>0</b>				
	Meetings with Buffalo Grove	P2 - Project Meetings	0	0	Meetings	0	Included in LCDOT Scope
<b>10</b>	<b>Project Administration &amp; QA/QC</b>		<b>42</b>				
	Project Management and Administration	P2 - Project Admin & QAQC	23	0.05	Percentage	454	percentage of Phase II subtotal
	QA/QC	P2 - Project Admin & QAQC	19	0.04	Percentage	454	Milestone Submittal for Overall QA/QC
<b>11</b>	<b>Construction Involvement</b>		<b>0</b>				





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
	Construction Shop Drawing Reviews	P2 - Construction Involvement	0	0	Shop Drawing Reviews	0	
	Construction RFI's	P2 - Construction Involvement	0	0	RFI Responses	0	
	Construction Meetings Including Punch List Meeting	P2 - Construction Involvement	0	0	Meetings	0	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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*Phase 1*

<b>2</b>	<b>Field Survey Work</b>		<b>94</b>				
	Topographic Survey	P1 - Survey	62	1	Lump Sum	62	
	Base Mapping	P1 - Survey	32	1	Lump Sum	32	
<b>4</b>	<b>Roadway Drainage</b>		<b>24</b>				
	Preliminary Drainage Evaluation	P1 - Roadway Drainage	8	1	Lump Sum	8	
	Existing Drainage Plan	P1 - Roadway Drainage	12	2	sheets	6	
	Discipline Specific QA/QC	P1 - Roadway Drainage	4	1	Lump Sum	4	
<b>12</b>	<b>Project Design Coordination Meetings</b>		<b>0</b>				
	Meetings with Buffalo Grove	P1 - Project Meetings	0	0	Meetings	0	Included in LCDOT scope
<b>13</b>	<b>Project Administration &amp; QA/QC</b>		<b>6</b>				
	General Project Administration	P1 - Project Admin & QAQC	6	0.05	Percentage	118	
	QA/QC of Milestone Submittals - Peralte-Clark only	P1 - Project Admin & QAQC	0		Submittals		

*Phase 2*

<b>4</b>	<b>Roadway Drainage Plans and Permitting</b>		<b>69</b>				
	outlet evaluation	P2 - Drainage Plans	4	1	each	4	
	storm sewer design and inlet spacing	P2 - Drainage Plans	8	1	Lump Sum	8	
	Drainage Related General Notes	P2 - Drainage Plans	2	1	sheets	2	
	Schedule of Quantities - drainage removal items only	P2 - Drainage Plans	4	1	sheets	4	
	Drainage Removal Plans - no sheets - cross hatching in base	P2 - Drainage Plans	4	1	sheets	4	
	Drainage Plan and Profiles (1" = 20') - 11 hrs/sheet	P2 - Drainage Plans	22	2	sheets	11	
	Design of Rain Garden	P2 - Drainage Plans	0	1	each	0	
	Miscellaneous Drainage Details - 10 hrs/sheet	P2 - Drainage Plans	4	1	sheets	4	
	Cross-Sections - Coordinate and provide alignments and profiles of storm sewer	P2 - Drainage Plans	4	1	Lump Sum	4	
	Existing Storm Sewer Quantities - 2 hrs per PnP Sheet	P2 - Drainage Plans	2	1	sheets	2	
	Storm Sewer Quantities - 2 hrs per PnP Sheet	P2 - Drainage Plans	4	2	sheets	2	
	Lake County SMC Permit Submittal	P2 - Drainage Plans	4	1	Lump Sum	4	No separate submittal. Included with LCDOT SMC permitting.
	LDTM	P2 - Drainage Plans	4	1	Lump Sum	4	No separate submittal. Included with LCDOT SMC permitting.
	Discipline Specific QA/QC	P2 - Drainage Plans	3	0.04	Percentage	66	
<b>8</b>	<b>Specifications and Estimates</b>		<b>9</b>				
	Special Provisions - Drainage	P2 - Specifications and Estimates	4	1	Volume	4	
	Quantity Calculations/Cost Estimate	P2 - Specifications and Estimates	4	1	Pay Items	4	
	Estimate of Construction Time	P2 - Specifications and Estimates	0				
	Discipline Specific QA/QC	P2 - Specifications and Estimates	1	0.04	Percentage	8	
<b>9</b>	<b>Project Design Coordination Meetings</b>		<b>0</b>				
	Meetings with Buffalo Grove	P2 - Project Meetings	0	3	Meetings	0	Included in LCDOT scope





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
10	Project Administration & QA/QC		4				
	General Project Administration	P2 - Project Admin & QAQC	4	0.05	Percentage	78	Percentage of Phase II subtotal
	QA/QC of Milestone Submittals - Peralte-Clark only	P2 - Project Admin & QAQC	0	0	Percentage	78	Milestone Submittal for Overall QA/QC
11	Construction Involvement		0				
	Construction Shop Drawing Reviews	P2 - Construction Involvement	0	0	Shop Drawing Reviews	0	
	Construction RFI's	P2 - Construction Involvement	0	0	RFI Responses	0	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

10	Utility Coordination		20				
	Initial Coordination / Data Collection	P1 - Utility Coordination	4				
	Utility Locating (SUE D and B)	P1 - Utility Coordination	6				
	Utility Data Base Mapping	P1 - Utility Coordination	6				
	Preliminary Design Coordination	P1 - Utility Coordination	4				

Phase 2

9	Utility Coordination		24				
	Final Design Coordination	P2 - Utility Coordination	24				





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

13	Environmental Surveys, Analysis and Coordination		58				
	Preliminary Environmental Site Assessment	P1 - Environmental	36	1	Lump Sum	36	
	Wetland/Surface Waters Delineation	P1 - Environmental	4	1	Lump Sum	4	
	Wetland Report	P1 - Environmental	4	1	Lump Sum	4	
	Environmental Due Diligence	P1 - Environmental	6	1	Lump Sum	6	
	ESR Submittal	P1 - Environmental	4	1	Lump Sum	4	
		P1 - Environmental	0	1	Lump Sum		
		P1 - Environmental	0	1	Lump Sum		
	Discipline Specific QA/QC	P1 - Project Admin & QAQC	4	1	Included	4	

Phase 2

3	Environmental Surveys, Analysis and Coordination		61				
	USACE Section 404 Permitting	P2 - Environmental	2	1	Lump Sum	2	
	Lake County SMC Permitting	P2 - Environmental	4	1	Lump Sum	4	
	Biological Clearances	P2 - Environmental	0		Lump Sum		
	Archeological Review	P2 - Environmental	0		Lump Sum		
	PSI and CCDD	P2 - Environmental	51	1	Lump Sum	51	
	Discipline Specific QA/QC	P2 - Project Admin & QAQC	4	1	Lump Sum	4	
13	Project Administration & QA/QC		4				
	General Project Administration	P2 - Project Admin & QAQC	4	1	Lump Sum	4	
	QA/QC of Milestone Submittals - Peralte-Clark only	P2 - Project Admin & QAQC	0				





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

14	Geotechnical Investigation		24				
	Field Work	P1 - Geotechnical Investigation	10	1	Lump Sum	10	
	Geotech Report	P1 - Geotechnical Investigation	14	1	Lump Sum	14	





Scope #	Scope Item	CECS Item	Total Hours	Assumed Quantity	Assumed Unit	Assumed Hours Per Unit	Comments
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Phase 1

1	Data Collection, Compilation, Review and Evaluation		2				
	Initial Field Review with photo log	P1 - Data Collection	2	2	people	1	Site Visit for verification and photo log
15	Preliminary Roadway Lighting		4				
	Photometric Study of Existing Lighting System	P1 - Lighting	1	1	Lump Sum	1	
	Photometric Study of LED Retrofit	P1 - Lighting	1	1	Lump Sum	1	
	White Paper outlining findings	P1 - Lighting	2	1	Lump Sum	2	



**EXHIBIT A - DESIGN ENGINEERING**

**Peralte-Clark, LLC**

Route: Arlington Heights Road (V69)  
 Local Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: IL Route 83 to 500' South of Thompson Blvd.  
 Project: Buffalo Grove Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[(DL + R(DL) + OH(DL) + IHDC)]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
<b>Phase I</b>				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
Task 1 - Data Collection, Compilation, Review and Evaluation	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	3	\$ 57.85	\$ 173.55	\$ 347.10				\$ 75.49	\$ 596.14
	Design Engineer	4	\$ 46.35	\$ 185.40	\$ 370.80				\$ 80.65	\$ 636.85
	Engineering Tech.	4	\$ 36.07	\$ 144.28	\$ 288.56				\$ 62.76	\$ 495.60
Task 2 - Field Survey Work	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	1	\$ 57.85	\$ 57.85	\$ 115.70				\$ 25.16	\$ 198.71
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 3 - Alternate Geometric Studies	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 4 - Roadway Drainage	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	3	\$ 57.85	\$ 173.55	\$ 347.10				\$ 75.49	\$ 596.14
	Design Engineer	2	\$ 46.35	\$ 92.70	\$ 185.40				\$ 40.32	\$ 318.42
	Engineering Tech.	2	\$ 36.07	\$ 72.14	\$ 144.28				\$ 31.38	\$ 247.80
Task 5 - Retaining Wall Design	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 6 - Traffic Maintenance Analysis	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 7 - Utility Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -



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

Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

- Fixed Fee 1 ☒ 14.5%[(DL + R(DL) + OH(DL) + IHDC)]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	2	\$ 46.35	\$ 92.70	\$ 185.40				\$ 40.32	\$ 318.42
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 8 - Intersection Design Studies & ADA Design	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 9 - Environmental Surveys, Analysis and Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	2	\$ 57.85	\$ 115.70	\$ 231.40				\$ 50.33	\$ 397.43
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 10 - Geotechnical Investigation	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	1	\$ 70.00	\$ 70.00	\$ 140.00				\$ 30.45	\$ 240.45
	Project Engineer	1	\$ 57.85	\$ 57.85	\$ 115.70				\$ 25.16	\$ 198.71
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 11 - Preliminary Roadway Lighting	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	2	\$ 57.85	\$ 115.70	\$ 231.40				\$ 50.33	\$ 397.43
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 12 - Project Meetings	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 13 - Project Administration and QA/QC	Principal	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -



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Calendar Days	

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- Fixed Fee 1 ☒ 14.5%[(DL + R(DL) + OH(DL) + IHDC)]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
<b>Phase II</b>				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
Task 1 - Supplemental Field Survey and Plat of Highways Prep.	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 2 - Environmental Surveys, Analysis and Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Engineer	4	\$ 57.85	\$ 231.40	\$ 462.80				\$ 100.66	\$ 794.86
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 3 - Roadway Plans	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	36	\$ 70.00	\$ 2,520.00	\$ 5,040.00				\$ 1,096.20	\$ 8,656.20
	Project Engineer	90	\$ 57.85	\$ 5,206.50	\$ 10,413.00				\$ 2,264.83	\$ 17,884.33
	Design Engineer	100	\$ 46.35	\$ 4,635.00	\$ 9,270.00				\$ 2,016.23	\$ 15,921.23
	Engineering Tech.	124	\$ 36.07	\$ 4,472.68	\$ 8,945.36				\$ 1,945.62	\$ 15,363.66
Task 4 - Roadway Drainage Plans and Permitting	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	3	\$ 70.00	\$ 210.00	\$ 420.00				\$ 91.35	\$ 721.35
	Project Engineer	3	\$ 57.85	\$ 173.55	\$ 347.10				\$ 75.49	\$ 596.14
	Design Engineer	6	\$ 46.35	\$ 278.10	\$ 556.20				\$ 120.97	\$ 955.27
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 5 - Retaining Wall Design	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 6 - Erosion Control Plans and SWPPP Plan Preparation	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90
	Project Engineer	6	\$ 57.85	\$ 347.10	\$ 694.20				\$ 150.99	\$ 1,192.29
	Design Engineer	10	\$ 46.35	\$ 463.50	\$ 927.00				\$ 201.62	\$ 1,592.12
	Engineering Tech.	18	\$ 36.07	\$ 649.26	\$ 1,298.52				\$ 282.43	\$ 2,230.21
Task 7 - Utility Coordination	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	2	\$ 70.00	\$ 140.00	\$ 280.00				\$ 60.90	\$ 480.90



**EXHIBIT A - DESIGN ENGINEERING**

**Peralte-Clark, LLC**

Route: Arlington Heights Road (V69)  
 Local: Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: IL Route 83 to 500' South of Thompson Blvd.  
 Project: Buffalo Grove Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	200.00%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

- Fixed Fee 1 ☒ 14.5%[(DL + R(DL) + OH(DL) + IHDC)]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Engineer	2	\$ 57.85	\$ 115.70	\$ 231.40				\$ 50.33	\$ 397.43
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 8 - Specifications and Estimates	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	4	\$ 70.00	\$ 280.00	\$ 560.00				\$ 121.80	\$ 961.80
	Project Engineer	18	\$ 57.85	\$ 1,041.30	\$ 2,082.60				\$ 452.97	\$ 3,576.87
	Design Engineer	10	\$ 46.35	\$ 463.50	\$ 927.00				\$ 201.62	\$ 1,592.12
	Engineering Tech.	12	\$ 36.07	\$ 432.84	\$ 865.68				\$ 188.29	\$ 1,486.81
Task 9 - Project Meetings	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 10 - Project Administration and QA/QC	Principal	21	\$ 70.00	\$ 1,470.00	\$ 2,940.00				\$ 639.45	\$ 5,049.45
	Project Manager	21	\$ 70.00	\$ 1,470.00	\$ 2,940.00				\$ 639.45	\$ 5,049.45
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
Task 11 - Construction Involvement	Principal	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Engineer	0	\$ 57.85	\$ -	\$ -				\$ -	\$ -
	Design Engineer	0	\$ 46.35	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 36.07	\$ -	\$ -				\$ -	\$ -
<b>Direct Costs</b>							\$ 1,110.00	\$ 290.00	\$ 42.05	\$ 1,442.05
<b>Subonconsultants</b>										
HR Green						\$ 30,507.44			\$ -	\$ 30,507.44
HBK Engineering						\$ 5,796.57			\$ -	\$ 5,796.57
Huff & Huff						\$ 16,184.44			\$ -	\$ 16,184.44
Interra						\$ 11,045.23			\$ -	\$ 11,045.23
Singh & Associates						\$ 943.14			\$ -	\$ 943.14
<b>Totals</b>		536		\$ 27,281.85	\$ 54,563.70	\$ 64,476.82	\$ 1,110.00	\$ 290.00	\$ 11,909.65	\$ 159,632.02





TODAY'S DATE: **1/5/2020**

*\*If other allowable costs are needed and not listed, please add in the above spaces provided.*

## LEGEND

W.O. = Work Order



**EXHIBIT A - DESIGN ENGINEERING**

HR Green, Inc.

Route: Arlington Heights Road (V69)  
 Local: Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: IL Route 83 to 500' South of Thompson Blvd.  
 Project: Buffalo Grove Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	167.79%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
1.2 Field Survey	Oper Mgr Survey	2	\$ 70.00	\$ 140.00	\$ 234.91		\$ 100.00	\$ 174.00	\$ 79.59	\$ 728.50
	Project LS 2	15	\$ 55.40	\$ 831.00	\$ 1,394.33				\$ 322.67	\$ 2,548.01
	Project LS 1	47	\$ 44.30	\$ 2,082.10	\$ 3,493.56				\$ 808.47	\$ 6,384.13
	Staff LS 2	30	\$ 34.80	\$ 1,044.00	\$ 1,751.73				\$ 405.38	\$ 3,201.11
1.4 Roadway Drainage	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	4	\$ 70.00	\$ 280.00	\$ 469.81				\$ 108.72	\$ 858.53
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	4	\$ 62.70	\$ 250.80	\$ 420.82				\$ 97.38	\$ 769.00
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	12	\$ 37.66	\$ 451.92	\$ 758.28				\$ 175.48	\$ 1,385.68
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	4	\$ 38.90	\$ 155.60	\$ 261.08				\$ 60.42	\$ 477.10
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.12 Design Coordination Meetings	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 58.00	\$ 8.41	\$ 66.41
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
1.13 Project Administration and QA/QC	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	6	\$ 70.00	\$ 420.00	\$ 704.72				\$ 163.08	\$ 1,287.80
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -



**EXHIBIT A - DESIGN ENGINEERING**

HR Green, Inc.

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Overhead Rate (OH)	167.79%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

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 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.4 Roadway Drainage	Senior Proj Mgr	4	\$ 70.00	\$ 280.00	\$ 469.81			\$ 29.00	\$ 112.93	\$ 891.74
	Senior Engineer	10	\$ 70.00	\$ 700.00	\$ 1,174.53				\$ 271.81	\$ 2,146.34
	Project Manager	20	\$ 57.20	\$ 1,144.00	\$ 1,919.52				\$ 444.21	\$ 3,507.73
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	21	\$ 37.66	\$ 790.86	\$ 1,326.98				\$ 307.09	\$ 2,424.93
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	10	\$ 38.90	\$ 389.00	\$ 652.70				\$ 151.05	\$ 1,192.75
	Project Coordinator	4	\$ 27.78	\$ 111.12	\$ 186.45				\$ 43.15	\$ 340.72
2.8 Specifications and Estimates	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	5	\$ 57.20	\$ 286.00	\$ 479.88				\$ 111.05	\$ 876.93
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	4	\$ 37.66	\$ 150.64	\$ 252.76				\$ 58.49	\$ 461.89
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.9 Project Design and Coordination Mtg	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -			\$ 87.00	\$ 12.62	\$ 99.62



**EXHIBIT A - DESIGN ENGINEERING**

HR Green, Inc.

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Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.10 Project Administration and QA/QC	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	4	\$ 70.00	\$ 280.00	\$ 469.81				\$ 108.72	\$ 858.53
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
2.11 Construction Involvement	Senior Proj Mgr	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Senior Engineer	0	\$ 70.00	\$ -	\$ -				\$ -	\$ -
	Project Manager	0	\$ 57.20	\$ -	\$ -				\$ -	\$ -
	Lead Engineer	0	\$ 62.70	\$ -	\$ -				\$ -	\$ -
	Project Engineer 2	0	\$ 45.92	\$ -	\$ -				\$ -	\$ -
	Project Engineer 1	0	\$ 37.66	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 2	0	\$ 33.29	\$ -	\$ -				\$ -	\$ -
	Staff Engineer 1	0	\$ 29.84	\$ -	\$ -				\$ -	\$ -
	Engineering Tech.	0	\$ 38.90	\$ -	\$ -				\$ -	\$ -



## EXHIBIT A - DESIGN ENGINEERING

HR Green, Inc.

Route: Arlington Heights Road (V69)  
 Local Lake County Division of Transportation  
 (Municipality/Township/County)  
 Section: IL Route 83 to 500' South of Thompson Blvd.  
 Project: Buffalo Grove Jurisdiction Work  
 Job No: TBD

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

Overhead Rate (OH)	167.79%
Complexity Factor (R)	0.00
Calendar Days	

## Cost Plus Fixed Fee Methods of Compensation:

Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Fixed Fee 2 ☐ 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 Costs	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
	Project Coordinator	0	\$ 27.78	\$ -	\$ -				\$ -	\$ -
<b>Totals</b>		206		\$ 9,787.04	\$ 16,421.67	\$ -	\$ 100.00	\$ 348.00	\$ 3,850.72	\$ 30,507.44





**COMPANY NAME:** HR Green, Inc.

PTB NUMBER: **Arlington Heights Road - Buffalo Grove Jurisdiction**

TODAY'S DATE: **1/5/2020**

[illegible]

*\*If other allowable costs are needed and not listed, please add in the above spaces provided.*

### LEGEND

W.O. = Work Order



**EXHIBIT A - DESIGN ENGINEERING**  
**HBK Engineering, LLC**

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
(Municipality/Township/County)  
**Section:** IL Route 83 to 500' South of Thompson Blvd.  
**Project:** Buffalo Grove Jurisdiction Work  
**Job No:** TBD

\*Firm's **approved 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** ☒ 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 Direc Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Ph. 1 Util Coord	PRIN	1	\$ 70.00	\$ 70.00	\$ 88.75		\$ 105.80		\$ 23.02	\$ 287.57
Ph. 1 Util Coord	SENIOR PM	1	\$ 63.30	\$ 63.30	\$ 80.26				\$ 20.82	\$ 164.37
Ph. 1 Util Coord	PM	1	\$ 58.00	\$ 58.00	\$ 73.54				\$ 19.07	\$ 150.61
Ph. 1 Util Coord	PROJ ENG	4	\$ 45.00	\$ 180.00	\$ 228.22				\$ 59.19	\$ 467.41
Ph. 1 Util Coord	LOCATOR 3	4	\$ 37.00	\$ 148.00	\$ 187.65				\$ 48.67	\$ 384.32
Ph. 1 Util Coord	LOCATOR 2	4	\$ 33.00	\$ 132.00	\$ 167.36				\$ 43.41	\$ 342.77
Ph. 1 Util Coord	PERMIT COORD.	0	\$ 33.00	\$ -	\$ -				\$ -	\$ -
Ph. 1 Util Coord	ANALYST	1	\$ 29.00	\$ 29.00	\$ 36.77				\$ 9.54	\$ 75.31
Ph. 2 Util Coord	PRIN	4	\$ 70.00	\$ 280.00	\$ 355.01				\$ 92.08	\$ 727.09
Ph. 2 Util Coord	SENIOR PM	4	\$ 63.30	\$ 253.20	\$ 321.03				\$ 83.26	\$ 657.50
Ph. 2 Util Coord	PM	6	\$ 58.00	\$ 348.00	\$ 441.23				\$ 114.44	\$ 903.67
Ph. 2 Util Coord	PROJ ENG	14	\$ 45.00	\$ 630.00	\$ 798.78				\$ 207.17	\$ 1,635.95
Ph. 2 Util Coord	LOCATOR 3	0	\$ 37.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	LOCATOR 2	0	\$ 33.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	PERMIT COORD.	0	\$ 33.00	\$ -	\$ -				\$ -	\$ -
Ph. 2 Util Coord	ANALYST	0	\$ 29.00	\$ -	\$ -				\$ -	\$ -
<b>Totals</b>		44		\$ 2,191.50	\$ 2,778.60	\$ -	\$ 105.80	\$ -	\$ 720.66	\$ 5,796.57





TODAY'S DATE: 1/5/2020

*\*If other allowable costs are needed and not listed, please add in the above spaces provided.*

W.O. = Work Order





Payroll Escalation Table  
Fixed Raises

FIRM NAME Huff & Huff, Inc.  
PRIME/SUPPLEMENT Peralte and Clark

DATE 1/6/2020  
PTB NO. \_\_\_\_\_

CONTRACT TERM 12 MONTHS  
START DATE 1/1/2020  
RAISE DATE 3/1/2020

OVERHEAD RATE 174.01%  
COMPLEXITY FACTOR 0  
% OF RAISE 3.00%

ESCALATION PER YEAR

1/1/2020 - 3/1/2020

3/2/2020 - 1/1/2021

2  
12

10  
12

= 16.67%

85.83%

= 1.0250

The total escalation for this project would be:

2.50%





## Payroll Rates

FIRM NAME Huff & Huff, Inc. DATE 1/6/2020  
 PRIME/SUPPLEMENT Peralte and Clark  
 PTB NO. \_\_\_\_\_

ESCALATION FACTOR 2.50%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Senior Principal	\$70.00	\$70.00
Principal	\$70.00	\$70.00
Associate Principal II	\$70.00	\$70.00
Associate Principal I	\$60.26	\$61.77
Senior Consultant	\$67.18	\$68.86
Senior Geotechnical Consultant	\$62.87	\$64.44
Senior Project Manager III	\$60.00	\$61.50
Senior Project Manager II	\$45.56	\$46.70
Senior Project Manager I	\$44.00	\$45.10
Senior Landscape Architect	\$52.11	\$53.41
Senior Planning PM	\$49.90	\$51.15
Senior Geologist PM	\$43.33	\$44.41
Senior Technical Specialist	\$44.64	\$45.76
Senior Scientist PM II	\$46.14	\$47.29
Senior Scientist PM I	\$42.00	\$43.05
Senior Technical Scientist	\$39.50	\$40.49
Senior CADD Specialist	\$33.75	\$34.59
Scientist PM II	\$42.25	\$43.31
Scientist PM I	\$31.00	\$31.78
Engineer PM I	\$36.18	\$37.08
Planning PM	\$35.15	\$36.03
Architect PM	\$37.54	\$38.48
Assistant PM Engineer II	\$39.02	\$40.00
Assistant PM Engineer I	\$34.74	\$35.61
Engineer I	\$34.13	\$34.98
Scientist EI	\$26.98	\$27.65
Scientist E2	\$23.17	\$23.75
Administrative Managers	\$40.57	\$41.58
Senior Administrative Assistant	\$27.89	\$28.59
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00





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

Firm Huff & Huff, Inc.  
 Route N. Arlington Heights Road  
 Section N of IL83 to Thompson Ph I & II  
 County Lake  
 Job No. \_\_\_\_\_  
 PTB & Item \_\_\_\_\_

Date 1/6/2020  
 Overhead Rate 174.01%  
 Complexity Factor 0

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
PESA	36	1,177.35	2,048.71	49.60	474.97	250.00	0.00	4,000.63	24.72%
Environmental Due Diligence	6	219.08	381.23	0.00	87.05	0.00	0.00	687.36	4.25%
ESR Submittal	4	189.44	329.65	0.00	75.27	0.00	0.00	594.35	3.67%
Wetland delineation	4	161.95	281.81	0.00	64.35	0.00	0.00	508.10	3.14%
Wetland Report	4	161.95	281.81	0.00	64.35	0.00	0.00	508.10	3.14%
QA/QC	4	247.07	429.92	0.00	98.16	0.00	0.00	775.15	4.79%
PSI and CCDD	51	1,660.99	2,890.29	46.40	666.66	1,505.00	0.00	6,769.35	41.83%
Project QA/QC	4	213.73	371.92	0.00	84.92	0.00	0.00	670.57	4.14%
USACE Permitting	2	80.98	140.90	0.00	32.17	0.00	0.00	254.05	1.57%
Lake County SMC	4	204.51	355.86	0.00	81.25	0.00	0.00	641.63	3.96%
Project Admin	4	247.07	429.92	0.00	98.16	0.00	0.00	775.15	4.79%
<b>TOTALS</b>	123	4,564.11	7,942.02	96.00	1,827.31	1,755.00	0.00	16,184.44	100.00%

Method of Compensation:

- Cost Plus Fixed Fee 1 ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
 Cost Plus Fixed Fee 2 ☐ 14.5%[DL + R(DL) + 1.4(DL) + IHDC]  
 Cost Plus Fixed Fee 3 ☐ 14.5%[(2.3 + R)DL + IHDC]  
 Specific Rate ☐  
 Lump Sum ☐





Route N. Arlington Heights Road  
 Section N of IL83 to Thompson Ph I & II  
 County Lake  
 Job No.  
 PTB/Item

Consultant Huff & Huff, Inc.

## Average Hourly Project Rates

Date 1/6/2020

Sheet 1 OF 2

Payroll Classification	Avg Hourly Rates	Total Project Rates			PESA			Environmental Due Diligence			ESR Submittal			Wetland delineation			Wetland Report		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00	0																	
Principal	70.00	0																	
Associate Principal II	70.00	0																	
Associate Principal I	61.77	15.5	12.60%	7.78	0.5	1.39%	0.86	1	16.67%	10.29	1	25.00%	15.44						
Senior Consultant	68.86	0																	
Senior Geotechnical Consultant	64.44	0																	
Senior Project Manager III	61.50	0																	
Senior Project Manager II	46.70	2	1.63%	0.76				1	16.67%	7.78	1	25.00%	11.67						
Senior Project Manager I	45.10	2	1.63%	0.73															
Senior Landscape Architect	53.41	0																	
Senior Planning PM	51.15	0																	
Senior Geologist PM	44.41	4	3.25%	1.44	2	5.56%	2.47												
Senior Technical Specialist	45.76	0																	
Senior Scientist PM II	47.29	0																	
Senior Scientist PM I	43.05	0																	
Senior Technical Scientist	40.49	14	11.38%	4.61							2	50.00%	20.24	4	100.00%	40.49	4	100.00%	40.49
Senior CADD Specialist	34.59	6	4.88%	1.69	3	8.33%	2.88												
Scientist PM II	43.31	0																	
Scientist PM I	31.78	0																	
Engineer PM I	37.08	0																	
Planning PM	36.03	0																	
Architect PM	38.48	0																	
Assistant PM Engineer II	40.00	0																	
Assistant PM Engineer I	35.61	0																	
Engineer I	34.98	37	30.08%	10.52	15	41.67%	14.58												
Scientist EI	27.65	41	33.33%	9.22	15	41.67%	11.52	4	66.67%	18.44									
Scientist E2	23.75	0																	
Administrative Managers	41.58	0																	
Senior Administrative Assistant	28.59	1.5	1.22%	0.35	0.5	1.39%	0.40												
		0																	
<b>TOTALS</b>		123	100%	\$37.11	36	100%	\$32.70	6	100%	\$36.51	4	100%	\$47.36	4	100%	\$40.49	4	100%	\$40.49





## Average Hourly Project Rates

Route N. Arlington Heights Road  
 Section N of IL83 to Thompson Ph I & II  
 County Lake  
 Job No.  
 PTB/Item

Consultant Huff & Huff, Inc.

Date 1/6/2020

Sheet 2 OF 2

Payroll Classification	Avg Hourly Rates	QA/QC			PSI and CCDD			Project QA/QC			USACE Permitting			Lake County SMC			Project Admin		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00																		
Principal	70.00																		
Associate Principal II	70.00																		
Associate Principal I	61.77	4	100.00%	61.77	1	1.96%	1.21	2	50.00%	30.88				2	50.00%	30.88	4	100.00%	61.77
Senior Consultant	68.86																		
Senior Geotechnical Consultant	64.44																		
Senior Project Manager III	61.50																		
Senior Project Manager II	46.70																		
Senior Project Manager I	45.10							2	50.00%	22.55									
Senior Landscape Architect	53.41																		
Senior Planning PM	51.15																		
Senior Geologist PM	44.41				2	3.92%	1.74												
Senior Technical Specialist	45.76																		
Senior Scientist PM II	47.29																		
Senior Scientist PM I	43.05																		
Senior Technical Scientist	40.49										2	100.00%	40.49	2	50.00%	20.24			
Senior CADD Specialist	34.59				3	5.88%	2.03												
Scientist PM II	43.31																		
Scientist PM I	31.78																		
Engineer PM I	37.08																		
Planning PM	36.03																		
Architect PM	38.48																		
Assistant PM Engineer II	40.00																		
Assistant PM Engineer I	35.61																		
Engineer I	34.98				22	43.14%	15.09												
Scientist E1	27.65				22	43.14%	11.93												
Scientist E2	23.75																		
Administrative Managers	41.58																		
Senior Administrative Assistant	28.59				1	1.96%	0.56												
<b>TOTALS</b>		4	100%	\$61.77	51	100%	\$32.57	4	100%	\$53.43	2	100%	\$40.49	4	100%	\$51.13	4	100%	\$61.77



**EXHIBIT A - DESIGN ENGINEERING**  
**Interra, Inc.**

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
(Municipality/Township/County)  
**Section:** IL Route 83 to 500' South of Thompson Blvd.  
**Project:** Buffalo Grove Jurisdiction Work  
**Job No:** TBD

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

Overhead Rate (OH)	169.82%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

**Fixed Fee 1** ☒ **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 Direc Cost	In-House Direct Costs (IHDC)	Fixed Fee (FF)	Total
Geotechnical	Staff Engineer	12	\$ 29.72	\$ 356.64	\$ 605.65		\$ 5,675.00	\$ 1,742.00	\$ 392.12	\$ 8,771.41
Geotechnical	Sr. Proj. Engineer	4	\$ 50.50	\$ 202.00	\$ 343.04			\$ -	\$ 79.03	\$ 624.07
Geotechnical	Proj. Manager	4	\$ 63.50	\$ 254.00	\$ 431.34			\$ -	\$ 99.37	\$ 784.72
Geotechnical	Principal Engineer	4	\$ 70.00	\$ 280.00	\$ 475.50			\$ -	\$ 109.55	\$ 865.04
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
				\$ -	\$ -				\$ -	\$ -
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				\$ -	\$ -				\$ -	\$ -
										\$ -
										\$ -
										\$ -
<b>Totals</b>		24.00		\$ 1,092.64	\$ 1,855.52	\$ -	\$ 5,675.00	\$ 1,742.00	\$ 680.07	\$ 11,045.23



**COMPANY NAME: INTERRA, Inc.**
**PTB NUMBER: Arlington Heights Road - Buffalo Grove Jurisdiction**
**TODAY'S DATE: 1/5/2020**

ITEM	ALLOWABLE	UTILIZE W.O. ONLY	QUANTITY J.S. ONLY	CONTRACT RATE	TOTAL
Mobilization of Drill Rig	Actual Cost		0.50	\$1,000.00	\$500.00
Utility Clearance Joint Meet	Actual cost		0.00	\$1,000.00	\$0.00
Soil drilling with augers and split-spoon sampling, 0 to 50 feet depth (260 feet). 4 Shelby Tubes in structure borings	Actual Cost		1.00	\$4,375.00	\$4,375.00
Driller standby time, hourly	Actual cost		0.00	\$300.00	\$0.00
Traffic Control Signs	Actual Cost		0.50	\$1,600.00	\$800.00
Traffic Control with flaggers	Actual cost		0.00	\$2,250.00	\$0.00
Moisture Content and Penetrometer	Actual Cost		24.00	\$18.00	\$432.00
Atterberg Limits	Actual Cost		1.00	\$140.00	\$140.00
Grainsize Analysis with Hydrometer	Actual cost		1.00	\$190.00	\$190.00
Standard Proctor	Actual cost		1.00	\$190.00	\$190.00
Unconfined Compressive Strength	Actual cost		0.00	\$90.00	\$0.00
Illinois Bearing Ratio	Actual cost		1.00	\$725.00	\$725.00
Vehicle Days	\$32.50/half day (4 hours or less) or \$65/full day		1.00	\$65.00	\$65.00
Organic Content (Wet Combustion)	Actual Cost		0	\$150.00	\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
<b>TOTAL DIRECT COST</b>					<b>\$7,417.00</b>

*\*If other allowable costs are needed and not listed, please add in the above spaces provided.*

**LEGEND**

W.O. = Work Order

J.S. = Job Specific



**EXHIBIT A - DESIGN ENGINEERING**  
**SINGH & Associates, Inc.**

**Route:** Arlington Heights Road (V69)  
**Local** Lake County Division of Transportation  
(Municipality/Township/County)  
**Section:** IL Route 83 to 500' South of Thompson Blvd.  
**Project:** Buffalo Grove Jurisdiction Work  
**Job No:** TBD

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

Overhead Rate (OH)	147.91%
Complexity Factor (R)	0.00
Calendar Days	

**Cost Plus Fixed Fee Methods of Compensation:**

**Fixed Fee 1** ☒ **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
Lighting Assesment	Engineer IV	2	\$ 59.25	\$ 118.50	\$ 175.27				\$ 42.60	\$ 336.37
Lighting Assesment	Engineer III	4	\$ 53.44	\$ 213.76	\$ 316.17				\$ 76.84	\$ 606.77
				\$ -	\$ -				\$ -	\$ -
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				\$ -	\$ -				\$ -	\$ -
<b>Totals</b>		6.00		\$ 332.26	\$ 491.45	\$ -	\$ -	\$ -	\$ 119.44	\$ 943.14