VILLAGE OF ORLAND PARK

Phase I Services for

John Humphrey Drive
At 143rd Street

Proposal by:
Patrick Engineering Inc.

October 26, 2015

Phase I Engineering and Environmental Study

This document describes the anticipated scope of work associated with Phase I Engineering and Environmental Studies for John Humphrey Drive (JHD) at 143rd Street in the Village of Orland Park.

The Village of Orland Park (VOP) is the lead agency for this project. It is anticipated that this project will utilize federal funding and, as such, coordination will be required with the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA). It is anticipated that this Phase I study will follow Federal guidelines and will be documented via a Categorical Exclusion Group II Project Development Report (PDR) following IDOT's BLRS 22210 format and a Drainage Technical Memorandum. Property owner coordination and agency meetings are also included.

The goal of the proposed improvement is to provide a cost effective highway facility with sufficient capacity to satisfy the design year traffic demands while improving safety. It is anticipated that the scope of work will include the reconstruction of the John Humphrey Drive at 143rd Street intersection and portions of 143rd Street to the east. The design of the project will follow the guidelines set forth in IDOT's *Bureau of Local Roads & Streets (BLRS) Manual,* the American Association of State Highway and Transportation Officials' (AASHTO's) *A Policy on Geometric Design of Highway and Streets, 6th edition, 2011 (Green Book),* and the *Manual on Uniform Traffic Control Devices (MUTCD).* The McTrans Highway Capacity Software, Version 6.60 will be used for the final Intersection Design Study.

The following is a narrative description of the scope of work anticipated to be required for this project.

Work Task 1 - Data Collection

The Patrick Team will obtain historical project information from VOP concerning any previous studies, files, and/or correspondence regarding this intersection. Patrick will coordinate with VOP, IDOT, the County and Township, and all other agencies necessary to obtain base data for the project area, including but not necessarily limited to the following information:

Available traffic data; available crash data; available survey data and control data for area roadways; pertinent local studies and agreements; stormwater drainage/detention reports for adjacent site developments that drain to JHD; available local aerial photography; existing roadway composition and condition data; as-built plans; land use maps; zoning maps; school district maps; park district maps; fire district maps; sanitary and/or drainage district maps; soils and geological information; existing right-of-way data; USGS maps; flood insurance maps; local and regional land use and transportation planning studies; Sidwell maps; municipal boundaries; bus routes; mail routes; emergency routes; etc.

The Patrick Team will obtain available VOP and Cook County GIS data for the identified study area, including aerial photography, one-foot contours (as available from Cook County), environmental resources, property lines, roadway names, etc. Patrick will coordinate with the VOP to receive any utility contacts and other available utility information (i.e. permits) and will coordinate with all utility owners who have facilities within the study limits and obtain their atlas maps and/or related utility drawings and the information will be incorporated into the project base file.

Traffic data will be collected for the study area. 12 hour traffic counts will be performed at five intersections along JHD. The traffic data will be collected for weekday and weekend periods and will be collected one time. Based on the traffic data obtained, Patrick will coordinate with the Chicago Metropolitan Agency for Planning (CMAP) to develop 2040 traffic projections for this study.

The Patrick Team will prepare maps and charts of data collected and analyze the data, including identification of design criteria and completion of the IDOT BLRS Design Criteria Checklist. It is anticipated that this task will include field review of the project area and meetings to facilitate data collection efforts. An initial field review of the project area is anticipated as part of this task during which photographs of all prominent features will be taken and a photo log compiled for later use during project development. Additional project field reviews are anticipated to verify data collected and identify any needed supplemental data.

Specific work tasks will include:

- Initial joint project field review
- Coordination to obtain base project data and GIS data
- Initial utility coordination
- Conduct traffic counts
- Develop 2040 traffic projections for the JHD/143rd intersection, based on coordination with CMAP
- Review, analyze and catalog project data
- Prepare photo log of project area
- Supplemental field reviews to verify base project data

Work Task 2 – Aerial Mosaics

The Patrick Team will compile all data collected in Task 1 into the project database for use in developing aerial mosaics of the project area for use in project development and exhibit preparation.

Specific work tasks will include:

- Obtain current high quality aerial photography for the study area as necessary
- Develop initial base project mosaics at 1"=50' scale and add information including street names, ROW information, and other prominent features
- Add supplemental data to the aerial exhibits as it is received

Work Task 3 - Survey

A complete topographic survey will be completed for the study corridor including 25 feet beyond the existing right-of-way line. The survey will be prepared to be used for both Phase I and Phase II Engineering Services. The northern limit of the survey will be at the 90° bend in JHD just north of 142nd Street and the southern limit will be just south of 94th Avenue. The survey will extend 1,000' east and west along 143rd Street. 94th Avenue will be surveyed from JHD for 500 feet. The survey will also include 100 feet along any other minor side roads or major driveways within the project limits.

The survey will include the following tasks:

Horizontal Control: Utilizing state plane coordinates, we will set recoverable primary control utilizing GPS equipment.

Vertical Control: We will perform a level circuit within the above identified survey limits establishing benchmarks and assigning elevations to the horizontal control points. The elevations will be based on NAVD88.

Existing Right-of-Way: We will establish the existing right-of-way along the corridor within the identified survey limits, based on monumentation found in the field, and based on available plats of highways, subdivision plats, and any other available information.

Existing Horizontal Alignment and Stationing: We will determine the existing horizontal alignment and stationing after reviewing the existing right-of-way.

Topographic Survey: We will field locate all pavements, driveways, curb and gutters, pavement markings, signs, manholes, utility vaults, drainage structures (including storm sewer pipe sizes, materials, and inverts), driveway culverts, cross road culverts, etc., within the above noted survey limits. Stationing will be derived from existing conditions as described above.

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

Utility Survey: All existing storm and sanitary sewers will be surveyed to determine rim and invert elevations, and pipe sizes. Above ground facilities of any additional utilities including water main, gas, electric, telephone, cable, etc. will also be located. Where obtainable (accessible valve vaults), top of water main elevations (measure-downs) will be determined.

Tree Survey: We will complete a type, size and location survey for all trees over 6 inches in diameter breast height (dbh) within the above noted survey limits. This information will be used to quantify tree impacts. The located trees will be identified by species and condition by others.

Base Mapping: We will compile all of the above information into one base map at 1'=50' 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.

Geotechnical Borings: We will survey the locations and elevations of all geotechnical borings taken for the study.

The survey will be completed at 1" = 50' scale. A separate supplemental pick-up survey budget will also be included to allow for collection of additional data if needed during the course of the Phase I Study.

Work Task 4 - Crash Analysis

This task includes obtaining the last five (5) years of crash data (2011-2015) from the VOP and/or other sources as necessary for JHD and 143rd Street within the study limits, including segment and intersection crash data, in order to prepare a Crash Analysis Report for the study area. It is assumed that one additional year of crash data will become available over the course of project development.

The Patrick Team will add this data and update the Crash Report based on one annual update assumed. We will prepare crash data tables, intersection collision diagrams, a plot of all the crashes occurring within the study area, and other exhibits as necessary to summarize the crash data.

Specific work tasks will include:

- Obtain crash data
- Coordination with VOP and other sources
- Analyze crash data and prepare tables, charts, and exhibits
- Prepare Crash Report for review and use in identifying corridor deficiencies
- Update Crash Report based on additional years of data
- Prepare final Crash Report for inclusion in the PDR

Work Task 5 - Alternative Geometric Studies

The Alternative Geometric Studies work task includes all work required to develop preliminary geometric alternatives for the project improvement.

Preliminary Alternatives

Based on the topographic survey and identified corridor deficiencies, preliminary geometric alternatives will be developed and evaluated for stakeholder coordination. Proposed typical cross-sections will also be developed at this stage. The evaluation of alternative intersection configurations will include improvement of the existing intersection configuration.

It is anticipated that the alternatives will be developed concurrently for comparison purposes with each alternative being developed based on optimum geometrics and minimizing impacts to adjacent properties, considering input and comments received from the VOP. For each preliminary alternative, plan, profile and critical cross-sections will be developed to determine preliminary right-of-way needs for assessment of environmental and adjacent property impacts and cost estimates. In addition, the following factors will also be considered:

- Adherence to Design Standards
- Pedestrian/Bikepath Accommodation Requirements
- Environmental Impacts
- Drainage Impacts

It is anticipated that several meetings will be required with VOP, IDOT, and the FHWA to discuss development of the preliminary alternatives. After these meetings, it is anticipated that some refinements to the preferred alternative may be required based on this input.

Preferred Alternative

Upon selection of a Preferred Alternative based on coordination with VOP, Patrick will complete detailed plan, profile and cross-section studies as required to complete Phase I engineering. This includes horizontal and vertical geometry, templated existing/proposed cross-sections, and right-of-way/easement determination for the project.

The Patrick Team will prepare preliminary plan and profile sheets showing existing and proposed horizontal and vertical geometry at a scale of 1"=50'. The proposed geometry will be set to meet all applicable State and VOP design criteria and to minimize right-of-way and impacts to adjacent properties to the extent possible, but also considering drainage and environmental mitigation needs,

refined pedestrian and bicycle accommodation needs and construction staging needs. Typical sections for the proposed improvement will be finalized at this stage.

Existing and proposed cross-sections will be templated at 100' intervals and at all side streets, driveways and other grade controlling features to determine right-of-way and easement requirements, wetland impacts (if/where present), ditch locations and drainage patterns, and to fine-tune the proposed vertical geometry. Existing conditions cross-sections will be developed utilizing the topographic survey. These cross-sections will show existing right-of-way, existing grade/ground elevation, proposed grade (top surface only), and proposed right-of-way and easements where necessary. Potential utility conflicts and relocation needs will be identified and discussed in the Project Development Report as well as being illustrated on the plan and profile drawings. Any design variances required for the proposed improvement will be identified and documented via BLR Form 22120 "Approval of Design Variance."

During this task, it is expected that additional coordination/review will occur with VOP, IDOT, and the FHWA for review and/or comment/concurrence. At the end of this task, the project team will have completed preliminary geometry and identified the proposed project limits including the proposed right-of-way acquisitions and easements for inclusion with the certified letters to affected property owners.

Intersection Lighting
The limited existing roadway lighting (near 143rd Street intersection) will be evaluated to determine whether it is compliant with current IDOT standards, and to determine the extent of lighting improvements required and the cost thereof.

Two roadway lighting scenarios will be evaluated to be included with the overall intersection reconstruction project as follows:

1) Using standard roadway type lighting with cobra-head type LED luminaires. Re-use of the existing 40ft aluminum poles form LaGrange Road (or similar) will be used in this scenario.
2) Using decorative lighting comprised of ornamental light poles and LED luminaires. This scenario will include using only taller type (30ft and above) light poles.

Photometric calculations will be performed for the two above scenarios, each using three independent luminaire manufacturers. Photometric calculations to be performed are as follows:

1) Intersection calculations for JHD and 143rd St.

A preliminary cost estimate will be determined for both scenarios based on the number of poles required as determined from the photometric results. For reach scenario, the cost will include incorporating a holiday circuit with the proposed roadway lighting system.

The existing roadway lighting will be reviewed to assess if the existing lighting meets federal standards, and if it is found that it does not, then a cost to upgrade will be prepared. At an option to the Village, electrical engineering services are also included to provide photometric calculations and a standard IDOT Municipal Lighting layout in accordance with IDOT Standards. The scope also includes an alternate design including photometric calculations for Decorative Ornamental Lighting if desired by the VOP. The Decorative Lighting Alternate includes time for the engineer to select up to three fixtures and poles for the review and approval by the owner; followed by the sequent photometric calculations and layout. Additionally, a cost estimate for both options will be provided.

This task also includes development of the construction cost estimate for the Preferred Alternative. Effort is also included for the review of development plans as they are received during the course of the Phase I Study.

Specific work tasks will include:

- Develop preliminary alternatives
- Preliminary alternatives analysis
- Coordination with VOP, IDOT, FHWA
- Develop detailed geometry for the Preferred Alternative
- Prepare proposed templated cross-sections at 50' intervals and critical locations
- Determine right-of-way/easement requirements based on geometry, drainage, environmental, and ped/bike considerations
- Identify utility conflicts
- Roadway lighting evaluation (existing conditions, and proposed design alternatives)
- Process any design variances
- Prepare construction cost estimate for the Preferred Alternative

Work Task 6 – Roadway Drainage

The following Drainage Reports will be prepared as separate documents and will be referenced in the PDR:

- Existing and proposed drainage plans (EDP and PDP)
- Humphrey Drive Wetlands and cross culvert analysis
- Drainage Technical Memorandum

This Roadway Drainage task includes development of an Existing Drainage Plan (EDP), a Proposed Drainage Plan (PDP), and a Drainage Technical Memorandum. Hydrologic and hydraulic analysis will be completed for two minor roadway crossings. Coordination will occur with the VOP regarding existing drainage patterns and concerns and potential stormwater detention and water quality needs and locations. There is no FEMA regulatory floodplain or floodway within the project limits; therefore, no compensatory storage for floodway fill or IDNR-OWR permits will be required.

Existing Drainage Plan

Development of the EDP includes an evaluation of existing drainage conditions through a review of record development plans, roadway plans, maps, reports and field reconnaissance trips. Required items from the Data Collection task include pertinent as-built plans, USGS maps, soils maps, topographic maps, existing site stormwater studies and reports, and other pertinent data. Off-site and on-site drainage areas and existing drainage systems will be delineated on the base project mapping. Specific work tasks associated with development of the EDP include the following:

- Identify the tributary drainage areas
- Identify the existing drainage systems and patterns
- Identify existing drainage outfalls
- Evaluate outfall sensitivity and suitability for continued use
- Prepare the EDP

The Patrick Team will coordinate with VOP to identify sensitive drainage areas and outlets, including evaluation of roadway flooding records and complaints, and determine adequacy of existing drainage structures to remain as part of the proposed improvement.

Proposed Drainage Plan

Development of the Proposed Drainage Plan (PDP) includes an evaluation of proposed drainage conditions for the identified Preferred Alternative as discussed in the Alternate Geometric Studies task. Specific work tasks associated with development of the PDP includes the following:

- Delineate off-site and on-site drainage areas and perform hydrologic and hydraulic analyses for the proposed conveyance systems. Develop the off-site and on-site drainage concept plans.
- Evaluate the needs for additional rights-of-way and drainage easements for drainage purposes.
- Prepare preliminary stormwater detention analysis and design as required. Underground detention in oversized storm sewer pipes is anticipated to be the most practical alternative to offset any (if any) increased impervious area.
- Evaluate alternatives for volume control and water quality Best Management Practices as required.
- Perform the Water Quality analysis and evaluate the use of Water Quality BMP's at drainage outfalls.
- Prepare a Proposed Drainage Plan to fully describe the proposed drainage concept and reflect drainage calculations for drainage system size, type, and location.
- BFE determination will be prepared for the watershed contributing to the Humphrey Drive Wetlands located at the southeast corner of 143rd Street and JHD. The existing condition analysis will be used to verify pavement freeboard and to provide the baseline model for future enhancements.

Drainage Technical Memorandum

- Prepare a Drainage Technical Memorandum summarizing the proposed drainage system design. This Memorandum will be prepared in IDOT LDTM format with supporting documentation.

Meetings: In addition to coordination meetings as part of the EDP and PDP development as noted above.

Work Task 7 - Traffic Maintenance Analysis

The Patrick Team will prepare a Traffic Maintenance Analysis (TMA) for construction of the Preferred Alternative. This will include a determination of the method for construction staging and traffic maintenance, including an evaluation of the need for temporary pavement and/or marked detours, which will include coordination with VOP. The need for temporary construction easements will be evaluated for inclusion on the proposed plan and cross-sections. This task will be summarized in a TMA report for this project that is anticipated to be included in the PDR as an appendix.

Specific work tasks will include:

- Determine stage construction methodology
- Determine traffic maintenance requirements including detours

- Determine temporary construction easement needs
- Prepare report exhibits
- Prepare preliminary TMA report for review by VOP
- Prepare Final TMA report with disposition of comments
- Coordination meetings

Work Task 8 - Intersection Design Study

An Intersection Design Study (IDS) will be prepared for the preferred alternative per IDOT requirements. For the purposes of the initial project scope, it is assumed that an IDS and associated capacity analysis using Highway Capacity Software (HCS – per IDOT requirements) will be required for the following intersections:

1. 143rd Street

Specific work tasks will include:

- Prepare capacity analysis using HCS
- Prepare traffic signal warrant analyses
- Prepare Preliminary IDS sheets for VOP review
- Prepare Final IDS sheets with disposition of comments

Work Task 9 - Environmental Analyses

It is anticipated that this project will qualify as a Categorical Exclusion Group II (CE II), and thus a separate environmental document will not be required. The Patrick Team will perform initial environmental field reconnaissance work and submit an Environmental Survey Request (ESR) form to IDOT for processing. The consultant will prepare a photo log of any potential historic structures along the corridor for submittal with the ESR. The consultant will perform additional reconnaissance and surveys to support the ESR submittal and expedite the overall resource identification process.

The Special Waste Preliminary Environmental Site Assessment (PESA) will be prepared.

Wetland delineations will be performed. The limits of the wetlands will be flagged and located in GPS. The Patrick Team will coordinate directly with the USACE for determination of jurisdiction, which determines the mitigation requirements for any (if any) wetlands impacts.

Trees will be located by station-offset and size as part of the project survey for the corridor and evaluated with respect to impact, species and health under this task. Contingent upon the extent of tree impacts associated with the Preferred Alternative, a Northern Long-Eared Bat habitat assessment will be completed as required by IDOT (new requirement).

A traffic noise analysis is not anticipated to be required based on the spot intersection improvement scope of work. In addition, based on current IDOT guidelines and the combined ADT for approach roadway legs, it is assumed that a COSIM Pre-Screen analysis will not be required.

Wetland Impact Evaluation (WIE) forms will be completed for the Preferred Alternative. This includes preparing the WIE forms, associated exhibits, and identifying mitigation/avoidance options for impacted wetlands. For purposes of this proposal, it is assumed there will be two WIE forms prepared for this project.

At this time, a Section 4(f) Evaluation and a Section 106 Evaluation/Statement of Effect are not anticipated to be required for this project.

Work Task 10 – Project Development Report

This work task includes development of a Preliminary/Draft Project Development Report (PDR - Pre-Public Hearing) and a Final PDR (Post-Public Hearing) with all associated work tasks as follows:

Preliminary PDR

The Patrick Team will utilize BLRS Form 22110 and complete a draft PDR for VOP and IDOT review prior to the Public Hearing. The PDR will include the following sections:

1. Location and Existing Conditions
2. Proposed Improvement
3. Crash Analysis
4. Right-of-Way
5. Prime Farmland
6. Floodplain Encroachment
7. Phase I & II NPDES Storm Water Permit Requirements
8. "404" Permit
9. Special Waste
10. Environmental Survey
11. Section 4(f) Lands
12. Air Quality
13. Noise
14. Maintenance of Traffic
15. Public Involvement
16. Coordination: LA-IDOT-FHWA
17. Other Coordination
18. Summary of Commitments

Specific work tasks include:

- Write text for the Preliminary PDR
- Compile Maps, Charts, Graphs and Exhibits for the Preliminary PDR
- Prepare complete Preliminary PDR and submit to VOP and IDOT for review prior to the Public Hearing
- Revise and resubmit Preliminary PDR based on review comments received
- Coordination/Review Meetings

Final PDR

The Patrick Team will address any comments received from VOP and IDOT, write the Conclusion section, and revise the preliminary PDR and submit to IDOT for Phase I Design Approval.

Specific work tasks will include:

- Revise text for the PDR based on public input and comments received
- Revise Maps, Charts, Graphs and Exhibits for the PDR based on comments received
- Prepare Conclusion section of the PDR
- Prepare Final PDR and submit to IDOT for review for Phase I Design Approval

- Revise and resubmit Final PDR with disposition of comments, based on IDOT review
- Coordination/Review Meetings

Work Task 11 - Stakeholder Involvement

Certified letters with exhibits will be sent to those property owners affected by ROW acquisition based on the proposed improvement.

Work Task 12 - Geotechnical Investigation

The Phase I Project will include a preliminary geotechnical investigation for the project. The preliminary investigation will include a limited number of soil borings, limited laboratory testing, and evaluation to provide general recommendations for the early stages of the project design. The results of the preliminary investigation will be used to develop a more deliberate and refined supplemental investigation at a later date. The supplemental investigation will include additional soil borings, laboratory testing, and evaluations for incorporation in the project design. Preparation of final geotechnical evaluations and recommendations is not included in this preliminary scope of work and budget but will be part of the supplemental investigation.

The first step of the preliminary geotechnical investigation will be to collect and review all available geotechnical information and analyses performed for design of the lightweight fill and land bridge under 143rd Street. The scope of the proposed preliminary geotechnical investigation will be based in part on this review and consideration of the proposed improvements to John Humphrey Drive and the intersection at 143rd Street.

Preliminary geotechnical field exploration activities will be conducted along both sides of 143rd Street to account for the proposed widening. Geotechnical engineering analysis will be performed according to IDOT-approved methods as outlined in the Geotechnical Design Manual, to support design and construction of new pavement, including widening of 143rd Street where the current road is supported on lightweight fill and the landbridge.

Initial field exploration activities will include drilling approximately 11 soil borings that will be located to provide subsurface information for the proposed roadway improvements. Boring depths will vary from 10 feet to 30 feet deep. The deeper borings will be drilled near the wetlands and the shallower borings will be drilled in areas where better soil conditions are expected.

Borings will be drilled and sampled to the specified depths below the existing ground surface. Boring access is likely limited by right-of-way and both below grade and overhead utilities. Our drillers will attempt to locate borings as planned, in areas where traffic control and major lawn repairs will not be needed; however, traffic control may be required. Prior to performing any drilling, a meeting will be held with the VOP (as desired) to discuss the proposed drilling locations.

The geotechnical investigation is based on the following:

1. Schedule and attend joint utility meet after calling JULIE to direct network member utility companies to the meet site.
2. Drill and sample up to 11 total soil borings to a depth of 10-30 feet each for a total of up to 270 linear feet of drilling.
3. Borings will be drilled and sampled according to IDOT specifications with samples collected using a split barrel sampler advanced on 2½-foot intervals. Open boreholes will be filled with soil cuttings after obtaining the depth to groundwater measurements.

4. A field engineer will log the soil borings, classify soil samples, collect water level measurements, and perform Rimac unconfined compressive strength tests on cohesive soils in the field. As-drilled field boring locations will be recorded using a handheld GPS unit and/or measurements from Site landmarks.
5. Groundwater measurements will be recorded while drilling, immediately after drilling and, where possible, 24 hours after the completion of drilling.
6. Laboratory testing will include soil sample moisture content determinations (up to 57 tests), Atterberg limits (up to 4 tests), grain size distributions (up to 4 tests), unconfined compressive strength (up to 5 tests), unit weight (up to 4 tests), and consolidation (up to 1 tests). All testing will be performed in accordance with current ASTM methods. Not all samples will be tested.
7. Prepare a Structural Geotechnical Report (SGR) for submittal to IDOT for proposed modifications to the land bridge near the intersection of JHD and 143rd Street. This report will be based on the data collected during the preliminary investigation. Additional soil borings, laboratory testing, and analysis may be required depending on findings of the preliminary investigation in order to get approval from IDOT of the SGR. The results of the other preliminary investigation borings will be summarized in a preliminary geotechnical summary report. Both the SGR for the land bridge modifications, and the other general preliminary geotechnical report will include a description of the methods used to collect the soil samples, a description of the soil conditions encountered, and preliminary, general recommendations for construction. A meeting with the VOP will be held to discuss the contents of the report.
8. Borings can likely be drilled using truck mounted drilling equipment; however, for budgeting purposes the costs for one ATV mobilization is included. Traffic control will be provided, as necessary, using IDOT standards. Field exploration activities will be performed on weekdays between the hours of 9:00 am and 3:00 pm without restriction. Up to 4 days of lane closure with traffic control is included in the scope and fee estimate. There will be no charges for any village permits required for this work.
9. All fieldwork will be performed in a single mobilization.

Specific work tasks will include:

1. Review and evaluate data, analysis, and recommendations from previous investigations
2. Perform reconnaissance and field work necessary for the proposed preliminary geotechnical investigation
3. Prepare the Summary Report of the Preliminary Investigation and SGR for the land bridge.
4. Prepare a scope of work and fee estimate for the supplemental investigation
5. Coordination and Meetings

Work Task 13 – Structural

The Patrick Team will perform a preliminary design and cost analysis for the dry land bridge along 143rd Street just east of the JHD intersection. An inspection of the existing dry land bridge will be completed. A Bridge Condition Report (BCR) will be prepared for the existing land bridge and will include summarizing alternatives, recommendations and estimated construction costs. The Type, Size and Location (TS&L) requirement is anticipated to be met by the completion of the BCR. A Preliminary Bridge Design & Hydraulic Report (BLR 10210) will be prepared for the land bridge.

It is anticipated that there will be no retaining walls greater than 7' exposed height requiring a TS&L during Phase I.

Work Task 14 – Meetings and Coordination

This task includes meetings and coordination with agencies, property owners, and utilities. Meetings will be held with:

- VOP
- IDOT
- FHWA
- Private Property Owners
- Other Agencies (as needs arise during the course of the Phase I Study)

Coordination effort is included with:

- VOP
- Subconsultants

Work Task 15 – Plats and Legals

This task is not included in this scope of work.

Work Task 16 – Administration and QA/QC

This task includes the overall project administration tasks for the Phase I Study. 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, schedule oversight to ensure project milestones are being met, and project reporting and invoicing. Progress reports will be submitted to VOP with each monthly invoice submitted. It is anticipated that a project kick-off meeting and quarterly progress meetings will be held for this study. A Microsoft Project schedule with project milestones will be prepared. An Action Items List will be maintained and Executive Briefing Papers will be prepared, as requested. This task also includes QA/QC for the project throughout the course of the Phase I Engineering Study.

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME	Patrick Engineering	**DATE**	10/26/15
PRIME/SUPPLEMENT	John Humphrey Drive	**PTB NO.**	N/A

CONTRACT TERM	12	**MONTHS**	**OVERHEAD RATE**		177.58%
START DATE	1/1/2016		**COMPLEXITY FACTOR**		0
RAISE DATE	1/1/2017		**% OF RAISE**		3.00%

ESCALATION PER YEAR

1/1/2016 - 1/1/2017				
12				
12				

= 100.00%

= 1.0000

The total escalation for this project would be: **0.00%**

PAYROLL RATES

FIRM NAME Patrick Engineering **DATE** 10/26/15
PRIME/SUPPLEMENT John Humphrey Drive
PSB NO. N/A

ESCALATION FACTOR 0.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principle	$70.00	$70.00
Project Manager/Director	$65.63	$65.63
Project Engineer 3/4	$52.26	$52.26
Project Engineer 1/2	$41.54	$41.54
Staff Engineer 3	$37.01	$37.01
Staff Engineer 2	$31.07	$31.07
Staff Engineer 1	$27.52	$27.52
Technician	$21.21	$21.21
Staff Geologist	$37.98	$37.98
Survey Director	$61.50	$60.00
Project Surveyor	$36.46	$36.46
Staff Surveyor	$24.74	$24.74
Administrative Assistant	$21.21	$21.21
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

FIRM Patrick Engineering — **DATE** 10/26/15

PSB N/A — **OVERHEAD RATE** 1.7758

PRIME/SUPPLEMENT John Humphrey Drive — **COMPLEXITY FACTOR** 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Data Collection	54	1,828.35	3,246.79		676.49	246.00	5,354.96		11,352.59	3.61%
	Aerial Mosaics	24	801.52	1,423.34		296.56	22.00			2,543.43	0.81%
	Survey	397	13,589.20	24,131.69		5,028.00	1,820.00			44,568.89	14.16%
	Crash Analysis	40	1,452.33	2,579.05		537.36	69.00			4,637.74	1.47%
	Alt Geo Studies	204	7,323.21	13,004.56		2,709.59	380.00	4,901.35		28,318.70	9.00%
	Roadway Drainage	0	0.00	0.00		0.00		39,704.80		39,704.80	12.62%
	Traffic Maint Analysis	32	1,187.80	2,109.30		439.49	69.00			3,805.58	1.21%
	Int Design Studies	134	5,227.06	9,282.21		1,934.01	78.00			16,521.27	5.25%
	Environmental Analyses	0	0.00	0.00		0.00		21,308.63		21,308.63	6.77%
	Project Dev Report	150	6,011.08	10,674.47		2,224.10	493.00			19,402.64	6.17%
	Stakeholder Involvement	16	821.45	1,458.73		303.94	41.00			2,625.12	0.83%
	Geotechnical Inv	173	5,890.64	10,460.60		2,179.54	19,545.00			38,075.78	12.10%
	Structural	122	6,058.88	10,759.36		2,241.79	103.00			19,163.03	6.09%
	Meetings and Coord.	120	5,897.51	10,472.80		2,182.08	860.00	7,906.96		27,319.35	8.68%
	Plats and Legals	0	0.00	0.00		0.00				0.00	0.00%
	Admin and QA/QC	120	4,919.70	8,736.40		1,820.29	500.00	9,780.59		25,756.97	8.18%
	Traffic Counts (GHA)	0	0.00	0.00		0.00		9,600.00		9,600.00	3.05%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	1586	61,008.72	108,339.29	0.00	22,573.23	24,226.00	98,557.29	0.00	**314,704.53**	100.00%

Patrick	216,147.24	68.7%	70.8%
CBBEL	88,957.29	28.3%	29.2%
GHA	9,600.00	3.1%	
	314,704.53		

DBE 0.00%

AVERAGE HOURLY PROJECT RATES

FIRM Patrick Engineering
PSB N/A
PRIME/SUPPLEMENT John Humphrey Drive

DATE 10/26/15

SHEET 1 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Data Collection			Aerial Mosaics			Survey			Crash Analysis			Alt Geo Studies		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principle	70.00	56	3.53%	2.47													10	4.90%	3.43
Project Manager/Dire	65.63	142	8.95%	5.88	4	7.41%	4.86							4	10.00%	6.56	10	4.90%	3.22
Project Engineer 3/4	52.26	85	5.36%	2.80															
Project Engineer 1/2	41.54	108	6.81%	2.83				6	25.00%	10.38							34	16.67%	6.92
Staff Engineer 3	37.01	213	13.43%	4.97	20	37.04%	13.71	6	25.00%	9.25				12	30.00%	11.10	30	14.71%	5.44
Staff Engineer 2	31.07	146	9.21%	2.86										24	60.00%	18.64	40	19.61%	6.09
Staff Engineer 1	27.52	271	17.09%	4.70	30	55.56%	15.29	12	50.00%	13.76							80	39.22%	10.79
Technician	21.21	0																	
Staff Geologist	37.98	108	6.81%	2.59															
Survey Director	60.00	47	2.96%	1.78							47	11.84%	7.10						
Project Surveyor	36.46	180	11.35%	4.14							180	45.34%	16.53						
Staff Surveyor	24.74	170	10.72%	2.65							170	42.82%	10.60						
Administrative Assist	21.21	60	3.78%	0.80															
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		1586	100%	$38.47	54	100.00%	$33.86	24	100%	$33.40	397	100%	$34.23	40	100%	$36.31	204	100%	$35.90

AVERAGE HOURLY PROJECT RATES

FIRM Patrick Engineering
PSB N/A
PRIME/SUPPLEMENT John Humphrey Drive

DATE 10/26/15

SHEET 2 **OF** 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Roadway Drainage			Traffic Maint Analysis			Int Design Studies			Environmental Analyses			Project Dev Report			Stakeholder Involvement		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principle	70.00							4	2.99%	2.09				10	6.67%	4.67			
Project Manager/Dire	65.63				4	12.50%	8.20	15	11.19%	7.35							10	62.50%	41.02
Project Engineer 3/4	52.26							15	11.19%	5.85				15	10.00%	5.23			
Project Engineer 1/2	41.54				8	25.00%	10.38							20	13.33%	5.54			
Staff Engineer 3	37.01							30	22.39%	8.29				85	56.67%	20.97			
Staff Engineer 2	31.07				12	37.50%	11.65	40	29.85%	9.27									
Staff Engineer 1	27.52				8	25.00%	6.88	30	22.39%	6.16				20	13.33%	3.67	6	37.50%	10.32
Technician	21.21																		
Staff Geologist	37.98																		
Survey Director	60.00																		
Project Surveyor	36.46																		
Staff Surveyor	24.74																		
Administrative Assist	21.21																		
TOTALS		0	0%	$0.00	32	100%	$37.12	134	100%	$39.01	0	0%	$0.00	150	100%	$40.07	16	100%	$51.34

AVERAGE HOURLY PROJECT RATES

FIRM Patrick Engineering
PSB N/A
PRIME/SUPPLEMENT John Humphrey Drive

DATE 10/26/15

SHEET 3 **OF** 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Geotechnical Inv			Structural			Meetings and Coord.			Plats and Legals			Admin and QA/QC			Traffic Counts (GHA)		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principle	70.00				12	9.84%	6.89	10	8.33%	5.83				10	8.33%	5.83			
Project Manager/Dire	65.63				40	32.79%	21.52	30	25.00%	16.41				25	20.83%	13.67			
Project Engineer 3/4	52.26							30	25.00%	13.06				25	20.83%	10.89			
Project Engineer 1/2	41.54				40	32.79%	13.62												
Staff Engineer 3	37.01							30	25.00%	9.25									
Staff Engineer 2	31.07				30	24.59%	7.64												
Staff Engineer 1	27.52	65	37.57%	10.34				20	16.67%	4.59									
Technician	21.21																		
Staff Geologist	37.98	108	62.43%	23.71															
Survey Director	60.00																		
Project Surveyor	36.46																		
Staff Surveyor	24.74																		
Administrative Assist	21.21													60	50.00%	10.60			
TOTALS		173	100%	$34.05	122	100%	$49.66	120	100%	$49.15	0	0%	$0.00	120	100%	$41.00	0	0%	$0.00

Illinois Department of Transportation

Direct Costs Check Sheet

COMPANY NAME: **Patrick Engineering Inc.**

PTB NUMBER: **Village of Orland Park, 143rd at John Humphrey Drive**

TODAY'S DATE: **10/26/2015**

ITEM	ALLOWABLE	UTILIZE W.O. ONLY	QUANTITY J.S. ONLY	CONTRACT RATE	TOTAL
Per Diem (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum			$0.00	$0.00
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost (Up to state rate maximum)			$0.00	$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			$0.00	$0.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum			$0.575	$0.00
Vehicle Owned or Leased	$32.50/half day (4 hours or less) or $65/full day	X	52	$65.00	$3,380.00
Vehicle Rental	Actual cost (Up to $55/day)			$0.00	$0.00
Tolls	Actual cost			$0.00	$0.00
Parking	Actual cost			$0.00	$0.00
Overtime	Premium portion (Submit supporting documentation)			$0.00	$0.00
Shift Differential	Actual cost (Based on firm's policy)			$0.00	$0.00
Overnight Delivery/Postage/Courier Service	Actual cost (Submit supporting documentation)	X	21	$25.00	$525.00
Copies of Deliverables/Mylars (In-house)	Actual cost (Submit supporting documentation)			$0.00	$0.00
Copies of Deliverables/Mylars (Outside)	Actual cost (Submit supporting documentation)			$0.00	$0.00
Project Specific Insurance	Actual cost			$0.00	$0.00
Monuments (Permanent)	Actual cost			$0.00	$0.00
Photo Processing	Actual cost			$0.00	$0.00
2-Way Radio (Survey or Phase III Only)	Actual cost			$0.00	$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual cost			$0.00	$0.00
CADD	Actual cost (Max $15/hour)			$0.00	$0.00
Web Site	Actual cost (Submit supporting documentation)			$0.00	$0.00
Advertisements	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Facility Rental	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Exhibits/Renderings & Equipment	Actual cost (Submit supporting documentation)			$0.00	$0.00
Recording Fees	Actual cost			$0.00	$0.00
Transcriptions (specific to project)	Actual cost			$0.00	$0.00
Courthouse Fees	Actual cost			$0.00	$0.00
Storm Sewer Cleaning and Televising	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Traffic Control and Protection	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Aerial Photography and Mapping	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Utility Exploratory Trenching	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Testing of Soil Samples*	Actual cost			$0.00	$0.00
Lab Services*	Actual cost (Provide breakdown of each cost)			$0.00	$0.00
81/2 x 11 Color Laser	Actual Cost Per Page	X	75	$1.00	$75.00
81/2 x 11 Color Stock	Actual Cost Per Page	X	7,150	$0.10	$715.00
81/2 x 11 Card Stock	Actual Cost Per Page			$0.00	$0.00
Scan Setup	Actual Cost Per Sheet			$0.00	$0.00
Scan to File	Actual Cost Per Sheet			$0.00	$0.00
Color Scan to pdf	Actual Cost Per Square Foot			$0.00	$0.00
11x17 Paper	Actual Cost Per Page	X	645	$0.25	$161.25
24x36	Actual Cost Per Page	X	82	$1.80	$147.60
Drill Rig	Actual Cost	X	1	$14,860.00	$14,860.00
Asbestos Testing	Actual Cost	X	1	$2,000.00	$2,000.00
Lab testing	Actual Cost	X	1	$2,360.00	$2,360.00
TOTAL DIRECT COST					**$24,223.85**

**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

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
1	**Data Collection**				
	Initial Project Joint Field Review		12	12	
	Obtain Data from Agencies (zoning, district boundaries, emerg. routes, developments, etc.)		4		
	Coordinate with Cook County for Mapping Data Sources and Control			8	
	Prepare Maps and Charts of Data Collected and Analyze Data		8		
	Perform Traffic Counts		by Gewalt-Hamilton		
	Compile Traffic Counts, Review Historical Traffic Data, Coordinate 2040 Projections			32	
	Design JULIE Locate, Utility Letters, Obtain Utility Data		8		
	Incorporate Utility Data into Project Base File		16		
	Coordinate/Compile/Catalog GIS Data		6		
			54	52	
		Subtotal Workhours =			106
		Estimated Direct Cost =			$592
		Document Acquisition Costs	$50	$150	
		Travel (2 days @ $65/day)	$130	$130	
		Materials and Reproduction			
		300 pages @ $0.10/page (8.5" x 11")	$30	$30	
		20 sheets @ $1.80/sheet (24" x 36")	$36	$36	
			$246	$346	
2	**Aerial Mosaics**				
	Develop Base Project Aerial Mosaic at 1"=50'		8		
	Add Information (street names, drainage features, property owners, etc.)		8		
	Add Existing ROW Information		4		
	Update with Supplemental Data Throughout Study		4		
		Subtotal Workhours =			24
		Estimated Direct Cost =			$22
		Materials and Reproduction			
		2 sheets x 6 copies @ $1.80/exhibit (24" x 36")	$22		
3	**Survey**				
	Control Work		32		
	Cross Sections and Topographic Mapping		187		
	Determine Horizontal Alignment, Stationing, and Boundaries		26		
	Set Horizontal Alignment Points with Ties		14		
	Geotechnical Boring Locations		8		
	Drainage Survey		20		
	Tree Inventory > 6"		62		
	Utility Survey		34		
	Project Management, Coordination of Work		14		
		Subtotal Workhours =			397
		Estimated Direct Cost =			$1,820
		Travel (28 days @ $65/day)	$1,820		

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
4		**Crash Analysis**			
		Analyze Data, Prepare Tables and Charts of Data (5 years)	**20**		
		Prepare Exhibits	**8**		
		Write Text of Crash Report	**12**		
			Subtotal Workhours =		**40**
			Estimated Direct Cost =		**$69**
		Materials and Reproduction			
		15 sheets x 5 copies @ $0.25/sheet (11" x 17")	**$19**		
		100 pages x 5 copies @ $0.10/page (8.5" x 11")	**$50**		
5		**Alternative Geometric Studies**			
		Plan Studies, Including Alternative Alignments and Geometrics	**20**		
		Proposed Profile	**10**		
		Sideroad Geometrics and Profile	**0**		
		Plan and Profile Sheets Mainline 1"=50' (1 sht x 40 hrs/sht)	**40**		
		Plan and Profile Sheets Sideroads 1"=50' (1 sht x 30 hrs/sht)	**30**		
		Cross-Sections at 100' Intervals Mainline (8 sections @ 2 hrs./section)	**16**		
		Cross-Sections at 100' Intervals Sideroads (12 sections @ 2 hrs./section)	**24**		
		Typical Cross-Sections and Details	**8**		
		Analysis of Bike Path/Sidewalk Options	**8**		
		Plot Proposed Geometrics and ROW Line (including station/offsets for all break points)	**12**		
		Assess Utility Conflicts	**12**		
		Intersection Lighting Analysis (143rd Street Intersection)		**38**	
		Develop and Update Preliminary Construction Cost Estimates	**12**		
		Identify Funding Options	**0**		
		Permit Reviews	**4**		
		Field Trips to Area (1 trip x 4 hrs. x 2 people)	**8**		
			204	**38**	
			Subtotal Workhours =		**242**
			Estimated Direct Cost =		**$695**
		Travel (4 days @ $65/day)	**$260**	**$130**	
		Materials and Reproduction			
		10 sheets x 10 copies @ $0.25/sheet (11" x 17")	**$25**		
		10 sheets x 10 copies @ $1.80/sheet (24" x 36")	**$45**	**$135**	
		100 pages x 10 copies @ $0.10/page (8.5" x 11")	**$50**	**$50**	
			$380	**$315**	

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
6		**Roadway Drainage**			
		Existing Drainage System			
		General Location Drainage Map		**2**	
		Existing Drainage System Mainline 1" = 50' (4 sheets @ 14 hrs/sht)		**56**	
		Existing Drainage System Sideroads (n/a)		**0**	
		Identified Drainage Problems (1 assumed)		**10**	
		Identified Base Floodplains (n/a)		**0**	
		Proposed Drainage System			
		Design Criteria		**4**	
		Outlet Evaluation (assume 2 @ 4 hrs/ea)		**8**	
		Stormwater Detention Analysis (Roadway)		**24**	
		Right-of-Way Analysis Detention (n/a)		**0**	
		Right-of-Way Analysis Ditches		**12**	
		Drainage Alternatives (2 @ 12 hrs/ea for roadway)		**24**	
		Local and Other Agency Coordination (2 mtgs x 4 hrs x 1 person + 12 phone calls x 0.25 hrs/ea)		**11**	
		Proposed Drainage Plan mainline (4 sheets @ 20 hrs/sht)		**80**	
		Proposed Drainage Plan Sideroads (n/a)			
		Water Quality BMPs Permanent Measures		**12**	
		Wetlands Encroachment Evaluation		**24**	
		Identify Permit Requirements		**4**	
		Drainage Technical Memorandum		**32**	
		Culvert Hydraulic Report (Major culvert crossings)			
		StreamStats-based Hydrologic Analysis for culverts, existing conditions.		**16**	
		Cross Road Culvert Hydraulic Analysis ex. & prop conditions (2 culverts @ 12 hrs/ea)		**16**	
		Detention Relocation Alternatives Analysis (n/a)		**0**	
		Concept Proposed Wetlands Grading Exhibits, compensatory only.		**12**	
		Field Trips to Area (4 trips x 6 hours x 1 person)		**12**	
		Subtotal Workhours =			**359**
		Estimated Direct Cost =			**$1,331**
		Travel (4 days @ $65/day)	**$260**		
		Mailing	**$250**		
		Materials and Reproduction			
		1 exhibit x 15 copies @ $1.50/color exhibit (11" x 17") General Location Drainage Map	**$23**		
		12 exhibits x 15 copies @ $1.80/exhibit (22" x 34") Existing Drainage System	**$324**		
		12 Exhibits x 15 copies @ $1.80/exhibit (22" x 34") Proposed Drainage Plan	**$324**		
		100 pages x 15 copies @ $0.10/page (8.5" x 11") Draft, Pre-Final and Final Report	**$150**		

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
7		**Traffic Maintenance Analysis**			
		Determination of Traffic Maintenance	**4**		
		Prepare Traffic Maintenance Exhibits (Conceptual Only)	**12**		
		Preparation of Tech Memo	**16**		
		Subtotal Workhours =			**32**
		Estimated Direct Cost =			**$69**
		Materials and Reproduction			
		15 sheets x 5 copies @ $0.25/sheet (11" x 17")	**$19**		
		100 pages x 5 copies @ $0.10/page (8.5" x 11")	**$50**		
8		**Intersection Design Studies**			
		Traffic Signal Warrant Analyses (5 locations @ 6 hrs. each)	**6**		
		Synchro Model			
		HCS 2040 Analysis for IDS Preparation (5 intersections @ 8 hrs. each)	**8**		
		Intersection Design Study	**120**		
			134	**0**	
		Subtotal Workhours =			**134**
		Estimated Direct Cost =			**$78**
		Materials and Reproduction			
		200 pages @ $0.10/page (8.5" x 11")	**$20**		
		5 sheets x 10 copies @ $0.25/sheet (11" x 17")	**$13**		
		5 sheets x 5 copies @ $1.80/sheet (24" x 36")	**$45**		
			$78		

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
9		**Environmental Analyses**			
		ESRF and Associated Exhibits		**22**	
		Prepare Historic Structures Photo Log for ESRF		**12**	
		Wetland Delineations and Report and Jurisdictional Coordination with USACE		**48**	
		Tree Identification and Impact Assessment (location and size tabulation under survey task)		**18**	
		Northern Long-Eared Bat Assess*ment* (assumed not required with tree impacts limited to parkway trees)		**0**	
		Traffic Noise Analysis and Coordination (contingent upon IDOT requirement)		**0**	
		Wetland Enhancement Concept Plan		**0**	
		Air Quality Coordination w/ IDOT (assumed not required based on approach ADT volumes)		**0**	
		Special Waste PESA		**42**	
		Section 4(f) and Section 106 Review (assumed not present)			
		Wetland Impact Evaluation Forms		**24**	
		Field Trips to Area (2 trips x 4 hours x 2 people)		**16**	
		Subtotal Workhours =			**182**
		Estimated Direct Cost =			**$648**
		Travel (4 days @ $65/day)		**$260**	
		Mailing, Courier, Postage		**$250**	
		Materials and Reproduction			
		500 pages @ $0.10/page (8.5" x 11")		**$50**	
		50 sheets @ $0.25/sheet (11" x 17")		**$13**	
		50 sheets @ $1.50/color sheet (11" x 17")		**$75**	
10		**Project Development Report**			
		Preliminary Report			
		Write Report, Proofread and Edit	**50**		
		Compile Exhibits, Maps, Charts, Graphs and Tables	**40**		
		Revisions	**8**		
		Preliminary Report Subtotal:			**98**
		Final Report			
		Revise Preliminary Report and Write Summary and Conclusion	**24**		
		Revise Exhibits	**24**		
		Edit, Print, Bind and Deliver	**4**		
		Final Report Subtotal:			**52**
		Subtotal Workhours =			**150**
		Estimated Direct Cost =			**$493**
		Materials and Reproduction			
		120 pages x 15 copies @ $0.10/page (8.5" x 11")	**$180**		
		10 sheets x 15 copies @ $0.25/sheet (11" x 17")	**$38**		
		5 pages x 15 copies @ $1.00/color page (8.5" x 11")	**$75**		
		Mailing	**$200**		

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
11	**Stakeholder Involvement**				
	Property Owner Letters and Exhibits (assume 4 properties @ 4 hrs. each)		**16**		
			16	**0**	
		Subtotal Workhours =			**16**
		Estimated Direct Cost =			**$41**
		Mailing, Postage	**$25**		
		Materials and Reproduction			
		100 pages @ $0.10/page (8.5" x 11")	**$10**		
		25 sheets @ $0.25/sheet (11" x 17")	**$6**		
12	**Preliminary Geotechnical Investigation**				
	Review Previous Reports and Data		**15**		
	Investigation Set-up, Coordination, Direct Investigation, Log Borings, Collect Geotech Samples		**75**		
	Data Analysis and Report		**68**		
	QC/QA		**10**		
	Meetings and Coordination		**5**		
		Subtotal Workhours =			**173**
		Estimated Direct Cost =			**$19,545**
		Travel (5 days @ $65/day)	**$325**		
		Truck-Mounted Drill Rig (including traffic control)	**$14,860**		
		Asbestos Evaluation	**$2,000**		
		Laboratory Testing	**$2,360**		
13	**Structural**				
	Dry Land Bridge				
		Inspection Prep and Inspection	**16**		
		Bridge Condition Report	**90**		
		Preliminary Bridge and Hydraulic Report (BLR 10210)	**16**		
		TS&L			
	Retaining Wall TSL Drawings				
			122	**0**	
		Subtotal Workhours =			**122**
		Estimated Direct Cost =			**$103**
		Travel (1 day @ $65/day)	**$65**		
		Materials and Reproduction			
		200 pages @ $0.10/page (8.5" x 11")	**$20**		
		70 sheets @ $0.25/sheet (11" x 17")	**$18**		
			$103	**$0**	

Phase I - Engineering and Environmental Study			**Manhours**		
		Item	**Patrick**	**CBBEL**	
14		**Meetings and Coordination**			
		Meetings with VOP (6 team mtgs. @ 4 hrs. x 2 ppl each (3 PEI & CBBEL, 3 just PEI)	**48**	**24**	
		Meetings with IDOT (2 mtgs. @ 4 hrs. x 4 people)	**16**	**16**	
		Meetings with FHWA (2 mtgs. @ 4 hrs. x 2 people)	**8**	**8**	
		Meetings with Property Owners (1 mtg. @ 4 hrs. x 2 people)	**8**		
		Meetings with Other Agencies (1 mtg. @ 4 hrs. x 2 people)	**4**	**4**	
		Meeting Minutes (12 meetings x 1 hr.)	**12**		
		Coordination with VOP (12 months x 2 hrs. per month)	**24**		
			120	**52**	
		Subtotal Workhours =			**172**
		Estimated Direct Cost =			**$1,360**
		Travel (12 days @ $65/day)	**$780**	**$455**	
		Materials and Reproduction			
		1000 pages @ $0.10/page (8.5" x 11")	**$55**	**$45**	
		100 sheets @ $0.25/sheet (11" x 17")	**$25**		
			$860	**$500**	
15		**Plats and Legals**			
		Subtotal Manhours =			**0**
		Estimated Direct Cost =			**$0**
16		**Administration and QA/QC**			
		Scheduling, Budgeting, Internal Progress Meetings, Reporting, Invoicing (assume 12 months)	**88**	**42**	
		QA/QC Activities	**32**	**18**	
			120	**60**	
		Subtotal Workhours =			**180**
		Estimated Direct Cost =			**$1,000**
		Materials and Reproduction			
		5,000 pages @ $0.10/page (8.5" x 11")	**$250**	**$250**	
		Mailing	**$250**	**$250**	
			$500	**$500**	

SUMMARY OF WORKHOURS AND DIRECT COSTS

		Workhours	**%**	**Direct Costs**
1	Data Collection	**106**	**4.6%**	**$592**
2	Aerial Mosaics	**24**	**1.0%**	**$22**
3	Survey	**397**	**17.0%**	**$1,820**
4	Crash Analysis	**40**	**1.7%**	**$69**
5	Alternative Geometric Studies	**242**	**10.4%**	**$695**
6	Roadway Drainage	**359**	**15.4%**	**$1,331**
7	Traffic Maintenance Analysis	**32**	**1.4%**	**$69**
8	Intersection Design Studies	**134**	**5.8%**	**$78**
9	Environmental Analyses	**182**	**7.8%**	**$648**
10	Project Development Report	**150**	**6.4%**	**$493**
11	Stakeholder Involvement	**16**	**0.7%**	**$41**
12	Preliminary Geotechnical Investigation	**173**	**7.4%**	**$19,545**
13	Structural	**122**	**5.2%**	**$103**
14	Meetings and Coordination	**172**	**7.4%**	**$1,360**
15	Plats and Legals	**0**	**0.0%**	**$0**
16	Administration and QA/QC	**180**	**7.7%**	**$1,000**
	TOTAL:	**2329**	**100.0%**	**$27,863**

Christopher B. Burke Engineering, Ltd.

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME	Christopher B. Burke Engineering, Ltd.			**DATE**	10/26/15
PRIME/SUPPLEMENT	Prime			**PTB NO.**	
CONTRACT TERM	12	**MONTHS**	**OVERHEAD RATE**		125.26%
START DATE	1/1/2016		**COMPLEXITY FACTOR**		0
RAISE DATE	1/1/2017		**% OF RAISE**		3.00%

ESCALATION PER YEAR

1/1/2016 - 1/1/2017				
12				
12				

= 100.00%

= 1.0000

The total escalation for this project would be: **0.00%**

PAYROLL RATES

FIRM NAME Christopher B. Burke En **DATE** 10/26/15
PRIME/SUPPLEMENT Prime
PTB NO.

ESCALATION FACTOR 0.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE	
Engineer VI (Principal)	$70.00	$70.00	Max Allowed Per IDOT
Engineer V (Project Manager)	$60.06	$60.06	
Engineer IV	$49.19	$49.19	
Engineer III	$41.19	$41.19	
Engineer I/II	$30.23	$30.23	
Survey V	$70.00	$60.00	Max Allowed Per IDOT
Survey IV	$61.50	$60.00	Max Allowed Per IDOT
Survey III	$52.50	$52.50	
Survey II	$37.40	$37.40	
Survey I	$25.88	$25.88	
Engineering Tech V	$60.00	$60.00	Max Allowed Per IDOT
Engineering Tech IV	$45.00	$45.00	
Engineering Tech III	$41.02	$41.02	
Engineering Tech I/II	$41.17	$41.17	
Cad Manager	$55.50	$55.50	
Asst. Cad Manager	$47.00	$47.00	
Cad II	$43.48	$43.48	
Cad I	$33.25	$33.25	
Landscape Architect	$50.00	$50.00	
GIS Specialist III	$43.00	$43.00	
GIS Specialist I/II	$26.00	$26.00	
Env. Res. Spec. V	$66.50	$60.00	Max Allowed Per IDOT
Env. Res. Spec.IV	$50.58	$50.58	
Env. Res. Spec. III	$38.37	$38.37	
Env. Res. Spec. I/II	$25.25	$25.25	
Env. Res. Technician	$34.00	$34.00	
Administrative	$29.15	$29.15	
Engineering Intern	$12.95	$12.95	

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

FIRM Christopher B. Burke Engineering, Ltd. **DATE**

PTB

PRIME/SUPPLEMENT Prime

OVERHEAD RATE 1.2526

COMPLEXITY FACTOR 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)
	1. Data Collection	52	1,909.92	2,392.37		706.67	346.00			5,354.96
	5. Alternative Geometric Studies	38	1,748.78	2,190.52		647.05	315.00			4,901.35
	6. Roadway Drainage	359	14,631.97	18,328.01		5,413.83	1,331.00			39,704.80
	9. Environmental Analysis	182	7,877.92	9,867.88		2,914.83	648.00			21,308.63
	14. Meetings and Coordination	52	2,824.28	3,537.69		1,044.98	500.00			7,906.96
	15. Administration and QA/QC	60	3,538.70	4,432.58		1,309.32	500.00			9,780.59
	Subconsultant DL					0.00				0.00
	TOTALS	743	32,531.57	40,749.04	0.00	12,036.68	3,640.00	0.00	0.00	**88,957.30**

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
PTB
PRIME/SUPPLEMENT Prime

DATE 10/26/15

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			1. Data Collection			5. Alternative Geometric			6. Roadway Drainage			9. Environmental Analysis			14. Meetings and Coordin		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Engineer VI (Principa	70.00	56	7.54%	5.28				2	5.26%	3.68	4	1.11%	0.78	4	2.20%	1.54	12	23.08%	16.15
Engineer V (Project M	60.06	0																	
Engineer IV	49.19	178	23.96%	11.78	12	23.08%	11.35	12	31.58%	15.53	98	27.30%	13.43	8	4.40%	2.16	28	53.85%	26.49
Engineer III	41.19	136	18.30%	7.54	12	23.08%	9.51	14	36.84%	15.18	110	30.64%	12.62						
Engineer I/II	30.23	80	10.77%	3.25	12	23.08%	6.98				68	18.94%	5.73						
Survey V	60.00	0																	
Survey IV	60.00	0																	
Survey III	52.50	0																	
Survey II	37.40	0																	
Survey I	25.88	0																	
Engineering Tech V	60.00	0																	
Engineering Tech IV	45.00	0																	
Engineering Tech III	41.02	0																	
Engineering Tech I/II	41.17	0																	
Cad Manager	55.50	0																	
Asst. Cad Manager	47.00	14	1.88%	0.89				2	5.26%	2.47	12	3.34%	1.57						
Cad II	43.48	30	4.04%	1.76				8	21.05%	9.15	22	6.13%	2.66						
Cad I	33.25	21	2.83%	0.94							21	5.85%	1.94						
Landscape Architect	50.00	0																	
GIS Specialist III	43.00	8	1.08%	0.46	2	3.85%	1.65				6	1.67%	0.72						
GIS Specialist I/II	26.00	44	5.92%	1.54	10	19.23%	5.00				18	5.01%	1.30	16	8.79%	2.29			
Env. Res. Spec. V	60.00	4	0.54%	0.32										4	2.20%	1.32			
Env. Res. Spec.IV	50.58	86	11.57%	5.85										74	40.66%	20.57	12	23.08%	11.67
Env. Res. Spec. III	38.37	64	8.61%	3.31										64	35.16%	13.49			
Env. Res. Spec. I/II	25.25	0																	
Env. Res. Technician	34.00	0																	
Administrative	29.15	22	2.96%	0.86	4	7.69%	2.24							12	6.59%	1.92			
TOTALS		743	100%	$43.78	52	100.00%	$36.73	38	100%	$46.02	359	100%	$40.76	182	100%	$43.29	52	100%	$54.31

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
PTB
PRIME/SUPPLEMENT Prime

DATE 10/26/15

SHEET 2 **OF** 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	15. Administration and QA/QC																	
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Engineer VI (Principa	70.00	34	56.67%	39.67															
Engineer V (Project I	60.06																		
Engineer IV	49.19	20	33.33%	16.40															
Engineer III	41.19																		
Engineer I/II	30.23																		
Survey V	60.00																		
Survey IV	60.00																		
Survey III	52.50																		
Survey II	37.40																		
Survey I	25.88																		
Engineering Tech V	60.00																		
Engineering Tech IV	45.00																		
Engineering Tech III	41.02																		
Engineering Tech I/II	41.17																		
Cad Manager	55.50																		
Asst. Cad Manager	47.00																		
Cad II	43.48																		
Cad I	33.25																		
Landscape Architect	50.00																		
GIS Specialist III	43.00																		
GIS Specialist I/II	26.00																		
Env. Res. Spec. V	60.00																		
Env. Res. Spec.IV	50.58																		
Env. Res. Spec. III	38.37																		
Env. Res. Spec. I/II	25.25																		
Env. Res. Technician	34.00																		
Administrative	29.15	6	10.00%	2.92															
TOTALS		60	100%	$58.98	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00

Illinois Department of Transportation

Direct Costs Check Sheet

COMPANY NAME: **Christopher B. Burke Engineering, Ltd.**

PTB NUMBER: **Village of Orland Park, 143rd at John Humphrey Drive**

TODAY'S DATE: **10/26/2015**

ITEM	ALLOWABLE	UTILIZE W.O. ONLY	QUANTITY J.S. ONLY	CONTRACT RATE	TOTAL
Per Diem (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum			$0.00	$0.00
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost (Up to state rate maximum)			$0.00	$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			$0.00	$0.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum	X	400	$0.575	$230.00
Vehicle Owned or Leased	$32.50/half day (4 hours or less) or $65/full day	X	10	$65.00	$650.00
Vehicle Rental	Actual cost (Up to $55/day)			$0.00	$0.00
Tolls	Actual cost			$0.00	$0.00
Parking	Actual cost			$0.00	$0.00
Overtime	Premium portion (Submit supporting documentation)			$0.00	$0.00
Shift Differential	Actual cost (Based on firm's policy)			$0.00	$0.00
Overnight Delivery/Postage/Courier Service	Actual cost (Submit supporting documentation)	X	30	$25.00	$750.00
Copies of Deliverables/Mylars (In-house)	Actual cost (Submit supporting documentation)			$0.00	$0.00
Copies of Deliverables/Mylars (Outside)	Actual cost (Submit supporting documentation)			$0.00	$0.00
Project Specific Insurance	Actual cost			$0.00	$0.00
Monuments (Permanent)	Actual cost			$0.00	$0.00
Photo Processing	Actual cost			$0.00	$0.00
2-Way Radio (Survey or Phase III Only)	Actual cost			$0.00	$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual cost			$0.00	$0.00
CADD	Actual cost (Max $15/hour)			$0.00	$0.00
Web Site	Actual cost (Submit supporting documentation)			$0.00	$0.00
Advertisements	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Facility Rental	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Exhibits/Renderings & Equipment	Actual cost (Submit supporting documentation)			$0.00	$0.00
Recording Fees	Actual cost			$0.00	$0.00
Transcriptions (specific to project)	Actual cost			$0.00	$0.00
Courthouse Fees	Actual cost			$0.00	$0.00
Storm Sewer Cleaning and Televising	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Traffic Control and Protection	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Aerial Photography and Mapping	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Utility Exploratory Trenching	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Testing of Soil Samples*	Actual cost			$0.00	$0.00
Lab Services*	Actual cost (Provide breakdown of each cost)			$0.00	$0.00
81/2 x 11 Color Laser	Actual Cost Per Page	X	380	$0.55	$209.00
81/2 x 11 Color Stock	Actual Cost Per Page	X	386	$0.10	$38.60
81/2 x 11 Card Stock	Actual Cost Per Page	X	120	$0.12	$14.40
Scan Setup	Actual Cost Per Sheet	X	100	$0.50	$50.00
Scan to File	Actual Cost Per Sheet	X	100	$2.00	$200.00
Color Scan to pdf	Actual Cost Per Square Foot	X	100	$1.40	$140.00
11x17 Color Paper	Actual Cost Per Page	X	380	$0.16	$60.80
11x17 Color Laser	Actual Cost Per Page	X	380	$0.95	$361.00
Digital Bond Prints	Actual Cost Per Square Foot	X	620	$0.16	$99.20
Color Inkjet Prints	Actual Cost Per Square Foot	X	310	$2.70	$837.00
Burn CD	Actual Cost Each		0	$12.00	$0.00
TOTAL DIRECT COST					**$3,640.00**

**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

Gewalt-Hamilton

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS
625 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701
www.gha-engineers.com

September 24, 2015 *Revised September 25, 2015*

Mr. Jarrod Cebulski via E-mail
Patrick Engineering, Inc.
4970 Varsity Drive
Lisle, IL 60532

Re: Agreement for Professional Services
Traffic Data Collection
John Humphrey Drive Corridor
Orland Park, IL
GHA Proposal No. 2015.D034R

Dear Jarrod:

Gewalt Hamilton Associates, Inc., (GHA) is pleased to submit our proposal for traffic data collection services for the above referenced project.

Our proposal is based on GHA's understanding of the project, including the information received from your office via e-mail.

If our proposal is acceptable, please sign and return one complete copy to our office. Should you have any questions or if we can be of additional assistance, please feel free to contact me at (847) 821-6222.

As always, we look forward to assisting Patrick Engineering on this project.
Sincerely,

Gewalt Hamilton Associates, Inc.

Daniel P. Brinkman, P.E., PTOE
Associate / Senior Transportation Engineer
dbrinkman@gha-engineers.com

Encl: GHA proposal No. 2015.D034R Patrick Eng - Orland Pk.doc

CC: Art Penn – Data Collection Division Director

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS
625 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701
www.gha-engineers.com

Agreement for Professional Services
Traffic Data Collection
John Humphrey Drive Corridor
Orland Park, Illinois
GHA Proposal No. 2015.D034R

Patrick Engineering, Inc. (*Client)* having an address of 4970 Varsity Drive, Lisle, IL 60532 and Gewalt Hamilton Associates, Inc., *(GHA)*, having an office at 625 Forest Edge Drive, Vernon Hills, IL 60061, agree and contract as follows:

I. Project Understanding

Patrick Engineering (*Client*) has been selected by the Village of Orland Park to prepare a Phase I Study of the John Humphrey Drive corridor and is in need of traffic data collection services, including volume and classification data at various intersection locations. GHA will assist Patrick Engineering by utilizing Miovision Video Data Collection Unit equipment for data collection and providing Patrick Engineering with processed summary files of the data.

II. Traffic Data Collection Services

A. Location

GHA proposes to provide traffic data collection at the John Humphrey Drive intersections with:

1. 143rd Street
2. 94th Avenue
3. 144th Place
4. 147th Street
5. Orland Square Drive

B. Count Duration:

1. 24 hours (12AM to 12AM)

C. Frequency

GHA will conduct data collection efforts on up to three (3) separate occasions including:

1. "Holiday" Season 2015 (one weekday [Thurs] and one Saturday) in early December 2015 while school is in session
2. "Spring" 2016 (one weekday [Thurs] and one Saturday) potentially May 2016 while school is in session
3. "Holiday" Season 2016 (one weekday [Thurs] and one Saturday) in early December 2016 while school is in session

Data collection equipment will typically be deployed on Wednesday prior to data collection on a Thursday and then again on a Saturday. One visit by a technician will be required to ensure the equipment has battery life and data storage capability to collect the Saturday Data.

D. Deliverables

1. PDF of Standard Turning Movement Count report
2. Excel Files processed by Miovision

III. Project Schedule

GHA is prepared to commence work upon receipt of written authorization from the Client. Data collection equipment will be placed by GHA staff typically within 5-7 working days (weather and holiday Schedule permitting). GHA will confirm placement dates with *Client* prior to placing equipment. Processed traffic data will generally be available within 5 business days

IV. Key Personnel

Mr. Daniel Brinkman, P.E., PTOE, an Associate of the firm and Senior Transportation Engineer will function as the Project Manager. Mr. Brinkman is familiar with the subject site and has managed numerous similar data collection efforts. Camera Placement and processing direction will be overseen by Mr. Arthur Penn, Data-Collection Division Director. They will be assisted as needed by additional professional and technical staff.

V. Compensation for Services:

GHA proposes to complete the above work for a lump sum fees as outlined below:

Service	Cost Per Count Placement / Season
Traffic Data Collection: 5 Intersections, 24-hour counts with volume, vehicle class and pedestrian data Thursday and Saturday	$9,600.00
Reimbursables (mileage, postage, etc.)	*Included*
Lump Sum Fee per collection effort	$9,600.00
Total Cost – 3 sets of counts	$28,800.00

This proposal includes one collection effort for $9,600.00.

The proposed fee includes the traffic counts and schedule. Reimbursable expenses include GHA expenses such as photos, postage, messenger services, printing, mileage, etc. Reimbursable expenses are included in the Lump Sum fee noted above.

Should the scope of work need to be expanded, additional services requested and authorized by the *Client* will be billed in accordance with the following fee schedule:

2015 Hourly Rates

Principal Engineer	$194/hr.	Staff Engineer	$114/hr.
Senior Engineer	$164/hr.	Senior Engineering Technician	$112/hr.
Senior Environmental Consultant	$164/hr.	Environmental Consultant	$110/hr.
Professional Engineer	$136/hr.	Engineering Technician II	$96/hr.

Registered Land Surveyor	$118/hr.	Engineering Technician I	$70/hr.
GIS Professional	$118/hr.	Clerical	$58/hr.

Invoices will be submitted on a monthly basis and will detail charges made against the project and services performed. This allows the Client to review the status of the work in progress and the charges made. Please see *Attachment A*, which is attached hereto and is incorporated herein, for the General Provision of this Agreement.

VI. Services Not Included

Should additional services be required beyond those outlined in *Section II: Scope of Services* of this Agreement, GHA will request written authorization prior to commencing the work.

VII. General Conditions

The delineated services provided by Gewalt Hamilton Associates, Inc., (GHA) under this Agreement will be performed as reasonably required in accordance with the generally accepted standards for civil engineering and surveying services as reflected in the contract for this project at the time when and the place where the services are performed.

Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Client or GHA. GHA's services under this Agreement are being performed solely for the Client's benefit, and no other party or entity shall have any claim against GHA because of this Agreement or the performance or nonperformance of services hereunder. In no event shall GHA be liable for any loss of profit or any consequential damages.

GHA shall not have control of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for job site safety measures. Such control is the sole responsibility of the Client's contractor.

The Client and GHA agree that all disputes between them arising out of or relating to this Agreement or the Project shall be submitted to nonbinding mediation in Chicago, Illinois unless the parties mutually agree otherwise.

This Agreement, including all subparts and *Attachment A,* which is attached hereto and incorporated herein as the General Provisions of this Agreement, constitute the entire integrated agreement between the parties which may not be modified without all parties consenting thereto in writing.

VIII. Authorization

By signing below you indicate your acceptance of this Agreement in its entirety.

Sincerely,

Gewalt Hamilton Associates, Inc

Daniel P Brinkman, P.E., PTOE
Associate / Senior Transportation Engineer

Patrick Engineering, Inc.

Print Name: _____

Date: _____

Encl: Attachment A

ATTACHMENT A TO GEWALT HAMILTON ASSOCIATES, INC.
PROFESSIONAL SERVICES AGREEMENT

1. Standard of Care. The services provided by Gewalt Hamilton Associates, Inc., (GHA) under this Agreement will be reasonably performed consistent with the generally accepted standard of care for the Scope of Basic Services called for herein at the time when and the place where the services are provided.

2. Duration of Proposal. The terms of this Agreement are subject to renegotiation if not accepted within 60 calendar days of the date indicated on this Agreement. Requests for extension beyond 60 calendar days shall be made in writing prior to the expiration date. The fees and terms of this Agreement shall remain in full force and effect for one year from the date of acceptance of this Agreement, and shall be subject to revision at that time, or any time thereafter if GHA gives written notice to the other party at least 60 calendar days prior to the requested date of revision. In the event that the parties fail to agree on the new rates or other revisions, either party may terminate this Agreement as provided for herein.

3. Client Information. Client shall provide GHA will all project criteria and full information for its Scope of Basic Services. GHA may rely, without liability, on the accuracy and completeness of the information Client provides, including that of its other consultants, contractors and subcontractors, without independently verifying that information.

4. Payment. Payments are due within 30 calendar days after a statement is rendered. Statements not paid within 60 calendar days of the end of the calendar month when the statement is rendered will bear interest at the rate of one percent (1.0%) per month until paid. The provision for the payment of interest shall not be construed as authorization to pay late. Failure of the Client to make payments when due shall, in GHA's sole discretion, be cause for suspension of services without breach or termination of this agreement. Upon notification by GHA of suspension of services, Client shall pay in full all outstanding invoices within 7 calendar days. Client's failure to make such payment to GHA shall constitute a material breach of the Agreement and shall be cause for termination by GHA. GHA shall be entitled to reimbursement of all costs actually incurred by GHA in collecting overdue accounts under this Agreement, including, without limitations, attorney's fees and costs. GHA shall have no liability for any claims or damages arising from either suspension or termination of this Agreement due to Client's breach The Client's obligation to pay for GHA's services is in no way dependent upon the Client's ability to obtain financing, rezoning, payment from a third party, approval of governmental or regulatory agencies or the Client's completion of the project.

5. Instruments of Service. The Client acknowledges GHA's plans and specifications, including field data, notes, calculations, and all documents or electronic data, are instruments of service. GHA shall retain ownership rights over all original documents and instruments of service. All instruments of service provided by GHA shall be reviewed by Client within 10 calendar days of receipt. Any deficiencies, errors, or omissions the Client discovers during this period will be reported to GHA and will be corrected as part of GHA's Basic Services. Failure to provide such notice shall constitute a waiver. The Client shall not reuse or make, or permit to be made any modifications to the instruments of service without the prior written authorization of GHA. The Client waives all claims against GHA arising from any reuse or modification of the instruments of service not authorized by GHA. The Client agrees, to the fullest extent permitted by law, to defend and indemnify and hold GHA harmless from any liability, damage, or cost, including attorneys' fees, arising from the unauthorized reuse or modification of the instruments of service by any person or entity. The parties agree that if elements of the Scope of Basic Services identified in this Agreement are reduced and/or eliminated by Client, then Client waives, releases and holds GHA harmless from all claims and damages arising from those reduced and/or eliminated services. If GHA's Scope of Basic Services does not include construction administration phase services, Client assumes responsibility for interpretation of the instruments of service and construction observation, and waives all claims against GHA for any act, omission or event connected thereto. Unless included in GHA's Scope of Basic Services, GHA shall not be liable for coordination with of the services of Client's other design professionals.

6. Electronic Files. The Client acknowledges that differences may exist between the electronic files delivered and the printed instruments of service. In the event of a conflict between the signed / sealed printed instruments of service prepared by GHA and the electronic files, the signed / sealed instruments of service shall control. GHA's electronic files shall be prepared in the current software GHA uses and will follow GHA's standard formatting unless the Scope of Basic Services requires otherwise. Client accepts that GHA makes no warranty that its software will be compatible with other systems or software.

7. Applicable Codes. The Client acknowledges that applicable laws, codes and regulations may be subject to various, and possibly contradictory, interpretations. Client accepts that GHA does not warrant or guarantee that the Client's project will comply with interpretations of applicable laws, codes, and regulations as they may be interpreted to the project. Client agrees that GHA shall not be responsible for added project costs, delay damages, or schedule changes arising from unreasonable or unexpected interpretations of the laws, codes, or regulations applied to the project, nor for changes required by the permitting authorities due to changes in the law that became effective after completion of GHA's instruments of service. Client shall compensate GHA for additional fees required to revise the instruments of service to comply with such interpretations. Client shall also compensate GHA for additional fees required to revise the instruments of service if Client changes the project scope after GHA's completes its instruments of service.

8. Utilities and Soils. When the instruments of service include information pertaining to the location of underground utility facilities or soils, such information represents only the opinion of the engineer as to the possible locations. This information may be obtained from visible surface evidence, utility company records or soil borings performed by others, and is not represented to be the exact location or nature of these utilities or soils in the field. Client agrees that GHA may reasonably rely on the accuracy and completeness of information furnished by third parties respecting utilities, underground conditions and soils without performing any independent verification. Contractor is solely responsible for utility locations, their markings in the field and their placement on the plans based on information they provided. Client agrees GHA is not liable for damages resulting from utility conflicts, mistaken utility locates, unfavorable soils, and concealed or unforeseen conditions, including but not limited to added construction costs and/or project delays. If the Client wishes to obtain the services of a contractor to provide test holes and exact utility locations, GHA may incorporate that information into the design and reasonably rely upon it. If not included in the Scope of Basic Services, such work will be compensated as additional services.

9. Opinion of Probable Construction Costs. GHA's Scope of Basic Services may include the preparation of an opinion of probable construction costs. Client acknowledges that GHA has no control over the costs of labor, materials, or equipment, or over the contractor's methods of determining prices, or over competitive bidding or market conditions. Opinions of probable costs, shall be made on the basis of experience and qualifications applied to the project scope contemplated by this Agreement as well as information provided by Client (the accuracy and completeness of which GHA may rely upon), and represent GHA's reasonable judgment. Client accepts that GHA does not guarantee or warrant that proposals, bids, or the actual construction costs will not vary from opinions of probable cost prepared for the Client. GHA shall not be liable for cost differentials between the bid and/or actual costs and GHA's opinion of probable construction costs. Client agrees it shall employ an independent cost estimator if, based on its sole determination, it wants more certainty respecting construction costs,

10. Contractor's Work. Client agrees that GHA does not have control or charge of and is not responsible for construction means, methods, techniques, sequences or procedures, or for site or worker safety measures and programs including enforcement of Federal, State and local safety requirements, in connection with construction work performed by the Client or the Client's construction contractors. GHA is not responsible for the supervision and coordination of Client's construction contractors, subcontractors, materialmen, fabricators, erectors, operators, suppliers, or any of their employees, agents and representatives of such workers, or responsible for any machinery, construction equipment, or tools used and employed by contractors and subcontractors. GHA has no authority or right to stop the work. GHA may not direct or instruct the construction work in any regard. In no event shall GHA be liable for the acts or omissions of Client's construction contractors, subcontractors, materialmen, fabricators, erectors, operators or suppliers, or any persons or entities performing any of the work, or for failure of any of them to carry out their work as called for by the Construction Documents. The Client agrees that the Contractor is solely responsible for jobsite and worker safety, and warrants that this intent shall be included in the Client's agreement with all prime contractors. The Client agrees that GHA and GHA's personnel and consultants (if any) shall be defended/indemnified by the Contractor for all claims asserted against GHA which arise out of the Contractor's or its subcontractors' negligence, errors or omissions in the performance of their work, and shall also be named as an additional insured on the Contractor's and subcontractors' general liability insurance policy. Client warrants that this intent shall be included in the Client's agreement with all prime contractors. If the responsible prime contractor's agreement fails to comply with the Client's intent, then the Client agrees to assume the duty to defend and indemnify GHA for claims arising out of the Contractor's or subcontractors' negligence, errors or omissions in the performance of their work.

11. Contractor Submittals. Shop drawing and submittal reviews by GHA shall apply only to the items in the submissions that concern GHA's scope of Basic Services and only for the purpose of assessing if, upon successful incorporation in the project, they are generally consistent with the GHA's Instruments of Service. Client agrees that the Contractor is solely responsible for the submissions and for compliance with the Instruments of Service. Owner agrees that GHA's review and action in relation to the submissions does not constitute the provision of means, methods, techniques, sequencing or procedures of construction or extend to jobsite or worker safety. GHA's consideration of a component does not constitute acceptance of an assembled item.

12. Hazardous Materials. Client agrees that GHA has no responsibility or liability for any hazardous or toxic materials, contaminants or pollutants.

13. Record Drawings. If required by the Scope of Basic Services, record drawings will be prepared which may include unverified information compiled and furnished by others, the accuracy and completeness of which GHA may reasonably rely upon. Client accepts that GHA shall not verify the information provided to it and agrees GHA will not be responsible for any errors or omissions in the record drawings due to incorrect or incomplete information furnished by others to GHA.

14. Disputes. Client agrees to limit GHA's total aggregate liability to the Client for GHA's alleged acts, errors or omissions to $50,000 or the amount of GHA's paid fees for its services on the project, whichever is greater. GHA makes no guarantees or warranties, either expressed or implied, including any warranty of habitability or fitness for a particular purpose. The parties agree to waive all claims against the other for any and all consequential damages, including attorneys' fees. The parties agree to waive against each other all rights and claims otherwise covered by property insurance, by builder's risk insurance or by all risk insurance, including but not limited to subrogation rights regardless of whether the claims arise during or post-construction and regardless of final payment to GHA.

All disputes arising out of or relating to this Agreement shall first be negotiated between the parties. If unresolved, the dispute shall be submitted to mediation as a condition precedent to litigation. Mediation shall take place in Chicago, Illinois unless the Client and GHA mutually agree otherwise. The fees and costs of the mediator shall be apportioned equally between the parties. If mediation is unsuccessful, litigation shall be the form of dispute resolution and shall be filed in the jurisdiction where the project was pending. The controlling law shall be the law of the jurisdiction where the project was located. Client agrees that all causes of action under this Agreement shall be deemed to have accrued and all statutory limitations periods shall commence no later than the date of GHA's services being substantially completed. Client agrees that any claim against GHA arising out of this Agreement shall be asserted only against the entity and not against GHA's owners, officers, directors, shareholders, or employees, none of whom shall bear any liability and may not be subject to any claim.

15. Miscellaneous. Either Client or GHA may terminate this Agreement without penalty at any time with or without cause by giving the other party ten (10) calendar days prior written notice. The Client shall, within thirty (30) calendar days of termination pay GHA for all services rendered and all costs incurred up to the date of termination in accordance with compensation provisions of this Agreement. Client shall not assign this Agreement without GHA's prior written consent. There are no third-party beneficiaries to this Agreement.