

A photograph of a brick signpost with a white sign that reads "Welcome to ARLINGTON HEIGHTS". The sign features a circular logo with the letter "A" inside a triangle.

Welcome to  
ARLINGTON  
HEIGHTS

A logo for the Village of Arlington Heights, Illinois, featuring the text "VILLAGE OF ARLINGTON HEIGHTS ILLINOIS" and the tagline "City of Good Neighbors" in a script font.

VILLAGE OF  
ARLINGTON HEIGHTS  
*City of Good Neighbors*  
ILLINOIS

## Proposal

Professional Design and Contract Document Services for  
Corridor Beautification; Palatine Road Median Up-Lighting

April 14, 2017, 5:00 P.M.

### Prepared for:

Village of Arlington Heights  
Attn: Charles Witherington-Perkins,  
Director of Planning and Community Development  
33 South Arlington Heights Road  
Arlington Heights, Illinois 60005

### Submitted by:

Hampton, Lenzini and Renwick, Inc. (HLR)  
380 Shepard Drive  
Elgin, Illinois 60123  
Ph. (847) 697-6700  
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### Questions can be directed to:

Randy Newkirk, PE, CFM  
Design Engineering Manager  
Ph. (847) 697-6700  
[rnewkirk@hlreng.com](mailto:rnewkirk@hlreng.com)



Expertise. Responsiveness. Integrity.



## Hampton, Lenzini and Renwick, Inc.

Civil Engineers • Structural Engineers • Land Surveyors • Environmental Specialists  
www.hltreengineering.com

April 14, 2017

Mr. Charles Witherington-Perkins  
Director of Planning and Community Development  
Village of Arlington Heights  
33 South Arlington Heights Road  
Arlington Heights, IL 60005

**RE: Request for Proposal – Corridor Beautification; Palatine Road Median Up-lighting**

Dear Mr. Witherington-Perkins:

The Village's mission focuses on advancing the community's appeal to residents and businesses by providing aesthetically pleasing implementations similar to the proposed up-lighting. Creative means of providing these attractive additions has been a passion of the Village including the downtown streetscapes and decorative lighting. We are excited about the opportunity to provide Village of Arlington Heights with design services that will aid in creating a gateway into the Village.

We believe that HLR has a highly qualified, ready, and eager design team available and can offer the Village the following benefits on this project:

- **Client Care Philosophy:** We are dedicated to developing productive and long-lasting client relationships. Our team prides itself on working as an advocate for our clients and strives to provide the highest quality engineering possible. We also care more about getting it done right, and the relationships that we build, than the bottom line. We will take responsibility for our recommendations and will keep your best interests in mind at all times.
- **Lighting and IDOT Expertise:** We are a full-service firm and can offer all the requested services in-house including survey, lighting design, and bid assistance. We have provided lighting projects recently for DeKalb, Sandwich, Woodstock, and the Tollway. In addition, our team frequently completes IDOT permit projects, where we prepare plans and calculations that are reviewed by Permit Engineers. HLR understands what Tom Gallenbach and his staff require for reviews and how to minimize the number of reiterations. Currently we have ongoing permit projects with Elk Grove Village and the City of Elgin.
- **Value Engineering:** We realize that the Village's budget is limited. Our proposed primary Design Engineer for this project, Dirk Yuill, has over 30 years of experience developing cost-efficient solutions for local agencies. He will help the Village reduce design expenses while never compromising quality. His significant experience in lighting design and plan development will help avoid contractor extras, thus saving Arlington Heights on project costs.

We look forward to further developing our relationship with the Village and the opportunity of working together to make this project a success. If you have any questions or comments regarding our submittal, please contact me at 847-697-6700 or dhhinkston@hlreng.com.

Yours truly,

**HAMPTON, LENZINI AND RENWICK, INC.**

By:

David H. Hinkston  
President/CEO



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## SECTION I: PROJECT UNDERSTANDING + APPROACH



Randy Newkirk, PE, CFM, will serve as the primary contact for this project. With over 18 years of experience on design engineering projects, he will lead HLR to a successful project completion. He will be responsible for oversight of the project and team, assign resources, and monitor budget and schedule.



Arlington Heights has long been a gem of the northwestern suburbs. With a combination of cultural excellence, friendly residents, and city-like qualities, the Village remains one of the most desirable suburban residences. To uphold this reputation and character, we understand the Village is now seeking a firm to provide design engineering services for median up-lighting along one of its busiest roadways, Palatine Road. Our goal will be to enhance the beauty of the corridor by using LED up-lighting, which can be customized for each season and/or holiday, to illuminate the trees lining Palatine Road.

The scope of work includes, but is not limited to, a topographic survey, utility information gathering, conceptual design development, bidding assistance, and construction plan development, including lighting calculations and Illinois Department of Transportation (IDOT) permitting, necessary for the project. We will develop an engineer's estimate of probable cost and required bidding documents for the local letting of the project.

If awarded this contract, we are committed to performing the requested services on time and in a manner that meets the scope described in your Request for Proposal (RFP). We will also adhere to your deadlines and maintain continual and open communication with Village staff, as we believe these are essential components of any project. Our team is ready, eager, and capable of taking on this responsibility and would welcome the opportunity to work with Arlington Heights on this important project.

Below and in the following pages, we will detail our understanding of the project, approach, and provide qualifications of the firm and our proposed team.



### Critical Project Components

Our team reviewed the project plan to gain a better understanding of potential challenges. We feel the following items are important to consider and are critical to the successful implementation of the improvements:

- **Timeline and IDOT Permitting**

Due to the Village's desired timeframe, we believe IDOT permitting is a critical path schedule item. Based on our experiences obtaining the necessary IDOT District One permits, we believe spring 2018 is the most feasible implementation period for construction to begin. The initial review will take approximately three months, and in some recent cases, over six months. Through our experience coordinating with Tom Gallenbach, Chief of Permitting, and his staff on projects in DeKalb, Woodstock, and Elgin, we have a better understanding of the information that is required. Our knowledge will help us expedite the survey and design plans to receive the permits in a timely manner.

To ensure only one submittal is needed for the initial review and prevent lengthy resubmittals, we will deliver a comprehensive plan set including the lighting calculations for IDOT and the necessary report for their Bureau of Electric. Since the light is ornamental in nature, we do not anticipate that photometric calculations will be needed. We would be happy to discuss this critical path schedule item with the Village to determine a suitable timeframe that works for you.

- **ComEd Service**

A service agreement for power to the lighting and coordination with ComEd will be necessary for the success of this project. We have worked with ComEd on many of our lighting and traffic signal projects and thoroughly understand the application process. We will obtain the necessary service for the lighting system.

- **Conduit and Lighting Connections**

The median will likely need to be connected using conduit to connect the four areas. Due to the amount of traffic on Palatine Road and the high cost of replacing the roadway infrastructure, we will consider the use of directional drilling in the median area for conduit instead of direct bury. The direct drilling method will minimize disturbance to pavement and roadway infrastructure. Additional stabilization for the drilling pits would be likely in the median area. We anticipate that there will be two controllers for the project and will require two crossings of Palatine Road and a median crossing at Arlington Heights Road and Eastwood Drive.

- **Tree Preservation**

To preserve tree health during the installation of the up-lighting, the location of conduit and lighting will be important to consider. We will prepare the plans to locate the most unobtrusive location for the conduit and prepare a typical section for the light location. If root systems are unavoidable during construction, plan quantity for tree root pruning will be needed by the Resident Engineer.



## SECTION I: PROJECT UNDERSTANDING + APPROACH

### Scope of Work

Our team has extensive experience with lighting improvement projects and can perform all services outlined in the RFP. We anticipate the following steps needed to complete this project on-time, within budget, and with the least impact to residents. We look forward to working with Village staff to fine-tune this approach and meet your exact needs.

### Our Commitment to You

We pride ourselves on customer service and will not pursue work that we cannot complete in a timely and efficient manner. Our current and future workload will neither interfere with nor limit us from providing the Village with the time and attention that is required for this project. We will be able to start work once we receive notice to proceed. We also commit that personnel named in this proposal will be available throughout the duration of the project and will complete the improvements within the required timeframe.

1

#### **Kick-Off Meeting**

We will participate in a kick-off meeting with the Village to discuss desired outcomes, potential issues, and schedule.

2

#### **Existing Conditions**

We will obtain the necessary data to develop the Existing Conditions Documentation and further refine the construction plans. We will perform a field review, obtain a design level JULIE, acquire all available Village GIS/Utility Atlases, review lighting specifications by TESKA, and prepare base drawings and a Memorandum of Findings. We do not anticipate survey during this portion of the project. Additional survey will likely be needed once the location of the ComEd power supply has been determined and conduit crossings are identified.

3

#### **Feasibility Study/Concept Plan**

We will prepare a concept plan for the up-lighting along Palatine Road. This concept plan will include approximate locations of the existing trees, locations of the proposed up-lights, controller location, ComEd service location, conduit placement, and identified utilities. We will also coordinate with IDOT with regard to their expectations for the permit submittal, including the electrical report. Once the concept plan has been completed, we will send the plan to the Village for review. Upon acceptance by the Village, this document will be the basis for the plan development and bid documents.

4

#### **Design Development and Construction/Bid Documents Preparation**

We will further develop the plan based on the accepted Concept Plan. We anticipate that the following will need to be included:

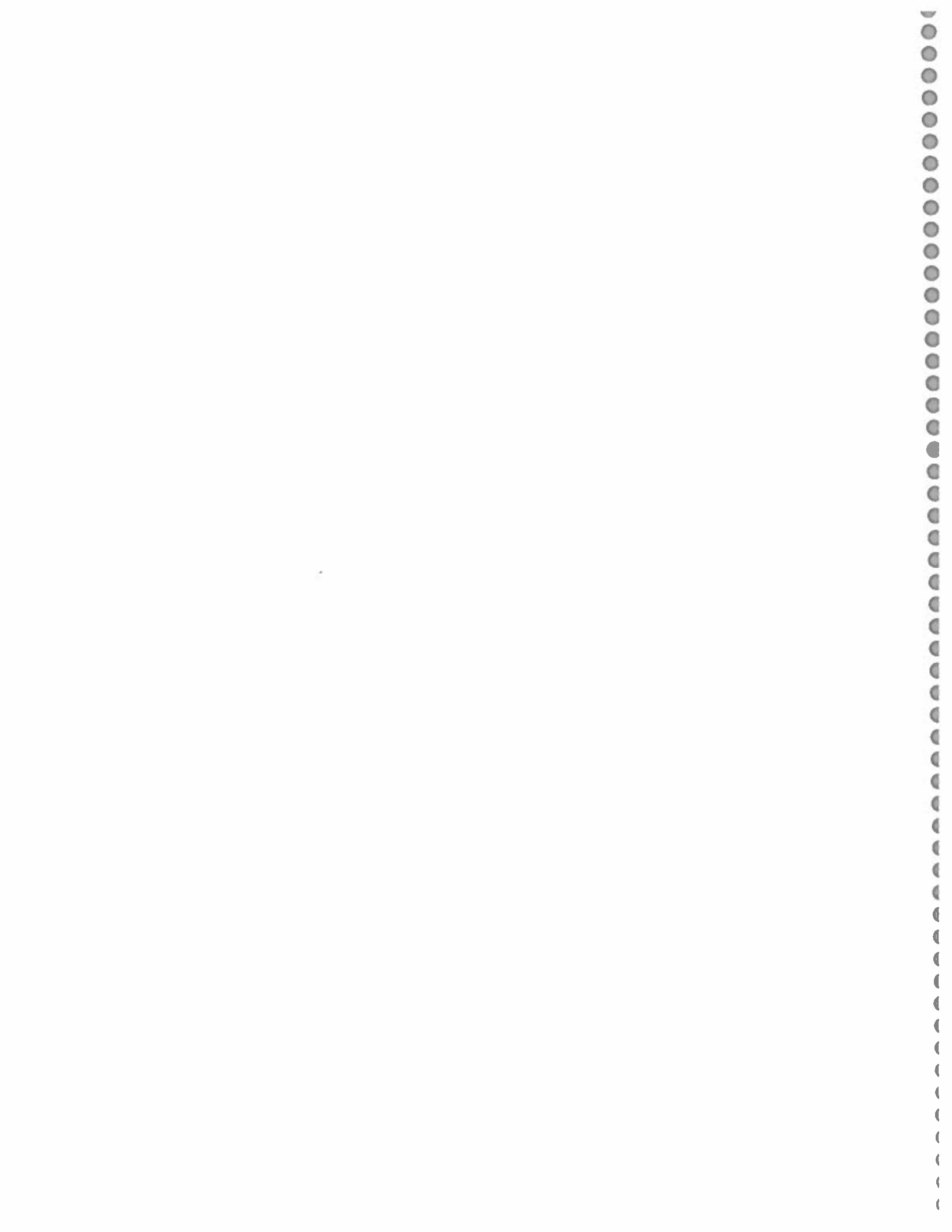
- Cover Sheet
- General Notes
- Summary of Quantities
- Alignment and Ties
- Lighting Plan
- Controller Detail
- Restoration Plan
- Special Details
- Standard Details

Bid documents will need to be developed for a local letting. Both the plans and bid documents will be submitted to IDOT Permits for review. It will be critical that we send a comprehensive set of plans, specifications, and calculations to reduce the number of comment periods and expedite the process.

5

#### **Bidding Assistance**

We will assist the Village in soliciting construction companies to bid on the proposed project. All questions that are asked by the potential bidders will be addressed via addendum. We will also attend the bid opening, review and tabulate the bids, and make a recommendation to the Board for award of the contract. AutoCAD files will be transmitted to the Village.





## SECTION II: PROJECT SCHEDULE

We have developed a project schedule identifying key milestones associated with this project. We understand that it is the Village's desire to have construction start in summer 2017. Since the project will need to be permitted through IDOT, we believe additional time will be necessary and therefore alter the original timeframe. IDOT Permits usually provides comments to the initial submittal at the three-month timeframe; however, we have experienced longer on past projects. Without outside political assistance, we suggest a spring 2018 construction start.

Based on our understanding of the project and past experience securing IDOT permits, we anticipate the following schedule to complete the Palatine Road Corridor Beautification Project:

Item	2017								2018			
	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1 Authorization to Start - Kickoff Meeting	■											
2 Existing Conditions Documentation	■	■										
3 Feasibility Study / Conceptual Design		■	■									
4 Village Review		■	■									
5 Design Development - 60% Review		■	■									
6 Village Review			■	■								
7 Design Development - 95% Review			■	■								
9 Village Review			■	■								
10 IDOT Review* (3 months is a typical timeframe for initial IDOT Review)			■	■	■	■	■					
11 Final Plans / Disposition to Comments						■	■					
12 Village Review							■	■				
13 IDOT Review*							■	■	■	■		
14 Bidding Assistance (Estimated at Spring 2018 Start Date)										■	■	

\*Critical Path Item



## SECTION III: PROJECT EXPERIENCE

Past performance is the best indicator of how a team will perform. From major-scale engineering projects to the beautified turn of a public street, we are known for delivering improved infrastructure and design solutions that create better-functioning communities and a healthier environment.

The information below highlights our firm's experience in relation to the scope of service items listed in the RFP. We encourage you to contact our references for these projects. We are proud of our contributions to these improvements and their many benefits to the community.



### **Center Street Lighting – City of Sandwich**

*Tom Horak, Superintendent of Public Works*

**815-786-8802**

We were contracted through the City of Sandwich to develop a plan to provide ornamental street lighting for Center Street between Green and Main Streets. We utilized existing plans and locations of street light foundations that were prepared as part of the roadway reconstruction project. Our team worked with the City to choose lights that would illuminate the street and pedestrian facilities while fitting with the historical downtown setting.

A plan was prepared for the lighting controller that would be expandable as the street lighting is eventually implemented throughout the City. The cable sizing was calculated for the current and future implementation and incorporated in the plan.



### **I-90 at Irene – Illinois State Toll Highway Authority (ISTHA)**

*Mr. Manny Lao, ISTHA Project Manager*

**630-241-6800**

We developed construction plans utilizing the remaining funds in a Traffic Design upon Request Contract. Due to the tight time frame (5 months), we developed a schedule that would be utilized to provide Preliminary, Pre-Final, Final, and Advertisement Plans and Bid Documents.

A survey of the interchange quadrants that would be used for ramp construction was developed. Geometrics of a westbound auxiliary entrance ramp and eastbound partial clover exit ramp were developed and approved by ISTHA staff.

Our plans included the development of a lighting plan, including controller cabinet design, cable sizing, light placement, and ComEd service connections.



### **Kishwaukee Bike Path – City of DeKalb**

*Tim Holdeman, Public Works Director*

**815-748-2332**

We developed a Phase I and Phase II plan for a bike path that would connect the existing paths from Northern Illinois University to Prairie Park.

The project started with topographic and stream surveys of the Kishwaukee River and potential sites for the path alignment. Coordination was necessary with both the City of DeKalb and DeKalb Park District to determine a desirable location for the proposed path to reduce tree and wetland impacts. Overhead lighting, including photometric calculations and cable sizing was necessary to illuminate the IL Route 38 underpass area. Lighting calculations and placing were reviewed and accepted by IDOT.

## SECTION III: PROJECT EXPERIENCE



### Billing Rates

The following tables list our 2017 rates for each job classification. These rates would be utilized if the Village requests services beyond the original scope of the improvements. Printing and reproduction costs are included in the hourly rate provided below. Mileage for additional tasks will be reimbursed at the federal rate (currently \$0.535/mile).

Employee Classification	2017 Hourly Rate
Principal	\$208.00
Engineer 6	\$160.00
Engineer 5	\$150.00
Engineer 4	\$130.00
Engineer 3	\$118.00
Engineer 2	\$108.00
Engineer 1	\$85.00
Structural 2	\$170.00
Structural 1	\$128.00
Technician 3	\$109.00
Technician 2	\$88.00
Technician 1	\$68.00
Intern/Temporary	\$51.00
Land Acquisition	\$117.00
Survey 2	\$118.00
Survey 1	\$91.00
Environmental 2	\$119.00
Environmental 1	\$55.00
Administration 2	\$117
Administration 1	\$63

Project Role	Staff Member	Classification	2017 Hourly Rate
Project Manager	Randy Newkirk, PE, CFM	Engineer 6	\$160.00
Project Engineer	Dirk Yuill	Engineer 2	\$108.00
Drafter	Steve Stack	Technician 2	\$88.00
Surveyor	John Sweet, PLS	Survey 2	\$118.00





## SECTION IV: KEY STAFF

We are fully staffed and equipped to provide all design and construction services for any project. Our team consists of engineers with extensive experience working directly with many jurisdictions, municipalities, and counties within Illinois. Our technical staff currently includes:

- 27 Licensed Professional Engineers
- 4 Licensed Structural Engineers
- 9 Licensed Professional Land Surveyors
- 3 Professional Traffic Operations Engineers
- 8 Designated Erosion Control Inspectors
- 4 Certified Floodplain Managers
- 5 Certified Wetland Specialists
- 2 Professional Wetland Scientists
- 4 Certified Professionals in Erosion and Sediment Control
- 2 Certified General Appraisers
- 1 IDOT-Approved Negotiator
- 4 Certified Arborists
- 14 Certified IDOT Quantity Documentation Inspectors
- 3 Certified Public Infrastructure Inspectors

We assign staff to a project based on their prior experience and technical expertise in the scope of work anticipated. Once assigned to a project, he/she will be involved in that project from beginning to end. By using the same personnel throughout the process, we can maintain continuity with the Village and minimize errors or omissions due to miscommunication and misunderstanding.

We have included an organizational chart below highlighting our team. Resumes have been included in the following pages.





Randy Newkirk, PE, CFM – Project Manager

Randy Newkirk is a Project Manager with 17 years of experience in both transportation and stormwater related projects. He manages and prepares documents for roadway projects including roadway geometrics, cross sections, soil erosion and sediment controls, landscaping, sewer, water, quantities, cost estimates, and special provisions. He also manages and prepares drainage studies and investigations including permitting and ordinance interpretation, highway drainage system design, storm sewer and culvert analysis and design, watershed analysis, and retention/detention facility concept design.

#### Representative Projects

**I-90 at Irene Road, Eastbound Exit and Westbound Entrance Ramps (Boone County), Illinois State Toll Highway Authority.** Project Manager and Lead Project Engineer responsible for the preparation of construction plans and bidding documents to complete the full interchange. The westbound entrance ramp consisted of a traditional diamond-type ramp while the eastbound exit ramp was designed as a partial clover-type within the existing infield of the eastbound entrance ramp, since right-of-way was not secured. The project included roadway, stormwater, traffic signal, toll plaza, soil erosion and sediment control, landscaping, grading, pavement marking, signing, **lighting**, retaining wall, and Maintenance of Traffic (MOT) plans.

**Kishwaukee River Multi-Use Path, City of DeKalb.** Project Manager for the construction of a new bike path that connects Northern Illinois University to the Prairie Path. The proposed multi-use path crosses below both the Union Pacific Railroad and IL Route 38 bridges. The project included both HMA and concrete path, overhead railroad protection structure, drainage infrastructure, **underpass lighting**, and scour protection measures. Right-of-way/Easement appraisal and negotiations were necessary for the project. Agency approval and permitting for this project included Illinois Department of Transportation, Northern Illinois University, DeKalb Park District, Union Pacific Railroad, Illinois Department of Natural Resources – Office of Water Resources, and the US Army Corps of Engineers.

**U.S. Route 14 at Wilke Road, Village of Arlington Heights.** Project Manager for the intersection improvement which consisted of channelization, traffic signal modernization, widening and resurfacing. Plans, specification and estimates were completed for the roadway, **traffic signal and lighting** along U.S Route 14. Since the project included an at-grade crossing with the UPRR along Wilke Road, the signals were timed with the advance warning for the approaching trains. All of the proposed improvements were coordinated through **IDOT**, ICC and the UPRR. Plats, legal descriptions, appraisals, review appraisals and negotiations were also provided for five parcels that were acquired for the proposed improvements.

**Eastview Middle School Parking Lot Improvements, School District U-46, Village of Bartlett.** Project Manager for maintenance of the Eastview Middle School parking lots and associated upgrades. The design included several "bid alternates". The proposed improvements consisted of stormwater infrastructure, sidewalk, concrete pavement, HMA pavement, and **street lights**. Engineering services included a full topographic survey, plan and contract document preparation, engineer's estimate of probable cost, engineer's estimate of time, submittals to School District U-46, and construction observation.

#### Licenses and Certifications

Professional Engineer, Illinois,  
#062-056847

Professional Engineer,  
Wisconsin, #36065-006

Certified Floodplain Manager,  
#IL-08-00411

Kane County Engineer  
Review Specialist, E-118

#### Education

B.S., Civil Engineering,  
Northern Arizona University,  
Flagstaff, AZ

#### Continuing Education

Wetland Delineator  
Certification Program,  
Wetland Training Institute,  
October 2010

Green Construction  
Technologies and Practices,  
Curran Contracting, February  
2010

Unsteady Flow Analysis  
Using the FEQ Modeling  
System, IASFM, 2008

Soil Stabilization, ISPE,  
February 2008

Soil Erosion and Sediment  
Control Workshop, 2007



Dirk Yuill – Design Engineer

Dirk has been a mainstay at HLR since joining the firm in 1983. He has been involved in the preparation of plans and specifications for highways and local streets, highway and ornamental street lighting, water mains, sanitary and storm sewers, as well as municipal design reviews.

His detail-oriented approach and extensive knowledge of plan set preparation assures clients that their project is in good hands. He not only serves as lead designer on many of HLR's projects, but also as a design review specialist for subdivision/site plan and permits along with other public works involvement.

#### Representative Projects

**I-90 at Irene Road, Eastbound Exit and Westbound Entrance Ramps (Boone County), Illinois State Toll Highway Authority.** Served as the **Lighting Design Engineer**. Responsibilities included performing the **lighting calculations, voltage drop analysis, and circuit layouts** for two ramps to complete the full interchange at Irene Road. The westbound entrance ramp consisted of a traditional diamond type ramp while the eastbound exit ramp was designed as a partial clover type within the existing infield of the eastbound entrance ramp since right-of-way was not secured. The design included tying into an existing controller for one ramp and designing a new controller for the other.

**Kishwaukee Kiwanis Bike Path, City of DeKalb.** Design Engineer for the construction of a bike path to connect the DeKalb Nature trail to Prairie Park along the Kishwaukee River in the City of DeKalb. The project included preparing plans, specifications and estimates for construction of the bike path, drainage improvements and a protective structure for the bike path where it passes under the Union Pacific Railroad. **Lighting design** was provided to illuminate below the IL Route 38 bridge. Approximately 2100 feet of bike path, 1850 feet of HMA and 250 feet of concrete, were designed for the project.

**U.S. Route 14 at Wilke Road, Village of Arlington Heights.** Design Engineer for the intersection improvement which consisted of channelization, traffic signal modernization, widening, and resurfacing. Plans, specifications, and estimates were completed for the roadway, traffic signal and **lighting** along U.S Route 14. Since the project included an at-grade crossing with the UPRR along Wilke Road, the signals were timed with the advance warning for the approaching trains. All of the proposed improvements were coordinated through **IDOT**, ICC, and the UPRR. Plats, legal descriptions, appraisals, review appraisals, and negotiations were also provided for five parcels that were acquired for the proposed improvements.

**IL Route 38 at Lambert Road Intersection Improvement, Village of Glen Ellyn.** Phase II Project Manager who led the preparation of plans, specifications, and estimates for the federally-funded intersection project providing an exclusive right-turn lane on northbound Lambert Road. Services included plats and legal descriptions for right-of-way acquisition, and the improvement included temporary traffic signal and **street lighting** provisions and modifications to the permanent installations. This project was coordinated through **IDOT's** Bureau of Local Roads.

**Randall Road at IL Route 64, Kane County Division of Transportation.** **Lighting Design Engineer for the lighting calculations, voltage-drop analysis, and circuit orientations.** The project involved the reconstruction of an existing 6,350-foot-long, five-lane section to a six-lane section with dual left-turn lanes and right-turn lanes. **The lighting system included an opposite arrangement of 40' aluminum poles with 15' arms and 310-watt, high pressure sodium luminaires. At signalized intersections, 400-watt high pressure sodium luminaires were used on combination poles. Two controllers were included in the lighting system. This project also included a bicycle underpass with lighting, sidewalks that required lighting calculations, and a railroad crossing that required lighting calculations.** Federal funds were included on this project, and a lighting submittal was reviewed and approved by **IDOT** District 1 Bureau of Electrical Operations. The lighting design was completed in six months.

#### Licenses and Certifications:

Roadway Lighting Specialist  
Level I, IMSA

#### Education

M.B.A., University of Illinois,  
Champaign-Urbana, IL

B.S., Civil Engineering, Illinois  
Institute of Technology,  
Chicago, IL

#### Continuing Education:

ACEC-IL/IDOT Lighting  
Seminar, May 2011

Roadway Lighting Design and  
Analysis with AGI32, Lighting  
Analysts, Inc. January 2009

Streetscaping Seminar,  
APWA, 2007

Highway Lighting Seminar,  
ACEC, 2006

Effective Roadway Lighting,  
University of Madison, 2001



**Dirk Yuill – Design Engineer****Representative Projects**

**IL 176 at Briarwood Road, City of Crystal Lake.** Design Engineer for this Phase II widening and resurfacing project which included signals and roadway lighting. Engineering services included topo survey update, pavement and soils investigations, permitting, and preparation of plans, specifications and estimates for the IDOT September 23, 2011, letting. Several permits were required, including USACE Section 404; McHenry County Stormwater Management permits for soil erosion and sediment control, floodplain management, water quality protection, and stormwater management; IDNR for compensatory storage; and NPDES (with SWPPP). **The lighting system was primarily a single-side arrangement on each of the approaches and additional lights at the intersection to provide the required lighting levels in the intersection. The poles were 40' aluminum poles with 15' foot mast arms and 250-watt HPS luminaires. A single controller was designed for the project.** The project was designed using 3R guidelines and coordinated with the City, IDOT, and Dorr Township.

**Orchard Road, Mill Street to Tuscany Trail, Kendall County Highway Department.** **Lighting Design Engineer** for the lighting calculations, voltage-drop analysis, and circuit orientations. The project involved widening the existing two-lane roadway to four lanes including the bridge over the BNSF Railroad and adding street lighting along the west side of Orchard Road. The 0.582-mile-long project is located on the western edge of Oswego and Montgomery in Kendall County. The lighting system included a single-side arrangement of 40' aluminum poles with 15' arms and 250-watt HPS luminaires. Two controllers were included, one at Mill Street and one at Tuscany Trail. Both controllers were set up for future intersection lighting. The lighting design was completed in one month.

**Orchard Road Bridge Lighting, Kendall County Highway Department.** **Lighting Design Engineer** for the lighting calculations, voltage drop analysis, and circuit orientations. The 630' bridge over the Fox River in Kendall County required lighting-foundation design on the bridge structure along with lighting poles and luminaires. Engineering services included design and construction inspection.

**Skokie Valley Bike Path Tunnel, Lake County Division of Transportation.** Designed the **underpass lighting system** to provide light in the tunnel for daytime and nighttime usage. The project consisted of the planning, design, and construction of a multi-use pedestrian/bicycle path and tunnel. The path is a connection between the North Shore and Skokie Valley bike path systems. A tunnel carries the path beneath a section of the UPRR. The path is constructed around numerous ComEd transmission towers, wetlands, and prairie areas.

