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PROPOSAL FOR ENGINEERING DESIGN SERVICES

STREET LIGHTING CONVERSION PLAN

MARCH 22, 2019

March 22, 2019

Mr. Pete Daniels
West Allis Engineering Department
7525 W. Greenfield Ave.
West Allis, WI 53214



Madison Office
5400 King James Way
Suite 200
Madison, WI 53719
608.663.1218 P

**Proposal for Professional Services
West Allis Street Lighting Conversion Plan**

Mr. Daniels:

We are excited about the opportunity to assist the City in developing a holistic plan for addressing their street lighting system. **Our past experience with the City, extensive outdoor transportation lighting experience, and work in all aspects of lighting** are the significant benefits KL Engineering offers for this project.

- KL Engineering has worked with the City of West Allis's high voltage outdoor lighting system before and fully understand its challenges.
- KL Engineering specializes in outdoor lighting of all types, with a dedicated team of engineers that work on master planning, new lighting design, and lighting retrofit projects throughout the state. KL regularly works with municipal and transportation lighting and is cognizant of budgeting concerns with constructing, operating, and maintaining lighting systems.
- By having expertise in lighting master planning, design, and construction, KL Engineering offers a truly comprehensive outlook of the entire process and can anticipate and address typical challenges in these larger projects (funding, material supply & consistency, adjacent utilities, etc.). KL has worked with a multitude of communities on LED retrofit projects and conversion of older street lighting systems.

Our corporate structure ensures cost-effective project management by empowering project managers to make decisions. Collaboration, quality, experience, and responsiveness are trademarks of how KL Engineering offers **[A] Better Experience**. We are available immediately to assist you with your project and show you first hand the quality of our services.

Mike Scarmon will be our primary contact for this project. He can be reached directly at mscarmon@klengineering.com or 608.663.1218. Thank you for your consideration.

Sincerely,

Scott Cramer
Chief Operating Officer

Mike Scarmon, PE, PTOE
Project Manager



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FIRM BASICS

About KL Engineering

KL Engineering is a woman-owned engineering firm with strong experience that includes services for the design of lighting & electrical systems, roadways, trails, structures, & stormwater facilities.

In addition to design, KL Engineering is experienced in construction oversight and can assist with property acquisitions as well. *Maintaining excellent communication, being flexible and responsive, and delivering a quality product on schedule and within budget are trademarks of our organization and how we provide our clients quality results.*

Our staff is fully equipped to provide turnkey services for your lighting & electrical needs. From analysis, inventory, and master planning to design and construction oversight, our team can make your vision a reality.

[A] Better Experience....ours makes yours one.



The Snapshot

STAFF: 70

Lighting & Electrical Designers
Professional Engineers
Traffic Engineers
Professional Landscape Architects
Planners
Professional Land Surveyors
Structural Engineers
Stormwater Specialists

SERVICES

Lighting & Electrical Design
Transportation Engineering
Traffic Engineering
Parks, Trails & Recreation
Environmental Services
Structural Engineering
Stormwater Engineering
Survey & Plat
Construction Oversight

FOUNDED: 1991

OFFICES: 3

Madison
Green Bay
Menomonie
SE Office coming soon!

Your KL Contact

Mike Scarmon, PE, PTOE
608.663.1218
mscarmon@klengineering.com
5400 King James Way
Suite 200
Madison, WI 53719

KEY PERSONNEL



Mike Scarmon, PE, PTOE | Project Manager

Mike offers 18 years of engineering experience and specializes in lighting systems, communication improvements, traffic analysis, and intersection design. Mike has developed proven strategies to effectively coordinate the daunting task of planning and designing street lighting systems that can be promoted as a signature community feature. He has excellent communication skills, effectively promotes discussion, and is well known by WisDOT's staff involved with both project development and roadway lighting approvals.

His transportation design experience includes street lighting and traffic signal systems in both urban and freeway settings throughout the state. He is a hands-on project manager who has successfully managed projects in every region of the state and has a strong technical background in both traffic signal design, intersection & corridor lighting systems, interconnect systems, ITS design, and complex signal timing systems.

Education

BS, Civil Engineering

Professional Registrations/Certifications

Professional Engineer (PE): WI

Professional Traffic Operations Engineer (PTOE): WI

WisDOT Level 2 Roundabout Designer

Professional Organizations

Institute of Transportation Engineers

American Council of Engineering Companies

Intelligent Transportation Society

Areas of Expertise

- Lighting design & analysis
- System-wide master planning
- Communications systems
- Traffic analysis
- Intersection design
- Signal design
- WisDOT PS&E process
- Public involvement

Speaking Engagements

- LED Retrofit WisDOT, ITE Conference, April 2018
- IH 39/90 Adaptive Signals, ITE Conference, April 2017
- Fundamentals of WisDOT Roadway Lighting Design, WisDOT SW Region, May 2016

Recent Representative Experience

- LED Implementation Plan, WisDOT BTO* (pg 9)
- WisDOT Electrical Mapping and Utility Locates, Statewide* (pg 10)
- USH 51, Villages of Plover & Whiting* (pg 11)
- IH 39/90, WisDOT SW Region* (pg 12)
- University Avenue Streetscape (CTH MS), Madison
- STH 22 Streetscape Lighting Design, Clintonville



Jacob Joyal, PE | Lighting Designer

Jacob has extensive background and experience with lighting design for municipal, WisDOT, and commercial site lighting projects. He is able to develop lighting designs that meet all project requirements and the client's needs--for both new and existing corridors and sites.

Education

BS, Civil Engineering

Professional Registrations

Professional Engineer (PE): WI

Professional Organizations

Institute of Transportation Engineers
Illuminating Engineering Society

Areas of Expertise

- Lighting Systems
- Electrical Design
- Signalized Intersections
- Electrical Installations
- Intelligent Transportation Systems

Speaking Engagements

- LED Retrofit Implementation Plan; ITE Conference - April 2018, APWA -September 2018
- Fundamentals of WisDOT Roadway Lighting Design, WisDOT SW Region, May 2016

Recent Representative Experience

- LED Implementation Plan, WisDOT BTO*(pg 9)
- WisDOT Electrical Mapping and Utility Locates, Statewide* (pg 10)
- USH 51, Villages of Plover & Whiting* (pg 11)
- IH 39/90, WisDOT SW Region* (pg 12)
- Rock Avenue Streetscape, Viroqua
- Rest Area #22 Site Lighting Retrofit, WisDOT



Tony Steinert | Electrical Designer

Tony is a master electrician and commercial inspector with over 3 decades of highly specialized experience in the field of electrical, controls, and communications infrastructure. He has unparalleled experience with National and Wisconsin Electrical Code requirements, and is very familiar with electrical construction for commercial and

Areas of Expertise

- Lighting Systems
- Signalized Intersections
- Electrical Installations
- Intelligent Transportation Systems

Recent Representative Experience

- Lead inspector for the Interstate 41 Corridor Project in Winnebago and Brown Counties
- Various City of Appleton lighting projects
- Amtrak Intermodal Train Station design consultant/ electrical inspection

Education

WI Electrical Apprentice Program

Professional Registrations

WI Certified Master Electrician

WI Certified Commercial Electrical Inspector

COMMITMENTS

Below we have listed our project team's current commitments:

STAFF	CURRENT PROJECTS	AVAILABILITY % / TIMELINE
Mike Scarmon, PE, PTOE	I-39, Rock County Bureau of Traffic Operations Lighting Support, Statewide Fish Hatchery Road, Fitchburg STH 23, Fond du Lac County STH 170, Dunn & St. Croix Counties	70% now to July 2019 60% August 2019 to December 2019 85% January 2020 onward
Jacob Joyal, PE	I-39, Rock County Bureau of Traffic Operations Lighting Support, Statewide STH 23, Lafayette County Various City of Appleton lighting retrofit projects, Appleton Lake County Trail Underpass, Waukesha County Appleton Trestle Trail, Appleton	75% now until July 2019 80% August 2019 to December 2019 95% January 2020 onward
Tony Steinert	Province Terrace Trail, Menasha Various City of Appleton lighting retrofit projects, Appleton Various sites - electrical inspection	80% now until July 2019 50% August 2019 to December 2019 70% January 2020 onward

EXPERIENCE

KL's Lighting, Electrical, & Communications Division

In preparing lighting designs for municipalities, WisDOT, and private clients, our engineers have become adept in applying lighting design practices to each unique project. Our past lighting design projects include rural and urban roadways, freeways, multi-use paths, structures, public transit facilities, and parking areas, for which we've included standard, high mast, photovoltaic, and LED lighting systems.

We are experienced in designing standard lighting systems for local roadways, pathways, freeways, and a variety of sites. We work with our clients to match the final product with their expectations on aesthetics, longevity, cost, and safety standards.

KL has strong experience with planning, design, and construction of control fiber and wireless systems for lighting, security, and other electrical and communications networks. We are skilled with integrating "next-generation" technologies into the critically important systems that our clients operate and manage for the highest efficiency.

SERVICES

- Photometric Lighting Analysis
- Lighting Design
- Corridor Analysis & Conversions
- Temporary Lighting Designs
- Voltage Drop Analysis
- LED Retrofit Design & Rebates
- Surveillance System Design
- Utility Service Coordination
- As-Built Mapping
- Intelligent Transportation Systems
- Gates, Controls, & Pump Systems
- Electrical Inspections
- Compliance Reviews

TEAM

- Electrical Designers
- Master Electrician
- WI Cert. Electrical Inspector
- Communication System Designers
- Traffic & Design Engineers
- Professional Surveyors
- GIS Specialists

LIGHTING EXPERIENCE

- Overhead Roadway
- Decorative Roadway & Path
- Interior Building
- Underpass & Tunnels
- Bridge & Underdeck
- Parking Lots
- Landscape & Parks
- Control Systems

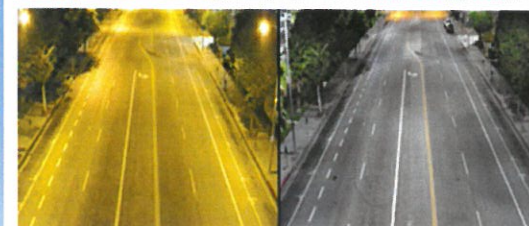
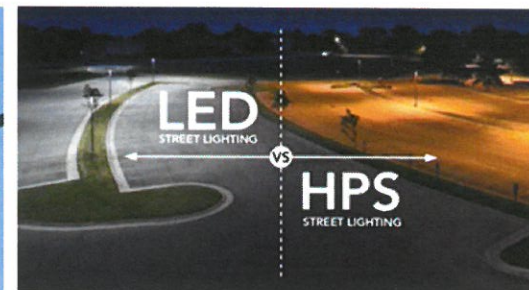


Lighting Experience Chart

This chart highlights recent similar projects by KL's Team **in the last 5 years**. Projects noted with an asterisk (*) in blue are detailed on the following pages.

	Key Elements & Staff																
	State / Federal Highways	Local Roads	Roundabouts	Roadside Facilities	Parks / Trails / Paths	Parking Lots	LED Retrofits	Cobrahead Lighting	Decorative / Custom Lighting	High Mast Lighting	Pedestrian Scale Lighting	Underpass / Tunnel	Bridge / Boardwalk	Site Electrical Design	Mike Scarmon	Jacob Joyal	Tony Steinert
Main Street (STH 23), City of Darlington	+	+						+			+		+		+	+	+
WisDOT Electrical Mapping and Utility Locates, Statewide*	+		+												+	+	
Rock Ave, City of Viroqua		+					+		+		+			+	+	+	+
Dells River Walk, Wisconsin Dells					+				+		+	+		+	+	+	
Main Street (CTH CV), Village of Deforest	+	+			+				+					+	+	+	+
LED Implementation Plan, WisDOT BTO*	+		+	+		+	+	+		+		+			+	+	
STH 65 & 70th Avenue Intersection, Village of Roberts	+			+		+	+	+							+	+	
Sparta Safety Weight Enforcement Facility, WisDOT	+			+		+		+		+	+				+	+	+
STH 64, WisDOT	+		+	+	+	+		+			+	+	+	+	+	+	+
Fox Valley Freeways (STH 441), WisDOT	+	+	+					+			+	+			+	+	+
Various park & facility lighting projects, Appleton		+		+	+	+	+		+		+	+	+	+	+	+	+
IN 94 & STH 128 Interchange, WisDOT	+		+	+		+		+							+	+	
Plank Street (STH 96), Kaukana, WisDOT	+	+						+							+	+	
STH 65 & Kennedy Mill Intersection, WisDOT	+							+							+	+	
USH 41 & CTH B Interchange, WisDOT	+							+							+	+	
Brown & Winnebago County Freeways (USH 41), WisDOT	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
Rock County Freeway (IH 39/90), WisDOT SW Region*	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
USH 14, WisDOT SW Region	+							+				+			+	+	+
Business 51, Villages of Plover & Whiting*	+	+							+		+			+	+	+	
Linn Street (USH 12) Baraboo, WisDOT	+	+	+					+				+			+	+	
Highway 59 Interchange & Park & Ride, Rock County	+		+	+		+		+				+			+	+	+
Main Street (CTH D), Belgium		+							+		+				+	+	
University Avenue, Madison		+		+	+				+		+	+	+		+	+	

Lighting Project Examples



WISDOT Statewide LED Retrofit

Various locations statewide

KL Engineering partnered with the WisDOT Bureau of Traffic Operations (BTO) in pursuit of a 2-year \$6.2 million project for the statewide conversion of all roadway lighting from HPS to LED.

Through this project, KL Engineering was able to save the State of Wisconsin \$850,000 annually in energy and maintenance savings.

Additionally, KL Engineering worked with representatives of Focus on Energy from each region and is projected to generate nearly \$450,000 in rebates through their rebate program.

In order to accomplish this feat, KL implemented the following tasks:

Step 1: Develop a modern standard specification for WisDOT LED roadway fixtures.

Step 2: Re-bid state contracts for purchasing LED roadway fixtures.

Step 3: Implement a 2-year statewide LED roadway lighting system retrofit project.

KEY DESIGN ELEMENTS

- Statewide inventory of roadway fixtures
- Standard LED roadway fixture specification
- Policies & procedures for direct material purchases
- 2-year implementation schedule

PROJECT SIMILARITIES

- System-wide planning
- Significant alternative analysis
- Phasing analysis
- Cost savings analysis
- LED Retrofit

PROJECT BASICS

Client

WisDOT Bureau of Traffic Operations

Reference

Ahmet Demirbilek, PhD, MBA
State Electrical Engineer
ahmet.demirbilek@dot.wi.gov
414.220.6801

Dates

4/2017- 2/2019

Project Team

Mike Scarmon, Project Manager
Jacob Joyal, Lighting Designer
Tony Steinert, Electrical Designer



WisDOT Electrical Mapping and Utility Locates:

Master Plan and Contract Development Statewide

WisDOT Bureau of Traffic Operations (BTO) conducted a review of current as-built facility mapping and underground utility locating practices for WisDOT-maintained electrical facilities.

The purpose of the study was to identify the range of current practices among WisDOT organizations and ultimately document changes to current practices, including the potential for contracting out portions of the work associated with underground locating of electrical facilities.

The study was completed in three phases:

- **Phase I documented current as-built mapping and utility locating practices** and processes within WisDOT's multiple electrical authorities using a Statewide survey of WisDOT staff with the responsibility to maintain electrical facilities.
- **Phase II included a review of alternative processes for completing underground utility locating.** Alternative processes from similar agencies in other states, municipalities, and private sector utility companies were reviewed as potential models for WisDOT.
- **Phase III included creating a template for WisDOT Region-based utility locating contracts, implementation steps, and Request For Proposal (RFP) documents.**

PROJECT BASICS

Client

WisDOT Bureau of Traffic Operations

Reference

Ahmet Demirbilek, PhD, MBA
State Electrical Engineer
ahmet.demirbilek@dot.wi.gov
414.220.6801

Dates

June 2014 - November 2015

Project Team

Mike Scarmon, PE, PTOE, Project Manager
Dave Tollefson, GIS Specialist



Business 51: Lighting

Villages of Plover & Whiting

As part of a 3.5 mile roadway reconstruction project that KL Engineering led, we also completed all of the street lighting planning. The overall project was a transformational renovation for the busy retail and residential corridor that serves Steven's Point and surrounding areas.

Prior to reconstruction, the corridor had only sporadic utility mounted street lights at intersections and neither village had much experience with the planning and design of large roadway lighting systems. KL Engineering provided planning services to help identify lighting alternatives, equipment specifications, maintenance and energy costs, project funding, and long term maintenance obligations. Each municipality was able to confidently enter into the project design phase, knowing better how the reconstruction would impact their operations and budgeting in the future.

The project included over 150 lights, miles of conduit and wiring, extensive coordination with utilities for electrical services, and overhead line mitigation.

KEY DESIGN ELEMENTS

- Interagency coordination
- State and local permitting
- Extensive utility coordination

PROJECT SIMILARITIES

- System-wide planning
- Significant alternative analysis
- Phasing analysis
- Cost- savings analysis
- Future maintenance needs assessment

PROJECT BASICS

Client

Villages of Plover & Whiting

Reference

Dan Mahoney
Plover Village Administrator
dmahoney@ploverwi.gov
715.345.5250

Dates

4/2014- 2/2019

Project Team

Mike Scarmon, Project Manager
Jacob Joyal, Lighting Designer

I-A. FIRM BASICS

I-B. KEY PERSONNEL

I-C. COMMITMENTS

I-D. EXPERIENCE

II-A. PROJECT APPROACH

II-B. PROJECT SCHEDULE

II-C. PROJECT COST



Rock County Freeway (IH 39/90): Lighting

Illinois State Line – Madison/ CTH O to Rock County Line

KL Engineering designed the Central Segment of IH 39/90 including all traffic signal design & lighting systems. The project included both urban and rural freeway segments and two major arterial roadways in the City of Janesville. IH 39/90 Project Summary:

- 8 miles of freeway reconstruction
- 4 interchanges including 1 diverging diamond and 2 diamond with roundabouts
- Collector-distributor roadway system
- 8 retaining walls and 8 bridges within mainline lighting, accounting for approximately 7,500 feet of highway shoulder
- Street lighting

Street Lighting Design Specifics:

- Lighting Investigation Report detailing alternatives analysis and preliminary decision making process.
- 9 underdeck lighting systems to be designed for WisDOT and City of Janesville.
- Installation of wall pack, as well as non-WisDOT standard, ceiling-mounted type LED luminaires required.
- Underdeck systems to illuminate a variety of facilities including urban and rural roadways, as well as multi-use pedestrian pathways.
- Tunnel lighting evaluation for 4 structures.
- Lighting modifications at SWEF, rest areas, and roundabouts.

PROJECT BASICS

Client

WisDOT SW Region

Reference

Derek Potter, PE
Derek.Potter@dot.wi.gov
608.245.2637

Dates

November 2011 - November 2018

Project Team

Mike Scamon, PE, PTOE; Project Manager
Jacob Joyal, PE; Lighting Designer
Tony Steinert, Electrical Designer



Greenfield Avenue Roadway & Lighting Design

124th Street – 101st Street

The project included a careful identification of existing high-voltage series lighting circuits for replacement with the project.

The project included construction of new street lighting systems that were installed by directional boring due to the limited scope of roadway improvements, and since much of this work was completed under live traffic with staged construction.

The east segment of the project was installed as part of a full reconstruction and required thoughtful conduit routing around a railroad structure, and several pole locations in close proximity to overhead electrical lines. Very specific working requirements were developed for the contract specifications to ensure proper notifications and precautions were taken by contractors working on or near the series lighting circuits.

KEY DESIGN ELEMENTS

- Lighting & electrical design
- Plans, Specifications & Estimate
- Design Reports
- Public Involvement
- Drainage / Storm Sewer
- Utility Coordination
- Environmental Documentation & Agency Coordination

PROJECT SIMILARITIES

- Series lighting circuits
- LED retrofits
- Directional boring
- Standardized lighting plans and specifications

PROJECT BASICS

Client

WisDOT SE Region

Reference

Jason Lynch

jason.lynch@dot.wi.gov

414.750.0538

Dates

4/2009 - 11/2012

Project Team

Mike Scarmon, PE, PTOE, Lighting

Additional References

The KL Team pride themselves on working with municipalities to address their lighting needs. Below are additional municipal clients that can attest to our work. We have been able to work with these clients on a number of lighting projects.

City of Fitchburg

Lisa Coleman, PE

Director of Public Works/ City Engineer

608.270.4261

Lisa.Coleman@fitchburgwi.gov

City of Janesville

Ahnaray B. Bizjak, PE

Senior Engineer

608.755.3171

bizjaka@ci.janesville.wi.us

City of Fond du Lac

Paul De Vries, PE

City Engineer/Deputy Director of Public Works

920.322.3473

pdevries@fdl.wi.gov

City of Appleton Parks

Tom Flick, CPRP

Deputy Director

920.832.3915

Tom.Flick@Appleton.org





PROJECT APPROACH

Summary

The City of West Allis has identified a goal to upgrade its aging street lighting infrastructure to a safer and more efficient standard. This complex goal has added urgency with the decreasing availability of replacement infrastructure and specialized training requirements for staff and contractors. KL Engineering has a unique understanding of street lighting systems and can define a clear road map for upgrading the City's critical infrastructure.

Our team has reviewed the resources that were provided by City staff, and has visited the site to get a better sense of the overall condition of the street lighting system.

With our understanding of the project as a whole, we feel the master planning study should include the following steps:

- Identify Goals and Quantify Existing Operations
- Identify Alternatives for Street Lighting Upgrades
- Identify Funding and Rebate Opportunities
- Estimate Costs and Identify Priorities
- Budget Planning

The following pages provide more definition to each of the steps listed above. We are confident that our approach will result in creating a robust and long term strategy for the City of West Allis.



Project Components

Identify Goals and Quantify Existing Operations

The keys to starting off a successful planning study are to clearly identify goals and to compile a comprehensive database of project data. Our strategy includes a kickoff meeting with City staff to refine the project approach and identify goals for the master plan. The outcome of the kickoff meeting will serve to focus KL Engineering's efforts in the right direction and will inform the City with detailed expectations for the study.

Compile Project Database

The City has already provided a considerable amount of project information that will be used for the study. The City's highly organized mapping files will be critical to establishing cost estimates that are based on accurate measurements.

Other information will be compiled including: energy use data, maintenance records, staff operations, basic crime statistics, and anecdotal information provided by stakeholders. Our team will seek to compile this data as efficiently as possible and minimize the City's time to provide data.

Quantify Operations and Costs

Once the database is compiled, our focus will be to develop a baseline for the City's existing operations and costs. This baseline will set the standard for comparison of alternatives, benefits

and costs, and budgeting requirements.

We anticipate quantifying the following key items:

- Energy use and costs
- Metering fees
- Routine maintenance costs
- Emergency maintenance costs
- Current budgeting for street lighting operations

Forecast Savings Potential

Our project database will allow for spreadsheet functions that can accurately model multiple scenarios for potential changes in energy use and maintenance needs for the street light upgrades. This will be an ongoing resource for the next steps of the study, starting with cursory analysis to evaluate benefits and costs, and ultimately being used to compile detailed construction estimates and budgeting forecasts. Our team has experience setting up technical databases for planning studies that are accurate and straightforward. We anticipate this project data will be provided to the City and be used as a resource moving forward.

Identifying Strengths and Liabilities

The magnitude of the effort to fully upgrade the City's street lighting system requires a strategic approach to planning for the City's role in the effort. With a multi-year effort, it is important to identify what aspects of the project can be performed most effectively by the City. Our team will identify a matrix of tasks related to the engineering, procurement, construction, and operations of the street light system. With an open discussion, we will seek to highlight the strengths of City staff, as well as potential risks and liabilities.



Identify Alternatives for Street Lighting Upgrades

The next step in the planning study includes developing alternatives to upgrade the street lighting system. We will clearly define a set of alternatives that are tailored toward meeting one or multiple project goals. We anticipate the alternatives will include a range of the following:

- Full series circuit replacement
- LPS to LED luminaire retrofit
- HPS to LED luminaire control retrofit & rewiring
- Retrofit transformers / OV20 System / Custom Luminaries
- Full series circuit replacement

Pros and Cons

The study will include a practical assessment of the positive and negative aspects of each alternative. In general, shorter term improvements will be cheaper and easier to implement, but may not fully meet all project goals. Longer term improvements may accomplish all benchmarks for the project, but have much higher cost to implement, and may need interim upgrades prior to being funded. This step will also include a cursory screening of potential permitting and approvals that may be required for each alternative. Establishing a basic understanding of the pros and cons of each alternative will provide valuable context for the final recommendations of the study.

Costs and Benefits

A quantitative analysis of the costs and benefits will be completed for ranking each alternative's potential to achieve cost savings, maintenance reductions, increased reliability, and possible rebate opportunities. We expect the final plan will include a blend of multiple alternatives implemented over many years, making the accuracy of the costs and benefit calculation critically important.

The data and assumptions that are used for this step can include more versus less accounting for risk and potential for savings or cost inflation. Our team will prepare inputs for the City's consideration and review prior to completing the quantitative analysis of the alternatives. This will ensure the project's recommendations are based on assumptions that are supported by City staff.

Variability and Level of Effort

KL Engineering assumes up to five alternatives may warrant a more detailed technical analysis, and that the level of effort required to evaluate alternatives may vary depending on the findings of the study. We suggest this item should be discussed further as part of contract negotiations to better define expectations for the appropriate level of effort.



Identify Funding and Rebate Opportunities

This step will focus on establishing a road map for funding sources and rebate opportunities the City may be able to take advantage of, to offset the costs associated with upgrading street lighting systems. Creating a sound funding strategy is key to a successful implementation of a project of this magnitude.

Rebates and Grants

Our approach will include preparing forecasts for potential rebates based on current program standards, as well as noting any potential limitations or special negotiations that may be required with Focus On Energy.

We will contact the area representative for Focus On Energy to get an initial assessment of rebates and grant opportunities and to identify any potential risks or uncertainties of the program.

This step will also include a screening of other potential grant opportunities, and highlighting any unique qualifying issues for each grant. Grants will be evaluated for crime prevention, energy efficiency, and Smart Cities initiatives at a minimum.

Other Funding Sources

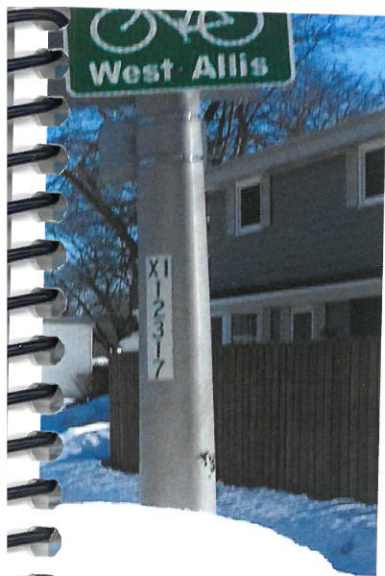
Other financial offsets such as equipment re-sale, scrap value, excess land, and other potential items will be evaluated to determine all viable resources for funding.

Our approach will also include an evaluation of the potential for partnering for a portion of the lighting upgrades as part of a private sector-led 5G wireless network deployment throughout the City. We anticipate utilizing available resources from other 5G wireless deployments that have been a growing feature in many cities throughout the country.

Estimate Costs and Identify Priorities

The study will include a comprehensive summary of project costs and potential funding offsets for each alternative scenario being considered.

This step in the project will be a critical element toward establishing a multi-year budget framework for making the lighting upgrades. In addition to developing a matrix of project costs, an implementation schedule will be prepared based on established priorities and other milestone opportunities.



I-A. FIRM BASICS

I-B. KEY PERSONNEL

I-C. COMMITMENTS

I-D. EXPERIENCE

II-A. PROJECT APPROACH

II-B. PROJECT SCHEDULE

II-C. PROJECT COST

Identify Priorities and Long Range Plans

Priorities will be established based on a balance of the urgency of diminishing equipment availability, opportunity to offset costs in partnership with other projects (private or public), and then establishing a rate of improvement that provides the maximum return on investment, while staying within a reasonable margin as an ongoing City expenditure. The timeline for street and utility reconstruction projects, as well as other large-scale private utility projects may be a significant component of the overall schedule for upgrading the street lighting system.

Electrical Services and Metering

The existing and future network of electrical services and metering will also be evaluated as part of the study. Our approach will include providing details in terms of costs for user fees, factors to consider with installation of a large number of new meters, and will reach out to a representative with WE Energies to get an initial assessment of potential opportunities for efficiencies or partnering for portions of the improvements.

Variability and Level of Effort

KL Engineering assumes the level of effort required to prepare cost estimates will vary depending on the findings and recommendations of the study. We suggest this item should be discussed further as part of

contract negotiations to better define expectations for this step of the master plan.

Prepare Budget Plan

The final deliverables for this planning study will be a Budget Plan document and a compiled database of resources used for the study. Our team has extensive background with the preparation of easy to read technical documents with a high-quality appearance. We focus on presenting technical data in a concise format that allows for efficient review and strong comprehension of the facts and conclusions of the project. Our approach includes developing a technical report that can seamlessly meet the needs of a technical reviewer, while also being compatible with online viewing on the City's website.

Presenting the Data and Conclusions

We anticipate using a similar study recently completed by the City of Milwaukee as a guide, but tailoring each section to the circumstances in West Allis. The project data and conclusions can also be formatted for use as a presentation to City committees and the Council. Mike Scarmon has extensive experience giving technical presentations to public officials and will be available to speak on behalf of the project if needed to inform stakeholders and decision makers.

PROJECT SCHEDULE

We propose the following schedule for completion of this master planning study. We recognize that the City of West Allis is interested in obtaining the study's conclusions and recommendations in a timely manner and we are prepared to begin work immediately upon authorization. KL Engineering will work with the City to meet all intermediate project benchmarks, ultimately resulting in the on-time delivery of the final product.



PROJECT COSTS

KL Engineering is committed to completing the City of West Allis Street Lighting Master Plan in an efficient and professional manner. Our estimate of hours and maximum fee is summarized in the table below:

PROJECT TASKS	PROJECT MANAGER \$140	LIGHTING DESIGNER \$105	ELECTRICAL DESIGNER \$110	ENGINEERING TECH 1 \$67	LTE \$45	TOTAL HOURS
Step 1 -- Identify Goals & Existing Operations	8	24	4	8	12	56
Kickoff meeting, compile project database, quantify existing operations, potential savings, evaluate strengths and roles						
Step 2 -- Identify Alternatives for Street Lighting Upgrades	8	32	4	0	0	44
Evaluate up to 5 alternatives, pros & cons, costs and benefits, screening level review of permitting and approval requirements						
Step 3 -- Identify Funding and Rebate Opportunities	8	16	4	0	8	36
Focus on Energy rebate evaluation, coordination with FOE, grant evaluation, 5G coordination, other funding offsets						
Step 4 -- Estimate Costs and Identify Priorities	8	24	4	8	16	60
Identify costs for 5 alternatives, identify milestones and priorities, electrical services and metering, project review meeting						
Step 5 -- Budget Planning	12	24	4	0	16	56
Prepare budget plan, staff reviews, complete presentation for City committees, compile project database						
TOTALS	44 \$6,160	120 \$12,600	20 \$2,200	16 \$1,072	52 \$2,340	256 \$24,693

We are flexible on billing terms and open to discussing refinements to the scope of services to best meet the needs and budget for your project.